
Opinions on Mathematics Word Problems in Primary Schools: A Survey of Teachers and Students in the City “Bac Lieu” – Vietnam

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Abstract

This paper presented the results of the study with following three research questions: (1) What are the mathematics teachers' opinions on teaching mathematics word problems in primary schools of Vietnam? (2) Do primary school students like to solve mathematics word problem? (3) What have students' the difficulties been in solving mathematics word problems? The subjects were 120 primary school students and 88 teachers of primary schools in the city “Bac Lieu” – Vietnam. The study results showed that most teachers were aware of the importance of the mathematics word problem, and students liked to solve this type of problems. However, students often had many difficulties to find out the strategies for solving word problems and they also often committed errors in process of problem solving.

Key words: Word problem, mathematics education, problem solving, primary education.

1. What is a mathematics word problem?

The author Vū Quốc Chung *et al* (2007) defined mathematics word problem as a problematic situation which contain data, certain variables described by the language situations. To solve them, the language situations must be analyzed to identify strategies for solving the problem.

Author Hoàng Thị Mẫn (2014) paid attention to real aspect of this problem, she argued that contents of the mathematics word problems are stated in words about the relationships, correlations related to real world. The difficulty of the problem is that we must omit elements of the text concealing the nature of the problem to find the answer to that problem.

About mathematics word problem solving, Đỗ Trung Hiệu *et al* (2004) wrote that in word problem solving there are two main points which the solver should pay attention to as follows: (1) To establish the connections among data, between what was given and what is to look for in the given problem; (2) To choose the appropriate calculations for the problem.

For the instruction of word problems, according to Trần Ngọc Lan (2009), teaching mathematics word problem consists of the following three steps: (1) Teacher give a particular problem and help students analyze to identify the structure of the problem, and students look for how to solve the problem by themselves; (2) Teachers introduce the strategy for solving

the problem and write the solution of the problem, students observe steps of the solution of the problem and draw useful notions on the solution; (3) Teacher generalize how to solve the problem, and students do some applications relating to the type of the given problem.

2. Purpose of the research

In the Vietnamese primary schools, students get acquainted with word problems of mathematics from Grade 1 to Grade 5 - the final Grade of the primary school. Vietnam. In order to know partly teachers and students' opinions towards teaching and learning mathematics word problems, in this study, we conducted the study with below *three research questions*:

- (1) *What are the mathematics teachers' opinions on teaching mathematics word problems in primary schools of Vietnam?*
- (2) *Do primary school students like to solve mathematics word problem?*
- (3) *What have students' the difficulties been in solving mathematics word problems?*

3. Methodology

- *Questionnaire*: We used a questionnaire to get primary education teachers' opinions on teaching mathematics word problems, and another questionnaire for primary school students.
 - *Subjects*:
 - + 88 primary school teachers who have been teaching in primary schools of City “Bac Lieu”, Vietnam.
 - + 120 primary school students who are studying in primary schools of City “Bac Lieu”, Vietnam.
- The survey was carried out in 2014.

4. Results and discussion

4.1. *Mathematics word problems in primary schools of Vietnam: A survey of teachers (the answer to research question 1)*

1. *How important are mathematics word problems in the primary education?*

The results surveyed showed that most of the teachers agreed that mathematics word problems play an important role in the primary education (see Table 1).

Table 1: The importance of mathematics word problem in primary schools

(N=88)

Important	Normal	Not important
86 (97.7 %)	2 (0.3 %)	0.0 %

2. *What have you done to teach mathematics word problem solving to your students?*

Table 2 showed activities which teachers often carried out in teaching mathematics word problems. Nearly all of teachers surveyed paid attention to developing students' basic skills

for solving a word problem regularly. However, only about 34% teacher often extended the given problems.

Table 2: Teaching *mathematics word problem solving* to the students of primary schools (N=88)

	Teachers agreed
I often guide students how to solve a problem by five – step process (understanding a problem, summarizing a problem, looking strategies for solving a problem, write the solution of a problem, checking the solution of a problem)	84 (95.4%)
I often train my students how to analyze of a problem	84 (95.4%)
I often train my students how to summarize a problem	83 (94.3%)
I often train my student how to find out strategies for solving a problem	81 (92.1%)
I often train my students how to write the solution of a problem	81 (92.1%)
I often train my students how to check the solution of a problem	61 (69.3%)
I often require students to look for different methods of finding the solution of a problem	59 (67.0%)
I often teach my students skills of calculations	74 (84.1%)
I often extend or generalize given problems	30 (34.1%)

3. *What errors have your students often made in mathematics word problem solving?*

Table 3 presented the results of the teachers’ opinions on errors which their students have committed. About 58% teachers agreed that their students often confused types of problems and over 45% teachers had the same opinion that their students often misunderstood word problems.

Table 3: Students’ the errors in mathematics word problem solving

(N=88)

Errors of students	Teachers agreed
Misunderstand problems	40 (45.5%)
Don’t make use of all of what given to look for strategies for a problem	22 (25.0%)
Confuse types of problems	51 (57.95%)
Make mistakes in their calculations	29 (32.9%)
Make errors relating to measurement units	8 (9.1%)

4.2. *Students’ attitude towards solving mathematics word problems (the answer to research question 2)*

About students’ attitude towards solving mathematics word problems, Table 4 showed that most of students liked to solve mathematics word problems.

Table 4 : How interesting students have been to solve mathematics word problems

(N=120)

Strongly liked	Liked	Disliked
33 (27.5 %)	81 (67.5 %)	6 (5.0 %)

4.3 What have students’ the difficulties been in solving mathematics word problems? (the answer to research question 3)

On the difficulties in solving mathematics word problems, about 55% students agreed that they found difficult to find out a strategy for solving a problem; however, under 20% students had the same view that it was not easy for them to write the solution of a problem and to perform computations (see Table 5).

Table 5: The difficulties of students in mathematics word problem solving

(N=120)

Items	Students agreed
Understand a problem	40 (33.3%)
Summarize a problem	47 (39.2%)
Distinguish types of problems	47 (39.2%)
Find out a strategy for solving a problem	67 (55.8%)
Write the solution of a problem	23 (19.2%)
Perform computations	22 (18.3%)

Conclusion

The study results showed that most teachers were aware of the importance of the mathematics word problem, and students liked to solve this type of problems. However, students often had many difficulties to find out the strategies for solving word problems and they also often committed errors in process of problem solving. So the primary school teachers need to pay much attention to developing pedagogical measures to help students overcome the above weak points.

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