

Design and implementation of the teaching system of Ideological and political theory course in universities based on multimedia technology

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Abstract. Under the development trend of economic globalization, faced with the influence of economic trade and cultural exchanges among countries, it is necessary to strengthen the implementation of ideological and political theory courses in colleges and universities, integrate and use multimedia technology to build course teaching system, improve practical education and teaching level, optimize the comprehensive quality of college students, and show the advantages of multimedia technology. To improve the teaching effect of ideological and political theory courses in colleges and universities, and truly realize the educational goal of cultivating builders and successors of socialist cause, is in line with the demand of quality-oriented education reform in the new era. Based on the current situation of ideological and political course education in colleges and universities, this paper deeply discusses how to apply the multimedia technology to the ideological and political theory courses in colleges and universities based on the technical superiority of multimedia teaching.

Keywords: Multimedia technology; Colleges and universities; Ideological and political education; Theory courses; Teaching and learning system.

1. Introduction

In the modern education work, the ideological and political theory courses in colleges and universities occupy an important position in the higher education system, which is the main way and effective position for the ideological and political education of college students. It actively undertakes the basic function of helping and guiding college students to determine the correct three views and maintain the consciousness of national security. Therefore, under the background of modern education innovation, colleges and universities around the country begin to actively explore the effective mechanism and important measures of curriculum ideological and political education and the joint education of various courses. In essence, the theory of ideological and political courses is a key course proposed based on the fundamental goal of cultivating morality and cultivating people. [1]To construct and promote the quality education of ideological and political courses in colleges and universities, we should not only transfer a lot of theoretical knowledge to professional students, but also pay attention to the cultivation of students' comprehensive quality and ability, so as to meet the needs of social construction and development and meet the needs of students' own development. To transform the traditional teaching mode into a heuristic teaching mode, truly student-themed, teacher-led, fully mobilize students' interest in learning, improve the quality of classroom teaching. Nowadays, the research on the teaching effect and improvement of ideological and political courses in colleges and universities is mainly focused on the reform of teaching methods. Practical teaching methods refer to the methods adopted to effectively impart teaching knowledge and achieve teaching objectives, which directly affects whether the expected teaching effect can be achieved. In the development of the spirit of the new era, the social economy and social environment have undergone earth-shaking changes, and the ideological and political methods of colleges and universities should be reformed accordingly. [2]For example, some scholars proposed to use case teaching method to guide training, focusing on enhancing the reality and pertinence of practical teaching; Some scholars put forward practical teaching, which includes network practice, social practice, curriculum practice and so on. Some scholars put forward

interactive and participatory teaching, which should not only give play to the leading role of teachers, but also explore students' awareness of independent learning. Some scholars also put forward the network multimedia teaching, including MOOCs, micro classes and other forms, with the purpose of mobilizing students' interest in learning, expanding practical classroom knowledge and enriching students' learning content.[3]

According to the accumulated teaching experience in recent years, the application of multimedia technology in college ideological and political courses has the following advantages: first, it is helpful to improve the practical teaching effect. Since ideological and political theory courses organically unify theoretical, ideological, systematic and scientific theoretical knowledge, and have a strong abstract and speculative color in practical teaching, we continuously optimize classroom teaching knowledge by using the brightness of multimedia technology, build rich and interesting teaching scenes, and provide students with intuitive teaching materials. Enable students to acquire more theoretical knowledge in the illustrated classroom; Secondly, it is helpful to enhance the persuasion in class. The purpose of ideological and political theory course teaching is to publicize the basic lines, main guidelines and preferential policies of the Party organization, so as to continuously optimize students' comprehensive quality. Traditionally, ideological and political theory courses in colleges and universities are mainly explained by teachers, and students can only passively accept them. Multimedia technology will use the network platform to break through the restrictions of time and space, transform abstract theoretical knowledge into vivid content, continue to expand students' image thinking, so that they can more easily understand and apply ideological and political theory knowledge; Finally, it is helpful to improve the efficiency of practical work. Multimedia teaching technology can improve the teaching mode of ideological and political theory courses in colleges and universities, improve the working efficiency of professional teachers, ensure the sharing and application of various teaching resources, so that professional teachers can integrate materials and design courseware according to their own needs, continuously optimize the practical classroom teaching process, and spend more time and energy on inspiring students' learning thinking. Therefore, on the basis of understanding the current situation of the application of multimedia technology, this paper deeply discusses the design of the teaching system of the ideological and political theory course in colleges and universities with multimedia technology as the core, and based on the goal of talent training in the new era, puts forward clear educational reform measures.[4-6]

