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Research on the Reform of "Problem Solving Oriented" Teaching Mode of Primary School Mathematics under the Concept of Student Based Education

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Abstract: *The concept of student based education advocates students as the main body, and its teaching form helps to give play to students' subjective initiative. Therefore, this paper puts forward a research on the reform of "problem solving oriented" teaching mode of primary school mathematics under the concept of student based education. First of all, through the problems set up in the teaching process are inappropriate, the teaching method is single, and the construction of the learning group model is not standardized, the problems in the teaching model reform are explored. According to the above problems, the corresponding solutions are proposed, and the teaching structure is strengthened by establishing multi-level problems, enriching teaching methods, building a standardized learning group model and other strategies to improve the overall teaching effect.*

Keywords: *Student based education; Problem solving oriented; Primary school mathematics; Teaching mode; Teaching discipline*

1. Introduction

Under the concept of student-based education, the "problem-solution-oriented" teaching model advocates taking students as the subject of education, guiding students to learn actively and letting students solve problems by themselves in the learning process. The reform of teaching mode has changed the way students acquire knowledge. The traditional teaching model, the process of students' learning, is passive learning, and the teaching subject is the teacher [1]. After the reform, the focus is on active learning, the main body of teaching changes to students, guide their independent learning, improve the teaching efficiency. "Problem-solve-oriented" teaching mode, questions are presented to students in the early stage, students learn and discuss in groups, and teachers summarize in the later stage, so as to achieve the teaching purpose. By throwing out the corresponding mathematical problems, students can think actively and improve the teaching efficiency. At the same time, through joint discussion, stimulate students' thinking and improve their learning ability [2]. After the reform of the teaching mode, the classroom has become more abundant. Before the classroom starts, there is the introduction of the curriculum. Through the introduction, students' curiosity is stimulated. The traditional teaching process neglects the connection between teaching content and life. Therefore, as an important reform mode of education development, the "problem oriented" teaching mode helps students better master learning skills, reduces the drawbacks of traditional teaching, and promotes students' all-round development [3]. Under the concept of student based education, only the joint efforts of teachers and schools can promote teaching more effectively.

2. Problems in the reform of "problem solving oriented" teaching model of primary school mathematics

2.1. Inappropriate problems in the teaching process

In the "problem-solving oriented" teaching model, the questions set before class are the key to the classroom effect. In the course of teaching, some problems are set up blindly. In part of the teaching process, the principle of question setting is ignored, the premise is not to guide students to learn, and the questions are not effectively set for the content. Some teachers set questions just to complete the

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teaching task. Before introducing questions, questions are blindly set up without reference to the actual teaching content [4]. Among the problems set up, there is a kind of problem set up is lack of validity, the problem is too straightforward or too esoteric, for primary school mathematics students, only by choosing the right problem for students to understand, can stimulate students' independent learning ability.The lack of effectiveness cannot guide students, but reduce their enthusiasm for learning [5]. For too straightforward questions, students can know the answers to the questions without learning, which cannot guide students. Ineffective questions cannot stimulate students' curiosity, but reduce their enthusiasm for learning, which cannot play a role in problem solving. The other kind of establishment problem is lack of pertinence. The teachers did not set up according to the teaching content, and the problem is not closely related to the teaching content. Some teachers themselves do not know the significance of setting up problems. At the end of the class, the students did not receive much knowledge, and the learning content was meaningless for learners, which caused the mathematics class to be dull, and the students lacked the awareness of independent learning and enthusiasm. The lack of effectiveness of the problem makes the mathematics classroom lack of teaching scenarios, which reduces students' enthusiasm for learning and reduces the teaching effect.

