Ideological and Political Course Teaching in Colleges and Universities Based on the Construction of Computer Multimedia Technology

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Abstract. Computer multimedia, with its visual image, convenient interaction and mass information, has become an effective teaching method. Teachers of ideological and political theory should follow the principles of scientific, practical, artistic, interactive and open in the construction of computer multimedia.

Keywords: Ideological and Political Theory Course, Multimedia, Position, Principle, Computer Multimedia Technology

1. Introduction
In recent years, multimedia is fully and effectively used in the ideological and political theory courses (hereinafter abbreviated as “Ideological and political courses”) teaching in colleges and universities[1-2]. It is of great significance to change the traditional indoctrination teaching mode of ideological and political courses, to cultivate students' interest in learning, to improve teachers' teaching level, and to improve the effectiveness of teaching[3-4]. It also conforms to the cognitive characteristics of college students[5-6]. Teachers of Ideological and political courses in Colleges and universities should fully understand the vital role of multimedia in teaching and follow three basic principles in the construction of multimedia to achieve the best teaching effect.

2. Analysis of multimedia in ideological and political theory teaching
The characteristics of the multimedia images can enhance the classroom attraction and theoretical credibility. In the traditional mode, teachers teach mainly through teaching materials, blackboards, chalk, charts, photos, and other media. Although the traditional mode can also play its unique role, it has obvious limitations, mainly reflected in the abstract content, which is easy to make students produce learning fatigue, even challenging to attract students' attention and make students believe in the truth, and trickier to stimulate students' creativity, consciousness and innovation capability. Some studies have shown that people can only remember 15% of the information from hearing, 25% of the data from vision, and 65% of the data from sight and hearing. Multimedia is composed of visual media, auditory media, audio-visual media, and comprehensive media that can act on a variety of human senses. It creates a teaching environment with vibrant pictures and texts, appropriate movement and stillness, and integrated sound and emotion through a variety of media materials, such as text, graphics, images, animation, audio, video, etc., to stimulate students' senses in an all-round way, to
enhance the interest of the classroom and attraction. The application can also increase the theoretical credibility, improve the accuracy of discussion, and greatly enhance the persuasiveness of Ideological and political teaching.

Currently, the main research direction of multimedia technology is a sparse representation of light, to achieve the following three goals, namely, design perception matrix, conduct compressible verification, and reconstruct light

(1) Sparse representation of view is an essential prior condition of the multimedia technology, as shown in equation (1), \( x \) represents the original lamp \( \{ x_1, x_2, ..., x_n \} \), \( \theta \) represents the teaching efficiency coefficient.

\[
x = \Psi \theta
\]  

(1)

(2) The observation model of multimedia technology can project the original light to the perception matrix which has no correlation with the transformation basis \( \Phi \). Through the observation vector \( y \), the observation vector can be obtained based on equation (2) as follows:

\[
y = \Phi x
\]  

(2)

Based on equation (1) and equation (2), the relationship between the observation vector and teaching efficiency coefficient can be expressed as follows

\[
y = \Phi x = \Phi \Psi \theta
\]  

(3)

3. Application of multimedia in the ideological and political theory teaching

Multimedia is essentially a kind of computer application software, which is used by teachers to assist teaching. It is popular with teachers and students because of its vibrant expression, good interaction, and great sharing. Multimedia teaching has incomparable advantages over traditional teaching. On the one hand, the teacher talks with a dry throat and dry tongue. On the other hand, the students are drowsy or do other things. The teaching effect is not ideal. Interaction is one of the most characteristic functions in the multimedia application system, and one of the main ways to implement man-machine dialogue. In other words, interaction is the most prominent characteristic of the multimedia program. In classroom teaching, teachers can combine audio-visual with inspiration and teaching by means of multimedia. On the one hand, teachers can demonstrate multimedia, play video and audio to assist teaching content.

Massive multimedia information can save the time of blackboard writing and improve the efficiency of classroom teaching. Since the implementation of the “05 plan” of Ideological and political course, the teaching content course is richer and the amount of information is larger, but the class hours are reduced. Hence, in the teaching process, teachers are faced with the prominent contradiction between teaching time and teaching content. The traditional way of teaching while writing on the blackboard cannot meet the needs of teaching at all. Compared with conventional teaching methods, multimedia means greatly expand the space-time capacity of knowledge multimedia means can transmit more information in unit time. Teachers can build blackboard writing, charts, videos, and the latest materials in courseware when preparing lessons, significantly reducing the time of blackboard writing. In general, multimedia teaching is a modern teaching method developed based on traditional teaching. Because of its intuitive image, convenient interaction, and massive information, its application is more and more popular.

4. Basic principles for multimedia construction of ideological and political theory courses

As a tool, multimedia is an effective means for teachers to engage in teaching activities. It can only play an auxiliary role in Teachers' teaching activities, especially pay attention not to replace the leading role. Therefore, we should achieve two goals in the construction of Ideological and political multimedia. The multimedia should be able to better stimulate in learning creativity, enhance the
attraction and appeal courses, to enhance the effectiveness of courses.

