

Practical Research on Integrating Ideological and Political Elements into Digital Image Processing Course

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Abstract: "Curriculum Ideological and Political" is a new type of teaching concept and model, which has important significance in the education of courses and the improvement of teaching quality. This article fully excavates the ideological and political connotation in the professional courses of digital image processing, and carries out the practice and exploration of digital image processing courses and ideological and political integration from various aspects such as overall curriculum planning, teaching design, resource system construction and course assessment and evaluation system. Achieve the goal of educating students in an all-round way in a subtle way.

1. Introduction

Ideological quality is the most important quality in the development of college students in China. In the past 40 years of reform and opening up, ideological and political courses in colleges and universities have played an important role in helping college students establish a correct world outlook, outlook on life and values^[1], but at the same time, they have also exposed the following problems: first, students generally attach importance to the study of professional courses and ignore ideological education. They believe that as long as they learn professional knowledge well, they are not afraid of not finding a job in the future, In particular, the political theory course has little use for students to find a job, which leads to the lack of enthusiasm and initiative of most students in learning political theory, let alone consciously contacting their majors to understand and apply ideological and political theory. Second, the current ideological and political course is less combined with practice, and the teaching content is less combined with majors from books to books. Students can not feel the connection between the knowledge taught in ideological and political course and future work, which cannot arouse students' resonance, resulting in students' lack of interest in learning.

In recent years, with the acceleration of international globalization, the development of science and technology and modern media, the frequent cross-cultural exchanges and the trend of cultural diversity are more obvious. College students are the group most sensitive to social, ideological and political changes. Under the impact of multicultural thoughts and values, many college students' ideals, beliefs, value orientations, moral concepts, behavior patterns and social psychology have undergone significant changes, resulting in varying degrees of confusion of political beliefs, distorted value orientations, weak sense of integrity, lack of sense of social responsibility, weakening of the spirit of hard struggle and poor concept of unity and cooperation, Poor psychological quality and other problems^[2], the fierce market competition has exacerbated the pressure on students. These changes put forward higher requirements for the ideological and political education of college students. It is necessary to closely combine the ideological and political teaching with various majors, teach students according to their aptitude for different majors, and truly give full play to the theoretical charm of ideological and political education. Ideological and political education in course is beneficial to break through the dilemma of "educational island"

in ideological and political education in colleges and universities, and effectively change the phenomenon of segregation between Ideological and political education and professional teaching.

This article takes the course of digital image processing as the carrier, and fully excavates the ideological and political elements contained in the course according to the characteristics and knowledge content of the course, and will cultivate and practice the core values of socialism throughout the whole course of course teaching [3-5].

2. Practice and Exploration on the Integration of Digital Image Processing Course and Ideological and Political Course

Digital image processing course is an important professional course in the major of electronic information and artificial intelligence. It is generally offered in the second semester of the third year of the university. It plays a connecting role in the whole professional teaching. This stage is the key period for college students to determine the direction of life and make efforts for it. In this special period, college students are gradually divided into three groups: postgraduate entrance examination groups, career selection groups and overseas groups. Different choices mean different learning states and learning contents. During this period, students were not mature enough to fully understand themselves, set their goals and plan their life. Without the guidance of other forces, many students were confused, at a loss and felt depressed. Therefore, the course of digital image processing must give full play to its ideological and political role. Professional teachers should pay attention to the situation of students, give timely guidance, and help and guide them through the critical period.

This article will take "morality education" as the goal and "Moisten things silently" as the principle, fully excavate the ideological and political connotation in the digital image processing course, take the course ideological and political exploration as the starting point, and ingeniously integrate political elements into the professional courses, to achieve the combination of explicit education and invisible education, and cultivate students' rule awareness and teamwork ability, sense of social responsibility and the spirit of loving science and continuous exploration reserve spiritual strength for students who are about to step into society. This paper intends to carry out the practice and exploration of ideological and political education of digital image processing course from the aspects of overall curriculum planning, teaching design, resource system construction and curriculum assessment and evaluation system.

2.1. Establish the Overall Planning Scheme of Curriculum Ideological and Political Education

2.1.1. Cultivation of Teachers' Ideological and Political Consciousness

As a teacher, professional teachers in colleges and universities should first clarify the truth and believe in truth, so as to bear the responsibility of guiding the healthy growth of students. In the process of teaching, we should create more opportunities and platforms for discussion on theoretical hot spots and focus events, guide students to correctly understand Chinese characteristics and international comparison, comprehensively and objectively understand contemporary China and look at the external world through theoretical debate and contention. Secondly, teachers' own personality charm is very important and plays a key role in guiding students. Teachers should be strict with themselves, at the same time, they should also care for and respect students. This is the most basic condition for the curriculum to make ideological and political education effective.