2.2. Single teaching method

In the process of implementing the "problem solving oriented" teaching model, there will be a single teaching form. General teaching content, according to the requirements of the syllabus, set up teaching content plan, teaching content, or prefer to exam-oriented education. In primary school mathematics classroom, the focus of teaching form is to let students master the basic mathematical concepts, but not enough attention to the cultivation of students' ability [6]. The content of teaching is also simple, that is, the content of the exam-oriented education books. Teachers lack innovation and students have little interest in learning. Teachers teach knowledge process to students, do not pay attention to the individual differences of students, did not grasp the knowledge level of students. "Full classroom" teaching is a solidified teaching method, students passively accept learning, will have an aversion to mathematics [7]. Under such teaching mode, learning enthusiasm does not improve and teaching is difficult to develop. The "problem-solving oriented" classroom teaching emphasizes the diversity of teaching, makes the teaching process more flexible and ignores the individual differences of students, which cannot promote the effective development of the classroom.

2.3. The construction of learning group mode is not standardized

In the "problem-solving oriented" teaching model, group cooperation is usually used for teaching. Group cooperation is often too formal, without supervision and follow-up of the process of group cooperation, students are allowed to ignore, and there is no order in the classroom, making the original group cooperation meaningless. After accepting the task, the students did not discuss the problem, and the teachers did not supervise it. In addition, the students are still in the primary school stage, so they do not have a strong understanding of the learning mode [8]. They do not have a clear division of labor for the learning and discussion tasks assigned by the teachers. The group atmosphere that seems to be intense discussion has no practical significance for the solution of the final problems, resulting in a group learning mode that does not play its due role [9].The problem of cooperation is too simple, which will also lead to the formalization of learning groups. Meanwhile, the random task of discussion and learning will also lead to the formalization of learning group mode. Teachers blindly assign group discussion tasks in order to follow the teaching mode. Students felt that the problem of learning was too simple and unnecessary to discuss. Although there was group learning, the group learning process did not play a role. When guiding students to discuss problems, we should ensure students' independent learning. The formalized learning group mode, although enriched the classroom form, did not improve the cooperation ability between students. It used the "problem-oriented" teaching mode, but it was still similar to the traditional teaching process. It did not make full use of the teaching method, and the classroom teaching quality could not be improved.

3. Reform strategy of "problem solving oriented" teaching mode in primary school mathematics

3.1. Establish multi-level issues

Under the concept of student-based education, the quality of "problem-solving oriented" teaching should be effectively improved, and the questions set up should be effective. It is necessary to combine

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the content of teaching and choose appropriate questions to guide students to be interested in mathematics. Before setting questions, teachers should learn more about students' interests and set interesting questions according to students' interests [10]. To clear the teaching objectives, clear classroom to achieve the ideal effect, set up a few more questions. For the formula to be derived, let the students deduce by themselves, exercise the students' thinking. The question setting should be neither too difficult nor too simple. It should be reasonable based on students' learning ability and interest in learning. Questions can be divided according to the degree of difficulty to arouse students' interest in learning in the early stage, and guide students to learn step-by-step in the middle stage.The problems set up should follow the teaching objectives and set up hierarchical problems. At the same time, the problems set up should be targeted, and should not be separated from the teaching content. Set up some problems for students to preview, so that students can learn independently from the preview, which is more conducive to classroom teaching. The problems should be hierarchical. They should be thrown reasonably according to the students' learning situation. At the same time, the strategies should be constantly adjusted according to the students' exploration progress to avoid the problems thrown are invalid. The concept of student based education advocates building a good teaching situation in the teaching process, so that students can have a strong interest in learning. For the problems in the teaching process, we should combine the important and difficult points of the teaching content. It is necessary to reduce the students' sense of difficulty in learning, avoid problems thrown out, and bring negative effects to students' learning. Only by setting up effective questions, enhancing students' interest in learning, and improving students' innovative spirit, can we effectively achieve efficient teaching goals.

