

Difficulties Faced by Students in Solving Word Problems in Mathematics**Prashant Pawar**

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Abstract :

Mathematics plays an essential role in developing logical thinking, reasoning and problem solving abilities word problems are an important part of mathematics learning because they connect mathematical concept with real life situations. However many students face difficulties while solving word problems. This research paper examines the major challenges students encounter, the possible causes and effective teaching strategies to improve their performance.

Key words : Mathematics, word problem, problem solving, learning difficulties, education.

1) Indroduction :

Mathematics education aims to develop students analytical and reasoning skills word problem requires student to read, understand, analyze, and convert textual information into mathematical expressions. Many student perform well in direct calculations but struggle the difficulties faced by students while solving mathematical word problems.

4) Hypothesis :

1. Students with weak reading comprehension face greater difficulty in solving word problem
2. Regular practice improves students performance in word problems.
3. Students with positive attitude toward mathematics perform better.

5) Review of related literature :

Previous studies show that students difficulties in word problems often arise due to

- ❖ Poor reading and comprehension skill.
- ❖ Lack of mathematical vocabulary.
- ❖ Difficulty in identifying relevant information.
- ❖ Inability to select appropriate oprations.
- ❖ Anxiety or fear of mathematics.

Researchers such as georage polya emphasized systematic problem solving steps in mathematics education.

6) Research methodology :

Dispositive survey method

Sample

A sample of 100 students from middle school (Grade 5-8)

Tools of data collection :

1. Questionnaire
2. Achievement Test
3. Observation
4. Interview

2) Objectives of the study :

1. To identity difficulties faced by students in solving word problems.
2. To examine the relationship between language comprehension and mathematical performance.
3. To analyze common errors made by student.
4. To suggest effective teaching startegies.\

3) Research Question :

1. What difficulties to students face while solving word problems in mathematics.
2. Does language comprehension affect students performance in word problems
3. What are the mast common mistakes students make ?
4. Which teaching methods help improve word problem solving skills ?

Questionnaire :

It contains 30 questions which inquire about the difficulties faced by student. It's objective type and multichoice questions. Students respond well and give response which give us clue about our research problem.

Achievement Test :

Achievement test contains 20 word questions on various topics of mathematics before the distribution of achievement test. The validity of test checked by expert. The achievement test given to student and record the score.

Statistical analysis of achievement test :

Total student = 100

Maximum marks = 20

Mean (Average score)

Total marks obtained by all student = 1240

$$X = \frac{\sum x}{N} = \frac{1240}{100} = 12.4$$

So the average achievement score = 12.4 out of 20

Standard deviation

This shows how much variation exists in students score

$$SD = \frac{\sqrt{\sum (x - \bar{x})^2}}{N}$$

$$SD = \frac{\sqrt{100 - 12.4^2}}{100}$$

$$SD = 3.2$$

Percentage achievement

$$\text{Percentage} = \frac{12}{20} \times 100 = 62\%$$

So class achievement level is 62%

7) Findings :

Based on students responses to the questionnaire the following findings were observed.

- 1) A majority of students reported difficulty understanding the language used in mathematical word problems.
- 2) Many students found it difficult to identify important information and separate relevant facts from unnecessary details.
- 3) Large no. of students faced confusion in selecting the correct mathematical operation

such as addition. Subtraction, multiplication or division.

- 4) Some student had difficulty converting verbal statements into mathematical expression or equations.
- 5) Many students reported problems in solving multistep word problems.
- 6) A significant no. of students experienced mathematics anxiety or fear which affected their performance.
- 7) A significant no. of student showed lack of confidence while solving word problem.
- 8) Students who practiced word problems regularly showed better performance compared to others.
- 9) Students with stronger reading comprehension skills performed better in solving word problems.
- 10) Teaching methods using examples, activities and visual aids helped students understand word problems effectively.

8) Suggestions :

- 1) Use simple and clear language in teaching
- 2) Provide real life examples
- 3) Use visual aids, diagrams and activities.
- 4) Encourage step-by-step problem solving.
- 5) Create a positive learning environment.

9) conclusion :

Word problems are essential for developing mathematical thinking. Students face linguistic, positive, and emotional barriers while solving them. With proper teaching strategies and regular practice. These difficulties can be reduced significantly.

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