

The Choice and Integration of Mathematics Teaching Methods and Strategies for College Students Based on Ideological and Political Education

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Abstract: At the end of 2016, the National Conference on Ideological and Political Work of Universities was held in Beijing. The meeting proposed that all kinds of courses should be integrated with the political courses, mutual promotion, to achieve better educational purposes. However, in the process of implementation, although most colleges and universities are also trying to implement “all courses combined with ideology and politics”, but due to the deviation of understanding led to the implementation of the process of too much emphasis on form, and did not really play a role in improving the quality of students and ideological character. Therefore, this paper makes an integrated analysis of how to carry out the method of “all courses combined with ideology and politics” in the university mathematics classroom, and gives specific teaching methods. It is proposed that in mathematics teaching, combining typical cases to achieve the goal of moral education, or using the story of mathematicians to carry out the method of thinking politics education, we hope to realize the integration of mathematics teaching and thought and political education.

1. Research background

1.1 Literature review

Du Xiaoning discusses how to integrate the education of thought politics into the curriculum of Higher Mathematics and the teaching of “higher mathematics” (Du, 2019). Combined with the author's own teaching experience, Zeng discusses the curriculum orientation of higher vocational mathematics, the connotation of thinking politics in higher vocational mathematics curriculum, the path of thinking and politicalization of higher vocational mathematics curriculum, the 12 cases of thinking and teaching in higher vocational mathematics, and the current difficulties and solutions (Zeng, 2019). Wu Yanhua, taking the higher mathematics curriculum as the carrier, expounds how to cultivate students' team spirit, how to do things, how to overcome difficulties, how to cultivate students' love of the national conditions, etc. to carry out ideological and political education for young students (Wu, 2019). Starting from the four aspects of establishing the goal of curriculum thinking and political education, excavating the elements of curriculum thinking and education, innovating the classroom teaching method and opening up the curriculum thinking and political education platform, Hu Yanhan has explored and practiced how to integrate the deepening of thinking and political education and give full play to the function of thinking and political education in higher vocational mathematics curriculum. Wang Bingbing discusses how to implement “curriculum thinking” in higher vocational mathematics classes, and gives examples of specific practices (Hu, 2015). On the basis of analyzing how mathematics teachers in colleges and universities can improve their ideological and political consciousness, Scaying discusses the effective path of thinking and politicalization of mathematics courses in applied technical universities (Si, 2019). Zheng Chunrong analyzes the role of higher vocational mathematics curriculum, the current situation of higher vocational mathematics teaching and the significance of integration into the education of “curriculum thinking”, and explores the path of the integration of higher vocational mathematics curriculum into the education of “curriculum thinking and politics”. In mathematics teaching, using the means of information-based teaching to display the elements of thought and politics, through the typical case into the political elements, to carry out the higher

vocational mathematics curriculum into the “curriculum thinking politics” education practice, with a view to promoting the “curriculum thinking and politics” as the goal of classroom teaching reform to play a certain role in reference (Zheng, 2018).

1.2 Purpose of research

University mathematics is an important course in most colleges and universities. University mathematics this course is a long time, long time, difficult to learn, but the university course is conducive to the development of college students' thinking ability and the comprehensive use of knowledge to solve problems. Nowadays, the reform of teaching of “curriculum thinking” is developing, and how to integrate the correct values of the education of thought and politics into the teaching of mathematics in universities is an urgent problem to be solved. In addition, now college students indulge in online games, tired of learning atmosphere is strong, impetuous mind, the phenomenon of scattered thinking is more common, some students did not develop a good life and learning habits, lack of hard-working spirit and self-control ability and other excellent quality. Therefore, at this stage, it is of great significance to study how to integrate the education of thought and politics into the course of university teaching, and to help students to correct their learning attitude and establish a correct outlook on life.

2. The current situation of “curriculum thinking “in mathematics teaching in universities

2.1 University Mathematics Teacher's Understanding Bias for “Curriculum Thinking”

Although colleges and universities are practicing the teaching methods of combining higher mathematics curriculum with political education, the teaching process of “curriculum thinking” is only mechanical, and can not play a role in encouraging students to enhance their enthusiasm for learning mathematics and improving their ideological and moral character. Because the teachers themselves do not have a thorough understanding of the concept of thinking politics, the content of the thought and politics class has been rigidly moved to the mathematics classroom, the result of the college students' ideology not only has not been improved, teachers because of the introduction of political content and higher mathematics teaching content seriously out of touch, but affected the normal teaching effect. The reason for the above is that teachers are confined to the teaching form of political courses and do not combine mathematics curriculum with political education. “Curriculum Thinking” can be to let college students in mathematics before the regular course to discuss the recent news and hot current affairs, from which to carry out political education. If teachers can find celebrity anecdotes related to the course sonin in preparation, they can introduce celebrity stories, influence college students' attitude towards learning and life through the character of celebrities, and stimulate students' enthusiasm for college mathematics courses.

2.2 Students need guidance on “curriculum thinking”

The development of the Internet has brought great convenience to people's study and life, but in college campuses, the phenomenon of excessive use of the Internet not only affects the physical and mental health development of students but also brings great distress to teaching staff. Students addicted to online games, impetuous mentality, tired of learning, thinking loose and other problems can not be solved by the daily curriculum, so it is necessary for teachers in various subjects to impart this knowledge at the same time through political education to guide students to correct learning attitude, establish a correct outlook on life and values. In this way, we can help students who have not developed good habits and learning habits to change their bad habits and learning habits, and realize the educational role of “curriculum thinking and politics”.

