

Mathematics Curriculum Adjustment for Students with Mental Retardation

-- Take the unit class of the first volume in the second grade of primary school as an example

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Abstract: Integrated education has had a certain impact worldwide. In China, compulsory education from primary to middle school is aimed at all eligible children, including disabled children. In China, integrated education specifically refers to enabling disabled students to receive regular and mass education, thus receiving certain policy support and promotion for integrated education. Students with intellectual disabilities account for a certain proportion of integrated students, but due to the difficulties they face in course learning, it is urgent to adjust the curriculum for students with intellectual disabilities. This paper wants to make some targeted suggestions on the adjustment of primary school mathematics curriculum for students with mental retardation through objective analysis of students with mental retardation. In this paper, by adjusting with other similar courses, comprehensively considering the needs of students with mental retardation and combining with the relevant core literacy requirements mentioned in the Mathematics Curriculum Standard for Compulsory Education, the teaching of the unit class with the length of the first volume in the second grade of primary school is adjusted. Finally, the complete teaching link and teaching design of this course, as well as some possible situations and suggestions are obtained. At the same time, suggestions were put forward for the teaching of integrated education students.

Keywords: Length Unit, Integrated Education, Mathematics.

1. The Background and Significance of Integrated Education

1.1. Background of Integrated Education

The Handbook of Inclusive Education Sharing compiled by UNESCO points out that inclusive education is to satisfy all children's education, regardless of their race, gender, age, country, language or economic status [1]. In China, especially in the education of disabled children, inclusive education is carried out, that is, disabled children have the opportunity to enter ordinary classes for study. Starting from the 1980s, attending school at the age of half is an educational practice way to ensure disabled children's enrollment under specific historical conditions in China. In the Regulations on Education for Disabled Persons revised in 2017, it was proposed that inclusive education should be actively promoted, and general education or special education should be adopted according to different types of disabilities and acceptance ability, and general education should be given priority [2].

1.2. The Significance of Integrated Education

(1) For integrated students,

Disabled students participate in general education. In this process, disabled students will exchange and learn with ordinary students, and their communication skills will be improved, which will help them to better integrate into society in the future, which special education cannot bring [3]. At the same time, disabled students can enjoy a fair education like ordinary students and get further development in their studies.

(2) For ordinary students in the class where the integrated students are located

In the process of common communication between

ordinary students and disabled students, we can cultivate the tolerance of ordinary students and let them treat this society with a more inclusive attitude in the future. At the same time, because disabled students study in regular classes, some teaching courses will be adjusted, which will also help some students with weak foundation to improve their grades.

(3) For teachers who integrate students

When adjusting the curriculum for disabled students, we will once again understand the core literacy that needs to be cultivated in the relevant curriculum content, and we will have the opportunity to meet more different students and use more teaching methods to improve our teaching ability. When communicating with disabled students, teachers often need more tolerance and patience, so that they can become a more perfect person and be more comfortable in dealing with other things.

2. An Analysis of the Obstacles to Integrating Students

Analysis of children with mental retardation in mathematics course learning

(1) Most children with mental retardation have the characteristics of inattention, short concentration time and difficulty in diverting attention.

(2) Memory and thinking activity are worse than those of ordinary students or children of the same age.

(3) Mathematics core literacy, such as sense of number, sense of quantity and intuitive geometry, is worse than that of ordinary students or children of the same age.

3. Analysis on the Educational Needs of Integrating Students' Mathematics Curriculum

(1) Mathematics core literacy

According to the characteristics of students with mental retardation, the integration of students' core literacy in mathematics should first focus on some practical applications and reduce the demand for abstract concepts. Therefore, we should pay attention to cultivating students' sense of number, quantity, calculation ability, geometric intuition and application consciousness.

(2) Ideological and moral quality

We should cultivate students' national spirit with patriotism as the core, cultivate students' spirit of cooperation and innovation, and form a serious attitude towards work or problems.

(3) Communication

Integrated students need to communicate math problems with ordinary students in a harmonious and friendly way, solve math problems together, and gain friendship and satisfaction in solving math problems from them. The question or one of the links in the question should be adapted to the integration of students' intellectual learning level.

4. Mathematics Curriculum Analysis

4.1. Mathematics Core Literacy

(1) Sense of number and quantity

We can understand the actual meaning of numbers with length units, have a certain understanding of the length in real life, estimate the approximate length of objects, and adopt appropriate units.

(2) Geometrically intuitive

If you know the line segment, you can measure the length of the line segment with a ruler. When you draw some actual objects, you can draw the corresponding shape first and draw the corresponding length according to the measurement results.

4.2. Teaching Objectives

Master the actual meaning and writing of length units such as centimeter cm and meter m, and learn to use appropriate length units to represent the length of objects in real life through analogy and observation.

(1) Through group cooperation and exploration, the spirit of teamwork is formed, and the beauty of mathematics is realized and the enthusiasm for mathematics learning is stimulated.

(2) Understanding the concept of line segment can distinguish line segment from curve, and can abstract a part of the actual object into line segment, measure the corresponding length and draw the line segment with the corresponding length.

