Research on the path of Ideological and political construction of mathematics course in Colleges and Universities

Xiaogai Wang
The Hi-Tech College of Xi,an University of Technolocy, Xi'an Shaanxi 713700

Abstract: focusing on the ideological and political construction of the curriculum, strengthening the ideological and political construction of mathematics curriculum in Colleges and universities can realize the three complete education, and also highly meet the fundamental requirements of morality cultivation, which can give students ideological enlightenment and strengthen students' mathematical application ability. At present, there are still many problems in the process of Ideological and political construction of mathematics course in Colleges and universities, such as the backward concept and the limitation of teaching content, which affect the effect of Ideological and political construction of mathematics course to a certain extent. Based on this, teachers should change the previous teaching philosophy, strengthen the ideological and political construction of the course, and build an efficient mathematics classroom for students.

Key words: college mathematics; Curriculum ideological and political construction; path

1. The significance of Ideological and political construction of high school mathematics curriculum

The ideological and political construction of mathematics course in Colleges and universities is conducive to creating a warm classroom for students. Objectively speaking, mathematics knowledge is applied in many fields, and the knowledge points are relatively trivial, which is not conducive to enabling students to grasp the learning points. Under the background of new education, the ideological and political factors of the curriculum are infiltrated into the college mathematics teaching, and the introduction of typical cases can help students better understand the relevant content. At the same time, it can also enable students to have an in-depth understanding of mathematical culture and establish the awareness of cultural inheritance on this basis. It can also improve students' spiritual quality and the effectiveness of Ideological and political education while improving the effectiveness of curriculum education.

2. Summary of basic elements of Ideological and political education in Mathematics Course

2.1 Philosophical ideas contained in mathematical principles

Under the background of the new era, strengthening the ideological and political construction of mathematics course is conducive to guiding students to establish correct values. To a certain extent, the principles of mathematics contain rich philosophical knowledge. Strengthening the ideological and political construction of the course is convenient for students to excavate the relevant connotation of the ideological and political education of the course from multiple angles, understand the philosophical knowledge in mathematics, and deeply perceive the depth of mathematics. To some extent, mathematics and philosophy are like twin brothers, and they are interdependent. Looking deeply at the content of high school mathematics teaching, we can find a variety of philosophical ideas, including the development view, the connection view, the practice view, the unity of opposites view, etc., which are rich in mathematics research content to a certain extent, and also conducive to enhancing students' learning experience. In order to further strengthen the understanding of mathematics curriculum, teachers should lead students to excavate the philosophical thoughts in mathematical principles, enable students to deeply understand the relevant contents of Marxism, and examine the knowledge of mathematics from quantitative change to qualitative change, unity of opposites and other angles, so as to further expand the depth of students' thinking. This enables students to apply mathematical knowledge to practice, constantly deduce and summarize mathematical content, gradually expand students' horizons, enable students to understand the development laws of natural science, deeply understand the philosophical views contained in mathematical principles, enable students to examine mathematical disciplines from the perspective of dialectical analysis, and strengthen students' understanding ability.

2.2 The spirit of seeking truth and striving throughout the development of Mathematics

In the process of Ideological and political construction of high school mathematics curriculum, teachers can strive to explore the spirit of truth-seeking and struggle in mathematics, and students can examine mathematics from multiple angles and perceive mathematics culture. In this process, students should further explore the mathematical thought and spirit, cultivate their awareness of truth-seeking through the excavation of these valuable wealth, enable students to examine the content of mathematics from multiple angles, and stimulate students' aesthetic consciousness. Taking limit thought as an example, it was born in ancient times, focusing on solving practical problems in life and building a bridge between mathematics and life. To a certain extent, college mathematics only records a generation of mathematicians' spirit of hard work and tireless pursuit of knowledge. From the knowledge of mathematics, we can also see the unremitting pursuit of truth. Even if they are not supported or questioned by others, they still adhere to mathematical research. They study day and night and insist on innovative development, It is because of their efforts that they have formed diversified mathematical knowledge. Of course, we can also trace our eyes back to the exploration of the three major mapping problems in ancient Greece for 2000 years and the limit challenge research of Fermat's theorem for more than 350 years, and feel the indomitable struggle spirit of mathematicians. In the actual teaching process, we can also focus on the history of mathematics development and tell students about the cases of outstanding mathematicians, Hua Luogeng and Chen Jingrun, who have the courage to climb the peak of mathematics, so that students can examine mathematics knowledge from multiple

perspectives, face challenges and overcome difficulties. The ideological and political construction of the course can also encourage each student to participate in the development of scientific exploration and national rejuvenation, which is convenient to guide students to absorb spiritual power and improve students' self-worth.

