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How to apply mathematics picture book in primary school mathematics teaching

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Abstract
In China, more and more primary school mathematics teachers have begun to introduce mathematics picture books into their teaching, they hope to stimulate students' interest in mathematics and promote the development of students by introducing mathematical picture books. This article is based on the understanding of the connotation of mathematical picture books, the analysis of the characteristics of primary school mathematics learning and the current situation of teaching, suggested applying mathematics picture books in primary school mathematics teaching by paying attention to students' emotional development, perfecting teaching methods, cultivating students' thinking ability, focusing on the process of teaching and improving teachers' guiding ability.

Keywords: primary school mathematics, mathematics teaching, mathematics picture books, mathematics teacher

1. Introduction
In China, the compulsory education mathematics curriculum standards clearly point out that students' learning should be a lively, active and personalized process [1]. In the current form of mathematics education, the development of mathematics education is no longer just focusing on the content of numbers, quantities, shapes and other, but more emphasis on the process objectives of communication, reasoning, exploration and experience. We introduce mathematics picture books into mathematics teaching. We will open a mathematical window for students' mathematics reading, so that they can jump out of textbooks, exams and classes to learn mathematics. (Qin, X. Y., 2017) [2]. Therefore, it is especially important to discuss how to apply mathematical picture books in primary school mathematics teaching. So, what is the meaning and characteristics of the mathematical picture book? What are the characteristics of primary school mathematics learning? How is the current situation of primary school mathematics teaching? How to apply mathematics picture books in primary school mathematics teaching? This article will discuss the above issues.

2. The connotation and characteristics of mathematical picture book
2.1 The connotation of mathematical picture books
Mathematical picture books are based on children's psychological characteristics, personality characteristics and comprehension skills, combined with rich and vivid story situations and integrated into the most practical mathematical knowledge and mathematical concepts (Luan, H. & Chen, H., 2017) [3]. The picture book is a storybook with pictures, simple themes, and short story content, suitable for infants and young children. If the picture book is highly correlated with mathematics, it is called a mathematical picture book. (Yao, H. M., 2016) [4]. Different researchers have different understandings and definitions for mathematical picture books. The author believes that the mathematical picture book is a book with rich and vivid pictures, and the story is closely related to mathematics.

2.2 The characteristics of mathematical picture books
(1) The mathematics picture book has the form of combination of figure and text, the content design based on mathematics knowledge, the formal structure with strong logic, and the mathematical story with operability (C, L. J., 2017) [5]. (2) The text of the mathematical picture book is easy to discuss; its rich scenes are easy to discuss; it provides imaginative space. More importantly, the mathematics picture book combines a lot of life experience, so that the lower grade students can cultivate the interest in learning mathematics and raise the awareness of applied mathematics while increasing mathematics knowledge (Liu, L., 2014) [6].

3. The characteristics of primary school mathematics learning and the status of teaching
3.1 The characteristics of primary school mathematics learning
Mathematics is an effective carrier for students' rational thinking. With the continuous development of modern education, primary school mathematics learning also presents diversified characteristics.

3.1.1 The combination of abstraction and imagery of mathematical content
On the one hand, mathematics is a highly abstract subject, and its content is only expressed in the form of space and quantity. On the other hand, it is also visual, and it is image-specific in form. Because primary school students lack the ability to understand and think, there are certain difficulties in the process of mathematics learning. This requires teachers to

actively reform the abstraction of mathematics knowledge, so that students can truly understand the nature of mathematics and constantly perfect their thinking mode.

3.1.2 The combination of systematic and progressive of learning process

On the one hand, mathematical knowledge is not isolated, they are interrelated and a complete system. On the other hand, the acquisition of mathematical knowledge is not a one-step process, it is a gradual process. For the characteristics of such disciplines, teachers should pay attention to the construction of students' knowledge system in the process of teaching and organizing students' learning, let students integrate the accepted knowledge into the knowledge system, and show step-by-step features in the teaching, so that students can improve their understanding of knowledge. When students apply knowledge, they can effectively mobilize the knowledge reserve (Fu, X. M., 2018) [7].

3.1.3 The combination of practical and exploratory of learning methods

Primary school students have a strong curiosity and desire for knowledge. Primary school students should experience the process of knowledge development in practical exploration, and then feel the joy of acquiring new knowledge. This requires teachers to combine students' life experience, choose materials that students are familiar with and interested in, and guide students to learn.

3.2 The status of mathematics teaching in primary schools

3.2.1 The math class is dull, ignoring the development of students' emotions

Traditional mathematics teaching only pays attention to the teaching of knowledge, exaggerating the single role of cognition and neglecting the development of students' emotions. On the one hand, primary school students have less time to concentrate; on the other hand, mathematical knowledge has a certain abstractness, which makes primary school students have certain difficulties in mathematics learning. Some teachers, due to the heavy pressure of the curriculum, pay attention to the instillation of knowledge, neglect the fun of the classroom, and it is difficult to mobilize the enthusiasm of students to learn mathematics, so the quality of teaching is difficult to be improved.

3.2.2 The teaching method is single, ignoring the practicality of mathematics learning

Affected by the traditional teaching methods, most teachers still only use the general question and answer method in class. The teacher asks questions and assigns students to answer. The teacher believes that it is enough to guide students to accept knowledge while thinking, but ignore the relationship between students' perception and hands-on operation in the classroom. The whole class is still dominated by teachers, so that students can't really integrate into the classroom, and students' initiative and enthusiasm are hard to come into play.

