

## Exploration on the Application of Microcourse in Mathematics Teaching in Private Undergraduate Colleges

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**Abstract:** With the development of computer network technology, microcourse is used more and more frequently in teaching, and have been recognized by teachers and students. The application of microcourse in the mathematics teaching of private undergraduate colleges can make up for the shortcomings of traditional teaching mode, and promote the efficiency of mathematics teaching, which plays a very important role in promoting the development of mathematics teaching in private colleges. This paper analyzes the present situation of mathematics teaching in private undergraduate colleges and the significance of the application of microcourse in mathematics teaching, and puts forward some suggestions. It is hoped that it will be helpful to promote mathematics teaching in private colleges and universities.

### 1. Introduction

The content of mathematics teaching in private colleges is relatively complex and abstract, while these students have relatively weak learning foundation, so there are some difficulties in the study and understanding of relevant mathematics knowledge. Once students fail to keep up with teachers' teaching progress, it will affect students' learning quality, make students lose their interest in learning mathematics, and thus affect the quality of mathematics teaching and teaching efficiency in private colleges. The emergence of microcourse can help students to solve this problem, since microcourse itself has the characteristics of short time, refined content etc, and it is very suitable for students to learn anywhere during their spare time. Therefore, microcourse is an effective supplement to classroom learning, which will bring a quite favorable influence to the development of mathematics teaching in private undergraduate colleges.

### 2. Present Situation of Mathematics Teaching in Private Undergraduate Colleges

Mathematics, as an important part of teaching in private colleges, has a direct impact on teaching quality. The mathematics of private colleges has the characteristics of diverse contents, high difficulty, abstract knowledge, etc, so in the traditional teaching mode, teachers generally adopt the "infusion" teaching method in order to ensure teaching quality. They often take most of the classroom time to explain relevant knowledge in textbooks and make students review in the form of homework after class. This teaching method ignores the autonomy of students in their study. Students are only allowed to passively accept mathematics knowledge, which is not conducive to their learning enthusiasm. Over time, it will seriously affect their interest in learning. Contemporary students have lost interest in traditional blackboard teaching and multimedia teaching. With the popularity of electronic devices and Internet, cell phone photography has gradually replaced classroom notes, and e-mail has replaced the answering of questions. This phenomenon requires private undergraduate colleges to change the traditional mode of mathematics teaching and explore a new teaching mode suitable for the development of the times and students' cognitive habits.

### 3. Significance of Applying Microcourse in Mathematics Teaching in Private Undergraduate Colleges

With the development of education in our country, the traditional teaching mode can no longer

meet the needs of mathematics teaching in private undergraduate colleges. On the contrary, a more diversified and individualized teaching mode is in an urgent need. Under the requirements of new curriculum reform, mathematics teaching in private undergraduate colleges should pay attention to the integration of information technology and promote the development of mathematics teaching towards the direction of modernization. Microcourse realizes the integration of teaching activities and information technology, which is able to change the traditional teaching mode, improve the quality of modern teaching, and promote the reform of teaching methods, bringing a positive influence to the development of education in our country.

In the traditional teaching process of mathematics in private colleges, there is only a single relationship of teaching and learning between teachers and students. Teachers only blindly teach and students have to passively accept knowledge. This way of teaching and learning ignores the main position of students in learning, which is not conducive to students' learning enthusiasm. In addition, teachers also lack effective guidance for students in after-school learning and fail to provide timely solution to the problems arising in the process of after-school learning, but only make them review after class through the form of homework. Microcourse provides some convenience, which helps students to study anytime and anywhere. It also has intuitive feature, helping students to understand abstract mathematical knowledge more easily. It also has the characteristic of repeatability and interaction, which guides students to learn repeatedly after class and effectively help them solve related mathematical problems. Therefore, integrating microcourses into mathematics teaching of private undergraduate colleges will realize the reform and innovation of mathematics teaching methods and contents, widen the way for students to acquire knowledge, and cultivate students' interest in learning mathematics, increase students' initiative in learning and the ability to analyze and solve problems. This is not only helpful for students to study mathematics, but also conducive to the development of mathematics teaching in private undergraduate colleges.

In the process of making microcourses, under the premise of meeting teaching requirements, teachers should pay attention to the combination of microcourses and students' actual learning ability in accordance with students' learning habits and cognitive abilities as far as possible and meet their different learning needs. With the progress of science and technology and the popularization of network, the way of life and communication of contemporary students have undergone tremendous changes. Mobile phones and computers have become an important part of students' study and life. They have become accustomed to getting information and learning activities through Internet devices such as mobile phones and computers, which makes their learning more fragmented. Because of its short time, excellent and interesting contents, microcourse is very consistent with the fragmented study habits of contemporary private undergraduate students. At the same time, with the expansion of enrollment in private undergraduate colleges in recent years, there is a certain gap in the learning ability and learning habits of private undergraduate students. This gap can not be effectively bridged in the traditional mathematics teaching class in private undergraduate college, but the application of microcourses can solve this problem. Because of its repeatability and controllability, microcourse enables students to study anytime and anywhere and master the frequency and rhythm of microcourse learning according to their learning ability. Therefore, microcourses are also capable of meeting the needs of contemporary private undergraduate students.