3. The necessity of “curriculum thought “ in mathematics teaching in universities

3.1 Responding to the request of “Course Thinking”

The implementation of “curriculum thinking” is the new requirement of the state for colleges and

universities to put forward teaching and education, “curriculum thinking” is conducive to China's construction of world-class universities, is the university to improve the cause of education should be actively completed the task. What kind of talents do colleges and universities want to cultivate, how to train, and who is the top priority of the university's ideological and political work. The education of all disciplines insists on the Lideshu people as the focus, and integrates ideological and political work into the teaching of various disciplines is conducive to the realization of all-round moral education, which is related to efforts to create a new situation in the development of higher education in our country.

3.2 It is beneficial to students' mental health

College students in the new era are vulnerable to bad media propaganda and various disorders in the network, so it is extremely important to pay attention to the education of students' mental health and guide in line with socialist values in daily courses. The teaching method of combining university mathematics curriculum with thought and politics education can reduce the students' fear of mathematics, and improve the interaction and interest of mathematics classroom by combining the content of university mathematics with the thought and politics education, so that teachers can pass the correct ideas in the lively classroom atmosphere. Let students understand the mathematical logic behind policies and theories related to their lives, love life and interest in the unknown, from the university mathematics class can also understand some classic theories, establish the correct values, world view, outlook on life.

3.3 It is beneficial to the improvement of teachers' ideological literacy

Only when the ideological literacy of teachers in colleges and universities is improved can they guarantee the transmission of correct values to students. Only the teacher's morality and literacy have a certain height, in order to be competent for the “human soul engineer” glorious title. Teachers should take moral education first, through the combination of moral education and professional knowledge teaching methods will also promote the ability and quality of college teachers. Teachers in the preparation of lessons will be the students' ideological education into the preparation process, can help teachers to better understand students, in the practice of “curriculum thinking” in the process of teachers can enrich their teaching content, improve students' interest and enthusiasm in learning, in the teaching process of continuous reflection and adjustment, It promotes the teacher's own ideological and moral cultivation and the improvement of teaching ability.

4. Selection and integration of teaching methods and strategies

4.1 Typical cases combined with the teaching of higher mathematics

For example, in teaching the concept of derivatives this part of the content, most teachers to change speed in the process of the instantaneous speed calculation as an example, but if the real life due to speeding caused a major traffic accident as a situation import, find real-life traffic violations as a case, the teacher first play carefully prepared video, Cause students to think, carry out moral education to spread the dangers of violating traffic laws and regulations, correct the bad habits of students' daily life violations of traffic regulations, and finally the teacher should explain that the speed captured by electronic cameras on the highway is the instantaneous speed in the motion of variable speed, and how to seek the instantaneous speed in the variable speed movement, thus leading to the concept of derivative. Through the example of life, can bring students thinking, has a good effect.

4.2 Combining mathematical culture to achieve the goal of moral education tree people

With the continuous development of teaching reform, mathematics classroom should introduce mathematics culture. This can not only enrich the teaching content of university mathematics classroom, but also reduce the distance between college students and higher mathematics knowledge, especially mathematician-related celebrity anecdotes are more likely to attract students' interest in learning. For example, some teachers introduce the story of mathematician Liu Hui while

teaching the concept of limits. First introduced and his works, and then from The Story of Liu Hui let students know that although Liu Hui's status is low, but his life dedicated to mathematics, hard-seeking spirit and noble personality is worth everyone to learn. By vividly telling the story of celebrity to inspire students to celebrity's good quality and noble personality as an example of strict requirements of their own.

4.3 Arrange after-school homework in the form of “mathematics problems and personal feelings” and enrich the training of moral education and development

The knowledge of university mathematics requires students to expand their after-school content to deepen their understanding and turn knowledge into experience. After-school expansion, can let students review mathematics knowledge at the same time, promote students' divergent thinking, for the future study to lay a good foundation. For example, when teaching classical generalization probability, some teachers ask students to go out of school in small groups to investigate the winning rules of sports lottery or welfare lottery, and then in class the group report the winning probability of various prizes of the lottery, and summarize the feelings of buying lottery tickets to get rich. Through this extra-curricular development training, so that students realize the role of practical life mathematics knowledge, so that students realize that they should be down-to-earth, can not believe speculation.

4.4 Play advanced math-related news videos to make students feel the importance of math courses

Today's prevalence of “mathematics useless theory” is the main reason why mathematics courses are not valued by students, many students think that college mathematics is only used to cope with various examinations, but students may not know that many excellent enterprises have a good demand for good math thinking. In order to change students' indifferent attitude towards college math, teachers can stimulate students to pay attention to math courses by promoting the importance of mathematics through news videos promoting the importance of mathematics. Huawei, a well-known Chinese company, has more than 700 working mathematicians worldwide. The camera technology used in Huawei's new products also involves advanced mathematical algorithms. Teachers can introduce such cases to students in the classroom, so that students can really realize the importance of math courses.

5. Conclusion

The reform of “curriculum thinking” in colleges and universities is not to require colleges and universities to offer new courses, but to integrate the education of thought and politics with the original university mathematics courses. Teachers should pay attention to the combination of this profession to explore different elements of political education. Teachers should ensure that the normal teaching tasks in the classroom can be completed, the political elements of thought naturally into the classroom teaching, pay attention to the logic of the combination of the two. Through the reform of “curriculum thinking” let students understand the practical value of mathematics in life, improve the enthusiasm of college students for mathematics courses, improve the dimension and depth of students' usual thinking questions, expand the knowledge structure of students in the curriculum, promote students to learn from their own lessons, and grow into talents in universities.

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