

Exploration and Practice of Ideology and Politics Teaching in the Systematic Course of Linux Operating System

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Abstract: In the process of the implementation of ideology and politics in vocational colleges and universities, it is more from the knowledge point to discover the value of ideology and politics contained in ideology and politics points, and often ignores the systematic nature of the process of curriculum nurturing. learning attitudes and habits, assessment and evaluation orientation, social environment and family education and other five aspects of the systemic nature of the course Ideology and politics to analyze and study, to explore the vocational colleges and universities course Ideology and politics to provide the implementation of the path and suggestions.

Keywords: Course ideology; Linux; Operating system.

1 Introduction

In 2020, the Ministry of Education issued the Guidelines^[1] for the Construction of Ideology and Political Education in Higher Education Courses, proposing that ideological and political education should be carried out throughout the talent cultivation system, comprehensively promoting the construction of the Ideology and Political Education in colleges and universities, giving full play to the nurturing role of each course, and improving the quality of talent cultivation in colleges and universities, so it is very necessary to carry out a systematic research on the Ideology and Political Teaching in Courses^[2] in the overall and holistic way.

2 Overview of the Linux Operating System course

2.1 Status and Characteristics of Linux Operating System in Computer Science Programs

Linux operating system is a core course for computer science majors. Linux operating system is an open source operating system widely used in the fields of servers, embedded systems and cloud computing. Therefore, it is essential for students of computer science and related majors to be familiar with and master the Linux operating system. The Linux operating system course provides students with the basic knowledge and skills to understand and apply the Linux operating system^[3]. The main features are as follows:

Practicality and operability: The Linux operating system course focuses on practice and operation, and students learn and master the use and management of the Linux operating system through

practical operation and experimentation. This practicality and operation enable students to truly understand and apply the features and functions of Linux operating system.

Open Source and Freedom: The Linux operating system is open source and free, and students are free to view, modify, and distribute the source code of the Linux operating system. The Linux operating system course values the concepts of open source and freedom, and encourages students to participate in the open source community by contributing their own code and improvements.

Security and Stability: The Linux operating system is well known for its security and stability. The Linux Operating Systems course emphasizes the importance of security and stability, teaches students how to protect and manage the security of a Linux system, and describes how to deal with system failures and optimize performance.

Networking and Server Applications: The Linux operating system has a wide range of applications in networking and server applications. The Linux operating system course covers the basic knowledge and skills of networking and servers. Students learn how to configure and manage Linux servers and build and maintain network services.

In conclusion, the Linux operating system course is important in the major , which provides the basic knowledge and skills to learn and master the Linux operating system.^[4] Through practice and operation, students are able to deeply understand the features and functions of Linux operating system and have the ability to apply and manage Linux system. In addition, the Linux operating system course develops students' open source and free thinking, emphasis on security and stability, and practical skills in network and server applications.^[5]

2.2 The Necessity and Significance of Ideology and politics Teaching in Linux Operating System Course

The necessity and significance of teaching ideology and politics in Linux operating system courses are mainly reflected in the following aspects:

1. **Cultivate ideological and political literacy:** Students' ideological and political literacy can be cultivated through the teaching of ideology and politics in Linux operating system course. Linux operating system, as an open source and free operating system, embodies the ideological and political concepts of openness, freedom and cooperation. By learning Linux operating system, students can understand and experience the spirit of cooperation, sharing and free thinking of the open source community, and cultivate their sense of innovation and social responsibility.
2. **Cultivate socialist core values:** The teaching of ideology and politics in Linux operating system courses can help students understand and pass on socialist core values. Socialist core values emphasize the values of democracy, equality, justice and the rule of law, and the open-source and free nature of Linux operating system is exactly in line with these values. By learning Linux operating system, students can recognize the equality and democratic decision-making in the open source community and develop their concepts of justice and rule of law.
3. **Cultivate innovative spirit and practical ability^[6]:** Teaching of Linux operating system course can cultivate students' innovative spirit and practical ability. Linux operating system is an open platform that encourages users to participate in software development and improvement. By learning Linux operating system, students can learn about the innovation mode and practice method of open source community and cultivate their innovative thinking and practical ability.

