

# *Teaching Exploration and Practice of Advanced Mathematics Based on Curriculum Ideology and Politics*

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**Keywords:** Curriculum ideology, Advanced mathematics, Teaching, Concrete practice

**Abstract:** Advanced Mathematics is a compulsory course for many majors in colleges, and it is also a very difficult course. With the development and change of the times, the requirements for education are getting higher and higher, and the requirement for improving performance has changed to requiring the comprehensive development of learners. Ideological and political education is required to penetrate into the teaching of every course, and advanced mathematics is no exception. In order to achieve the goal of all-round and high-quality growth of students, this article starts with what is the curriculum ideology and why is the curriculum ideology implemented in higher mathematics teaching. In addition, the specific implementation process and the issues that need attention, and explores the curriculum-based ideology and politics Advanced mathematics teaching.

## **1. Introduction**

It is necessary to conduct advanced mathematics teaching work based on curriculum ideology, whether it is from the perspective of teaching and educating people, or from the perspective of enhancing cultural confidence, or strengthening the goals of moral education. What's more, in the National Efficient Ideological and Political Work Conference held in 2016, the significance of implementing curriculum ideological and political work has been clearly emphasized. Therefore, it is necessary to respond to the call of the country and continuously explore methods suitable for higher mathematics teaching according to the development speed and state of society. Let the advanced mathematics class not only teach theoretical knowledge, but also act as a good teacher and complete the task of educating people.

## **2. What is the Curriculum Ideology**

The main goal of the implementation of curriculum ideological and political is to achieve “resulting in morality and cultivating people”, which is essentially an ideological and political education in disguise, and it is also to fulfill the task of “teaching and educating people”. After all, in the course of teaching, there must be no lack of education in the ideological aspects of students, including helping them to establish a correct outlook on the world, outlook on life and values. I hope that in the accumulating education process, it will have a subtle influence on the students' ideology and behavior.

The concept of curriculum ideology and politics corresponds to the teaching task of colleges. It

can convey correct ideological concepts and political views to students in both professional and public courses, and it should be clear that curriculum ideology and politics is the soul of teaching.

### **3. Why Implement Curriculum Ideology in Higher Mathematics Teaching**

The implementation of curriculum ideology and politics in higher mathematics teaching is necessary and practical, whether it is from the needs of the development speed of the times, the promotion of cultural confidence or the goals of moral education.

#### **3.1 The Need for the Development Speed of the Times**

Due to economic development and the advancement of technology, the Internet has penetrated into all aspects of people's lives. With the convenience of obtaining information, a lot of bad information silently attacked the ideology of young students. Under the development speed of the era, it is necessary to give learners sufficient ideological and political education to avoid losing themselves on the road of life under the impact of network information and technology.

#### **3.2 The Need to Enhance Cultural Self-Confidence**

The subject of advanced mathematics is not only an ancient subject, but also contains a lot of cultural knowledge. In the teaching process of colleges, it is one of the core courses of general education. During the four-year study career of the learners, they will accompany the students for a long period of time. Adding curriculum ideology to higher mathematics teaching can impart theoretical knowledge while combining core values, so that students can improve their overall quality and in turn stimulate their cultural self-confidence.

#### **3.3 In Line with Moral Education Teaching Goals**

There are certain goals for the teaching of moral education in higher mathematics teaching. In this process, adding curriculum ideology and politics is conducive to the realization of moral education teaching goals. For example, let students have the ability to cooperate, cultivate their independent learning ability, correct their learning attitude, improve their thinking ability and scientific spirit, and so on. These are all teaching goals that need to be achieved in teaching, and the introduction of curriculum ideology and politics can promote the realization of these goals.

### **4. Specific Practical Process**

#### **4.1 Carry out the Idea of Moral Education**

Advanced mathematics is one of the courses that accompany students through a long period of time in college courses. The first class plays an important role in the entire semester. This class is the first time that the teacher and the students have met. In addition to establishing a good teacher-student relationship, the idea of cultivating people should also be implemented. It is necessary to keep a proper distance from the students, to have respect between teachers and students, and to have friendship among friends. As students who have gone from a high school classroom to a university, their knowledge of advanced mathematics is still unclear. The task of the first class also needs to allow students to clarify the learning content and tasks of advanced mathematics, help them explore the mysteries and establish a good interest in learning. More attention should be paid to guiding students' love of technology and making more contributions to the country in the future.

