

How to Create Effective Problem Situations in Primary School Mathematics Teaching

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Abstract: *Mathematics is a subject with strong logical thinking. It is difficult for primary school students to learn. If there is no reasonable and effective teaching method, it may lead to students' resistance and loss of interest in mathematics learning. In order to improve this problem and meet the requirements of the new curriculum reform, the teaching methods of primary school mathematics have been reformed. By creating effective problem situations, students' learning interests have been aroused, and their subjective initiative has been given full play. In this situation, teachers and students interact closely, effectively cultivate students' innovative thinking ability, more profound understanding and memory of knowledge, and effectively improve the quality of mathematics teaching. This paper explores the creation of effective problem situations in primary school mathematics teaching at a deep level, and actively implements them in combination with teaching requirements.*

Keywords: Primary school mathematics; Problem situation; Innovative thinking ability; Learning attainment.

1. INTRODUCTION

Primary school is the primary stage of education. In the context of the new curriculum reform, how to mobilize students' learning enthusiasm has become the primary content. The traditional cramming teaching method is too old, forcing knowledge to be instilled into students, ignoring students' subjective initiative, and learning is too passive. In the long run, students will lose interest in mathematics learning. Creating effective problem situations and raising questions about teaching content can effectively mobilize students' learning enthusiasm, interact in analysis and discussion, enjoy the fun of learning, fully exercise students' logical thinking ability, and develop good mathematical science literacy imperceptibly. Through the analysis of the content related to the creation of effective problem situations in primary school mathematics teaching, it can promote the deepening of mathematics teaching reform, enrich teaching experience, and bring certain reference significance for follow-up education and teaching.

2. CURRENT SITUATION OF CREATING EFFECTIVE PROBLEM SITUATIONS IN PRIMARY SCHOOL MATHEMATICS

In primary school mathematics teaching, creating effective problem situations is an effective teaching method, which can help students deepen their understanding and memory of mathematical knowledge and mobilize their learning enthusiasm. Create an effective problem situation, introduce the problems in real life into the classroom, put forward questions in combination with the teaching content, make students' knowledge and new knowledge conflict, and guide students to further deepen their thinking and analysis on this basis. As a teaching guide, the teacher, in combination with the teaching content and the individual learning level of students, creates scenarios for students to help students think and analyze, sets the questions with moderate difficulty, stimulates students' thirst for knowledge and curiosity, and effectively cultivates students' ability to analyze and resolve problems in the learning process [1].

In terms of the current situation of mathematics teaching in primary schools, there are still many deficiencies in creating effective problem situations, and the factors affecting the teaching quality are relatively diverse. In order to speed up the teaching progress, some teachers create effective problem situations in the classroom, which are superficial. The examples listed are also examples of insufficient connection with the curriculum, which not only makes the classroom atmosphere dull and boring, but also affects the students' learning enthusiasm. Such a problem situation is far from the expected goal, and the actual teaching effect is poor, which is not conducive to the cultivation of students' ability to find, analyze and solve problems. When creating effective problem situations, many teachers failed to create problem situations based on real life and imagination, lacking reliable basis, resulting in confusion and rigidity of students' logical thinking. Due to the lack of teachers' professional ability and educational philosophy, they have not flexibly used multimedia technology to integrate educational resources, and

the level of educational informatization is not high, which even leads to students' weariness of learning, which is not conducive to the quality of subsequent knowledge learning.

3. PREREQUISITES FOR CREATING EFFECTIVE PROBLEM SITUATIONS

2.1 Grasp students' mathematical foundation

In primary school mathematics teaching, the new curriculum reform requires to change the problem that traditional teachers occupy the dominant position in the classroom, highlight the dominant position of students, respect the individual differences of students, and grasp the basis of students' mathematics learning. Because mathematics is a subject with strong logic, the learning of mathematical knowledge is gradual, and the relationship between new and old knowledge is relatively close. When learning new knowledge, integrating the old knowledge will help promote the weighting and improvement of students' knowledge structure and deepen the understanding and memory of mathematical knowledge [2].

2.2 Understand students' psychological characteristics

In primary school mathematics teaching, in order to create effective problem situations, one of the first prerequisites is to highlight the main position of students, select reasonable teaching content based on the characteristics of students' age, and create effective problem situations. Primary school students are young, with low cognitive level, and are more inclined to an interesting learning atmosphere. In addition, students have insufficient self-control ability and cannot concentrate for a long time. They are easily affected by external factors and affect the actual teaching results. Creating interesting teaching situations and problem situations based on the age characteristics of primary school students can fully stimulate students' interest in learning and give students the motivation to continue learning mathematics. In the long run, the quality of mathematics teaching will also be improved synchronously to promote students to learn something [3].

