

The Integration Strategy of Class Teacher Management and Mathematics Teaching

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Abstract: The professional and moral education of high school mathematics teachers will make classroom management work better, but their work pressure will also lead to classroom management problems. To do a good job in high school class teacher management and organically integrate it with mathematics teaching, we need to start from two aspects: mathematics teaching class teachers and class teacher work teaching, and penetrate mathematical thinking into daily classroom management, moral education, and classroom culture construction. Based on the attributes of the subject, we guide high school students to reflect after class to stimulate their self-management initiative through the cultivation of qualified class representatives. In addition, it is necessary to skillfully resolve classroom generative problems, change the roles of teachers and students, and integrate classroom management with mathematics teaching.

Keywords: High school class teacher; Class teacher management; Mathematics teaching; Integration strategies

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1. Introduction

The importance of mathematics in high schools means that teachers have more frequent contact with students than teachers of other subjects, so it is common for mathematics teachers to be responsible for classroom management simultaneously. Teachers have two responsibilities, one is to create a healthy environment for students through effective classroom management, and the other is to help high school students reach their first stage of life goals. At the same time, they need to fulfill their teaching tasks and improve the quality of teaching. Therefore, it is necessary for teachers to first objectively analyze their own strengths and problems in being class teachers and then based on the teaching and learning conditions, to explore a suitable path to combine class teacher management and mathematics teaching.

2. Advantages and problems of high school mathematics teachers concurrently serving as class teachers

2.1. Advantages

The advantages of high school mathematics teachers serving as class teachers are manifested in the following

three aspects: firstly, high school mathematics teachers have the good qualities that other teachers have, whether it is manners, physical and mental qualities, cultural qualities and abilities, all of them have reached the standard of managing the classroom and setting an example for the students. For example, our high school mathematics teachers usually have a unique teaching style, quick thinking, flexible mind, language humor, and cheerful personality, which makes them play a correct guiding role in dealing with small frictions between students, and between students and teachers of other subjects. They can make students emulate themselves and guide them to grow into individuals with mature characters in a subtle way.

Secondly, high school mathematics teachers have long been imbued with mathematical culture and ideas, and have stronger logical, scientific, and rational thinking. Teachers can use this thinking to comprehensively measure the problems in classroom management, give solutions to the problems from an objective and impartial point of view, and easily convince students of the classroom management system and decisions with rational wisdom. Therefore, it can be seen that high school mathematics teachers who are also class teachers usually have good order in the classroom, and all management work is carried out in an orderly manner.

Lastly, mathematics is a compulsory subject in the college entrance examination, which makes high school students have a stronger reverence for the subject, and having a mathematics teacher as a class teacher will have a positive impact on students' learning efficiency and attitudes towards the subject, which will become habitual over a long period of time, and thus make the overall quality of students' learning significantly improved ^[1].

2.2. Problems

Undeniably, there are certain problems with high school mathematics teachers serving as class teachers. First of all, due to the imminent high school entrance examination, high school mathematics teachers themselves are under greater teaching pressure, so they usually focus on the completion of the teaching work, and the time and energy they can devote to classroom management are more unlimited. Big problems are handled timely and properly, but small problems are easily ignored ^[2]. Secondly, many high school mathematics teachers have more rationality than sensibility, and they prefer to reason, make demands and lay down rules in the face of students, while neglecting to sensitize students with love. As a result, some students think that their teachers are prejudiced against them, or the classes managed by high school mathematics teachers are relatively stereotyped and rigid, and the class atmosphere is less active and lively.

3. Integration of the management work of high school class teachers with mathematics teaching

3.1. Teachers in mathematics teaching

To integrate high school class teacher management work and mathematics teaching, first of all, it requires mathematics teachers to always keep the awareness of class teacher work, and seize all feasible opportunities to carry out classroom management and student education work in order to make mathematics teaching present in the classroom, let the mathematics teaching work in the mathematics classroom have soul, vitality, and appeal ^[3].

For example, teachers can carry out classroom management based on the common pattern of high school mathematics teaching; many teachers will let students discuss and exchange ideas in groups, with the purpose of practicing students' independent learning ability. In this process, teachers can consciously take into account the development of students' social interaction skills and deal with small conflicts between students. In the early stage, students with small frictions can be divided into groups, and students in the group are required to actively communicate their learning experiences after individual thinking, put forward opinions and suggestions on others' ideas, and finally form a unified group learning result. In the process of student learning and discussion,

teachers should carefully observe and provide timely intervention. If students are arguing fiercely, teachers can ask students to calm down for a while, use the list grid to organize the different composite function solutions of the group, and compare the advantages and disadvantages, so that students can see each other's strengths and slowly establish a friendly and cooperative relationship in the process of learning from others ^[4].