2. Methods

2.1 System Design

Using multimedia technology and network platform, the design and application of three-dimensional teaching system in line with the needs of ideological and political theory courses in colleges and universities can promote the reform and innovation of ideological and political course education in the new era. Since the users of the system are professional teachers and college students, the system design should be studied according to the ideological and political curriculum needs. Nowadays, the teaching needs of ideological and political theory courses in colleges and universities include resource sharing, courseware development, classroom interaction, etc. Therefore, the information management system should, according to the needs of teachers and students and the characteristics of the course, provide multiple functions such as homework assignment, personalized learning, course optimization, updating database, uploading and downloading course exercises, ideological and political examination, etc., in order to ensure that teachers and students can interact with each other. Complete the expected teaching tasks. The system structure is shown in Figure 1 below, which includes a number of contents, such as demonstration player tools, electronic pen, multimedia classroom, Internet, laboratory, database and so on:[7-9]

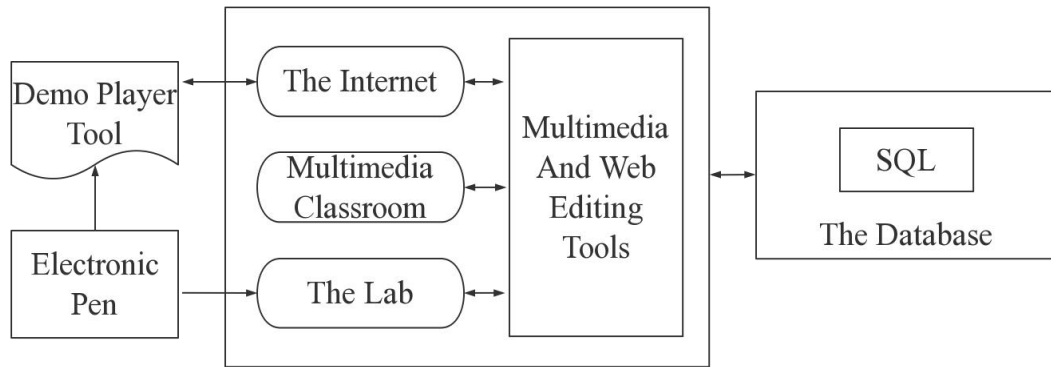


Figure 1 System structure diagram

According to the relationship analysis of teacher-side modules shown in Figure 2 below, after entering the user interface module, college teachers can not only realize basic operations such as image sending and image receiving according to the functions provided by the interface, but also choose remote control module and command control module to carry out integrated analysis of students' practical teaching situation and scientifically adjust the content and form of practical teaching classroom.

