

# On Cultivating Students' Interest in Mathematics and Improving the Quality of Classroom Teaching

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**Abstract:** By expounding the significance of improving students' interest in mathematics for improving the quality of classroom teaching, this paper gives some methods to cultivate students' interest in mathematics. Through the in-depth analysis of carefully designed classroom introduction, the introduction of mathematics history into the classroom, and the strengthening of the extensive application of mathematics in life examples, students' interest in mathematics is cultivated, thereby improving the quality of classroom teaching.

**Keywords:** Mathematics Interest; Teaching Quality; Primary and Secondary School Mathematics

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## Introduction

As a teacher, teaching students well is the top priority, and the foundation of teaching students well is to improve the quality of teaching in the classroom. There are many good ways to improve the quality of classroom teaching, such as teachers preparing carefully before class, accurately grasping the content of this lesson and the key points of the classroom; or the teacher optimizing the classroom process, so that the teacher's teaching is supplemented by the teacher's teaching, and the students are independent. Learning and exploration are the main ones, and fully mobilize their subjective initiative in mathematics learning; or the teacher conducts after-class reflection in a timely manner, summarizes the advantages and shortcomings of this lesson, and continuously improves it in the future teaching process, so as to improve the quality of students' classrooms. According to relevant researchers, once children have formed a strong interest in what they have learned, their enthusiasm for learning will be high, and they can exert 70% to 80% of all students' energy; on the contrary, their enthusiasm is low, and they can only exert 20% of all energy. 39%<sup>[1]</sup>. Therefore, the key to improving the quality of classroom teaching is to cultivate students' interest in mathematics. I will introduce how to cultivate students' interest in mathematics and improve the quality of classroom teaching from the following aspects.

## 1. Carefully design classroom introduction, cultivate students' interest in mathematics, and improve classroom quality

Mathematics is a relatively boring course for a large number of students. Mathematical language and symbols are relatively abstract and obscure. Teachers should find ways to cultivate students' interest in mathematics. You can start with classroom introduction first. A good start is half the battle. A good introduction can quickly capture the learner's attention and even bring huge results. In elementary school mathematics classrooms, according to the characteristics of primary and secondary school students' physical development, it is more conducive to students' understanding to use situation introduction or game introduction. D'Ambrosio, a professor at the University of Campinas, said: There are mathematical concepts in children's play activities, and if we take advantage of this reality, we will be able to train capable and creative children<sup>[2]</sup>. For example, when learning the content of the section "Equation", the teacher can design a "guess the number you want" game before class. The teacher asks the classmates to think of a number in their minds, don't say it, and go through a series of Add, subtract, multiply and divide operations under the command of the teacher, and get a result to tell the teacher, the teacher can know what the number is in the minds of the classmates. While the classmates are curious about

how the teacher did it, the teacher strikes while the iron is hot and immediately leads to the content to be learned in this lesson. Through such a "magical" game, a suspense is set for the classmates and strong curiosity is aroused. In middle school classrooms, students' physical and mental development and comprehension are higher than those of primary school students. For classroom introduction, teachers should choose appropriate introduction methods according to different learning contents. For example, when learning "The Position Relationship of Two Straight Lines", they can use life Examples are introduced. The zebra crossing on the road, the rail line, the two opposite sides of the table, etc. are all parallel lines, the edge of the window glass, the seam lines of the floor tiles, etc. These are all intersecting lines. Introduced with life examples, it is more intuitive and easy for students to understand and accept. It can be seen that if teachers want to achieve the purpose of continuously cultivating students' interest in mathematics in normal learning, it is very important to carefully design the introduction before each class. Perhaps some classmates fall in love with mathematics because of the introduction of a certain class. To a certain extent, it can determine the success or failure of this class.

