

## Exploration of Integrating "Course Ideology and Politics" into Mathematics Teaching in Colleges and Universities

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**Abstract:** In the curriculum system of colleges and universities, mathematics teaching undertakes the task of cultivating students' basic abilities and forming their mathematical thinking. It is necessary to fully tap the ideological and political resources of industrial and professional courses, and put forward the basic principles of doing things and the requirements of socialist core values. It explores the introduction of ideological and political concepts and methods in College Mathematics teaching, respects the development of students' individual abilities, implements teaching reforms such as modularization of curriculum content, classification of students' classes and practicalization of teaching methods, explores diversified teaching reforms in College Mathematics teaching, and realizes teaching students in accordance with their aptitude throughout the training of talents. Professional courses should give full play to the role of curriculum ideological and political, it is required to design clear ideological and political goals, explore the path of ideological and political integration in the teaching content, reform teaching, and at the same time ensure that the ideological and political practice runs through the entire process of teaching, because it is always closely connected with social life and practice, and it also plays a role.

### 1. Introduction

In the direction of the reform of students' quality education, ideological and political education should make good use of the main channel of classroom teaching, and all kinds of professional courses and ideological and political theory courses should go hand in hand to form a synergistic effect [1]. In order to carry out the ideological and political spirit of the curriculum and make good use of the main channel of classroom teaching, all kinds of courses should go hand in hand with the ideological and political theory course to form a synergistic effect and "tap and enrich the ideological and political education resources of all kinds of courses" [2]. Mathematics-related courses in Colleges and universities are basic theoretical courses offered by colleges and universities. The course itself has a strong Abstraction. At the same time, it has been influenced by traditional teaching mode for a long time. The curriculum reform has always been the difficulty of teaching reform [3]. It is more conducive to the implementation of modern teaching concepts, the improvement of teachers' professional level and the development of students' individual. Ideological and political education will bring about many positive changes in teaching organization, strategy, evaluation and cooperation. The process of mathematics learning is the process of knowledge acquisition and concept formation [4]. The formation of mathematical thinking is the core of mathematics education. We know that the characteristics of mathematics are the high degree of Abstraction of the research object and the deductiveness of the method of argumentation. The university's enrollment expansion policy has also gradually transformed higher education from elite education to mass education. Different levels of education are presented to students, and more educational opportunities also create greater differences among students. In the process of formulating teaching objectives, we should pay attention to fully explore the "Ideological and Political Resources" with the characteristics of different professional courses, and deepen the teaching content [5].

Under the guidance of "curriculum ideological and political education", students are helped to set up the course content, and the key points, breakthroughs and innovations of each course are clearly

demand. Only in this way can we grasp the coordination and progressive relationship of each course as a whole [6]. And in terms of content, students' learning status is chosen or rejected, which is more in line with the requirements of College Mathematics Teaching in the new era. Practice has proved that ideological and political education helps students at all levels to improve at the original level. In the process of learning mathematics, people's logical thinking ability can be well trained, thinking clearly and logically, and explaining problems can convince people [7]. This is a very important thinking quality of a person. In order to increase students' time for general courses, professional courses and opportunities to participate in social practice, this makes the mathematics courses set up by some majors less hours, and it is difficult to complete the teaching tasks in a conventional way [8]. Under the new era background, college mathematics related courses are deeply rooted in the teaching ideas and methods formed under the traditional education mode for a long time. Paying attention to the unified mode, unified teaching progress, unified teaching objectives, unified teaching methods, and unified evaluation system, the "step-by-step" solidified teaching mode has not adapted to the needs of talents in the new era, and has suppressed students' personality development and restraint. The student's specialty is played [9]. Incorporating value into the teaching of professional courses can reverse the past professional courses and attach importance to knowledge transfer, ignoring the situation of moral cultivation. In the total number of courses in colleges and universities, the number of professional courses is larger than that of ideological and political courses and comprehensive quality courses. Therefore, the ideological and political education of professional courses is particularly important. Strengthen the understanding of theoretical knowledge and improve the ability to analyze and solve practical problems [10].

## **2. Key Points of the Construction of "Course Ideology and Politics"**

Teaching concept should have "ideological and political" thinking, that is, teaching thinking and teaching concept should be multi-dimensional and divergent. Mathematics curriculum is constrained by the realistic environment, so it can not simply copy the "ideological and political course" model. We should give full play to the moral education function of "doing number thinking" in mathematics curriculum, and use its disciplinary thinking to extract the cultural gene and value connotation contained in professional courses. To cultivate students' national consciousness and national consciousness, consciously inherit excellent traditional culture, link the realization of self-worth with national destiny, and shoulder the responsibility of revitalizing China. Breaking the restrictions of the departments and colleges in which students attend classes, changing passive education into free choice of module levels according to the requirements of ability levels, but this choice is not unconstrained. Each major should formulate the basic level requirements of its own professional development, after meeting the basic requirements of the major for higher mathematics. It is the focus and difficulty of teaching reform to carry out various forms of inquiry-based teaching activities and to carry out the content of extracurricular reinforcement in the case of less academic time. This has brought about a great change in the concept of mathematics education, and has raised the understanding of mathematics education from the simple "mastery of mathematics tools" in the past to the important part of quality education. Really teach students in accordance with their aptitude, because under the ideological and political education model, teachers can design different teaching objectives and processes for the knowledge base of students at all levels.