4. Cultivate the spirit of teamwork: Teaching of Linux operating system course can cultivate the teamwork spirit of students. The open source community of Linux operating system is an open, transparent and collaborative community, where members cooperate, share and communicate with each other. By learning Linux operating system, students can understand the importance of teamwork in software development and develop their teamwork and communication skills.

To summarize, the necessity and significance of the ideological and political teaching of Linux operating system course lies in cultivating students' ideological and political literacy, passing on the socialist core values, cultivating the spirit of innovation and practical ability, as well as cultivating the spirit of teamwork.^[7] These abilities and literacy are of great significance to students' comprehensive development and social adaptability.

3 Analysis of the dilemmas and causes of the Teaching of the Linux Operating System Course

With the attention of universities to the course ideology recommendations, the Linux Operating System course ideology has made great progress,^[8] but there are still some problems, and the following is an analysis of the current dilemma and the reasons for it.

3.1 Teachers' perceptions and capacity issues

Some teachers have insufficient knowledge of the importance of ideological and political education and lack relevant knowledge and educational concepts, resulting in the content and methods of ideological and political education in classroom teaching not being effective enough.

3.2 Issues of curriculum design and selection of teaching materials

Some curriculum design and choice of teaching materials are not scientific and reasonable enough, lacking relevance and interest, and failing to arouse students' interest and thinking, thus affecting the effectiveness of ideological and political education.

3.3 Problems with students' learning attitudes and habits

Some students lack attention to ideological and political education, have a poor learning attitude, and lack initiative and participation, making it difficult to achieve good results in ideological and political education.

3.4 Appraisal and Evaluation Orientation Issues

Focusing too much on test scores and knowledge memorization and ignoring the cultivation goals and process of ideological and political education, it makes ideological and political education a part of exam-oriented education and weakens its independence and value.

3.5 Social environment and family education issues

The social environment and family education have an important influence on students' ideological awareness and political literacy. In some social environments and family education, the importance and content of ideological and political education are not adequately conveyed and guided, which affects the cultivation of students' ideological and political literacy.

4 Suggestions for the Implementation of Ideology and politics Teaching in the Linux Operating System Course

Based on the analysis of the reasons for the dilemma this paper proposes five recommendations for implementation.

4.1 Enhanced teacher training and professional development

Schools can organize special training courses on ideology and politics, including knowledge of ideological and political theories, the Party's policies, national laws and regulations, etc., to help teachers comprehensively understand and master the relevant knowledge; Schools can organize teachers to participate in academic seminars, education and teaching training courses, etc., to provide opportunities for professional development, so as to enable teachers to continuously learn and update their education and teaching concepts and methods; Encourage teachers to actively participate in education research, and provide corresponding support and resources to promote teachers' professional development and improvement; establish a platform for teachers' exchanges and cooperation, promote experience sharing and mutual learning among teachers, and improve teachers' professionalism and teaching level; in terms of teachers' appraisal and evaluation, the school can set up a scientific and fair mechanism for teachers' appraisal and evaluation, and include teachers' ideology and political training and professional development in the scope of the appraisal, so as to motivate teachers to actively improve their own In terms of teacher assessment and evaluation, schools can establish a scientific and fair teacher assessment and evaluation mechanism, incorporating teachers' ideological training and professional development into the scope of assessment, so as to motivate teachers to actively improve their own quality and ability.

4.2 Develop scientifically sound curriculum design and selection of teaching materials

First of all, determine the objectives of curriculum ideology and politics. Make it clear that the goal of curriculum ideology and politics is to cultivate students' ideological and moral literacy, sense of social responsibility and national awareness, and design the course content and teaching activities according to the goal.

Secondly, the connection between the teaching content and the ideology and political theme is determined. In the design of the curriculum, the course content is combined with the Ideology-Political theme, so that students can gain insights and guidance from Ideology -Political education while learning the knowledge of the curriculum. For example, patriotism education is integrated into history courses, or students are guided to pay attention to social issues in literature courses.

