Measures to help students good study in math and return to units at primary schools in Tra Vinh City

Nguyễn Kinh Danh

ThS. Trường Đại học Trà Vinh

Abstract: *Promoting positivity - initiative - creativity is one of the goals that education is concerned about today. To achieve the above goal, it is necessary to innovate teaching methods, teachers must take measures to help students confidently absorb new knowledge. The measure to help students learn math well is one of the measures to encourage learners to actively participate in learning activities, practice self – study habits and ability, and develop their potential, and accumulated knowledge and skills for development.*

Keywods: *Measures, elementary math, reduction to units*

1. Introduction

As we know, based on the psychological and physiological development of elementary school students, the structure of Math content is very suitable for each stage of student development. In elementary school, children learn knowledge and skills at the end of phase one, preparing to continue learning in the next phase, so they must firmly grasp all the initial basics of solving math problems, in particular, and all other skills in general. Children begin to get acquainted withbasic mathematical forms, including mathematical forms related to unit reduction. This form of math has many real – life applications, it requires students to have good math solving skills and daily practication skills. That is something to worry and think about for us. There are some math problems that when you finish, you don't need to try again, you don't need to see how it is applied in practice, just leave the result as it is even though it may be wrong. Based on the actual situation of students like this, I would like to have measures to help them solve math related to drawing units in elementary school better.

2. Content

2.1. Concept of "reduction to unit" method

In a simple problem about proportional quantities (forward or inverse), people are often given two values of the first quantity and one value of the second quantity and then the problem requirement is to find the missing value, know. To fulfill that condition, one searches for the smallest value from the given values to find the remaining result as required. That method is called "reduction to units"

2.2. Steps to perform problems related to unit reduction

In learning math, students not only master the knowledge but can do math well, quickly, and accurately. Math solving is an activity that requires the use of everyone intelligence. Math solving skills is much more difficult than technical skills because math problems are a diverse combination of many concepts and mathematical relationships. Solving math problems is not just about memorizing patterns and applying them, but requires students to firmly grasp concepts, mathematical relationships, the meaning of calculations, requires the ability to express students thoughts, requires students to know be proficient in calculations, and know how to choose leaned formulas to apply.

From the above reality, to help solve math problems effectively, it is necessary to help students understand some general steps to solve a math problem. Depending on the research purpose, people propose different math solving procedures. According to G.Polya. He outlined a 4 – step diagram as follows: Understand the content of the problem; Research and plan to solve problems; Practice problem solving; Check and exploit the problem.

2.3. Measures to help elementary school students learn math well involves reducing units

Measures 1: *Guide students to firmly grasp the method of solving math problems by reducing them to units by dividing and multiplying.*

To firmly grasp problem solving skills and solve these types of problems well, students must firmly grasp the nature of the relationship between

the given quantities in the problem, which is a proportional relationship: That is, when the value mumber of times the value of this quantity increases (or decreases), the value of the other quantity also increases (or decreases).

Example 1: A person buys 5 bouquets of flowers for 30000 VND. How much would it cost that person to buy 25 bouquets of the same type of flowers?

Summary:

Buy all 5 bouquets of flowers: 30000 VND
Buy 25 bouquets of flowers: ? copper

Analysis:

This problern can be anlyzed into 2 simple problerns as follows:

Buy all 5 bouquets of flowers: 30000 VND
Buy 1 bouquet of flowers: ? copper (B copper) (1)

And: Buy 1 bouquet of flowers: A đồng
Buy 25 bouquets of flowers: ? copper (2)

Performing the calculation in simple problem (1) corresponds to the unit reduction step of the meeting problem: Calculate the price of 1 bouquet of flowers.

The step to find the unknown value of the second quantity (amount of money) corresponds to the calculation in the simple number problem (2): Take the price of 1 bouquet of flowers and multiple by 25 bouquets.

Instruct:

The price of a bouquet of flowers is:
$$30000: 5 = 6000 \text{ (VND)}$$
Buy 40 packs of candy and the total amount is:
$$6000 \times 25 = 150000 \text{ (VND)}$$

Answer: 150000 VND

Measure 2: *Guide students to firmly grasp the method of solving math problems by reducing them to units by two division calculations.*

Example 2: There are 81 kg of rice contained evenly in 9 bags. How many bags are 45 kg of rice contained in?

Summary:

81 kg contained in: 9 bags
45 kg contained in: ? bag

Analysis:

To solve this problem, teachers first need to guide students to recognize that the number of kilograms of rice and the munber of rice bags are proportional to each other: That is, when the number of kilograms - grams ricrease (or decreases), the number of rice bags also increases (or decreases).

Besides guiding studenents to recognize the relationship between those quantities, teachers need to guide students to summarize the problern to have an easy solution.

