

Talking about the course ideology and politics in the teaching of advanced mathematics

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Abstract: The infiltration of ideological and political concepts in advanced mathematics classroom teaching is the main way for the reform of education in colleges and universities. In classroom teaching, it is not only necessary to impart knowledge to students, but also require students to establish correct values. Make good use of classroom teaching methods, improve the pertinence of ideological and political education, and introduce positive energy content into the classroom to deal with textbook knowledge, which can better cultivate talents in the new era. As a basic subject of college education, advanced mathematics has been widely used in major colleges and universities. Changes have been made in the penetration of ideological and political education from the aspects of advanced mathematics teaching system, teaching methods and textbooks, which can make curriculum reform and penetration of ideological and political education get progress together, in the process of integration and coordination, the task of teaching basic subjects in colleges and universities is completed.

1. Introduction

College students are in the most critical period when their outlook on life and values are formed. In the modern society where various electronic devices are widely used, college students have more opportunities to come into contact with external cultural knowledge. Infiltrating ideological and political education in mathematics teaching can cultivate patriotism and cultivate students' faith and responsibility.

2. The Significance of Curriculum Ideological and Political Education in Higher Mathematics

2.1 Better Teaching of Mathematics

The basic goal of higher mathematics education is to impart mathematical knowledge to students. The simultaneous progress of higher mathematics and the ideological and political construction of the curriculum can maximize the value of mathematics education, make the goals of higher mathematics teaching clearer, and allow teachers to more accurately understand the significance of teaching college students in contemporary times. The famous mathematician Hua Luogeng abandoned the superior scientific research conditions abroad, and resolutely returned to China to

support the country's construction, and finally made great contributions to the reform and development of the motherland. Mr. Hua Luogeng once said that mathematical research should serve the people, the country, and the great motherland, contribute personal strength to the construction and development of mathematics teaching, cite Mr. Hua Luogeng's story in mathematics teaching, and encourage students to not be afraid of difficulties[1]. After being inspired by mathematics, college students also learn the spirit of their ancestors, strengthen their belief in active research and serve the country, so as to be more serious, independent thinking, and perseverance in the daily teaching process.

2.2 Cultivating Students with Correct Values

The knowledge system of advanced mathematics has been relatively complete. It is necessary to integrate the concept of educating people into teaching to stimulate students' mathematical potential to the greatest extent. Knowledge is obtained through the continuous evolution and innovation of scientists throughout the ages. Ingeniously apply the mathematics stories in these textbooks in the classroom, stimulate students' innovative interest, cultivate the mathematics research spirit of contemporary college students with the splendid Chinese culture and mathematics history of our country, and enrich mathematics culture in the pursuit of truth.

2.3 Improve Students' Mathematical Literacy

Advanced mathematics is a basic subject. From the perspective of learning, learning mathematics can be applied in real life. All kinds of physical chemistry and mathematics we can see are closely related. By excavating the mathematics culture in mathematics textbooks, students' mathematical literacy can be improved. Advanced mathematics is to study the objective truth, summarize the characteristics and laws of mathematics, so as to reveal the general application of formula theorems. Fusion requires both mastery of study skills and an understanding of the deeper meaning behind these mathematical knowledge. Mining ideological and political elements and making efforts to integrate can make the classroom not boring. The psychological characteristics and actual needs of contemporary college students have undergone earth-shaking changes. The traditional education model can no longer fully meet their needs. Therefore, through the ideological and political reform of advanced mathematics courses, provide correct guidance to students, prevent students from giving up easily in the face of mathematical problems, and cultivate a spirit of exploration and exploration while learning professional knowledge.

3. Problems Existing in the Teaching of Advanced Mathematics

3.1 Insufficient Professional Quality of Teachers

Although the country proposes to integrate ideological and political concepts into daily teaching, some teachers do not have a deep understanding of the importance of ideological and political education, so they cannot effectively explore the ideological and political elements in books in the teaching process, only follow the PPT courseware from internet in the teaching for students. Teachers have not formulated an effective teaching plan, and rationally arranged the insertion of ideological and political elements in teaching. Most teachers are more willing to spend a lot of time studying the key points of teaching so that students can master practical knowledge[2]. What we can see is that in the teaching classroom, teachers rarely introduce the content behind these mathematical knowledge, which makes students' interpretation of mathematical knowledge different. From the perspective of teachers, teachers should pay more attention to whether the

teaching is fully integrated with thinking. Schools should evaluate the integration of teachers' ideological and political elements into the classroom, and take the integration of ideological and political elements as an important part of teachers' mathematics performance.