5. Adjustment of Mathematics Curriculum Integrating Students

5.1. The Introduction of New Knowledge

Because students with mental retardation have difficulty in concentration and lack of understanding ability, some interesting and attractive short stories or videos should be used in the classroom introduction.

Teacher: Play ppt, and a large and a small hominid. The

hominid introduces to the students what a "one foot" is (the distance between thumb and middle finger is called one foot). The scene is introduced. One day, the hominid asked the little hominid to prepare a rope six feet long for making gifts. The little hominid measured the rope six feet long with his hand and gave it to the big hominid.

Presupposition 1: The Primitive Man misjudged the length of the rope.

Preset 2: Little Primitive Man has the wrong quantity.

Teacher: In view of the above two presuppositions, provide the corresponding answers. Presupposition 1, after the failure of making gifts, the primitive man re-measured six feet of rope, and this time he successfully made gifts. Presupposition 2: Little Primitive Man didn't believe that he had made a mistake, so he measured six feet of rope again, but in the end he found it was as long as before.

Teacher: Ask questions, ask the students why the rope is not long enough. You can provide him with a piece of rope for him to participate in, and measure the rope with a length of six feet. After the measurement, the teacher will also measure the rope with six feet, and then compare it with his rope. Ask: Are the two pieces of rope the same length?

Students in integrated education: different.

Teacher: Very good, you are really great. Then can you tell us why (remind them appropriately that their hands are not the same size)?

Teacher: The students think what he said is right. Play ppt, compare the palm size between the big primitive man and the small primitive man, and the corresponding length of one foot. Then the two people say together: It turns out that our palms are not the same size, so the length of one foot is not the same.

Design intention: By introducing the dialogue between primitive people, the integrated students can be integrated into the classroom and participate in the discussion. First, we have an understanding of ancient length units, and realize that if the same length unit is different because of different standards, the final length will be different, and we realize the importance of determining a consistent length unit and its corresponding length as standards.

5.2. The Concept of Formation

Teacher: A ruler is a tool for measuring length, and the "centimeter" on the ruler is a unified unit of length. A centimeter can be represented by "cm". Use the projector to demonstrate measuring the length of pencil on the platform. After the demonstration, please take out the prepared ruler and discuss in groups of four.

(1) What things in life are about 1 cm long?

(2) What is the length of the math textbook? What about the width? Ask a representative to tell us about it in three minutes? Xxx (student name fusion) What's your group's answer?

Teacher: Give proper praise and correction to the answers of the integrated students, and ask the source of the answers at the same time, so as to praise the students in the same group, let them feel the power of unity and cooperation, and lay the foundation for the further communication and cooperation of the integrated students.

Teacher: Now the teacher has a small challenge. Who wants to measure the length of our blackboard and consider whether to let the students participate in the measurement according to their state?

Default: Students take a short ruler and measure it several

times to get the length of the blackboard.

Teacher: Affirm the persistent attitude of measuring many times with short ruler, take out the prepared meter ruler, put forward the concept of meter, use more suitable tools to measure the blackboard, and express it with a longer length unit. Next, ask the students of integration education to go to the podium as student representatives to observe how many centimeters there are on the meter ruler.

Default: 1.2.3 ... 100, and there are 100 cm scales on the meter scale that is one meter long.

Teacher: Affirm the students' answers and put forward the concept that 1 meter equals 100 centimeters.

5.3. Concept Utilization

Teacher: Ask a classmate to help the teacher measure a 20cm long rope.

Preset: Measure the rope correctly by a meter ruler or ruler.

Teacher: OK, class, now the teacher is going to show you a mathematical magic, and change this rope into the computer. The Ppt playing rope becomes a line segment with endpoints. Put forward the concept of line segment—a straight line whose length can be measured. And provide some realistic examples, such as the edge of the blackboard, the edge of the table, etc., which can be regarded as a line segment.

Teacher: Just now, each of us has learned how to measure the length of a thing. Just now, the teacher has taught you magic. Now, please let the little magicians measure the length of everything around them first, and then change it into paper.

Teacher: Show students' works, especially integrate students and praise creative works.

5.4. After-class Review

Teacher: review the content with ppt playback: The concept of 1 cm and 1 meter. How to measure the length of an object. Three concept of line segment. Draw a line segment of known length.

Homework after class: Is there any unit larger than the meter? What's the relationship between it and the meter? Is there a smaller unit? What's the relationship between it and

the centimeter? Go home and measure the length of your desk and pencil box, and draw them on paper in the form of line segments.

6. Summary

The curriculum adjustment for integrated students should be made in every class, especially when the class is unfavorable for integrated students, and some links that can strengthen class cohesion, such as group cooperation, should be added to make class students realize the importance of unity. When class students make incorrect remarks about the mental retardation of students with mental retardation, or appear isolated, we should let the integrated students answer some questions in class, so that the fellow students can realize that he is not incompetent, but slower than all others. Of course, it is important to remember that there should be no favoritism in classroom teaching. The appearance of favoritism may also lead to the isolation of students in integrated education. We should take care of ordinary students while taking care of integrated students. This is the place where every educator needs to balance when working.

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