The choice of teaching materials is also important. Choose teaching materials that are in line with the objectives of ideology and politics science, and emphasize the ideology and politics and inspirational nature of the contents of the teaching materials. Classical works with depth of thought and value-guiding effects, excellent literary works, and social science research results can be chosen as teaching materials to stimulate students' thinking and exchange of ideas.

Teaching methods and activity design. Diversified teaching methods and activity forms are used to encourage students to participate in discussions, group cooperation, practical inquiry, etc.,

and to cultivate students' critical thinking ability and innovative spirit. At the same time, students are guided to think about social issues and cultivate a sense of social responsibility through case studies, social practice and keynote speeches.

Finally, the role of teachers has changed. Teachers should change from the traditional knowledge transmitter to the student's guide and inspirer, focusing on guiding students to think, discuss and cultivate critical thinking. Teachers should focus on interactive communication with students to stimulate students' thinking potential.

In formulating the design of courses and the selection of teaching materials to be integrated into curriculum-based ideology and politics, full consideration should be given to the age characteristics, interests and learning needs of students, as well as the actual situation of social development, so as to ensure the relevance and effectiveness of civic education.

4.3 Cultivate students' correct learning attitudes and habits

The following methods can be used to develop proper learning attitudes and habits in students:

1. Establishment of a correct concept of learning: to educate students that the purpose of learning is to acquire knowledge, cultivate abilities and develop personal potential, not just to cope with examinations. Educate students to learn to be aware of active learning, inquiry learning and continuous learning.
2. Cultivate good study habits: Teach students to develop good study habits, such as completing homework on time, reviewing carefully, and actively participating in class discussions. Through repeated practice and guidance, they will gradually develop self-awareness and self-discipline in learning.
3. Providing guidance on learning methods and strategies: educating students to master scientific learning methods and strategies, such as rationally planning study time, making study plans, summarizing and generalizing learning content, etc. To help students discover learning styles that suit them and improve their learning results.
4. Fostering positive attitudes towards learning: Encourage students to develop positive attitudes towards learning and to approach learning with interest and enthusiasm. Students are taught to have the courage to face challenges and difficulties and to believe that their efforts will bear fruit.
5. Providing role models and incentives: Students are taught to have role models and incentives for learning, which can be used to motivate students to actively participate in learning by setting up role models for their peers who excel in learning or by creating incentives for progress in learning.
6. Establishment of a good learning environment: Create a good learning environment, including the layout of classrooms, the provision of learning resources and the creation of a learning atmosphere. Provide students with a quiet, comfortable and conducive learning environment to help them concentrate and improve their learning.

Through the implementation of the above methods, students' correct learning attitudes and habits can be cultivated, and their academic performance and comprehensive quality can be improved. At the same time, schools and families should form a joint effort to pay attention to

students' learning and provide them with all-round learning support and guidance.

4.4 Establishment of a mechanism for evaluating students' ideology and political literacy

Transform the examination and evaluation orientation, focus on the comprehensive evaluation of students' ideological and political literacy, and reduce the over-reliance on knowledge memorization. Establishing a scientific and fair student evaluation mechanism, focusing on the evaluation of students' ideological and political literacy, so that students can receive timely feedback and guidance in the teaching of course ideology and politics, and promote their overall development.

4.5 Strengthening social environment and family education guidance and training

1. Establishment of a favorable social and cultural atmosphere: Society should create a positive cultural atmosphere that advocates truth, goodness and beauty, and promote socialist core values and the national spirit. Through various forms of publicity and educational activities, the public is guided to form correct values and norms of behavior.

2. Strengthening the ideology and political guidance of social organizations: Governments at all levels and social organizations can organize ideology and political education activities, such as thematic lectures, cultural exhibitions and social practices, in order to provide opportunities and platforms for ideology and political education for members of society.

