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Research on Teaching Strategies of Deep Learning in High School Mathematics from the Perspective of Core literary

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Abstract: *With the further deepening and development of China's new curriculum reform, cultivating students' core literacy is not only one of the major needs of education reform in China, but also an inevitable need to further cultivate students' professional quality. There is no doubt that high school mathematics, as an important subject of the main subject, occupies an important position in the high school curriculum. It is necessary to use the teaching method of "deep learning" to effectively improve students' mathematical literacy and enhance their core literacy. Higher requirements are put forward in "deep learning" for the classroom teaching of math teachers in high school. This paper takes the cultivation of students' core literacy as the starting point, according to the current situation of high school mathematics classroom teaching, and deeply explores the teaching strategies of the teaching method of "deep learning" of high school mathematics.*

Keywords: *core literary; high school mathematics; deep learning; teaching strategies*

1. Introduction

With the steady progress of China's education, it has further promoted the deepening of the reform of the new curriculum standard, marking that our country's modern education has entered a new stage, and the cultivation of students' core literacy has also received extensive attention and concern from colleges and universities and the general public. However, as far as the current high school mathematics education is concerned, in the actual mathematics classroom teaching of the high school People's Education Press version A textbook, most high school mathematics teachers have deep-rooted traditional teaching ideas and concepts, and regard students' performance as the standard for judging students' quality and the ultimate goal of teaching. Due to the shortcomings of traditional classroom teaching and the limitations of its own education and teaching methods, it has greatly damaged the enthusiasm and initiative of students to learn, so that the quality of mathematics classroom teaching has been in a low level for a long time, and the teaching effect is not satisfactory.

Therefore, based on this dilemma, it is urgent for high school mathematics teachers to speed up the transformation of their own ideas of mathematics classroom education and teaching, attach great importance to the cultivation and enhancement of students' core literacy, innovate classroom teaching models, and implement the teaching method of "deep learning" into real classroom teaching. Therefore, this paper discusses the methods and strategies of "in-depth teaching" of high school mathematics from four perspectives: the teaching concept of "people-oriented", the teaching method of "teaching according to aptitude", the teaching method of "problem guidance", and the teaching form of "life-oriented teaching", in order to provide an effective reference for the classroom teaching of the majority of high school mathematics teachers, and details are as follows [1].

2. Adhering to the "people-oriented" teaching concept and improving teachers' own professional quality

The educational concept of "people-oriented" not only plays a positive role in practice, but also helps to strengthen the dominant position of students in classroom learning, and is also one of the important contents of teachers' quality education.

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2.1. Paying attention to the all-round development of students

First of all, the simultaneous improvement of students' scores and skills should be paid attention to. In the past, exam-oriented education took students' scores as the core of education, ignoring the improvement of self-skills. The "people-oriented" teaching idea is not only committed to the improvement of students' mathematics performance, but also pays attention to the cultivation of students' mathematical thinking ability. The reason is: that students pass the mathematics test can only reflect their mastery of basic mathematical knowledge and test-taking skills in stages, and cannot fully represent the students' future learning situation, but the improvement of students' ability is often cultivated over time.

Secondly, when imparting correct learning methods and skills to students, we should pay more attention to the cultivation of students' thinking ability, so that students can get rid of the traditional test-oriented education ideas, independently complete various mathematics-related problems, and improve their enthusiasm for independent learning. Therefore, when teachers are evaluating students objectively and exploring teaching plans, the development of students should be paid close attention to, instead of taking one-sided performance as a criterion for judging. Teachers should praise student's strengths, find out the root cause of the problem, consciously help students develop their strengths and avoid weaknesses, enhance their core competencies in mathematics, and promote their all-round development.

2.2. Concerning about the psychological development of students

In such a special critical period in high school, if teachers do not pay attention to the psychological development of students, do not strengthen the communication with students, it will affect the teaching efficiency, if students have reverse psychology, with the coming will produce a negative attitude and emotion is difficult to control the phenomenon, which leads to the decline of learning efficiency. In view of the various emotional problems of students, teachers should give students more understanding and care to help students relax and stabilize their emotions. When the students are in a good mood, in-depth conversations with them should be proactively conducted according to their situation and problems before lectures are given, and trust should be built with students, which makes them maintain a good and serious attitude in the learning process.