## 4.2 Adjust the Teaching Method

Since the curriculum ideology and politics has been introduced into the teaching of advanced mathematics, it is necessary to pay attention to the integration of ideological and political education and curriculum theoretical knowledge in the teaching process. One of them cannot be ignored, and the relationship between the two must be coordinated. Students need to steadily improve their academic performance, and at the same time establish an attitude of never shrinking from difficulties and persisting in exploring in the process of solving math problems. For example, when explaining the limit of knowledge, we can use extended teaching to expand thinking teaching methods. Let them understand that the definition of limit is “infinitely close to a certain fixed value”, and then use this theoretical knowledge to diverge thinking to ideological and political aspects. We can let them understand that when encountering difficulties in life or learning, they should be like extreme thinking. In order to achieve your goal and find the answer, you must try to approach the limit value infinitely. Adhere to the concept of “Don't forget the original intention, and always have the end.” Only by adhering to the spirit of perseverance on the road of life can we get good results. It should also be combined with the current social development environment to warn students that if they are excessively addicted to the Internet or games, they will inevitably get the opposite result.

## 4.3 Persist in Situational Teaching

The experience gained in life and the experience they have is the second way for students to learn. If you want to integrate curriculum ideology and politics into the teaching of advanced mathematics, then you must implement the method of situational teaching in teaching. It is necessary to combine theoretical knowledge with practical life experience. For example, when students think about the specific applications of higher mathematics in their lives, they will find that whether it is the revolving door of a shopping mall or the sign of a monument in a square, they can be used as objects of observation to explore more knowledge of mathematics. This kind of teaching method is mainly to cultivate children's mathematical thinking and way of thinking. So they have rigorous reasoning and dialectical skills and more importantly. The more important is to learn to discover and solve problems by themselves.

## 4.4 Pay Attention to Spreading Positive Energy

As a relatively complex subject, students will inevitably encounter many difficulties in the learning process of advanced mathematics. Students will inevitably have negative emotions and negative energy. When encountering such problems, we must pay attention to guiding students to have a positive attitude and the courage to face difficulties, as well as the determination to solve the problem. Let every learner become a positive individual with positive energy.

## 5. Issues That Need to Be Paid Attention to in Practice

There are still many problems that need attention in the specific practice process mentioned in the previous chapter. These are all factors that affect the teaching effect of the introduction of ideological and political courses in higher mathematics teaching.

### 5.1 Construction of Teachers' Ethics

The teaching team possesses noble teacher ethics and high quality, which is an important basic condition to ensure the smooth progress of ideological and political courses. In addition, the report

of the 19th National Congress of the Communist Party of China clearly pointed out that it is necessary to strengthen the construction of teacher ethics and style. Teachers, as preachers and teachers, their words and behaviors directly affect students' performance and future growth in life. High-quality teachers can provide good help for the development of students, otherwise it will seriously affect the growth state and academic performance of students. While advocating the introduction of ideological and political curriculum levies, the school must pay attention to the quality and quality of the teaching team of teachers, so that teachers can truly be exemplary.

## 5.2 Pay Attention to Teachers' Ideological and Political Awareness

As the introduction of ideological and political courses in advanced mathematics, teachers must have ideological and political awareness and have a clear understanding of its true meaning, fundamental tasks and concepts. Only when the connotation of curriculum ideology and politics is truly clarified, can we establish correct teaching goals and balance the relationship between curriculum ideology and politics and mathematical theoretical knowledge. It not only teaches students theoretical knowledge, but also cultivates students' ideological and political construction. As a guide on the learning path of learners, teachers need to have a clear self-awareness and clear goals. Only in this way can the teaching of courses be unified with the goals of moral education.

## 5.3 Inspect the Ability of Teachers

In order for curriculum thinking to be smoothly introduced into the teaching of higher mathematics, the teaching level of teachers is an important factor. This not only requires teachers to have the awareness of curriculum ideology and politics, but also to have excellent teaching ability to be able to complete the teaching goals. The school also provides teachers with more opportunities to improve their teaching abilities, enriching ideological and political theories, and acquiring more teaching methods and skills.

## 6. Conclusion

University, as a buffer period for learners to enter society from high school, is of great significance to the cultivation of students' outlook on life, values and world outlook. In this stage, they not only need to complete the learning task well, but also establish their own sense of responsibility. Let themselves grow into a responsible and capable young person. What's more, they need to build full national pride and self-confidence, and make more contributions to the country and society.

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