

## **Brief Discussions on Strategies for Students' Participation in Mathematics Teaching**

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**Abstract:** Mathematic teaching is a process of teacher-student interaction since a teacher fails to the desired effect, requiring students' active cooperation and participation. This paper carries out analyses on factors influencing students' participation and presents several strategies leading their participations.

**Keywords:** Mathematic teaching; Teaching process; Students' participation.

### **Introduction**

As the educational concepts change, mathematics has become the compulsory basic quality that each citizen has. Colleges and universities are concerned about not only the basic knowledge and skills of students, but also the development of their high-level thinking skills. Therefore, students are required to actively participate in mathematic teaching. Various effective measures must be explored actively during actual teaching to enhance students' sense of participation and attract them to forwardly engage in classroom teaching[1-2].

### **I. Factors influencing students' participation in mathematic teaching**

Factors influencing students' participation mainly include:

#### (1) Self-factor

Sense and capacity of participation are two relatively independent aspects. Only with both sense and ability of participation can it be possible to ensure students to participate in mathematic teaching activities.

#### (2) Environmental factor

Teaching environment consists of interpersonal relationship on campus and actual working environment. As another factor influencing participation, teaching environment can facilitate students' participation through improvement.

#### (3) Society factor

Socio-cultural factor imposes an objective impact on students' participation. With the development of society, multicultural thoughts affect the way of thinking of students inevitably so that they become passive participants in teaching.

### **II. Exploration of strategies for students' participation in mathematic teaching**

#### **(I) Developing students' learning interests**

Interest is the best teacher, who shall have to take diversified measures to arouse students' interests in mathematics.

##### (1) Exploring teaching-inspiring materials

Teaching materials are tools for spreading knowledge and contain no rich feelings themselves. Teachers are required to be capable of secondary processing in order to find out motivators for students. In addition, teachers should integrate their own positive feelings into teaching and then arouse learning interests of students through psychological induction to enable them to actively participate in teaching.

##### (2) Bringing history of mathematics to classroom teaching

History of mathematics often involves historical events and figures playing significant roles in the development of mathematics and reflects the role of mathematics in development and progress of the human society. Vivid story plots and authentic history of mathematics have a greater potential in arousing learning enthusiasm for mathematics.

##### (3) Integrating mathematical theory with social application

In the process of mathematics teaching, it is recommended to properly introduce some practical cases in teaching so that students can solve problems in a familiar atmosphere.

## **(II) Enhancing students' confidence in participation**

A uniform teaching method for students with different bases may generate some disadvantageous, for which a stratified teaching method is proposed[3]. Stratification is to design different levels from different angles of the same problem. Level 1 accommodates the minimum requirements of curriculum, i.e., to ensure that such requirements are met by top, medium and poor students through basic exercises; Level 2 consists of basic variations, where students are required to apply and comprehend these exercises; Level 3 contains exercises mixing old and new knowledge, which, being somewhat difficult, proposes higher requirements is hard for students' comprehensive abilities and flexibility and are designed for the development of intelligence of top students. Students may choose from the three levels independently. Stratified teaching enables students in different levels enjoy various degrees of success so as to get more confident in participating in mathematic teaching.

## **(III) Creating good participation approaches for students**

Mathematics is such a strongly systematic subject that old and new knowledge are closely interrelated[4]. As a result, teachers have to help students actively participate in establishment of their own cognitive structures during teaching.

### **(1) Providing participation conditions by varying learning styles**

The transformation of learning styles for participation conditions is a good method for enlightening thinking of students, developing their intelligence and cultivating their creative ability. A single teaching method can cause aesthetic fatigue; instead, diversified classroom activities may keep students curious and help exert their initiatives in learning.

### **(2) Guiding participation with the help of feedback information**

Teaching is a process of teacher-student interaction and involves information exchanges between teacher and students. During the exchange of information, a teacher should be adept in capturing feedbacks from students and apply them to teaching, so as to inspire and instruct students to master knowledge correctly and improve classroom efficiency.

### **(3) Guiding students to participate in formation of knowledge**

## **III. The Conclusion**

Under the influences of new educational and curriculum concepts, we should not only intensify our own learning, but also strive to create a harmonious teaching atmosphere for students and take the initiative to explore strategies for developing students' sense of participation, so that they can actively participate in classroom teaching and give full play to their dominant role, contributing to higher teaching efficiency and better teaching effect.

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