2.3 Go deep into students' daily life

Creating effective problem situations can introduce the content of students' real life problems into them, so as to stimulate students' interest in learning. This requires that in primary school mathematics teaching, we should go deep into students' daily life, understand their life circle, integrate the content of interest in the circle into the classroom, link it with the teaching content, create effective problem situations, and more easily mobilize students' learning enthusiasm, deepen the understanding and memory of mathematical knowledge [4]. For primary school students in lower grades, effective problem situations can be created through videos, animations and stories to focus students' attention and actively participate in them. Divide students into several groups according to their learning level. Through group cooperative learning, conduct in-depth discussion and analysis, fully exercise students' autonomous learning ability, enjoy the fun of learning in close communication and cooperation, and lay a solid foundation for students' subsequent learning and development.

4. WAYS TO CREATE EFFECTIVE PROBLEM SITUATIONS IN MATHEMATICS TEACHING IN PRIMARY SCHOOLS

4.1 Multimedia demonstration to mobilize students' enthusiasm for participation

In primary school mathematics teaching, the creation of effective problem situations can be realized with the help of multimedia technology, highlighting the main position of students, guiding students to correctly understand themselves in the situation, and actively cooperating with teachers in teaching. Fully understand the individual characteristics of students, create effective problem situations on this basis, realize the organic integration of new and old knowledge, stimulate students' thirst for knowledge and curiosity, and actively participate in learning [5]. For example, in the teaching of division with remainder, multimedia equipment can be used for teaching demonstration. There are a large number of balloons with different colors. Each ball has a corresponding number. Students can stand up and ask themselves questions. No matter which number of balloons they ask, they can accurately tell the color of the balloon. This made students very surprised. Their curiosity was aroused to introduce new knowledge and devote themselves to it. The knowledge learning was more in-depth.

4.2 Integrate interesting stories and maintain lasting learning motivation

Primary school students are young and have low cognitive level, and their interest in games is far higher than that in learning. Therefore, they can grasp this feature to organize teaching activities in actual teaching, and cut into teaching activities by explaining interesting stories. Explain mathematical knowledge in combination with teaching tasks, and guide students to deepen knowledge understanding and memory. For example, when explaining the content of adding and subtracting fractions, teaching is carried out by designing interesting stories. For example, Xiaoming's father bought a pizza, and according to the four people in the family, each person had a share. Xiaoming expressed dissatisfaction and thought that he was the youngest in the family and should eat more, at least $1/6$ of it. After the other people agreed, he divided it according to Xiaoming's requirements. However, when eating pizza, Xiao Ming found that he was the smallest. Why did he want the largest one and get the smallest one? Through this question, we can guide students to discuss and analyze why such a result can occur, draw new knowledge, and lay a foundation for students' subsequent knowledge learning [6].

4.3 Life-based situational teaching to exercise students' knowledge transfer ability

Mathematics knowledge is closely related to real life. In order to build an efficient mathematics classroom, we should change the teaching concept, introduce the content of real life into teaching, clarify the learning objectives, and flexibly apply the knowledge learned to life, which can further strengthen the relationship between life and teaching. For example, when explaining the relevant content of RMB, you can simulate the shopping situation in real life, prepare some goods with price tags, and then role-play to simulate the shopping situation, while enjoying the fun of the game, deepen the understanding of RMB and improve the learning efficiency [7]. This kind of teaching situation is mainly through the selection of content closely related to real life, the preparation of teaching materials by teachers, the maintenance of long-term interest in learning, the flexible use of knowledge learned into real life, and the practical improvement of mathematics teaching quality.

4.4 Teaching of game situational problems to create an active classroom atmosphere

Primary school students are young and have a strong curiosity about new things. In actual teaching, they can add game links, give play to the entertaining characteristics of the game to stimulate students' interest in learning, actively participate in it, enjoy the fun of learning in the process of the game, and improve their confidence in learning. The knowledge and experience mastered in learning can be flexibly applied in real life to obtain rich learning experience. For example, when explaining the content of statistics and probability, you can study in groups and prepare teaching equipment according to the teaching content. There are two fruits in each box, some are apples and oranges, some are two apples, some are bananas and oranges. After starting the game, each group selects a recorder, and another student reaches into the box to touch the fruit, and records the times of touching the fruit. During the game, the teacher leads out new knowledge of statistics and probability to learn knowledge more efficiently. Through game situational problem teaching, it is helpful to create an active classroom atmosphere for students and effectively improve the quality and efficiency of classroom teaching.

