

Research on Ideological and Political Methods of Higher Mathematics

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ABSTRACT

Ideological and political construction is an important measure for colleges and universities to actively implement the basic tasks of Xi Jinping, and is also an effective guarantee for improving the “three all-round education” under the guidance of the socialist ideology of China with Chinese characteristics in the new era. This paper puts forward the basic way to bring the educational function into full play by the combination of disciplines, formulates the specific measures for developing the educational content through knowledge fusion, innovates the main methods of improving the educational effect by combining the explicit and implicit methods, and gives some suggestions on how to implement the ideological and Political Education concept in higher mathematics teaching.

Keywords: *Professional courses, Ideological and political courses, Moral cultivation*

1. INTRODUCTION

Under the new era of adhering to the development path of socialist education with Chinese characteristics, and training socialist builders and successors with all-round development of morality, intelligence, physique, aesthetics and labor is a new research topic facing China's education. It is difficult for education to strengthen ideological and theoretical education and value guidance by relying solely on ideological and political courses. Under this background and demand, the ideological and political teaching concept of curriculum was put forward [1].

In December 2016, General Secretary Xi Jinping stressed at the National Conference on Ideological and Political Work of Colleges and Universities that classroom teaching should be used as the main channel, and all kinds of courses should go hand in hand with ideological and political courses to form a synergistic effect. At the National Education Conference in September 2018, General Secretary Xi Jinping stressed the need to integrate moral education, cultural knowledge education and social practice education into the process. In February 2019, the party central committee and the State Council issued by the China education modernization 2035, once again stressed the importance of college course education, in the same year in March, General Secretary Xi Jinping proposed in the symposium for teachers of ideological and political theory course that “we should adhere to the unity of explicit education and

implicit education, and explore the ideological and political education resources contained in other courses and teaching methods, so as to realize the all-round cultivation of the whole staff” [2-4].

2. THE CURRENT SITUATION OF IDEOLOGICAL AND POLITICAL TEACHING CONCEPT

On the basis of ideological and political course, it innovatively puts forward the ideological and political teaching in other courses and carries out diversified education and teaching reform practice, which has been widely concerned all over the country. After the National Conference on Ideological and Political Work in Universities, the National Education Conference and the symposium of teachers of ideological and political theory in schools, the educational community has gradually reached a consensus on the idea that “curriculum carries ideological and political thoughts, and ideological and political thoughts are embodied in curriculum”. They realize the need to keep up with the pace of the times, constantly update the teaching philosophy, continuously improve the ideological and political course teaching, deeply promote the ideological and political implementation of the curriculum, and strive to achieve the curriculum ideological and political “knowledge, ability training, value guidance” three organic integration of the goal. It is the historical responsibility and the time responsibility of educators to implement the

Party's educational policy to explore how the ideological and political education concept of curriculum can be effective in the teaching of various courses.

Shanghai has taken the lead in promoting the implementation of the "curriculum ideological and political" construction task in accordance with the idea of "overall layout, distributed implementation and rolling development". At present, 12 universities have launched the overall pilot, 12 universities' key cultivation and 34 universities' general cultivation, basically realizing the full coverage of colleges and universities in Shanghai. Subsequently, other provinces and cities have also actively carried out the ideological and political teaching practice of the pilot course, but the specific implementation method is still lack of in-depth discussion [5].

3. THE MAIN METHODS OF CARRYING OUT IDEOLOGICAL AND POLITICAL EDUCATION IN PROFESSIONAL COURSES

The main task of curriculum ideological and political education is to establish morality and cultivate people, among which morality is the premise and foundation of cultivating people, and cultivating people is the direction and goal of moral education. Curriculum ideological and political education usually involves four core elements: curriculum, ideological and political, teachers and students. The foundation lies in the curriculum, without good curriculum construction, curriculum ideological and political education will become a water without source and a tree without roots; the focus is on Ideological and Political Education, without good "Ideological and political" education function, curriculum teaching will lose soul and direction; the key lies in teachers, teachers are the first responsible person of classroom teaching, curriculum ideological and political should be implemented by teachers, and full preparation before class is the fundamental guarantee for the implementation of curriculum ideology and politics; the effect lies in students, the final test standard is the students' sense of gain. Therefore, when carrying out ideological and political education in professional courses, we must take targeted measures around the above four aspects.