2.1.2. Increase the Teaching Objectives of Ideological and Political Education and Revise the Curriculum Syllabus

"Digital Image Processing" is mainly taught by students majoring in electronic information. On the premise of cultivating students' professional skills, we should also cultivate students' awareness of rules, teamwork ability, and sense of social responsibility, love of science and innovative spirit of continuous exploration. Therefore, it is necessary to complete the revision of the curriculum teaching objectives. The professional curriculum teaching objectives should not only reflect the

students' practical ability and innovative spirit, but also highlight the guiding students to establish a correct outlook on life and values, such as "craftsman spirit", professional spirit of loving and dedicated work, quality spirit of excellence, team spirit of cooperation and progress, and innovative spirit of pursuing excellence. Secondly, the change of teaching objectives should be reflected in the syllabus, redefine the teaching objectives and teaching contents, find the combination point of ideological and political knowledge and professional contents, and solidify the ideological and political contents into the syllabus of professional courses.

2.1.3. Draw up Teaching Plan

According to the specific content and characteristics of digital image processing course, on the basis of strengthening professional skills, deeply excavate the ideological and political knowledge hidden in professional courses and find the combination point. It can be combined with professional orientation to integrate the cultivation of laws, regulations and professional ethics into the course teaching. For example, adding watermark to digital image can effectively protect copyright [6], adding mosaic to image face can protect personal privacy, etc. We can combine with historical data to highlight the characteristics of the times, such as digital restoration of some important steles and historic images [7], and combine with regional characteristics to highlight regional and school characteristics, such as coal and rock identification [8], and combined with current political news and hot events, it can more resonate with students, such as face recognition technology helps capture Peking University students who killed his mother. By combing the course content, the mapping and integration points between the course content and ideological and political education are preliminarily determined, as shown in Table 1.

Table 1 Mapping and integration points between digital image processing course and ideological and political education.

Course content	Ideological and political mapping and integration point	Expected effect
Origin and definition of image	Hieroglyphs and Oracle	The origin of China's 5000 year old traditional culture, cultural self-confidence
Application and development of image	The inventor of CT won the Nobel Prize	Combination of science and technology, craftsman spirit
Application of image	Digital watermarking technology	Copyright protection consciousness, legal consciousness, innovation consciousness
Face recognition	Wu Xie yu who kill his mother was finally arrested	The net of heaven is broad, careless but not leaky, and establish legal consciousness
Gray resolution of image	Mosaic technology	Privacy protection, legal awareness
Time and frequency domain analysis of image	Analyze problems from multiple angles, dialectical thinking	Solving problems from multiple perspectives in daily life
Image restoration	Digital restoration of cultural relics	China's heritage protection, Feelings of family and country, cultural self-confidence
in-class experiment	Combination of theory and Practice	Practice is the only criterion for testing truth

In addition, the current is a special period of the outbreak of the New Coronavirus. All colleges and universities across the country have launched online teaching. We can also take this as an opportunity to carry out curriculum ideological and political infiltration. For example, by showing students pictures of coronavirus, we can guide them to do a good job in self-protection, learn the self-care spirit of medical staff and police comrades, and thank them for providing us with a safe learning space. Students can also experience the strong leadership of the Communist Party of China

and the advantages of the socialist system with Chinese characteristics by showing moving pictures in the process of fighting the epidemic. When completing online learning, encourage them to maintain a positive and optimistic attitude, strengthen self-discipline management, consciously abide by online self-discipline conventions, listen carefully, complete their homework on time, and create a good online learning environment. The premise of educating students to have a sense of social responsibility is to be responsible for themselves and their survival and development.

2.2. Explore the Path of Integrating Ideological and Political Education into Professional Courses and Improve Teaching Design

Four integration paths are introduced according to the characteristics of the curriculum:

(1) Most chapters of the course can be introduced through 1-2 image application cases or stories, such as face brushing payment, the development and application of artificial intelligence, etc. Let students analyze cases, enhance students' safety awareness, cultivate students' professional ethics awareness, and stimulate students' craftsmanship and patriotism. The language time reflecting the "Ideological and political" element is generally controlled within a few minutes to avoid causing students' disgust.