3. Strengthening the ideological and political guidance of family education: The family is an important place for the cultivation of children's ideological and moral qualities, and parents should emphasize the ideological and political guidance of family education. Parents should set a good example, be good role models for their children, communicate with their children on a daily basis and educate them in order to cultivate their correct values and code of conduct.

4. Strengthening cooperation between schools and families: Schools and families should strengthen communication and cooperation, and pay joint attention to students' ideology education. Schools can organize regular parent-teacher conferences, home visits and other activities to communicate with parents about students' learning and thinking, and to jointly negotiate and promote students' ideology education.

5. Guiding the media's positive publicity: the media is an important channel for social ideology, and should be guided to strengthen positive publicity, spread positive energy, and enhance the effect of civic education in society. The media can carry out special reports on ideology and political education, publicize excellent cases of ideology and political education, and promote positive social atmosphere.

6. Encouraging society to participate in voluntary service: By encouraging and guiding members of society to participate in voluntary service activities, they develop a sense of social responsibility and civic awareness. Volunteerism can be a form of civic education that allows members of society to feel the needs and responsibilities of society through practical action.

Through the implementation of the above measures, the social environment and family education can be strengthened in terms of the guidance and cultivation of civic politics, providing members of society with more opportunities and resources for civic education, and promoting the ideological and moral construction and comprehensive development of society.

Strengthening the guidance and cultivation of students' ideological and political literacy in the social environment and family education, and forming a favorable atmosphere in which society as a whole pays common attention to and emphasizes ideological and political education.

5 Conclusions

This paper analyzes the status quo of the course ideology and politics of Linux Operating System, the positioning and characteristics of the course, as well as the problems of the course ideology and politics, and puts forward the course ideology and politics implementation suggestions in five aspects, namely, strengthening teachers' training and professional development, formulating scientific and reasonable curriculum design and textbook selection, cultivating students' correct learning attitudes and habits, establishing students' civic literacy evaluation mechanism, and strengthening the guidance and cultivation of social environment and family education, respectively. The implementation suggestions of ideology and politics are also of some reference significance to other courses.

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References

- [1] Notice of the Ministry of Education on issuing the Guiding Outline for Ideological and Political Construction of Curriculum in Colleges and Universities [EB/OL]. http://www.moe.gov.cn/srcsite/A08/s7056/202006/t20200603_462437.html.
- [2] Circular on the Implementation Plan of the National Vocational College Skills Competition (2023-2027) [EB/OL]. http://www.moe.gov.cn/srcsite/A07/zcs_yxds/s3069/202303/t20230331_1053799.html.2023-03-31.
- [3] Buchori Achmad, Irfan Wibowo Nur, Kholifah Siti. Development of Linux Ubuntu Open Source Distribution Based Open Source Distribution System to Minimize Students 'Software Study [C]. ICESRE, Indonesia, January 2019.
- [4] Bogdan Korniyenko, Liliia Galata. Implementation of the Information Resources Protection Based on the CentOS Operating System [C]. 2019 IEEE 2nd Ukraine Conference on Electrical and Computer Engineering (UKRCON), Lviv, Ukraine, July 2019.
- [5] Gui S.L., Wu F.Y., Yi Y.G., et al. Practice of blended teaching mode in the context of curriculum politics: The case of Linux basic course[J]. Computer Education, 2021(9):1-5.
- [6] Federico Reghenzani, Giuseppe Massari, William Fornaciari. The Real-Time Linux Kernel: A Survey on PREEMPT_RT [J]. ACM Computing Surveys, 2019, 52(1):1-36.
- [7] Zheng Lu, Long Li-rong. Exploration of the assessment and evaluation system of the effectiveness of the construction of course ideology and politics based on Kirkpatrick's four-level training evaluation model[J]. Research on Curriculum Ideology and politics and Politics Teaching and Learning, 2021, 1(00):106-116.
- [8] Zhang Rui-fang, Xu Peng-jie. The Logical Way of Ideological and Political Course Leading the

Construction of IPTTIAC in University in the New Era [J]. Educational Theory and Practice, 2022, 42(6): 44-47.