2.3 National cultural confidence reflected in mathematical treasures

Compared with other natural disciplines, mathematics has a long history of development, and it is also an important part of Chinese culture. Many years ago, most mathematicians went deep into the process of mathematical research and created diversified research results. For example, the limit theory embodied in the discussion of "one foot of the hammer, half of it is taken every day, and it will never be exhausted for all ages" in Zhuangzi written by Zhuang Zhou, and the application of the limit theory in geometry by the ancient mathematician Liu Hui using the circle cutting technique to calculate the area; With the passage of time, lishanlan, a great mathematician in China, summarized the previous research experience and focused on the summation of series. After a long and unremitting exploration, Li's constant formula was formed. Then, mathematician Hua Luogeng devoted himself to the study of trigonometric sums and derived the Fahrenheit theorem. Mathematicians are persistent in their pursuit of mathematics. They have devoted their whole life to the process of mathematical research and generated diversified research results. From them, they can also feel their patriotism, seek confidants for the missing word of truth, and feel their national cultural confidence, which has promoted the pace of mathematical research.

3. The path of Ideological and political construction of mathematics course in Colleges and Universities

3.1 Infiltrate mathematics culture and strengthen the education of socialist core values

Mathematics culture is an indispensable part of mathematics teaching. In the process of Ideological and political construction of mathematics courses in Colleges and universities, teachers should focus on mining mathematics culture, enable students to examine mathematics culture from multiple perspectives, and gradually enhance students' learning experience. To a certain extent, mathematical culture is the crystallization of mathematicians' wisdom and has high research value. In order to further strengthen the guiding role of mathematical culture, teachers can deeply explore the mathematical culture in college mathematics textbooks, and on this basis, infiltrate the relevant content of socialist core values, and gradually expand students' vision. From another perspective, mathematical culture is the combination of mathematical spirit, mathematical thinking and mathematical methods in the long-term development of mathematics. In this way, students can also examine mathematical spirit from multiple perspectives and feel the charm of mathematics. In addition, in the process of mathematics teaching, it is necessary to reform the previous teaching philosophy, guide students to explore the relevant content of the socialist core values, infiltrate mathematics culture from multiple angles, and strengthen students' mathematical perception ability. In this way, noble moral sentiment can also be cultivated. Taking the related content of limit as an example, during the teaching process, teachers can tell students about the development history of limit and the ancient limit thought, so that students can fully understand the unremitting pursuit of limit thought by ancient thinkers in China. It includes the assertion of "one foot of the hammer, half of it in a day, and endless for all ages" in Zhuangzi Tianxia during the Warring States period, as well as Liu Hui's circle cutting technique of "cutting again and again, so that it cannot be cut, and then it fits with the circle without losing anything" in the 3rd century A.D. Through the introduction of mathematical culture, students can have a deeper understanding of mathematical knowledge. In this case, students can also mine mathematical culture from multiple angles and enhance their cultural experience.

3.2 Focus on mathematical application and infiltrate innovative education

Mathematics comes from life and is applied to life. In the actual mathematics teaching process, to further strengthen the ideological and political construction of the course, teachers should also change the previous teaching philosophy, focus on the application of mathematics, infiltrate the relevant content of innovative education, enable students to examine the mathematics content from multiple perspectives, gradually expand students' vision, and guide students to establish correct values. At the same time, in the process of mathematics application, we should also pay attention to mining mathematical theoretical knowledge, highly linking mathematical theory and practice, building a bridge for mathematics learning, so that students can grasp the key points of mathematics learning, be able to apply mathematical methods to analyze knowledge, comprehensively strengthen students' practical ability, and promote the cultivation of students' innovative ability. In the actual teaching process, in order to further strengthen students' awareness of mathematical application, teachers can also guide students to carry out mathematical modeling, make full use of mathematical tools to analyze and establish mathematical structure, explain social phenomena, and predict future development, so that students can examine the content of mathematics from a new perspective, and deeply understand the practical application of mathematical knowledge from the perspective of mathematical concepts, Enable students to apply mathematical knowledge to solve practical problems in life. In this process, we can also strengthen the cooperation between schools and enterprises. Through the efforts of both sides, we can carry out mathematical theory and practice research. In this process, we can also provide students with more practical opportunities and strengthen their comprehensive learning ability