Looking at this summary, students will immediately notice that the number of bags of rice found will be less than bags (because 45 kg is less than 81kg). Therefore, when solving the result of the problern, without re – counting, students can also known that if the result is greater than (or equal to 9), then they have solved the problem incorrectly.

After the students have summarized correctly, the teacher guides them to solve by giving suggested questions.

If we want to know how many bags are in 45 kg of rice, we must first calculate what? (1 bag can hold how many kg of rice). The calculation can be performed in a simple problern:

9 bags can hold: 81 kg of rice
1 bag can hold: ? kg (1)

To calculate the number of rice bags needed to hold 54 kg of rice, what should we do? This calculation is equivalent to finding the result of the calculation in the simple problern:

Contains A kg of rice in: 1 bag
Contains 45 kg of rice in: ? bags (2)

Answering the above questions well, students will be able to solve the following problems:

Instruct

One bag can hold the number of kilograms of rice: $81: 9 = 9$ (bags)

45 kilograms of rice in bags is: $45: 9 = 5$ (bags)

Answer: 5 bags

Measure 3: *Guide students to practice comparing two types of exercises to reduce units using multiplication and division calculations.*

In order for students to practice these two types of problems well, teachers guide them to compere the solution steps and characteristics of type of problem [3].

Steps	Post type 1 (Find the value of the parts)	Post type 1 (Find part number)
1	Find the unit value (part value in equal parts) Perform division	Find the value of 1 unit (partial value – This is the step to reduce to units, perform division)

2	Find the value of multiple units of the same type (value of multiple equal parts). Perform multiplication.	Find the number of parts (number of units – division).

Table: Comparison of two types of unit reduction exercises

Example 3: There are 9 identical oil barrels containing 414 liters. How many liters of oil do 6 such barrels contain? [1]

Summary:

9 barrels: 414 (*l*)

6 barrels: ? liter

Instruct

The number of liters of oil contained in a barrel is: $414 : 9 = 46 (l)$

The number of liters of oil contained in 6 barrel is: $46 \times 6 = 276 (l)$

Answer: 276 *l*

Example 4: A store has an equal number of barrels of oil containing a total of 72 liters. People add 3 barrels of oil, the total amount of oil is 99 liters. How many barrels of oil did the store have at first?

Instruct

3 barrels have the number of liters of oil:

$99 – 72 = 27 (l)$

Each tank contains the number of liters of oil:

$27 : 3 = 9 (l)$

Initially, the store had the number of barrels of oil: $72 : 9 = 8 (barrels)$

Answer: 8 barrels

The above is a method to guide students in solving unit - reduction math well. If teachers give specific instructions, they will understand how to solve this math problembetter, avoiding possible errors. Students will feel exctited and confident when solving math problems.

3. Research results

The organization of unit – based teaching has a real positive effect on students learning activities, contributing to fostering students ability to explore and form their own ways of creating knowledge, self - study method but also form a self – discovery approach to detect and solve problems.

Measures to help students learn well in unit – based math provide situations, problems, as well as suggestive questions for students to find their own solutions and discover new knowledge. From those effects, it is initially possible to confirm that these measures can help teachers teach more effectively and help students learn more actively.

The way to solve math problems is to reduce it to units by multiplying and dividing it, and the way to reduce it to units is to use two knowledge that needs attention and some examples of the problems. In short, to help students learn this form of math well, the teacher plays a very important role, so teachers need to have the most appropriate measures. First, teachers need to guide students in analyzing and determining.

The problem requirements help students identify necessary and sufficient factors and conditions, guide students to summarize and find a solution. After finding a solution, it is necessary to pay attention to students on how to present the problem. Teachers should guide students to find many ways to solve a problem to promote creativity in learning.

References

1. Tran Nam Dung (2022), *Math 3;4;5 volumes 1,2*. Vietnam Education Publishing House.

2. G. Polya (Ho Thuan, translated by Bui Tuong) (2009), *How to solve a math problem?* Vietnam Education Publishing House, Hanoi

3. Do Trung Hieu (2010), *Math teaching methods volume 2*, Education Publishing House.

4. Tran Ngoc Lan (2014), *Practical textbook on mathematics teaching methods in elementary schools*, University of Pedagogy Publishing House.

5. Do Nhu Thien (2006), *Math problems with typical solution methods,* Education Publishing House.

6. Tran Nam Dung (2022), Math 3;4;5 volumes 1,2. Vietnam Education Publishing House.

7. G. Polya (Ho Thuan, translated by Bui Tuong) (2009), How to solve a math problem? Vietnam Education Publishing House, Hanoi

8. Tran Dien Hien (2014), *10 topics to foster good students in Math 4 and Math 5,* volume 2. Vietnam Education Publishing House.

9. Tran Ngoc Lan (2014), *Practical textbook on mathematics teaching methods in elementary schools*, University of Pedagogy Publishing House.

10. Do Nhu Thien (2006), *Math problems with typical solution methods,* Education Publishing House.