3.2. Teaching-oriented class teacher work

Mathematizing the class teacher's work can help improve the efficiency of classroom management and develop students' more mature problem-analysis and problem-solving skills. For example, when new students enter the school, the class teacher can use mathematical knowledge to introduce the topic of "welcoming new students: cherish fate and high school time." Based on China's census data, the number of local high school students is calculated, and according to the knowledge of probability, the students realize the possibility of classmates gathering. Using seemingly boring, rational figures to let students cognize that it is rare and precious to meet and become high school classmates in a sea of people, guide students to cherish this fate and friendship, and lay a good foundation for cultivating the cohesion and collective consciousness of the students ^[5].

We can also regularly organize mathematics-themed salons, class meetings, and exchange of ideas, which not only broaden students' knowledge horizons but also help high school students temporarily put down their psychological and learning burdens in a relatively relaxed atmosphere, adjust their emotions, relieve pressure, and devote themselves to follow-up learning activities in a better state. Mathematics class teachers can determine the activity themes that students are interested in according to the results of daily observation, such as the story of mathematicians, the latest mathematical achievements in our country, and the mathematical discipline perspective of counterfeiting life hacks. Teachers can upload activity introduction videos and introduction materials on platforms such as class groups before the start of the activity, guiding students to collect their own materials from a specific perspective and organize them into speeches or outlines for sharing. Students are the main focus of the activity. Teachers can ask questions, give tips, and interact with students on an equal footing. They can help students perceive another kind of beauty of high school life through the colorful and diverse world of mathematics ^[6].

4. Strategies for integrating the management work of class teachers in high schools with mathematics teaching

4.1. Integration of mathematical thinking into class management

4.1.1. Daily management

To apply mathematical thinking to daily classroom management, we mainly start with "unification." First, we must make classroom management rules and regulations deeply rooted in the hearts of the people to ensure that the system is fair and compliant. For example, in the first year of high school, teachers and students study the school rules and regulations together and work together to formulate classroom management regulations. Each student can express their own opinions and views, according to the standard of "seeking common ground" to find the rules of these issues and develop a management method that each student can comply with and have the possibility of implementation ^[7].

However, in monitoring the implementation of the system, it is necessary to "tolerate differences," that is, to make use of mathematical categorization thinking to achieve tailor-made teaching. However, instead of looking at students through colored glasses, we need to take into account the developmental environment and personality traits of different students, and flexibly adjust our management methods. For example, the class rules clearly state the violation of the system of punitive measures, but in the implementation of the measures,

teachers should consider students' past performance, understand the specific reasons for violating rules, use critical words to encourage the basic logic of what is said, suspend punishment or use other alternative measures to allow a positive atmosphere of classroom management.

4.1.2. Moral education

The use of mathematical thinking for moral education mainly refers to the fact that mathematics teachers can fully explore the political elements contained in mathematics teaching materials and use mathematical knowledge to carry out political education. For example, when teaching functions, teachers can edit practice problems based on the norm of life's highs and lows, guiding students to link figurative mathematical knowledge with abstract life experiences, so that high school students can maintain a broad state of mind when encountering difficulties; when talking about exponential functions, logarithmic functions, and finding the extreme value of a function, teachers use humor and vivid language to carry out education. If we change a certain value, that is, the length of their studies, the perspective of the problem, the starting point of life will change in this direction, that is, from the seemingly low to high. However, the life value will not be stable and unchanged, it will cause our life function to change as well, seemingly towards the flat or low; but everything is dialectical unity, highs and lows are the norm in life ^[8].

4.1.3. Construction of classroom culture

Using mathematical thinking to create classroom culture is mainly to form a scientifically rigorous and orderly learning and living environment, in order to correct students' learning attitudes, so that they have enough reverence for high school learning and mathematical learning. For example, based on the principle of probability, teachers assign students the task of creating the physical environment such as blackboard newspaper, handbills, cultural walls, etc., to ensure that every student has a relatively equal opportunity to co-construct the class culture. At the same time, students are required to actively use their mathematical knowledge of the subject to plan the layout of the cultural wall, etc., and to form a mathematical action report on the creation of the environment, so as to promote the students to complete their share of the tasks in a sequential and planned manner. Cultural creation projects that embody the beauty of preciseness, simplicity, logic, and science will be regularly selected, as well as project creation groups and individuals ^[9].