Therefore, in the era of new curriculum standards, a responsible and motivated math teacher in high school, not only need to have a solid high school math teaching professional ability, but also need to adhere to the "people-oriented" teaching purpose all the time, and earnestly care about the all-round development and healthy growth of students, and we should do our best to give students the greatest support and reasonable guidance in terms of academics and life.

3. Implementing the teaching method of "teaching according to aptitude" and exploring new methods of learning

In the process of mathematics education in high school, math teachers need to pay attention to and innovate the teaching method of "teaching according to their aptitude", and must give full play to the advantages, personality and potential of students, in order to provide every student with the opportunity to succeed. Teaching students according to their aptitude has a key impact on people's personality and overall development, and also deeply reflects the educational ideal that different people can achieve differently in mathematics [2].

3.1. Teaching objectives vary from person to person

With the continuous deepening of the new curriculum reform, students' teaching objectives have undergone great changes, which requires high school mathematics teachers in the classroom teaching process to creatively use the practice programs of "deep learning" to promote the all-round development of each student, according to the characteristics of each student and the new standards of the new curriculum and different teaching objectives and teaching methods. At the same time, considering the differences in students' cognitive abilities, emotional levels and behavioral processes, the curriculum standards determine the basic teaching objectives applicable to low-level students in the most basic teaching requirements, and all the teaching objectives of the curriculum standards are applicable to intermediate-level students. The former is a universal common goal of basic knowledge

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and basic skills, while the latter is a challenging selective goal of further improvement of students' abilities. As a result, teaching objectives of math classroom can meet the basic requirements of students at different levels, and achieve the effect of killing two birds with one stone.

3.2. Hierarchical classroom teaching

Classroom teaching is a two-way communication between teaching and learning. Whether the lack of any link or the lack of the participation of any teacher and student cannot well meet the teaching expectations. Therefore, mobilizing the enthusiasm of both parties is the key to better achieve hierarchical teaching. It is necessary to ensure that students at different levels can grasp the key points of learning from daily mathematics teaching classroom knowledge, skills, and the explanation of problems, so as to gain something.

In the course schedule, B-level students should be used as the standard, and some difficult problems in level A and C should be taken into account, and questions can be answered after class. The communication between teachers and students in classroom teaching should always adhere to the law of gradual teaching, and it should be smooth, natural and clear, so that all students can understand the truth, learn methods, master the rules, improve their confidence, and ensure that students in level A, B and C can gain something. In addition, it is necessary to arrange the teaching rhythm scientifically and reasonably, eliminate teaching barriers, save time, and let students pay more attention to practice and do more exercises. On this basis, some interesting mathematical knowledge can be appropriately added to activate the classroom atmosphere, and strive to realize the whole process of all students participating in the teaching with their brains, mouths and hands, so as to improve the quality of teaching.

4. Implementing the teaching method of "problem guidance" to enhance students' awareness of self-inquiry

Mathematics question-asking classroom teaching in high school is an important way of "deep learning".

4.1. Creating mathematical problem situations

Mathematical knowledge often has strong consistency. Generally speaking, the basic knowledge of mathematics is a linking system from shallow to deep and from easy to difficult. As the organizer, instructor and participant of classroom teaching activities, teachers should creatively set scientific and reasonable mathematical problem situations according to the characteristics of students and the needs of teaching objectives, improve the infectiousness of teaching classrooms, and stimulate students' enthusiasm for exploratory learning.

For example, when carrying out the knowledge teaching of "trigonometric function induction formula", on the one hand, teachers can use old knowledge as the starting point, combine new teaching objectives and brand-new mathematical content, and creatively and skillfully create relevant situations of mathematical problems, to guide students to gradually accept the new knowledge system, and improve students' ability to accept and absorb new knowledge. On the other hand, teachers can also start from the problems related to trigonometric functions encountered in daily life, and bring students into a situation of mathematical problems related to trigonometric functions in the classroom, so as to attract students' attention in class and improve classroom participation. Finally, in the way of function-induced formula derivation, the conclusion can be drawn by step-by-step reasoning through the created problem situation and introducing relevant trigonometric function formulas and principles. In the process of solving problems, students can see the essence of problem generation, analysis and reasoning through phenomena, so that students can grasp the basic knowledge of mathematics and the whole process of problem solving more solidly and comprehensively [3].