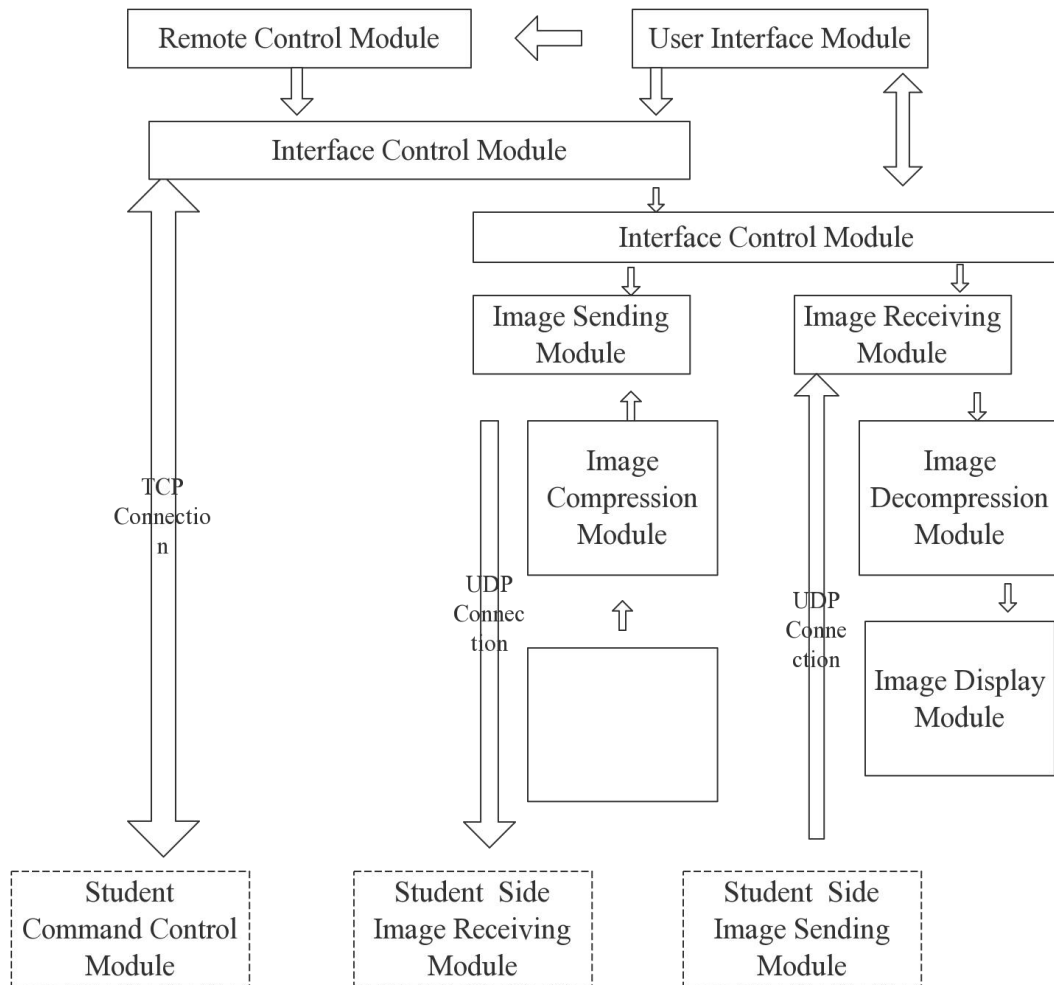


Figure 2. Module diagram of the teacher side

Based on the relationship analysis of the student-end modules shown in Figure 3 below, it can be seen that the student login module also contains the interface, control module, command control

module, shutdown and restart control module, which will be connected with the teacher's command and control module.[10]

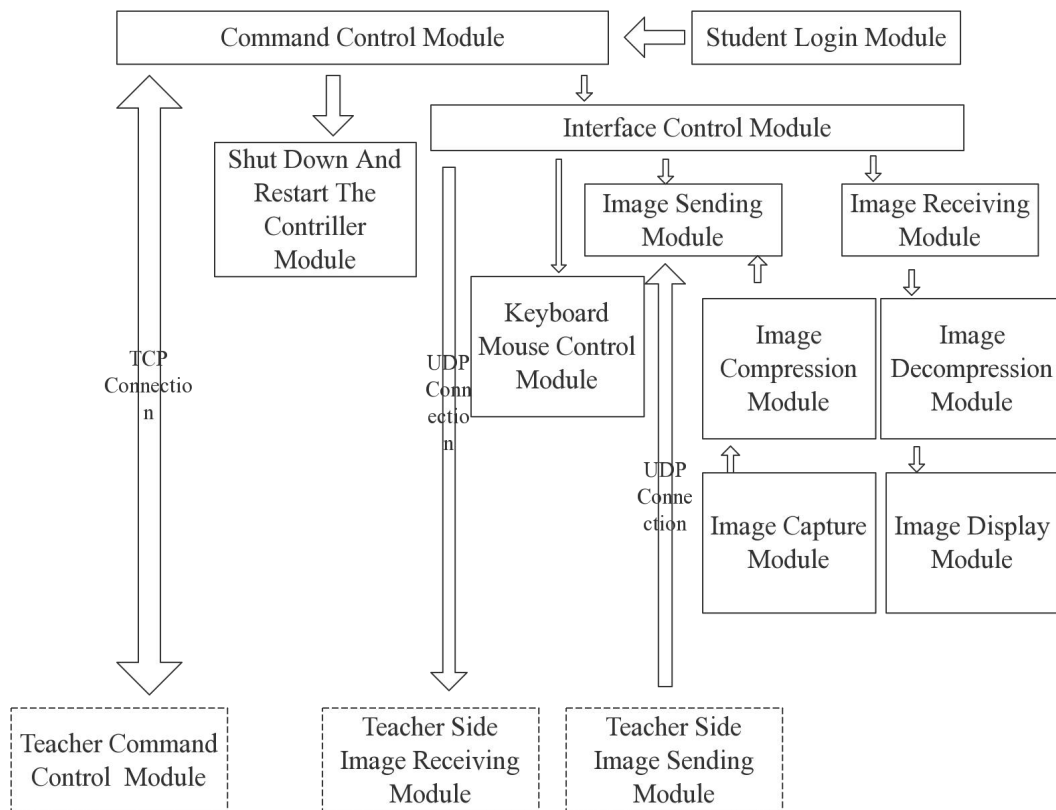


Figure 3. Student side module diagram

The integrated study of these two modules shows that all operations on the user interface of the teacher will be presented in the form of control commands. The remote control module will capture the teacher's keyboard and mouse, send the control commands to the command control module, and then analyze and control this command, and transfer the corresponding commands to the command control module of the student side. If the command control module thinks that this command needs to be operated in the teacher interface, the command will be sent to the corresponding interface through the interface. In the control module, the interface control module decides to call the image sending module or receiving module. In rare cases, if the operations on the teacher's user interface only affect the interface, the directed operations will also be sent directly to the interface control module in the form of interface instructions. In the student side, the system only maintains the interface instruction queue. After the student logs in the module, the command control module will receive the instruction from the teacher side command module and carry out corresponding operation after effective analysis. If the command control module thinks that the instruction includes the student interface operation, then through the interface, the command queue sends the corresponding interface to the interface control module, and the interface control module decides to call other modules.[11-13]