(2) We can give lectures through excellent graduates or alumni, make full use of enterprise resources, work experience and personal experience to interact with students, help students understand the future employment environment, strengthen professional awareness and consolidate ideological and political achievements.

(3) The pictures displayed or processed in the class shall be those that can represent China's traditional culture and art as far as possible to highlight the love for the party, patriotism and cultural self-confidence. By introducing the wide application of images in various fields in China, this paper highlights the achievements made since China's reform and opening up, and encourages students to study hard and win glory for the country.

(4) We can improve students' thinking ability through teaching situations, group discussions and other teaching methods in the course and experiment, so that students can naturally form good socialist core values in cooperative learning, and promote the improvement of students' comprehensive quality. For example, in the programming experiment in digital image processing class, students are divided into groups of 4-6 people to complete. Through division of labor, cooperation and mutual discussion, students are taught to think more, study more and overcome difficulties when they encounter technical problems. It is required to complete the task quickly, continue to improve the function, and advocate the "craftsman spirit" of excellence. Encourage students with strong learning ability to improve traditional methods and advocate "innovative spirit".

2.3. Developing Teaching Materials and Strengthening the Construction of Resource System

(1) Develop ideological and political teaching materials or literature materials supporting corresponding courses to help students better understand the teaching content.

(2) Develop media, video, animation and other materials, and embed these resources into the teaching content to help students recognize and understand the knowledge points and increase interest at the same time.

(3) The case resources sorted, organized and refined will form an ideological and political content database, which will be shared on the network platform to increase the sense of time and space for teaching.

(4) Complete 2-3 ideological and political reform cases of "digital image processing" course including design scheme and implementation results.

(5) Select teaching cases and produce 2-3 teaching micro videos of "digital image processing" course reflecting the core meaning of "curriculum thought and politics". Each video is 8-10 minutes long and the video content system is complete.

2.4. Construction of Diversified Curriculum Assessment and Evaluation System

After introducing ideological and political content into professional courses, it is necessary to

further refine the score proportion of the assessment module. It not only evaluates students' cognitive development in knowledge, skills and innovation, but also evaluates their non-cognitive development in emotion, will, personality and personality. These comprehensive qualities are the embodiment of ideological and political elements. For the course of digital image, the total score is divided into four parts, among which, the usual score accounts for 20%, the mid-term score accounts for 20%, the experimental score accounts for 10% and the final score accounts for 50%. Diversified Assessment and evaluation system mainly emphasizes the combination of process evaluation and summary evaluation.

The usual performance mainly focuses on students' attendance, learning attitude, discussion and participation, homework submission and completion, etc. In the experiment part, the basic theory and knowledge, hands-on operation ability, expression and communication ability and teamwork ability are assessed. The digital image experiment mainly completes five experiments. Each time, the students' interactive scoring is combined with the teacher's evaluation. The interactive scoring promotes the students to learn from each other and share the results. Before the beginning of each experiment, the excellent group of the last experiment was selected by the teacher to share the programming process with you. The mid-term consists of two stage tests and an essay or research report. The stage test can adopt the limited time answer questions in the Rain class, most of which are multiple-choice questions, interspersed with one or two ideological and political questions. The essay is mainly for the ideological and political problems related to the course created by the teacher, which is written into an essay in groups for analysis and discussion. The final examination adopts closed book to examine the basic theory of the course and the application of comprehensive analysis.

At the same time, teachers also need to formulate teaching effect assessment methods corresponding to typical cases and teaching micro videos, complete students' feedback evaluation of the teaching effect of the course, return the assessment results to the classroom, and verify the feasibility of Integrating Ideological and political elements into the practice path of professional curriculum education and teaching through classroom practice teaching.

3. Conclusion

Educational concept of "curriculum thought and politics" fully embodies the educational function of each course and the educational responsibility of each teacher, improves the moral awareness and moral ability of all teachers, it helps to change the situation that professional teachers only teach and do not pay attention to ideological education, and the phenomenon of ideological and political education teachers fighting alone has shifted ideological and political education from special personnel to everyone. In this paper, the teaching reform and exploration of digital image processing curriculum are carried out under the concept of curriculum thought and politics, some reform measures are given, the integration points of digital image processing curriculum and thought and politics are explored, appropriate implementation measures are designed, teaching methods are reformed, and the whole process, and all-round education is realized.

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