4.2. Informatization of problem situation

In the information age, the use of multimedia platforms provides material and technical support for classroom education in modern education, and has a strong sense of reality and expression ability, which greatly strengthens the interest and appeal of classroom teaching. Therefore, in high school mathematics classrooms, teachers can use information technology to use multimedia platforms to

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create problem situations, enhance the vividness and image of problem situations, attract students' attention, and stimulate students' enthusiasm and autonomy in mathematics classroom learning. The intuitiveness of its multimedia platform further improves students' knowledge acceptance ability and students' audio-visual effects, so that students can enter a new mathematics learning environment in a cognitive way.

For example, when learning "permutations and combinations" in high school mathematics, a math teacher can tell students the total number of players to calculate the number of handshake in the example of players' handshake of a basketball competition. If teachers simply explain, it will make mathematics classroom boring and difficult to learn, which is not conducive to exercising students' thinking ability and cultivating students' imagination, so that the teaching effect is not satisfactory and does not meet expectations. We should make full use of the advantages of information technology to create interesting classrooms, improve students' attention in classrooms, and maximize students' enthusiasm for learning.

5. Adhering to the teaching form of "life-oriented teaching" and enhancing the ability to link theory with practice

The content of mathematics in high school is relatively abstract and flexible, and there exist considerable difficulties. In the teaching process, the students will gradually lack enthusiasm. Faced with this phenomenon, teachers also need to skillfully integrate mathematical knowledge and life practice in the process of teaching.

5.1. Life-oriented classroom education

In the classroom, teachers are often able to fully mobilize students' initiative by introducing some more life-oriented events, so as to ensure that they can combine educational theory with life practice, and thus mobilize students' enthusiasm. But for example, when mastering the content of "plane geometry", students usually feel that "plane geometry" knowledge is not of great significance to daily life.

In order to solve this problem, teachers can give some examples in real life, such as designing a highway, the middle section of the highway is always slightly higher than the two sides, and its main purpose is to prevent water accumulation. The purpose of special design is different abroad, mainly to prevent the occurrence of traffic accidents to the greatest extent. These two problems will inevitably lead to contradictions. To solve this contradiction, the knowledge of "plane geometry" must be used, so as to better solve practical problems through professional knowledge. Through life-oriented cases, it effectively stimulates students' interest in learning and desire to explore, and greatly taps students' inner thinking potential.

5.2. Life-oriented teaching content

The life-oriented teaching mode and the life-oriented teaching content are interrelated and mutually unified, which requires teachers to study and explore the content of the teaching materials carefully, and closely link the teaching materials with the reality of life, especially in teaching, always adhere to the teaching proposition of the theory linking to practical. For students, mathematical knowledge is abstract and boring. By introducing them to the living environment and then introducing relevant mathematical theoretical knowledge, students are allowed to actively solve problems, improve their self-confidence in learning, exercise thinking ability, and cultivate their' innovation spirit.

For example, when explaining the theoretical knowledge and practical application of "derivatives", if teachers use traditional direct teaching methods to give heavy and difficult explanations to students, it will be hard for students to learn and absorb. On the contrary, if some teachers can activate the classroom atmosphere through carefully created situations of life problems, it can greatly reduce the difficulty of students accepting new knowledge content, and help to stimulate students' desire to explore new methods of learning [4].

6. Conclusion

To sum up, from the perspective of core literacy, math teachers in high school implement the

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teaching strategy of "deep learning" throughout their daily classroom teaching, which can not only improve students' systematic learning ability, but also enable students to conduct more professional, scientific and rational related research in the practice of various knowledge externalization. Through the correct guidance in sorts of ways, the core position of students can be strengthened in the classroom to enable them to think deeply and understand, improve their understanding of mathematical knowledge, comprehensively master problem-solving skills, cultivate innovative mathematical thinking, and promote their comprehensive. At the same time, it promotes all-round development of students, and further accelerates the sustainable and healthy development of high school mathematics education.

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