The educational and teaching reform of "curriculum ideological and political education" is aimed at the long-standing "pain points" in the curriculum system and teaching practice of colleges and universities, emphasizing that all teachers have the responsibility of educating people and that all courses have the function of educating people. It can effectively improve the students' interest in learning, avoid the situation that students can not keep up with the progress of the classroom because of poor foundation, and make them experience the fun of learning in the process of learning. The history of emancipating the mind and innovating and opening up is rich in materials. Choosing the successful application cases of mathematics in modern and contemporary times to guide students to learn a new concept and thought of mathematics. The key point of the reform lies in the

attempt to strengthen the extra-curricular links. We need to explore an effective mechanism model to stimulate students' curiosity and thirst for knowledge, and guide students to study actively after class, combining with the training objectives of independent colleges and the characteristics of students' groups. The full implementation of innovative education is the inherent need of the development of the times, and it is also a new challenge that education has to face. It must be innovative in the reform and innovation of the education system and the talent training model. It should be emphasized that the questions raised by the teacher or the student must be true questions, not just the topics in the textbook or problem sets. Such exercises are popular with students, and they play an irreplaceable role in developing students' individuality, developing students' abilities and exercising their scientific awareness. In mathematics education, there is always a lack of guidance in thought, especially in personal literacy and value. This requires us to work hard to explore the ideological elements contained in the curriculum.

Gradually understand and absorb some modern mathematical methods and ideas, and cultivate students' ability to acquire and apply knowledge. The way to use in exercises class should be the way that the teacher guides the students to discuss fully, giving them a little space to show their understanding and solve problems in many ways. In order to improve students' comprehensive literacy and innovative ability more effectively, we need to actively explore and innovate ideological and political education methods, transform practical resources into educational and ethical resources, and make "technical practice" and "value guidance" organically unified with peers and content. To cultivate and enhance teachers' moral awareness, ability and self-cultivation, enhance their sense of mission, and integrate the responsibility and mission of curriculum ideological and political education into education and teaching in an all-round way, always forgetting to guide the value of students, so as to achieve the perfect combination of teaching and education. Throughout the reform, we have made a choice for this new exploration and research, so that students can do what they want, serve the profession, and from the perspective of students, have the right to choose students with different professional and different knowledge structures. Let students join the wave of curriculum reform and improve the construction of the entire higher mathematics curriculum system. To enable students to have more opportunities to participate in the teaching process, to promote students to actively think, to cultivate students' spirit of criticism and good at questioning, to inspire students' sense of innovation. The mathematics education in the information age requires improving the mathematics qualities of all members of society. The development of high technology has enabled modern mathematics to be reflected in various fields of daily life in a technical way. By learning mathematics knowledge, students can correctly understand the value of mathematics, and develop different teaching objectives according to different levels of students, thus optimizing teaching plans, teaching plans and teaching methods.

### **3. Ideological and Political Integration Path**

"Course ideological and political education" is also a way of thinking. Teachers should consciously, organically and effectively carry out ideological and political education to students in the teaching process. Modern mathematics enriches the attributes of "mathematical tools" and is an important part of mathematics education. Moreover, as a method of mathematics, we can not only use the quantitative relationship as the key to open the door to all science, but also use the mathematical model Abstraction. In the course of teaching, students at different levels have different acceptance abilities. Therefore, teachers should adhere to the principle of "teacher-oriented, student-centered". Moreover, through students' participation and self-attempt in the whole process of mathematical modeling, students can also taste the sweetness of applying mathematics to practice, dividing teaching knowledge into modules and knowledge framework, and rationally allocating educational resources by using knowledge modules. Teachers can focus on a module according to their professional expertise, and each module can be divided into several levels according to the needs of students to meet professional needs. To strengthen the status of mathematics in students' minds, and to highlight the role of drawing in the discovery, analysis and solution of mathematical problems, and to cultivate students' scientific thinking mode, has strong applicability, flexibility and

comprehensive characteristics. The modeling process is actually a process of student rediscovery and a process in which students use mathematical knowledge creatively. This not only enables students to understand analytical mathematics more fundamentally in a higher perspective, but also understands the mathematical ideas of relatively Abstract linear algebra on a more intuitive basis. This not only strengthens the content, but also naturally reduces the class time.

