

# Ideological and political design and implementation of the course "Computer Application Foundation"

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**Abstract:** "Computer Application Foundation" is a public basic compulsory course for non-computer major students in the first year of colleges and universities. In the traditional basic computer teaching, only focus on cultivating students' computer application skills and professional knowledge, but neglect or weaken the educational function of ideological and political education, which is not conducive to improving the quality of personnel training. In order to integrate curriculum thought and politics into blended teaching and implement the fundamental task of cultivating virtues and talents, this paper proposes the path design of integrating curriculum thought and politics into college computer blended teaching, excavates the curriculum thought and politics elements in the teaching content, expounds the teaching mode and method of curriculum thought and politics, and discusses the path and countermeasures of integrating "curriculum thought and politics" into the teaching of basic computer courses. The effectiveness of the teaching mode is illustrated by teaching practice.

**Keywords:** Computer application foundation; Mixed teaching; Curriculum ideological and political education; Strengthen moral education and cultivate people

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Date of Submission: 07-11-2023

Date of acceptance: 21-11-2023

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## I. INTRODUCTION

Xi Jinping pointed out at the National Conference on Ideological and Political Work in Colleges and Universities, "We must adhere to the moral cultivation as the central link, the ideological and political work throughout the whole process of education and teaching, to achieve full and all-round education, and strive to open up a new situation in the development of China's higher education cause." This points out the direction and provides a guideline for the integration of "Computer Application Foundation" course teaching into ideological and political education in the new era.

The traditional curriculum construction mainly focuses on the depth and difficulty of the curriculum content, the advanced nature and interaction of the teaching method, and there are some problems such as insufficient attention to the education function of the curriculum, and the disconnection between the curriculum construction and the curriculum ideology and politics.

In recent years, the Internet has been deeply integrated into every process of college education and teaching. The mixed teaching mode of online and offline is a popular teaching method at present, and it is also a common form of computer course teaching in domestic universities. How to actively carry out the construction of curriculum ideology and politics in the process of computer blended teaching in college, and how to integrate curriculum ideology and politics into each teaching link online and offline are urgent problems to be solved.

Combining with the construction practice of provincial "Curriculum Thinking and Politics" demonstration course of "Computer Application Foundation", this paper explores the strategy of integrating curriculum thinking and politics elements and the new way to improve the quality of university computer teaching. The construction practice shows that the ideological and political construction of college computer courses not only cultivates students' basic information literacy, but also enhances students' national self-confidence and feelings of home and country, and stimulates students' intrinsic learning motivation.

## II. PATH DESIGN FOR INTEGRATING BLENDED TEACHING INTO CURRICULUM IDEOLOGY AND POLITICS

The overall goal of curriculum ideological and political construction is to focus on the fundamental task of cultivating morality and educating people, to run ideological and political education through the talent training system, to give full play to the role of each course in educating people, and to improve the quality of college talent training. All courses should dig deeply into the ideological and political education elements contained in the course, and implement the ideological and political goals into all aspects of course goal design, syllabus revision, teaching plan courseware preparation, and run through all aspects of classroom teaching, practice, and thesis. In the process of university computer blended teaching, the integration of curriculum ideology and politics should

cover the whole process of teaching, including teaching syllabus, online resources, offline teaching links such as classroom, experiment and assessment, and the path design of "computer application basis" blended teaching course ideology and politics construction. "Computer Application Foundation" mixed teaching includes course preparation stage, teaching stage and assessment stage.

(1) The preparation stage includes revising the teaching syllabus and improving the course teaching plan, and the teaching syllabus clearly puts forward the goal of ideological and political education; The course teaching plan gives the proposal of integrating ideological and political elements into specific chapters.

(2) The teaching stage includes online links and offline links. In the online links, ideological and political elements are incorporated into the teaching videos and teaching resources to realize the integration of ideological and political elements into online courses; In the links of offline teaching, such as classroom, experiment, homework and flipped classroom, teachers flexibly integrate ideas and politics in combination with teaching plans and current hot spots.

(3) The assessment stage consists of online assessment, stage test and final examination, which reflects the curriculum ideology and politics in the assessment methods and contents.

