Comprehensive Application of Microlecture Technology in College Ideological and Political Education

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Abstract. “Microlecture technology” is a new education model rising at home and abroad in recent years, which is effective and worth learning and promoting. In this paper, the microlecture is introduced to college ideological and political education to explore the feasibility of the teaching model design for college ideological and political education based on microlecture. The design principles are established based on the objective law of teaching and the features of ideological and political courses to establish a four-level experience model, an innovative and systematic teaching model based on the microlecture technology, thereby improving the effectiveness of college ideological and political teaching.

Keywords: Microlecture Technology, Comprehensive Application, Ideological and Political Theory Course, Four-level Experience Model

1. Introduction
Microlecture is a new type of educational information resource, which is extensively recognized for its “outstanding theme, short and concise content, good interaction, and wide application”\(^1\)\(^-\)\(^3\). Currently, many problems exist in the college ideological and political teaching, such as the stylization of teaching, the weak initiative of students in learning, and the lack of autonomy\(^4\)\(^-\)\(^5\). The introduction of microlecture and ideological and political education into college ideological and political education is conducive to changing the conventional learning approach of students and improving the overall teaching quality\(^6\).

2. Feasibility of teaching model design for college ideological and political education based on microlecture

The design of Ideological and political education teaching model based on microlecture has unique advantages in the new media environment, but it does not completely negate the conventional classroom teaching model but provides an important supplement for the conventional classroom teaching, which is conducive to improving the quality and effectiveness of Ideological and political teaching.

From the perspective of teaching reform: the traditional is mostly "indoctrination education", emphasizing that students accept learning. Drawing on the "flip class" teaching model of the "micro-class" concept, using modern teaching techniques, through the reverse arrangement of
knowledge transfer and internalization, the status of teachers and students in traditional teaching is changed, with students as the center. Flipping the classroom has realized the transformation from "focusing on theory" to "focusing on students", from "on the class" to "under the class", from "teaching" to "learning", from "traditional teaching" to "innovative teaching". The "reverse order innovation" model of ideological and political theory teaching reform is an effective way to realize the transformation of the teaching material system of ideological and political theory courses into teaching systems in colleges and universities.

From the perspective of personalized learning: Today, informal learning is prevalent, learning is moving towards mobility, miniaturization, fragmentation, and focus. Traditional ideological and political theory course resources are also because of "large units, large capacity, and inconvenience. The disadvantages of "individualized learning and inconvenient transmission" have been unable. Its fast interactivity enables "teaching" and "learning" to promote each other as a traditional classroom Teaching provides an important supplement, and it also has a major impact on the teaching structure, teaching model, teaching philosophy, and the status.

Judging from the actual results: In recent years, many schools and education fields have tried to reverse the new model of classrooms for different periods, different disciplines, and different types of courses. Practice has proved that some have achieved good results, while others have achieved general results. The difference lies in whether the design of the "flip classroom" teaching model meets the needs of students, and whether it considers the characteristics of specific subjects and the laws of education and teaching. According to different national conditions, different school conditions, and different teaching conditions, the same teaching model should also be re-innovated according to its own conditions and characteristics. In this paper, the design of the "flip classroom" teaching model based on micro-classes, based on the existing micro-curricular resources and theories at home and abroad, combined with teaching practice, constructs the "turn over" based on micro-classes "Classroom" teaching mode-"four-level experience mode", and preliminary verification of its implementation effect is feasible.

The sample set is assumed to be linearly separable \( \{x_i, y_i\}, i = 1, 2, \ldots, n, \ x \in \mathbb{R}^d, \ y \in \{-1, +1\} \). \( d \) in dimensional space, the general form of linear classification function is \( g(x) = w \cdot x + b \). The specific equation of classification surface is as follows

\[
w \cdot x + b = 0
\]  

To ensure that all samples can be classified correctly, it is necessary to meet the following requirements

\[
y_i \left[ (w \cdot x) + b - 1 \right] \geq 0, i = 1, 2, \ldots, n
\]  

Where \( n \) indicates the classification plane that satisfies the above conditions and minimizes \( \|w\| \) represents the optimal classification plane. The problem of micro-technical matching to solve can be transformed into the following constrained optimization problem, that is, to obtain the minimum value of the function under the constraint condition of formula (2).

\[
\varphi(w) = \frac{1}{2} \|w\|^2 - \frac{1}{2} (w \cdot w)
\]  

In recent years, many schools and education fields have tried new models for different periods, different disciplines, and different types of courses. Some of them have been proven in practice to have good results, while others have not. The differences lie in whether the education meets the needs of students, whether the features of specific subject knowledge and the laws of education and teaching are considered. Based on different national conditions, school situations and teaching conditions, the same teaching model should be innovated in combination with its own conditions and features.