3.2. Enrich teaching methods

To enhance the diversity of teaching methods, through the design of suitable questions for students, the use of modern technology, active use of the Internet technology, to establish a new teaching method. Change the original single teaching mode, increase the cross-disciplinary content, and enhance students' knowledge application ability. Give play to the dominant position of students and pay more attention to the situation of students. With the development of society, we should form a diversified teaching form and integrate the discipline system. Cultivate children's thinking mode, enhance the diversity of subjects, stimulate children's innovation ability. To develop diversified teaching and establish a student-centered theory, we should take students' interests as the guide, set up teaching situations, and let students understand mathematical knowledge. In order to achieve the desired teaching effect and increase students' subjective initiative. Enrich the teaching content, and guide the students with insufficient knowledge reserves in a reasonable way. Use multimedia to visualize teaching knowledge and improve students' enthusiasm. Properly increase the teaching content and use information technology to enable students to master more knowledge in the classroom. Use animation pictures and other materials to expand the breadth of learning knowledge, strengthen the depth of teaching, and ensure the effective development of teaching.

3.3. Establish a standardized learning group model

Applying it to teaching can greatly improve teaching efficiency and quality. The implementation process of group learning mode is shown in Figure 1 below.

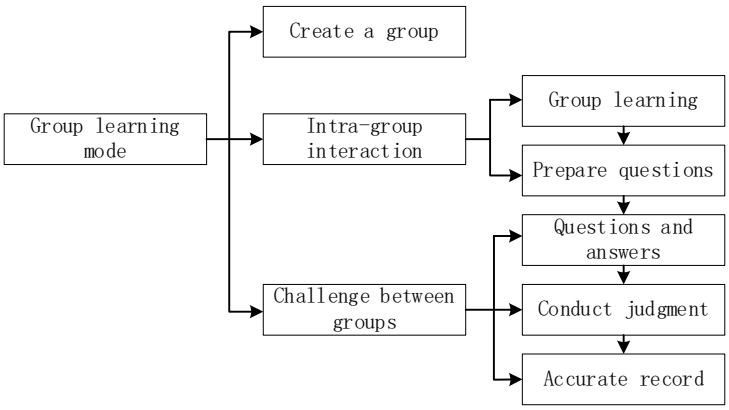

Figure 1: Implementation process of group learning mode

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Before assigning study group tasks, in the teaching process, a standard study group model should be set up and arranged according to the classroom content. For different students. Set up targeted study group tasks, combined with the characteristics of students, guide students to take the initiative to learn. In the grouping of study groups, also according to the situation of students, as well as the characteristics of primary school students, reasonable grouping. In addition, not all classes need group cooperation. Teachers should adopt appropriate teaching methods according to the actual classroom content when preparing lessons. In case of disorder in group study and discussion, teachers should actively guide and help students to cooperate in an orderly way, rather than just leave it alone after assigning cooperative tasks. In a serious and responsible attitude, every minute of classroom teaching should be done well, and attention should be paid to the guidance of students, so that pupils can complete the discussion task step by step when learning mathematics. Be able to clearly divide the work when promoting group learning. In the early stage of the implementation of the "problem solving oriented" teaching model, students have not yet changed from the traditional teaching model at the beginning, and the ability of group cooperation is not strong. We should gradually guide and cultivate, and always adhere to the student as the main body. When students encounter difficulties, they should be guided in the form of guidance, rather than simply giving answers. In the process of group learning, it is necessary to cultivate students' self-confidence, so that students can give priority to speak, discuss their views, rather than simply summarize and summarize, and fully ensure that students can explore independently.

4. Conclusion

Under the concept of student-oriented education, the "problem-solve-oriented" teaching model, compared with the traditional teaching model, has clear teaching objectives and advanced educational concepts. In the reform process of teaching mode, we should combine educational idea with educational practice, set up multi-level problems, and actively cultivate students' interest in learning. Pay attention to teaching idea innovation, improve students' learning skills. Teachers should also actively improve themselves, strengthen their teaching practice ability, strengthen the attention to students' learning process, and constantly explore more scientific and reasonable teaching methods.

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