### **III. EXTRACTION OF IDEOLOGICAL AND POLITICAL ELEMENTS OF THE COURSE CONTENT**

The ideological and political theory course in colleges and universities is the main force and the main channel to carry out the fundamental task of "cultivating virtues". However, the course of "Computer Application Foundation" has the ability and means to organically combine ideological and political education contents such as patriotism, dedication, integrity, compliance, unity and cooperation, pursuit of excellence, innovation and pioneering courage with basic computer teaching through in-depth exploration of moral values and ideological and political elements contained in the course, and form a synergistic effect between courses. Solve the dilemma of "individual combat" and "isolated island" in ideological and political theory course.

#### **3.1 Speaking history to inspire patriotism**

From primitive stone counting and score counting to the emergence of Roman and Arabic numerals, from computational computing to mechanical computers and the electronic computer age, there have been a large number of scientists at all times. Among them, the Chinese mathematician Zu Chongzhi used the calculation chip to be accurate to the seventh place of PI, until more than a thousand years later, no one calculated the last seven places, it can be said that the development of mathematics in China is in the forefront. However, with the corruption and incompetence of the Qing government, the development of science and technology in China gradually lags behind the Western countries. Through the teaching of computing history, students can realize that the Chinese national culture has a long history of 5,000 years and has made outstanding contributions to human civilization, strengthen students' cultural self-confidence and stimulate students' patriotism.

#### **3.2 Talk about the character to guide "Star chasing"**

Contemporary college students "chasing stars" is actually a process of self-shaping, that is, taking idols as the goal and drawing strength. However, some immature star-chasing phenomenon among students has led to some intensified events and negative consequences. Therefore, in the basic computer teaching, it is necessary to guide the phenomenon of "chasing stars" of college students-chasing stars who have made great contributions to the development of the country rather than "stars". China's computer development is in a thin foundation, start late in the case of the beginning, from a poor white to the atomic bomb, hydrogen bomb test success, this process emerged countless great scientists Deng Jiaxian, Yu Min, etc., they do not seek fame and gain, such as China's "father of the hydrogen bomb" Yu Min academician far less than the contemporary star, network red fame, these scientists are the stars we should chase. We should take these scientists as examples, set goals, and make our own contributions to the development of our motherland. In this way, college students can distinguish right from wrong, firm their ideals, work hard and shape themselves through rational star-chasing.

#### **3.3 Teaching unit to church cooperation**

Collectivism is a value that runs deep in the blood of the Chinese nation, advocating that individuals belong to society and that individual interests are subordinate to the interests of groups, nations, classes and states. Although the five major components of the computer, such as input devices, output devices, memory, arithmetic and controllers, have different functions, they can complete complex instructions under the unified control of the controller as a whole, and rely on the spirit of teamwork and common dedication, that is, the spirit of collectivism. From this knowledge point, the individual is like a part of the society and the country, the individual belongs to the society, and the individual interests should be subordinate to the interests of the group, the nation and the state, so as to awaken the social responsibility of college students, be good at taking responsibility and dare to take responsibility. China's resilience and tenacity in the fight against the novel coronavirus epidemic have

demonstrated the collectivist spirit of "solidarity and solidarity". Contemporary college students should resist the infiltration of "individualism" and "liberalism" by the hostile forces of western capitalism, practice the "spirit of collectivism" in life, and use their own advantages to devote themselves to the tide of social services in place.

### **3.4 Talk about the chip to boot tree ambition**

CPU is the most core component of the computer, but China's chip technology has been subject to people, in 2018, the United States sanctioned ZTE in 2019, the United States sanctioned Huawei, ZTE did not fight back in front of the United States sanctions, and finally paid a heavy price to lift the ban, and Huawei chose a positive hard bar, because Huawei has independently developed Hisilicon Kirin, Performance is comparable to Qualcomm's top chip, the future science and technology battle must be the chip battle, the Sino-US chip battle is a war without smoke, contemporary college students are at a critical moment in history, every college student should study hard, for the motherland in the future science and technology battle to win a contribution.

### **3.5 Talk about systematic to church responsibility**

Influenced by the diversified society, contemporary college students appear some fickle psychology, which is not practical, eager for success and anxious. This fickle psychology has immeasurable negative impact on college students' study, employment and success, which must be paid enough attention to. From the ground up, there is no overnight success, a complete computer including hardware system and software system, powerful computer because there is a solid foundation that the operating system. Operating system is a computer program that manages computer hardware and software resources, and is the basis of computer software. All software needs to run under the support of the operating system. To succeed, college students must have a solid foundation, learn to be confident, self-reliant, self-reliant, identify their own goals, take responsibility while fighting for rights, enjoy the joy of success when the pain of failure, to mobilize emotions, set goals, focus on learning, avoid cheating, make college life become full and meaningful. Avoid being blindly impetuous.