3.2.3 Focus on less knowledge; neglect the development of students' thinking

The primary school stage is a crucial period for the formation of students' various habits of thinking. Good mathematics thinking habits can not only improve students' learning efficiency but also improve students' self-learning ability, laying a foundation for students' future study. However, in view of the current practice of mathematics teaching in primary schools, teachers are accustomed to instilling knowledge, focused only on students' mastery of knowledge points, while ignoring the cultivation of students' mathematical thinking habits (Huo, B. B., 2018) [8].

3.2.4 Paying too much Attention to the Conclusion of the Problem and Ignore the Process Method

Process and method is one of the highlights of the new curriculum reform, teachers must implement this concept throughout the teaching. Teachers want to cultivate high-quality, thoughtful and innovative students, education of the method is more important than education of the conclusion. For this reason, teachers should pay attention to the teaching of processes and methods in their normal teaching. When drawing conclusions, teachers should ask students to explore the reasons and find out the basis. On the one hand, students must go through a series of cognitive activities such as judgment, comparison, analysis, and generalization to discover various doubts, obstacles, and contradictions in their thinking process. On the other hand, it is necessary to pass through the students' thinking, communication, and the teacher's explanation and guidance. In this way, students can integrate and analyze the methods of analyzing and solving problems (Liu, D. C., 2018) [9].

4. The method of applying mathematics picture book in primary school mathematics teaching

By analyzing the characteristics of mathematics learning in primary schools and the current state of teaching, we must find a new way to achieve educational goals and improve students' thinking ability. In this case, teaching with picture book is an effective way.

4.1 Paying attention to the development of students' emotions in the process of picture book teaching

Former Soviet educator Zankov said: Once the teaching touches the students' emotional fields, willing fields and spiritual needs, they can play a highly effective role. Emotion plays an important role in the teaching process. At present, the basic education curriculum pays more attention to the development of students' emotions, and infiltrates the cultivation of students' emotions into teaching. In the process of picture book teaching, teachers not only should let students acquire mathematics knowledge, but also pay attention to students' emotional attitudes. Students can truly understand the essence of mathematics and get better development by improving students' interest in mathematics and stimulating students' curiosity.

4.2 Perfecting the teaching method and bringing into play the diversified value of mathematics picture book

1）The teaching methods of mathematical picture books are not single. It is the same as daily mathematics teaching. It requires teachers to be creative, adopting rich and flexible teaching methods, effectively dealing with the relationship between picture book perception and active inquiry, adding hands-on activities, story creation and other teaching activities in storytelling and illustration observation, strengthen students' subjective consciousness, and accumulate experience in mathematics activities (Shao, D. Y., 2015) [10]. (2) In the process of learning picture books, students can not only improve their ability of perception, reading and practical ability, but also cultivate the formation of mathematical thinking and further improve their comprehensive quality.

4.3 Through the teaching of mathematical picture book, cultivate students' thinking ability

Through the teaching of mathematical picture books, Through the teaching of mathematical picture books, it can not only guide students to dialogue and discussion, cultivate students' agility and flexibility by thinking about problems. It can also imply mathematical problems in the story. Students can discover the problem by reading and thinking about it, and explore the essence, which is beneficial to the development of students' thinking ability (Hong, Y. Q. & Zhou, Q. H., 2016; Shi, D. X., 2016) [11-12]. Therefore, when the mathematics teacher is teaching the picture book, they should encourage students to solve mathematics problems by different forms, guide students to think in multiple angles, and consciously train students to solve problems with mathematical thinking.

4.4 Paying attention to the process teaching of picture books and improve the overall quality of students

In the traditional process of mathematics teaching, the teacher pays too much attention to the conclusion of the problem and ignores the process method, which can easily lead students to have a little understanding of knowledge. Therefore, we must pay attention to the process of picture book teaching and improve the overall quality of students. （1）In the process of picture book teaching, students should be guided to observe and analyze the vivid pictures, so that students can have fun in the observation process, and then cultivating students' observation and analysis ability. (2) In the process of picture book teaching, the teacher should let the students repeat the contents of the picture according to their own understanding and imagination, thus improving the students' language expression and creativity. (3) In the process of picture book teaching, teachers should let students explore in the hands-on operation according to the specific content, and then acquiring knowledge and skills.

4.5 Improving the professional literacy ability of teachers' picture book guidance

(1) Teachers should have correct guiding ideology, absorb excellent teaching concepts at home and abroad, communicate with students, and combine the actual situation of students to conduct picture book guidance. (2) Teachers must improve their ability to choose a picture book. The choice of picture books should respect the individual differences of students and chosen a picture book suitable for students in lower grades. (3) Because of the systematic nature of the mathematics learning process, teachers should systematically explain. (4) Giving full play to the flexibility of teacher picture book teaching and creative use of picture book activity scenarios. (5) To improve the understanding of teachers' picture books. There are two aspects to improving the teacher's comprehension. One is to understand the content of the picture book, and the other is to understand the students' ideas. Students' understanding of picture books will be different according to their own taste and experiences, and teachers should be inclusive of the differences of students understanding. (Ni, T., 2017) [13].

5. Closing remarks

The teaching of mathematics picture books can not only improve students' enthusiasm for learning mathematics, but also promote the development of students' comprehensive quality. Therefore, it is of great significance to introduce mathematics picture books into mathematics teaching. In order to truly realize the application value of mathematics picture books, we also need teachers to explore hard in the teaching process and continuously improve the professional literacy ability of picture book guidance. We hope that the application of mathematical picture books will promote students' better mathematics learning.

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