It is an crucial way to help college values, and prospect on life, which embodies the essential requirements of the socialist university. This should not only impart knowledge but also carry out ideological and political education. Therefore, there are very strict requirements for the accuracy of its teaching content. As a course of knowledge imparting, there should be no mistakes in knowledge, accurate conceptual principles, and authentic materials. As an ideological and political education course, the direction should be error-free, and college students should be guided to firmly believe in Marxism and become qualified builders and reliable successors of the socialist cause.

With the help of color, multimedia can reflect the objective world vividly. Color coordination can make students enjoy beauty, increase their interest, and help students better perceive and understand what they have learned. However, it should be noted that excessive colors should not be used in a picture. Too many colors will increase the reaction time of students and cause visual fatigue. Try to avoid putting the colors with strong contrast together, such as red/green, red/blue, green/blue, orange/purple, etc., because students will have visual flicker if they stare too long. In the use of interface colors, they should note the objects and non-objects in the activity The color matching of the objects in the activity should be different. The objects in the activity should be matched with bright colors, usually warm, saturated and bright colors. The objects in the non-activity should be matched with dim colors, preferably cold, dark and light colors. The color matching of the text and the background should be eye-catching, readable and not prone to visual fatigue. The dark text should be matched with the light background, and the light color text Match with a dark background.

The multimedia of Ideological and political course should embody the interactivity and openness in the construction process, which is more conducive to the improvement of teaching effectiveness. College students can read independently through mobile terminals after listening to the teacher's face-to-face teaching, or discuss with students on the computer network, and then carry out on-site exploration through handheld terminal devices. In the face of this kind of hybrid learning mode, we should understand the individual needs of college students and help them to make, develop, and complete their learning plans.

\[
\begin{align*}
\text{High value of} & \quad \text{cognitive learning} \\
\text{Self driven} & \quad \text{Cultural guidance} \\
\text{multimedia} & \quad \text{technology} \\
\text{Ready to learn,} & \quad \text{Exam oriented} \\
\text{ready to use} & \quad \text{learning} \\
\text{Muddle along} & \quad \text{System leading} \\
\text{Most} & \quad \text{Willing to pay} \\
\text{minority} & \quad \text{for learning}
\end{align*}
\]

**Figure 1.** Learning power matrix

To solve this teaching dilemma, multimedia technology is a classroom teaching app that provides real-time interactive communication for teachers and students by using mobile terminals. It can quickly send, collect, and sort out classroom teaching information through mobile Internet. It also has the functions of data push and sharing, location-based attendance, and accurate identity recognition. Hence, it is a mobile and timely teaching tool specially designed for ideological and political courses and class classes.
As mentioned above, the most prominent characteristic of multimedia is interactivity. The so-called interactivity refers to that the information transfer between the computer and the learner (operator) is bidirectional. The computer can output information to the learner (operator) or receive the input instructions of the learner (operator) and process them accordingly. Traditional media can only transmit information passively, while multimedia technology can realize people's active choice and control of information. For example, when building ppt courseware, we can design and create hyperlinks, action buttons for interaction, use interactive menus or shortcut keys for dynamic interaction, and even use text input for interaction.

5. Conclusion
The openness of the multimedia construction includes the openness of links, material libraries, and texts. Our approach in this respect is as follows: Firstly, the learning environment of courseware is switched to different teaching websites or teaching resources to reflect the openness of links. Secondly, videos, cases, and exercises related to the syllabus are accumulated in the course of lesson preparation, and the material library is established to reflect the openness of the material library. Third, personal blogs, QQ groups, or e-mails are used to solve problems, clear the doubts, and exchange ideas with students, and extend classroom teaching to extracurricular activities. In addition, to avoid repeated work, the competent department uploads multimedia materials developed by the unified organization on the Internet, including the course syllabus, handouts, videos, exercises, reading books, etc. through a unified style interface. Search and feedback features are provided to learners free of charge (such as the National Excellent Courses), which has also reflected the openness of the multimedia.

References
[1] YAN Xing-zhong, LI Yi-zhi, & ZHAO Nai-fei. (2012). An empirical analysis on the construction of the buildings of china's national colleges and universities. Systems Engineering, 30(5), 117-122.
[2] Sangwook Lee, Afshin Esmaeilzadeh, & Dong-Eun Lee. (2013). Graduate construction management programs in the u.s.: lessons learned from leading institutions. Ksce Journal of Civil Engineering, 17(7), 1664-1671.
[3] Nan, Chunping, Guo, & Xin . On the analysis of the construction of the quality guarantee system of web based college english teaching. International Journal of Technology
Management(5), 13-15.

[4] Jianhui Wang, Zijie Zhao, Xiaoyu Zhang, Hai Lu, & Xiaolin Yu. (2012). Application and practice of multimedia in water project construction teaching. Advances in Intelligent and Soft Computing, 146, 15-19.

[5] Zhu, & Jia. . Midi and music teaching in colleges of multimedia system application. Key Engineering Materials, 474-476, 1926-1930.

[6] Liu, Z. (2016). Discussion on the Professionalized and Specialized and Experted Construction of Tutors Team in Colleges and Universities.