2.2 Module Design

First, command control. The command control module on the teacher side is mainly used to receive and analyze the control commands from the user interface and the basic information of the command control module on the student side, and then send the corresponding interface commands to the interface control module according to the instructions, and carefully execute the relevant operations. In order to ensure the reliability of instruction transmission, the TCP oriented protocol is used to control instruction transmission in the system design. Therefore, the command control

module of the teacher side can be regarded as the TCP concurrent server thread, which requires effective connection with each student side. The command and control module of the student side is used to receive and analyze the command from the teacher side, the command of the control module and the login information of the student side, to execute various operations in strict accordance with the instruction, or to send the corresponding interface, control command and information to the control module and the command module of the teacher side. The data structure of the control instruction is shown in Table 1 below:[14-15]

Table 1 Data structure of control instruction

Type of instruction	Attached Data 1	Attached Data 2	Attached Data 3
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Based on the analysis of the above table, it is found that the instruction type is one type of data, which stores the instruction identifier of the control instruction, and the attached data is joint data, which stores the parameters required by the instruction. During the process of the network upload instruction, the data structure will be transformed into the form shown in Table 2 below:

Table 2 Data structure of upload instruction

Length of instruction	Type of instruction	Attached Data
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Second, interface control. The teacher interface control module is used to receive and analyze the instructions of the teacher user interface and command control module. It will start the image sending module or receiving module in strict accordance with the instructions, and can also update the teacher interface. The student interface control module is used to receive and analyze the instruction of the student command control module. It will start the image sending module or receiving module according to the specific instruction, and can also call the keyboard and mouse control module.

Finally, the image module. Combined with the structural diagram shown in Figure 4 below, we can see that the design of this module includes sending, receiving, capturing, displaying, compression, decompression and other contents, which are mainly used for broadcast of teacher-side screen images and monitoring management of students-side screen. The running process of the whole module involves the following points: first, image capture; Second, image compression; Third, image sending; Fourth, image reception; Fifth, image decompression; Sixth, image display.

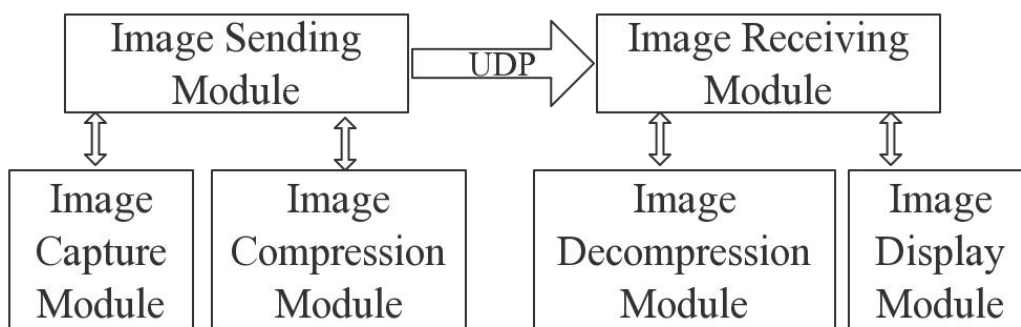


FIG. 4 Structure of the image module

3. Result analysis

From the perspective of modern education innovation, the following work should be done in the integration and application of multimedia technology to implement the teaching guidance of ideological and political theory courses in colleges and universities: Firstly, we should combine multimedia technology with traditional teaching, transform abstract theoretical knowledge into vivid and concrete content, fully mobilize students' learning interest, coordinate and deal with the

relationship between multimedia teaching and traditional teaching, and pay attention to the cultivation of students' abstract thinking and understanding and judgment ability. Secondly, the leading role of teachers and the main role of students should be combined. In the course of ideological and political theory in colleges and universities, teachers are the organizers, guides and assistants of students' learning activities, while students are the participants of learning activities. Through the rational use of multimedia technology to create a rich and varied teaching situation, encourage and support students to explore and solve problems independently, so that students can truly become the leader of classroom learning; Finally, it is necessary to combine multimedia technology with teaching content, equip students' minds with rich ideological and theoretical systems, guide them to correctly understand the world, life and self, skillfully use ideological and theoretical knowledge to solve practical problems, and continuously optimize their comprehensive quality and ability.

Conclusion

To sum up, multimedia technology has unique advantages that traditional teaching does not have, but there are many problems in practice application as well. Therefore, college administrators of our country should pay attention to ideological and political theory course education reform, and deeply discuss how to construct teaching system by the reasonable use of multimedia technology, so as to give full play to the advantages of multimedia technology and transform the traditional teaching concept. Improve the management level of practical teaching.

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