Mathematics, as a technology, is a key technology which is universally applicable and can endow human ability. Today, mathematics has moved from the auxiliary background to the front end. After using computers, it has become an important decision to materialize directly into scientific and technological products and productivity. It has achieved certain teaching effects in promoting value identification, stimulating learning enthusiasm, guiding scientific inquiry spirit and honing professional accomplishment. Ideological and political course education belongs to dominant education, while professional course Ideological and political education belongs to recessive education. Therefore, the ideological and political education of professional courses must seek the appropriate integration path to achieve the educational effect of "moistening things silently". While emphasizing basic knowledge, basic theory and basic skills teaching, we pay more attention to the cultivation of innovation consciousness, innovative methods and innovative ability. In the digital campus era, this method of selecting courses is not a problem from the technical level, and it must be adjusted in progress so that the whole The teaching process is constantly moving forward. The key lies in the change of thinking mode, which is the new normal state of teaching under the innovative teaching system. This choice also plays an indirect role in urging teachers, and the teaching level of teachers will tend to be hierarchical. In the classroom teaching, pay attention to embody the quality education thought, the open education concept, the ability-based concept, etc., change the knowledge transfer to the ability training, and change the exam-oriented education to quality education.

In mathematics classroom teaching, we should build a broad and profound knowledge structure based on high-level knowledge, so that we can have a broader vision of teaching and a higher ability of teaching design. Self-awareness and self-evaluation are closely related. Only when students fully understand themselves can they rationally face their shortcomings in a positive atmosphere and correct them accordingly. It is also a leading and adaptable reform in the aspects of educational concept, educational goal, educational content, educational mode, educational means and educational evaluation. In the process of one-to-one digital learning, students need to judge and select a large amount of information collected, and then analyze, summarize and form their own views. In the traditional learning process, students' thinking is more likely to be confined to the recognition of known knowledge and viewpoints, often ignoring the thinking of different viewpoints. Of course, the reform of teaching content, teaching methods and teaching materials is a long-term and difficult task. The construction of this series of teaching materials can help the early quality of college mathematics. Clearly improve the moral quality, strengthen the necessity and urgency of ideological and political education, educate and guide students to respect the cultural differences of different characteristics of the world, and cultivate the values of binding and universal. The reason why we must emphasize a scientific orientation is to better grasp the process, links and elements of teaching under the guidance of relatively clear subject diversification, in order to ensure the quality of mathematics education. To this end, we will strengthen the study of ideological and political theory, strive to explore the highlights of curriculum neutrality, and make due contributions to the mathematics curriculum.

#### **4. Conclusion**

This paper studies the integration of "curriculum ideological and political" into college mathematics teaching. As the main supplier of talents for social development, colleges and universities should recognize and solve this problem. They should not only teach mathematics to a few professional learners who use mathematics. To enable students to have the consciousness and ability to solve practical problems by applying mathematical knowledge, so that students can face practical problems, think actively, participate actively and experience the great use of mathematics.

The course activities are arranged step by step, and the problems found in the field operation and the solutions in the case are analyzed systematically, so that students can understand the composition of each unit of the system and the way of mutual coordination more profoundly. Forming a comprehensive curriculum system of Ideological and political education, giving full play to the main channel of classroom teaching, and achieving the goal of comprehensive education. Realize the "consistency of ideological and political education goals and the needs of students' growth and development." To enable students to learn from each other, but to complement each other, to stimulate students' positive attitude. Let students use "use" mathematics to realize that "mathematics is the need of real life", which not only cultivates students' ability to apply mathematics, but also makes students have a sense of accomplishment, thereby increasing their interest in learning mathematics. Under the premise of respecting the law of construction of the curriculum itself, under the premise of respecting the law of construction of the curriculum itself, on the basis of realizing the basic functions of knowledge transfer and ability cultivation of the curriculum, it explores and highlights its value-leading function.

## References

- [1] Beitzel B D, Staley R K. The Efficacy of Using Diagrams When Solving Probability Word Problems in College[J]. The Journal of Experimental Education, 2015, 83(1):130-145.
- [2] Rodriguez, Awilda. Tradeoffs and Limitations: Understanding the Estimation of College Undermatch[J]. Research in Higher Education, 2015, 56(6):566-594.
- [3] Taani O. Multiple Paths to Mathematics Practice in Al-Kashi's Key to Arithmetic[J]. Science & Education, 2014, 23(1):125-141.
- [4] Kyaruzi F, Strijbos J W, Ufer S, et al. Teacher AfL perceptions and feedback practices in mathematics education among secondary schools in Tanzania[J]. Studies In Educational Evaluation, 2018, 59:1-9.
- [5] Stensaker, Bjørn. Organizational identity as a concept for understanding university dynamics[J]. Higher Education, 2015, 69(1):103-115.
- [6] Coughlin C, Castilla C. The effect of private high school education on the college trajectory[J]. Economics Letters, 2014, 125(2):200-203.
- [7] FitzSimons, Gail E. Commentary on vocational mathematics education: where mathematics education confronts the realities of people's work[J]. Educational Studies in Mathematics, 2014, 86(2):291-305.
- [8] Pais A. Symbolising the real of mathematics education[J]. Educational Studies in Mathematics, 2015, 89(3):375-391.
- [9] Herbel-Eisenmann B A, Wagner D, Johnson K R, et al. Positioning in mathematics education: revelations on an imported theory[J]. Educational Studies in Mathematics, 2015, 89(2):185-204.
- [10] Ngo F, Kwon W W. Using Multiple Measures to Make Math Placement Decisions: Implications for Access and Success in Community Colleges[J]. Research in Higher Education, 2015, 56(5):442-470.