3.2 Lack of Effective Measures for Curriculum Ideology and Politics

Not paying enough attention to the development of curriculum ideology and politics, teachers pay more attention to students' performance and practical ability, and do not realize the influence of advanced mathematics on students in teaching, so as to conduct effective and in-depth discussions. Lack of deep understanding of course ideology and politics, not paying attention to the guidance of college students' values, and more formalized teaching in practical teaching, resulting in poor course ideological and political teaching.

4. Effective Measures to Integrate Ideological and Political Courses in Advanced Mathematics

4.1 Strengthen Teacher Training

Colleges and universities should increase teacher training, attach importance to teacher construction, encourage mathematics teachers to communicate with each other, prepare lessons collectively with other teachers, and conduct theme discussions on mathematics culture and mathematics literacy. Broaden teachers' horizons, introduce new teaching models and teaching ideas, and require teachers to learn, and guide teachers to highlight curriculum ideological and political concepts in the classroom through a reasonable evaluation mechanism.

Colleges and universities are an important channel for sending talents to the country. It is particularly important to cultivate moral education at this stage[3]. If schools want to develop for a long time, they must focus on curriculum ideology and politics. Accurately grasp the ideological and political education in advanced mathematics. For example, we are learning the art of cutting a circle, which contains extreme ideas, which are very similar to Zu Chongzhi's pi. Chinese extreme ideas are thousands of years ahead of European countries. The introduction of ideological and political content can cultivate students' attitude towards science, and then let students understand that the connotation of limit thinking is the process of infinitely approaching the goal, which can be expressed through the limit of the function. The integration of ideological and political elements in the classroom cannot be arbitrary. To establish a scientific and systematic education system to change the current teaching situation, we must actively listen to the opinions of students, and design the classroom form according to the differences of students.

4.2 Innovative Teaching Mode

When conducting higher mathematics education, it is necessary to think about how to integrate ideological and political elements from multiple perspectives to innovate the teaching model, and accurately link ideological and political concepts, student responsibility and humanities. When we were studying the story of Cao Chong weighing an elephant, a stone and an elephant of the same mass could calculate the weight of an elephant. We first created a method of weighing elephants. It is necessary to extend the mathematical idea of dividing zeros into wholes, requiring students to apply boldly when solving problems, not only the quality, but also the calculation of length, area and other aspects can also be abstracted. The integration of ideological and political courses in the curriculum must conform to the actual laws and transmit correct values to students.

Secondly, we should cultivate students' mathematical thinking ability through case analysis. In the history and culture of mathematics for thousands of years, we can see that mathematical

thinking is the driving force for the development of mathematics. Through the practical teaching of historical successful cases, it provides a basis for scientific calculation. Make full use of information technology to establish a mathematical communication platform for students, and share the latest advanced mathematics research through flexible teaching methods, so that interested students can access more knowledge. When learning definite integrals, you can associate definite integrals with the way of doing things, and you can divide the graph into N regular graphs to calculate the area. Many problems we encounter in life can also be solved in this way. Simplify the problem or solve small problems item by item. All the great achievements in history are achieved by being down-to-earth and realizing the goal step by step. Just like contemporary college students, if they want to realize their dreams, they must flexibly apply various methods and solve them through wisdom.

4.3 Attach Importance to Ideological and Political Teaching

In the dialogue of equal communication, introduce mathematics history and mathematics content to students, reform advanced mathematics textbooks, incorporate more philosophy and life values, support teachers, evaluate each other between students, prepare before class, ask questions in class, guidance and after-school review are fully combined, and students' aesthetic sentiments are cultivated by introducing more traditional Chinese culture. For example, in ancient poems, distance is different, and it contains the concept of minimum value and maximum value. Such an aesthetic environment are a lot more in the history of China.

5. Conclusions

To sum up, integrating ideological and political education into higher mathematics is the fundamental task of talent training in colleges and universities. To do a good job in ideological and political teaching, we must choose a resource environment with rich content, create a good learning atmosphere for students, and let students through various modern technologies get interested in advanced mathematics study. The systematic construction of ideological and political teaching plans, starting from a holistic view, proposes practical teaching plans based on students' professional and personal circumstances, and makes full use of local educational resources to carry out ideological and political teaching for students, hoping to provide some reference.

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