Because of the emergence of microcourse, the traditional teaching mode has been greatly changed. Therefore, teachers should also adapt to the development of the times, strive to change the traditional teaching methods, and actively explore new teaching methods that meet the teaching needs and students' learning habits. In the process of teaching, teachers are expected to take teaching needs as the basis, and take targeted teaching measures according to students' actual learning ability. In making microcourses, teachers need to make the contents of microcourse conform to the reality of students' life as far as possible, and use refined language to explain mathematics knowledge, which puts forward higher requirements for mathematics teachers. In order to meet the needs of microcourse teaching, private undergraduate college teachers must constantly strengthen their learning, strive to improve their professional level, constantly improve

their own knowledge system, and enhance their teaching ability. Therefore, the integration of microcourse and private undergraduate mathematics teaching promotes the development of teachers' specialty to a great extent.

#### **4. Application of Microcourse in Mathematics Teaching in Private Universities**

The whole process of mathematics teaching in private undergraduate colleges includes pre-study, classroom study and review activities after class. According to the current teaching emphases and difficulties as well as the actual learning condition of students in private undergraduate colleges, the content of microcourse should be in accordance with teaching purpose, and the teaching design should be carried out pertinently instead of simply copying the content of mathematics teaching in private undergraduate colleges. Therefore, teachers are required to design microcourse for pre-class preparation, and ensure the interest before class. Einstein once said that interest is the best teacher, therefore, teachers should ensure the fun of microcourse, so as to enhance students' interest in mathematics and prepare the way for further study. In order to promote students' interest in mathematics, teachers are suggested to include the learning habits, life stories and other materials of mathematicians in microcourses so as to set an example. In addition, microcourses should also pay attention to the relationship between mathematics knowledge and mathematics and other disciplines, which can help students to build a more comprehensive knowledge system. Secondly, the characteristics of microcourses should be brought into play in classroom learning. Mathematics in private colleges have the characteristics of abstract, which makes it difficult for students to understand. Teachers in the teaching process, are suggested to use microcourses to explain the relevant abstract mathematical theory knowledge. In this way, teachers can avoid spending a lot of classroom time explaining abstract theoretical knowledge. On contrary, they are able to spend more classroom time on interaction between teachers and students, and guide students to find and solve mathematical problems. Meanwhile, teachers are required to make full use of the repeatability of microcourse to deepen students' impression of relevant key and difficult knowledge, so that students can master relevant knowledge. Finally, it is necessary to ensure that microcourses plays a role in the after-class review section. After explaining certain knowledge points in class, teachers can help students consolidate their learning achievements by using microcourses. Teachers need to comb the key contents of this lesson, guide students to review them, and set up related questions to guide students to think, thus deepening the impression of what they have learned.

In order to cultivate students' interest in mathematics in private undergraduate colleges, it is vital to choose interesting materials on the premise of meeting teaching requirements, so as to create a colorful and interesting teaching situation. Mathematical culture refers to the humanities, relationship between mathematics and society, relationship between mathematics and various cultures in the development of mathematics. Introducing mathematical culture into mathematics microcourse can effectively stimulate students' interest in learning and promote students' enthusiasm for active learning. First of all, introducing the important mathematical theory development process into mathematics microcourse will arouse students' attention to the knowledge they have learned. Secondly, introducing mathematicians' study habits and interesting life into mathematics microcourse can draw the distance between students and the abstract mathematics knowledge, so as to enhance students' affinity for mathematics knowledge. Finally, introducing the life story and famous words of mathematicians into the microcourse of mathematics will guide students to think innovatively and expand their thinking constantly.

The main body of mathematics teaching activities in private undergraduate colleges should be students instead of teachers. Therefore, teachers should change their position and pay attention to giving full play to students' main position in the course of setting up microcourses in mathematics, constantly cultivating students' initiative learning enthusiasm, and then improving students' ability to learn independently. In the course of setting up microcourse of mathematics, it should be changed from the traditional teaching mode to the way of guiding students to learn independently. It is important to strengthen the interaction with students through microcourses, and discuss some problems with students in and out of class, which not only can give full play to the positive role of

microcourses, but also can increase the interaction of students in teaching months, promoting the autonomy of students' learning, and improving the teaching quality and teaching efficiency of private undergraduate colleges.

## 5. Conclusion

To sum up, through the application of microcourse in mathematics teaching in private undergraduate colleges, the traditional mathematics teaching mode has been changed, and the teaching quality and teaching efficiency have been improved. Therefore, teachers should pay attention to the application of microcourses. In the course of setting up microcourses, it is necessary to adopt scientific methods, promote students' interest in learning, and cultivate students' ability to learn independently, contributing to the development of private undergraduate mathematics teaching.

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