### **3.6 Teaching safety to cultivate awe**

By explaining bad behaviors in information activities and some adverse effects brought by these behaviors, students are guided to pay attention to information security laws and regulations in information activities, consciously abide by network ethics and laws and regulations, realize the importance of information security, and understand the impact of their good behavior norms on the information society. To train contemporary college students to be pioneers of law-abiding citizens in the information society.

## **IV. IDEOLOGICAL AND POLITICAL DESIGN OF "COMPUTER APPLICATION FOUNDATION" COURSE**

Curriculum thought and politics should be integrated into the whole process of curriculum teaching, and should be implemented in the design of curriculum objectives, the revision of teaching syllabus, the compilation and selection of teaching materials, the preparation of teaching plan courseware and other aspects, and should run through all online and offline teaching activities, teaching discussions, experimental operations and other links. Centering on the ideological and political construction of college computer courses, the design is mainly carried out from six aspects, such as course objectives, teaching syllabus, characteristic textbooks, teaching resources, teaching forms and teaching evaluation.

Curriculum objective refers to the specific goal and intention of the course itself, which is the basis for determining the course content, teaching objectives and teaching methods. Through the study of the course "Computer Application Foundation", students should have a preliminary and general understanding of computer science, master the basic knowledge of computer hardware and software, as well as the basic principles and related technologies of multimedia, computer network, computing theory, computer algorithm and program design, have basic computer application ability, and cultivate the ability of computational thinking. In order to meet and adapt to the basic requirements of information literacy of contemporary college students in the information society, it lays a foundation for using computers to solve complex problems in their professional fields in the future. At the same time, IT can enhance the national self-confidence and patriotism of contemporary college students, cultivate the spirit of artisans in a big country, feel the spirit of self-improvement of national enterprises in the IT industry, understand the selfless dedication of Chinese scientists in the computer field, stimulate the internal learning motivation of students, and promote domestic independent controllable alternative computer hardware and software products.

Formulate a new syllabus for university computer science courses. The course "Basic Computer Application" involves many basic concepts, basic principles and basic methods in the field of computer, as well as the essential basic skills that a contemporary college student should have to work, study and live normally in the information society. The new syllabus has comprehensively adjusted and innovated the contents of the previous course "Computer Application Foundation". Strengthen the content of computational thinking and

curriculum thinking and politics, and integrate curriculum thinking and politics elements into the knowledge system.

Teaching material is an important support for the ideological and political education function of the curriculum. As a special cultural product related to national affairs and rights, it contains national culture and national will, and is an important medium for students to form national identity. Digging deeply into the ideological and political content contained in the course of "Computer Application Foundation", a set of characteristic experimental textbooks of "Computer Application Foundation" is compiled.

The ideological and political teaching resources of "Computer Application Foundation" course include teaching videos covering each chapter, extended reading related to each knowledge point, teaching courseware, question bank, exercises, etc., which cleverly integrate a lot of ideological and political content of the course.

College computer classroom teaching adopts online and offline mixed teaching methods. The online teaching platform of theoretical courses adopts Chinese university MOOC and Super star MOOCs, and the offline teaching of theoretical courses is mainly taught in class. Experimental teaching adopts offline teaching, with students as the main and teachers as the auxiliary.

Construct a scientific curriculum ideological and political evaluation system. The online teaching platform is used to supervise and evaluate the online and offline teaching process, collect learning data of each link, and make scientific evaluation, which not only stimulates the learning motivation of students on the ideological and political content of the course, but also stimulates the enthusiasm and creativity of teachers on the ideological and political research of the course.

## **V. METHODS OF IDEOLOGICAL AND POLITICAL INTEGRATION INTO TEACHING**

### **5.1 Integrate ideological and political offline teaching**

The offline teaching is the main body of the curriculum, and it is necessary to choose appropriate ways according to different characteristics to realize the integration of ideology and politics in the curriculum.

(1) Traditional classroom teaching: the introduction of examples into the course of ideological and political. For example, combining the evolution and history of Chinese characters when explaining the basic content of information digitization; Introducing the development of Chinese supercomputers when explaining hardware architecture; Introducing Hongmeng operating system when explaining the software platform; The rapid development of IPv6 and 5G communication networks in China is introduced. When explaining artificial intelligence, introduce health code and travel code in epidemic prevention and control.