3.3 Strengthening Mathematics humanities education and enhancing students' national cultural confidence

In the process of Ideological and political construction of college mathematics courses, teachers should also change the previous teaching philosophy, strengthen humanistic education, enable students to examine the content of mathematics from multiple angles, and gradually enhance students' national cultural confidence. To a certain extent, humanistic education is the use of excellent culture and famous sayings to influence students. Through this education, students' vision can be gradually expanded and their national cultural confidence can be gradually enhanced. In essence, the core of humanistic education is quality education. As a subject with strong logic, mathematics

should strengthen the cultivation of students' logical thinking. In the actual teaching process, teachers should change the previous teaching philosophy, pay attention to the cultivation of students' innovative spirit, and gradually enhance students' learning confidence. To a certain extent, mathematicians' inquiry spirit can also effectively stimulate students' desire for learning. Mathematics itself is a process of exploration. Through mathematics learning, students can feel the success story of mathematicians. In this process, students' awareness of exploration can also be stimulated, so that students can go deep into the process of mathematics research, mine more subject knowledge, enhance students' self-cultivation, and cultivate students' fighting spirit of fearing difficulties and pursuing bravely, And then enhance students' national culture self-confidence.

3.4 Observing daily life and improving students' awareness of application

Mathematics knowledge comes from life. In the process of Ideological and political construction of mathematics courses in Colleges and universities, teachers can guide students to start from daily life, observe some phenomena in daily life, and explain them with mathematics knowledge. Through the above ways, we can also connect mathematics knowledge with real life, which is convenient to strengthen students' application consciousness. At the same time, from the perspective of real life, guiding students to observe daily life can also effectively trigger students' thinking and cultivate students' mathematical thinking. Taking the population growth model as an example, in the process of teaching, teachers can effectively derive the equation of separating variables, help students understand relevant knowledge, and use this knowledge to explain a phenomenon in life. Another example is the taxi pricing method. Through the introduction of this life phenomenon, students are reminded of the relevant knowledge of piecewise functions. Encouraging students to observe daily life and understand mathematics in life can strengthen students' application consciousness and fully mobilize students' enthusiasm for learning mathematics.

3.5 Improve the ideological and political level of teachers' curriculum and build an excellent team

Teachers are the main force of education. In the new era, in order to further strengthen the ideological and political construction of courses, colleges and universities should also change the previous education mode, pay attention to the construction of teachers' team, comprehensively improve the teaching level of teachers, provide students with rich learning resources, provide students with effective learning guidance, and strengthen students' learning ability. In the course of Ideological and political construction, teachers should actively explore the ideological and political factors in mathematics textbooks, gradually innovate teaching methods, integrate diversified teaching contents, make students feel the influence of Ideological and political education in an all-round way, and establish correct values on this basis. In addition, the school should also regularly carry out teacher training, encourage teachers to carry out teaching and research activities around the theme of curriculum ideological and political construction, build an excellent team of teachers, and speed up the pace of self-construction of college mathematics curriculum.

4. Concluding remarks

To sum up, the ideological and political construction of the course is a long-term process, which is conducive to excavating the moral education elements in the mathematics course, constantly optimizing the mathematics teaching process, enabling students to examine the mathematics content from multiple perspectives, and strengthening students' learning experience. The ideological and political construction of mathematics courses in Colleges and universities should start from many angles, such as infiltrating mathematics culture, strengthening the education of socialist core values; Focus on the application of mathematics and infiltrate innovative education; Strengthen the humanistic education of mathematics and enhance students' national cultural self-confidence; Guide students to observe daily life and enhance students' awareness of application; We should improve teachers' Ideological and political level of curriculum, try our best to build an excellent team of teachers, and take many measures to speed up the pace of Ideological and political construction of curriculum.

References:

[1] Wei Chen,Dan Wang,Lin Luo,Zhenquan Li Exploration and practice of Ideological and political construction of university curriculum based on OBE concept [j]Beijing Education (Higher Education), 2023 (02): 59-61

[2] Xiang Bi,Jiangwei Hu Research on the innovation path of curriculum ideological and political construction from the perspective of media convergence [j] NewsWorld, 2023 (02): 93-96

[3] Dejin Su,Qixia Du Leading collaborative construction: the concept, layout and means of curriculum ideological and political construction [j]Modern communication, 2023 (01): 84-92+123-124

[4] Maji Zhuo,Xiuli Liu Practical analysis of Ideological and political education in the teaching reform of "linear algebra" [j]University, 2022 (33): 95-98

[5] He Liu,Haiming Zhang Research on the path of Ideological and political construction of college mathematics curriculum [j]Industry and Technology Forum, 2022,21 (17): 177-178