5. CONCLUSION

To sum up, in order to meet the requirements of the new curriculum reform, we can create effective problem situations, encourage students to actively participate in them, choose reasonable learning methods according to actual needs, enjoy the fun of learning in a relaxed and cheerful atmosphere, develop good creative thinking ability and problem-solving ability, and build an efficient math classroom, which has a profound impact on students' subsequent learning and development.

REFERENCES

- [1] Yan Weihua. Research on Strategies for Creating Effective Problem Situations in Primary School Mathematics Teaching [J]. *Mathematics Learning and Research*, 2018,22 (21): 67.
- [2] Dai Yongli. A strategic study on creating effective problem situations in primary school mathematics teaching [J]. *China Off-school Education*, 2018,31 (26): 74.
- [3] Luo Shuanglin. A preliminary study of strategies for creating effective problem situations in primary school mathematics teaching [J]. *Mathematics Learning and Research*, 2018,26 (16): 75.
- [4] Hou Yongchun. Creation of effective problem situations in primary school mathematics teaching [J]. *Academic Weekly*, 2018,21 (27): 91-92.
- [5] Wu Liqin. The application of problem situation creation in primary school mathematics classroom teaching [J]. *Mathematics Learning and Research*, 2018,11 (14): 86.

- [6] Wei Qiushi. Strategic analysis of creating effective problem situations in primary school mathematics teaching [J]. Reading and Writing (Journal of Education and Education), 2018,15 (07): 171.
- [7] Zhang Hongtao. Research on Strategies for Creating Effective Problem Situations in Primary School Mathematics Teaching [J]. Mathematics Learning and Research, 2018,31 (12): 89.
- [8] Y.C. Frank: Analysis of third-party were housing contracts with commitments, European Journal of Operational Research, Vol. 6 (2001) No.21, p.603-610.
- [9] F.J. Arcelus, Kumar S: Evaluating manufactures buy back policies in a single period two echelon framework underprice dependent stochastic demand, Omega, Vol. 36 (2006) No.5, p.808-824.
- [10] Y.W. Zhou: A comparison of different quantity discount pricing policies in a two echelon channel with stochastic and asymmetric demand and information, European Journal of Operational Research, Vol. 181 (2007) No.5, p.686-703.
- [11] S. Spinler, A. Huchzermeier: The valuation of options on capacity with cost and demand uncertainty, European Journal of Operational Research, Vol. 171 (2006) No.3, p.915-934.
- [12] Y.U. Hai-Hong, N. Liu: Coordination of Revenue Shairing Contract in Service Supply Chains with Incentive Mechanism, Mathematics in practice&Theory, Vol. 41 (2011) No.12, p.69-79.
- [13] W.H. Liu, X.C Xu, A. Kouhpaenejad: Deterministic approach to the fairest revenue-sharing coefficient in logistics service supply chain under the stochastic demand condition, Journal of Shanghai Maritime University, Vol. 66 (2013) No.1, p.41-52.
- [14] Z.J. Gao, W. Liu and Z.W. Ping: LSSC safety and quality incentives under customer rewards and punishments, China Business and Market, Vol. 33 (2012) No.3, p.46-51.
- [15] Y. Dai, H. Song and Z.L. Lin: Research on Incentive Mechanism of Logistics Service Supply Chain Based on Principal-agent, Logistics Technology, Vol. 32 (2013) No.13, p.363-365.
- [16] A.W. Lu, W.J. Jing: Research on Incentive Mechanism of Logistics Service Supply Chain Considering Customers' Evaluation of Service Quality, Journal of Commercial Economics, Vol. (2015) No.1, p.166-174.
- [17] D.M. Yuan: Research on Incentive Mechanism of Logistics Service Supply Chain under Different Risk Preference Combinations, Logistics Engineering and Management, Vol. (2015) No.09, p.98+135-137.
- [18] X.Y. Wu, S.C. Lu: Design of incentive and punishment mechanism based on LSSC quality improvement, Statistics and Decision, Vol. (2016) No.24, p.42-45.
- [19] C.H. Ge, B.F. Ji: Research on Multi-task Cooperation Mechanism of Logistics Service Supply Chain, Journal Of Zhejiang Shuren University, Vol. 18 (2018) No.1, p.53-59.
- [20] L.J. Gao: Research on Security Incentive Mechanism of Logistics Operation Based on Principal-agent Theory, Logistics Engineering and Management, Vol. 40 (2018) No.10, p.131-134.
- [21] A.W. Lu, J.Q. Liu: Research on Incentive Strategy of Information Sharing in Logistics Service Supply Chain, Science and Technology Management Research, Vol. 39 (2019) No.07, p228-232.
- [22] R. Forsythe, J.L. Horowitz and N.E. Savin: Fairness in simple bargaining games, Games and Economic Behavior, Vol. (1994) No.6, p.347-369.