3. Design principles of college ideological and political teaching model based on microlecture

Some have recorded videos, but the interactivity and interactivity are not satisfactory; others have
organized class discussions, but failed to effectively stimulate the interest. Hence, the primary principle based on microlecture is to adapt to local conditions, specific problems, specific analysis, on the basis of domestic and foreign experience, combine conventional teaching methods with modern technology to innovate ideological and political education teaching model in Colleges and universities, and design microlecture resources according to the features and needs of students. The “four-level experience teaching model” discussed and experimented in this paper is an innovative and systematic teaching model based on the teaching model and concept of education. It not only retains the advantages of conventional teaching, but also draws on the new technology and concept and “microlecture”. It is proven in practice as a more suitable learning model for college students at present.

According to constructivism learning theory, knowledge is teachers’ requirement but students’ need through meaning construction. In terms of teaching design, it is advocated to create problem situations, support collaborative exploration, carry out conversation and communication, and promote meaning construction. The teacher is no longer the only center of the classroom. He should be the “director” of the whole teaching activity and become the coordinator and director of the classroom. The conventional way of teaching is “teacher Book Classroom”, while the way of “video classroom teacher” is adopted in the classroom. Before class, students complete the basic knowledge mastery through independent learning of micro class resources, textbooks, etc. go to class with questions, and stimulate the learning enthusiasm and motivation of students to form a view of the world, and finally apply to social practice through activities such as teacher-student interaction and student collaboration in the class. In this way, through the stimulation of “self-study experience practice”.

4. Design of “four-level experience model”

This paper attempts to establish the “four-level experience model”, a teaching model based on microlecture. Currently, college ideological and political education has become a teaching model concerned by the global education community, but there is little introduction to the design and connection of activities before, during and after class in the implementation.

The course is a combination of ideological, political, intellectual, comprehensive and practical courses. Only by mastering scientific learning methods and combining learning with practice can good results be achieved. According to the features of practice and the process, the “four-level experience learning mode” is divided into four parts: “simulation experience reality contrast theory analysis application of learning”. The use of “simulated experience” or “hot debate” and other issues closely related to the course content will stimulate students at the first level, allow them to identify problems with curiosity, which will be completed by the students themselves offline; in the classroom, through the second level stimulation of “real case”, make the students have the motivation to solve problems and become the internal driving force of “learning theoretical knowledge”. Based on the first two levels of stimulation, firstly, the essence of conventional teaching methods is used. The teachers talk about the key questions and answer questions. Finally, through the experience of reinforcement learning, we can enhance the learning effect and truly achieve the ultimate goal of learning. Through the four-step experience of “introduction, development, change, and conclusion”.

A complete micro curriculum system that serves teaching model is established. In these four modules, teachers can use the microlecture resource database of the network information platform (as shown in Figure 1) before class. According to the requirements of teaching objectives and content needs, part of the teaching content is extracted to let students “learn first” and “practice again” in the classroom, changing the conventional “teach before practice” teaching model and reversing the classroom. Based on the design of different teachers and the needs of various students, the high-quality “microlecture” resource base and the “four-level experience mode” are flexibly transformed and interacted to form a complete system of microlecture system and teaching model (as shown in Figure 2).
Figure 1. E-learning platform

Figure 2. Microlecture system

5. Conclusion
College ideological and political education is a substantial test on teachers, who strive to design the teaching model of college ideological and political education based on microlecture. On the one hand, teachers should transform the conventional teaching concepts, learn advanced teaching skills, and enhance confidence in reforming the college ideological and political courses. Only in this way can they perform the teaching design based on the actual situation of students. On the other hand, teachers should advance with the times and apply new technologies and concepts, willing to make teaching reform, continuously improving and perfecting the four-level experience model in practice, to achieve the teaching goal, i.e., attaching importance to practice, the unity of knowing and doing in college students.

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