3.1 Exerting the Ideological and Political Functions of Professional Courses Through the Combination of Disciplines

Through the method of subject combination, the viewpoints, thoughts and methods of Marxist political economy, dialectical materialism and

historical materialism, and scientific socialism are infiltrated into the professional courses, so as to cultivate students' dialectical thinking ability, help them establish a conscious, clear and reasonable mode of thinking, establish a correct world outlook and methodology, and further enhance the students' confidence in the path, theory, system and culture of socialism with Chinese characteristics.

3.2 Develop the Ideological and Political Content of Professional Courses with the Help of Knowledge Fusion

Through the method of knowledge integration, the professional courses and ideological and political courses can go hand in hand, complement each other, and play the educational function together. For natural science courses, it highlights the characteristics of objectivity, logicity and accuracy, integrates ideological and political elements such as dialectical materialism, historical materialism, excellent traditional culture of the Chinese nation, revolutionary culture and advanced socialist culture, cultivates students' scientific spirit, exploration spirit and socialist core values, and consciously integrates patriotism, national ambition and serving the country into the cause of building socialism with Chinese characteristics; for engineering and technology courses, it highlights its practical, professional and innovative characteristics, integrates ideological and political elements such as love of work, family and country feelings, cultivates the craftsman spirit of seeking truth and pragmatism, practice innovation and excellence, and develops the work style of steadfast, rigorous, patient and dedicated, hard-working, and pursuit of excellence, so as to grow into the heart of the community, the courage to assume the technical personnel.

3.3 To Explore the Ideological and Political Methods of Professional Courses with the Combination of Explicit and Implicit

The method of combination of explicit and implicit is adopted to make the content design of Ideological and political education of professional courses consistent with the basic objectives of Ideological and political courses. According to the nature of the curriculum, education responsibilities should be clearly defined, and the combination of explicit education and implicit education should be adopted to imperceptibly influence emotions and infiltrate culture and values.

4. SEVERAL PROBLEMS IN IDEOLOGICAL AND POLITICAL EDUCATION OF HIGHER MATHEMATICS

Higher mathematics is an important basic course of undergraduate education. It has two characteristics, strong abstraction and wide coverage. The teaching object is freshmen. If the ideological and political education can be interspersed in the higher mathematics class, it will exert a subtle influence on the correct formation of students' three views. Therefore, when carrying out ideological and political education of higher mathematics, we should fully consider the characteristics of mathematics curriculum and the actual situation of students, fully explore and expand, and make beneficial attempts in the following aspects.

4.1 Pay Attention to Excavating the Ideological and Political Elements Contained in Higher Mathematics Curriculum System

According to their professional background, education experience and understanding of Ideological and political elements, mathematics teachers can analyze them from the following aspects: understanding the development of mathematics, spreading mathematical culture, exploring the beauty of mathematics, explaining the philosophy of mathematics and the value of life.

4.1.1 Introduce inspirational stories in mathematics to enhance patriotic feelings.

For example, in the explanation of the concept of limit, introduce Liu Hui's round cutting "The finer the cut, the less lost, if you cut and cut, so that you cannot cut, you will fit into the circle without losing anything." and you can also get the PI to the thousandth, which is more than 1000 years earlier than that in Europe. His book "notes on arithmetic in nine chapters" has become an immortal historical chapter in human civilization. For another example, in explaining the speed issue, the high-speed rail and rocket show China's speed and height, and expound China's self-confidence in road, system, culture and theory.