## **2. The classroom integrates the explanation of mathematics history, cultivates students' interest in mathematics, and improves the quality of classroom teaching**

Students' scientific cognition is through a simple, economical and reasonable understanding. It is not a tortuous process that scientists go through when seeking scientific truth, but a process of reproducing cognition under the guidance of science teachers. In normal science education, a few Vivid and interesting scientific cases and the deeds of some mathematicians in history are used to stimulate students' enthusiasm for reading [3]. Therefore, after learning pi in elementary school, children may feel unable to grasp it for the first time, which will cause difficulties. Therefore, teachers at this time should infiltrate the development history of pi in educational activities. The research process of pi is also a gradual development process. In ancient times, the wheel was a major invention and creation, but people at that time always had such a confusion: how far can a circle be rolled with a wheel? What is the relationship between the length of the roll and the diameter of the wheel? From the very beginning, we calculated by hand, and after many measurements, we learned that the average side length of a circle is about three times the diameter; and later, the mathematician Archimedes connected the regular polygon and the circumscribed regular polygon in the circle at two angles. Close to the circumference, it is concluded that the average value of pi is between and; later, the famous Chinese astronomer Liu Hui used the "circumcision technique" to determine a relatively accurate value of pi, with an approximate value of 3. 14; while Zu Chongzhi Defined pi as between 3. 1415926 and 3. 1415927 [4]. Nowadays, with the continuous progress of science, the value of pi can be calculated to 1. 2411 trillion decimal places. Infiltrate the history of pi when learning pi, so that classmates have a clearer understanding of pi.

Teachers should make adequate preparations before class, find materials, try to have a history of relevant classroom content in each class, insist on infiltrating the history of mathematics culture, and let students learn what great mathematicians use when exploring unknown problems. The mathematical methods and means used by students allow students to develop the habit of continuous exploration and thinking, and can also cultivate students' mathematical spirit of not being afraid of difficulties and having the courage to explore. In the process of continuous thinking and exploration, students' interest in mathematics is invisibly cultivated.

## **3. Strengthening the wide application of mathematics in life examples, cultivate students' interest in mathematics, and improve the quality of classroom teaching**

The new curriculum emphasizes that the mathematics curriculum should create corresponding life situations according to the specific activities of each child, so that they can actively think, explore, and experiment, so that they can apply what they have learned on the basis of understanding the basic knowledge of books and solving methods. Apply the professional knowledge learned to answer the questions in the activity [5].

In the context of the previous example-oriented education idea, no matter whether teachers or students only regard

mastering mathematics as a threshold for admission and improvement of ability, they repeatedly brush the questions every day, ignoring the application of mathematical knowledge in real life, which leads to mathematics only lying in It's just a string of useless symbols in the textbook, which goes against the original intention of learning mathematics. Mathematics comes from life. If it is separated from life, it will be useless. Mathematics is closely related to life, and mathematics is everywhere in life, such as the price after discount sales in shopping malls, the price of grocery shopping in the market, the probability of winning the lottery in supermarket lottery, and the shortest route to school and school. Calculation problems, etc. In the lesson "Understanding RMB" in elementary school mathematics, teachers can design a practical application scenario of "selling things". Various items with known prices are placed on the podium, and classmates take turns to buy the RMB prepared by the teacher in advance. See who finally completes it quickly and accurately. By designing such a scene of actually buying things, not only did the classmates master the conversion and addition and subtraction of RMB, but also cultivated the students' ability to use RMB in real life. After middle school students learn "Congruent Triangle", teachers can specially design a practical lesson for students to measure the distance between themselves and the house across the river. The classmates have whimsy and brainstormed ideas. One of the classmates said that they can use the congruent triangle. teachers can also guide students ideologically, telling students that as long as they have an eye good at discovering mathematics, life is full of mathematics. Develop the habit of thinking and calculating everywhere, and your own mathematics ability will be significantly improved. Continuously exploring the application of mathematics in life and enhancing students' understanding of the importance of mathematics in life are important means to cultivate students' interest in mathematics.

#### **4. Conclusion**

In short, interest in mathematics is the driving force for students to learn mathematics. If there is no interest in mathematics, students will be like fish leaving water, with no motivation and hope for survival. Teachers should take various methods to continuously cultivate students' interest in mathematics, so as to effectively improve the quality of classroom teaching.

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