Teachers can also instruct each student to develop a three-year, one-year, one-semester study plan and career map based on their personal realities and aspirations. The plan is then broken down into small goals that can be accomplished each month, week, and day, and periodically look back to see if they have accomplished their goals. Teachers use rigorous, logical thinking and mathematical order to reinforce a quality cultural environment in the classroom.

4.2. Stimulating students' self-management initiative based on subject attributes

4.2.1. Cultivating qualified class representatives

Class representative is not only the leader of the students, but also the first opinion force of the class. Therefore, improving the quality of classroom management also requires mathematics teachers to stimulate students' initiative in self-management based on subject attributes as a prerequisite for cultivating qualified class representatives.

First of all, we can solicit candidates for class representatives from all students, and try to ensure that most of them can be mathematics class representatives by using the rotation system. Secondly, teachers should give necessary guidance and help to improve the class representatives' literacy, performance leadership, enthusiasm for learning, and classroom management. For example, the class representatives should be taught

to judge the learning attitude of other students and analyze whether they have learning difficulties according to their classroom performance and their independent learning of mathematics during class; and encourage class representatives to provide timely help to their classmates, and strive not to let their partners fall behind. On this basis, the class teacher can appropriately delegate authority to the class representative to do some practical matters of classroom management, such as issuing notices of thematic mathematical class meetings, organizing free discussions in class, and organizing speech plans of classmates ^[10].

4.2.2. Instructing students to reflect after class

There is growth only when there is reflection; for mathematics class teachers, guiding students to reflect can be implemented by letting students organize the wrong question book, write math diaries, and so on. For example, teachers can let students cut out the wrong paper questions, paste them in the wrong book, the answer part should be painted off, and then write the correct arithmetic ideas and answers underneath according to the teacher's explanation; and organize them in weekly units to find a way of answering a class of exercises from the classification. After studying each chapter, the teacher can ask students to bring their exercise books to the classroom, communicate with each other, see which exercises their partners are prone to do wrong, compare with themselves, and analyze the reasons why they did it right or wrong. This type of exercise is knowledge. If the foundation is not solid, or one is sloppy or careless, they can share the problem-solving experience with the owner of the exercise book.

4.3. Bringing the art of class management into the mathematics classroom

4.3.1. Skillfully resolving classroom generative problems

High school mathematics classes are also prone to students interrupting and disrupting the rhythm of classroom teaching. At this time, teachers need to introduce the art of classroom management, skillfully solve generative problems, optimize teaching order, and show personal teaching charm. For example, look at the situation of students dozing off in class from the perspective of love, do not think that students dozing off because they are not interested in their own knowledge or are disrespectful of themselves. Instead, we must understand the learning pressure of high school students. At this point, the teacher can raise the volume appropriately to remind the student; or speed up the pace of speech. Observing that the students' eyes are wide open again, the teacher can throw in a humorous interaction, give students time to get back to their senses, and then pull their attention back to the classroom. After that, teachers can use some appropriate math stories and videos to produce an active classroom atmosphere.

4.3.2. Changing the roles of teachers and students to improve the teaching ecology

In high school classroom management, it is easier for students to listen to teachers if they regard students as independent, complete, and equal to themselves. Thus, in math teaching, teachers can also introduce the idea of changing the role of teachers and students to improve the classroom's ecological environment. For example, in the review class, it is possible to let the students be the "small teacher," and invite them to use the mind map to summarize what they have learned in this chapter before class, what the focus is, which part of their knowledge is the most impressive, what problems they have encountered, and how they solved them. In class, teachers invite volunteers to interact with other students by sharing their knowledge. The teacher can be a quiet listener at this time, ask questions at the right time, and then push the class to review this part of knowledge by adding and correcting after the volunteers share.

5. Conclusion

To improve high school classroom management and integrate it with mathematics teaching, it is necessary for teachers to face up to the specificity of the two kinds of work at this stage, understand their own strengths and weaknesses in education and teaching, treat students sincerely, love and care for students, and cultivate students as a prerequisite for the application of different management and teaching tools in practice. It makes classroom management more rigorous, thorough, and meticulous, and makes mathematics teaching warm and humane.

Disclosure statement

The author declares no conflict of interest.

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