(2) New classroom: Through the flipped classroom and other forms into the curriculum ideology and politics. The main body of flipped classroom is students, who can put forward the content related to ideology and politics when assigning flipped classroom tasks. For example, students are required to explain specific topics including the development of China in the corresponding field and the relationship between the corresponding field and their major.

(3) Experiment: Experiment is an important part of university computer courses. Combining with the characteristics of the course, experimental materials are integrated into the ideological and political methods of the course. For example, in the Office experiment, words and data related to patriotism, artisan spirit, and the rapid development of China's economy were used for experiments.

(4) Homework: Students' autonomy, honesty and trustworthiness are required to be cultivated through strict process. In addition, students' innovative spirit, communication ability and teamwork ability can also be cultivated through team comprehensive homework.

### **5.2 Integrate ideological and political online teaching**

The videos, materials and homework tests in the online teaching platform can be used as effective carriers of curriculum ideology and politics.

(1) Teaching courseware: there will be ideological and political elements in the course of courseware explanation, and the courseware will be shared on the website to help students consolidate knowledge and achieve the goal of education.

(2) Online video: content integration and expansion of integration and other ways. Content integration refers to the integration of ideological and political elements into recorded teaching videos; Extension and integration refers to the selection of extension videos related to the course content and Posting them on the teaching website, so as to improve students' self-learning ability and broaden their scientific vision.

(3) Online materials: Select policies and regulations, industry norms, technical cases and other content related to the course content, so as to enhance students' legal awareness and innovative spirit. At the same time, students can also choose excellent homework and collect excellent resources to share with everyone.

(4) Online homework test: On the one hand, it adopts the method of integrating homework materials into the course ideology and politics; on the other hand, it cultivates students' sense of time and responsibility by setting online homework submission time and mutual evaluation rules.

### **5.3 Multidimensional assessment mechanism**

Curriculum assessment is an important link to integrate curriculum thinking and politics. Due to the combination of online and offline teaching in university computers, the assessment methods of this course include online and offline, theory and experiment, large homework and other aspects. In the course assessment system, the status of process assessment is highlighted, and the proportion of process assessment is higher than that of final assessment. In the process assessment, the process data of students' learning is used to evaluate their individual stages and give feedback to students, so as to urge them to improve.

In the assessment system of college computer courses, the process assessment accounts for 50% of the total score, which is composed of three parts: online platform, stage test and offline experiment. The final assessment accounts for 50% of the total score, which is composed of two parts: comprehensive homework and online exam. In the evaluation system of stage test, offline experiment, comprehensive homework and other scores, the score of ideological and political part is clearly specified, so as to ensure that students not only learn knowledge and master technology, but also improve their ideological understanding, so as to achieve the purpose of cultivating morality and cultivating people.

## **VI. CONCLUSION**

The curriculum ideological and political construction is a systematic project, which needs to be designed and constructed from the whole teaching process closely around the central link and fundamental task of "cultivating morality and cultivating people". College computer courses with hybrid teaching have wide coverage, flexible teaching methods, and involve many majors. Therefore, it is necessary to actively explore the teaching methods that integrate ideology and politics into the curriculum, and make further use of online and offline platforms to improve teaching ability. The construction practice of "Computer Application Foundation" course ideological and political demonstration course shows that the content of the course is cleverly and properly integrated into the university computer course, through rich online resources and vivid offline teaching, it can stimulate the students' feelings of home and country and learning motivation, and improve the teaching quality and talent training quality of the university computer course.

### **CONFLICT OF INTEREST**

There is no conflict to disclose.

### **ACKNOWLEDGMENT**

We thank the anonymous reviewers and editors for their very constructive comments. This work was supported by the Computer Basic Education Teaching Research Project of the National Association for Computer Basic Education in Higher Education Institutions under Grant 2023-AFCEC-001 and the Course Ideological and Political Demonstration Course of Anhui University of Finance & Economics under Grant acszsfk2022012 and the Teaching Research Project of Anhui Provincial Education Department under grant No. 2021jyxm0019.

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Pingshui Wang. "Ideological and political design and implementation of the course "Computer Application Foundation"." *International Journal of Engineering and Science*, vol. 13, no. 11, 2023, pp. 41-44.