4.1.2 Cultivate logical thinking with the help of Philosophy in mathematics.

The development of mathematics is inseparable from philosophy, and the two permeate each other. For

example, when calculating the sum of infinite series, we must first obtain the sum of finite terms, and then extend it to the sum of infinite terms with the help of the method of limit. This just shows that infinite series is the unity of infinite and finite, and the two are interdependent and interconnected, so that students can understand profound philosophical thinking from a specific mathematical problem and improve their logical thinking ability.

4.1.3 Introduce the anecdotes of famous mathematicians and edify their personality charm.

In mathematics, there are many theorems, formulas, rules and so on are named after mathematicians. Through the introduction of mathematicians' rigorous academic attitude, selfless work enthusiasm and outstanding craftsman spirit, students' growth, success and success are inspired by moistening things silently. When explaining the gradient, Hua Luogeng's optimization method is inserted to highlight Chinese science and technology and Chinese spirit and wisdom.

4.1.4 Excavate the humanistic materials in mathematics and improve the ideological realm.

In the teaching of the basic concepts of mathematics, the introduction of broad and profound Chinese poetry, let students feel the rich connotation contained in it, and experience the humanistic charm of mathematics [6]. For example, the use of "not the true face of Lushan Mountain, only because of the mountain" to interpret the local extreme value, to the abstract mathematics classroom into a wisp of poetic, but also cultivate students to be broad-minded, with a development perspective of everything; use "not accumulate small steps, not even thousands of miles, not small streams, nothing into the river sea", to highlight the value of Chinese culture.

4.2 Exploring the Conjunction of Knowledge Points and Ideological and Political Elements in Higher Mathematics Curriculum

Curriculum ideological and political education is not to set aside a certain period of time in the professional classroom for political education, but to cultivate and shape the values and integrate them into all courses through "gene type". To be proficient in curriculum design is the basis of Ideological and political teaching reform, and skillful knowledge integration is the key to the reform of Ideological and

political education. Figuratively speaking, ideological and political work is like “salt”, which melts into the “soup” of professional education, that is, to integrate the “salt of Ideological and political education” into the “soup of education” to achieve the effect of educating people. For example, when we talk about the limit principle, we naturally lead to the “never forget the original intention” to forge ahead, infinitely close to the Chinese dream of the goal of struggle; when we talk about the integral principle, we are clearly required not to act on the basis of the small evil, not to do nothing with the small good. It emphasizes the principle of integral to reflect the law of quantitative change to qualitative change, encourages students to pay attention to accumulation in daily learning, enjoy the process of learning and growth, and effectively solve the problem of “two skins” between professional teaching and ideological and political education.

4.3 Abstract and Summarize the Common Skills and Means of Ideological and Political Education in Higher Mathematics Course

Mathematics teachers should effectively according to the needs of teaching knowledge points, take the way of turning the big truth into a small story, so that it can be easily accepted and the influence will be more profound. In the teaching process, pay attention to design some in a few words and “gossip” in advance, and infiltrate the ideological and political education in the dribs and drabs. For example, when students occasionally doze off and wander in class, borrow a phrase “On the road to knowledge, not one less”, it is a solemn commitment of the party and the state to win the battle against poverty and to let the people live a better life, which leads students to understand and think about the major policies and policies of the party and the state.

4.4 Making and Perfecting the Evaluation Standard of Ideological and Political Teaching Quality of Higher Mathematics

The actual effect of the reform of Ideological and political construction of the curriculum should be tested by students’ sense of gain. Therefore, we should formulate the corresponding evaluation standards of Ideological and political teaching quality of higher mathematics course according to the characteristics and professional needs of different

students, and evaluate it in two stages of short-term effect and long-term effect.

5. CONCLUSION

In a word, the ideological and political construction of curriculum is a long-term project, which needs the concerted efforts of all parties. We hope that under the dual drive of Ideological and political courses and curriculum ideological and political education, we can really achieve: let the transmission of values have more knowledge, let professional courses give moral connotation, let teachers return to the original intention of educating people, then we can really form the “whole staff all-round” education pattern, and realize the unity of moral education and talent cultivation.

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