

# Mathematics Learning Ability in Terms of Students' Understanding in Grade III at SD Negeri 76/I Sungai Buluh

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## Article Info

Page : 155-158

ISSN : 3026-5290

Vol 3 No 1 2025

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## Abstract

This study aims to investigate: (1) the level of students' understanding; (2) the obstacles experienced by students in learning mathematics; and (3) mathematics learning difficulties in terms of students' level of understanding in Grade III at SD Negeri 76/I Sungai Buluh. This research is a qualitative descriptive study conducted in the odd semester of the 2025/2026 academic year. Data were collected through interviews, observations, and documentation, while data validity was ensured through source triangulation involving the headmaster, Grade II, III, and IV teachers, Grade III students, and parents. The results showed: (1) 16% of Grade III students at SD Negeri 76/I Sungai Buluh possessed a high level of understanding, 20% a moderate level, 24% a sufficient level, and 40% a low level. (2) Mathematics learning obstacles included weaknesses in calculation, difficulty in transferring knowledge, limited comprehension of mathematical concepts, and barriers in logical perception. (3) The higher the students' level of understanding, the fewer obstacles they encountered in learning mathematics.

**Keyword:** Ability, understanding, mathematics

## 1. INTRODUCTION

Mathematics is one of the core subjects in primary education. This subject must be studied by students at every level of education, especially at the primary school level. Its role is essential because mathematics has a wide scope and is frequently encountered in daily life (Wahyudi & Budiono, n.d.). The field of mathematics is not solely focused on arithmetic skills but also encompasses more complex aspects. Team (2023) states that numerical skills are only a small part of mathematics. Today, every individual, including students, is required to possess problem-solving skills, both related to mathematics and everyday life situations. Mathematical knowledge and skills play an important role for students to enable them to think critically, logically, innovatively, imaginatively, and carefully, so that they can develop mathematical abilities to be applied in solving everyday problems. However, as highlighted by Djamaluddin (2019), many students have not optimally applied mathematics in real life and tend to show low achievement in this subject. Mathematics is often perceived as difficult and complicated to understand, leading to various learning obstacles. Students with mathematical learning difficulties typically struggle with numbering, sequencing numbers, understanding and summarising information, as well as managing and measuring numbers (Garcia et al., n.d.).

## 2. RESEARCH METHODOLOGY

This study employed a qualitative descriptive research design, as it aims to describe the current conditions systematically and factually. This method seeks to explain and find solutions to the problems being investigated. According to Hasibuan (2018:27), this approach is also called naturalistic research because it is carried out under natural conditions and described qualitatively using descriptive narratives (Johnson & Cristensen, 2014). The choice of qualitative descriptive method was intended to describe the mathematics learning difficulties of students based on their

understanding at SD Negeri 76/I Sungai Buluh. This method was selected to provide clear and accurate results in analysing students' mathematical learning difficulties (Miles et al., 2014). Data collection was conducted using interviews, observation, and documentation, as suggested by Creswell (2002), which included visiting the research site and collecting visual documentation. Thus, the researcher obtained raw data directly from sources who were knowledgeable about the field conditions. The validity of the data was tested using source triangulation, where data were obtained from Grade II, III, and IV teachers. In addition, cross-checks were conducted with the headmaster, students, and parents (Creswell, 2009, 3rd Edition). The research was conducted at SD Negeri 76/I Sungai Buluh, located in Dusun Krajan, Desa Sungai Buluh 76/I, Pringkuku District, Pacitan Regency. The study took place in the odd semester of the 2025/2026 academic year, from 19 August 2025 to 19 September 2025. The data sources consisted of Grade III students, teachers, and the headmaster, selected through purposive sampling. Data collection was carried out through tests, interviews, and documentation. Data validity was ensured through source triangulation. Data were analysed using the Miles and Huberman model, which includes data reduction, data display, and conclusion drawing (Miles, Huberman & Saldana, 2018).

### 3. RESULT AND DISCUSSION

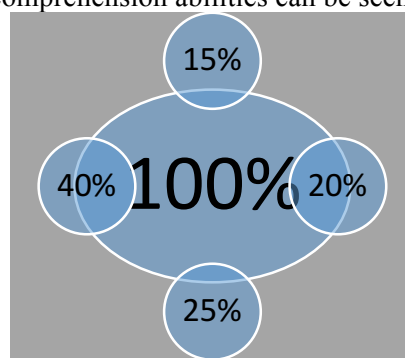
Based on the analysis of data obtained regarding barriers to learning mathematics in terms of students' comprehension abilities, a more detailed discussion is presented as follows:

#### *Analysis of the Comprehension Abilities of Third-Grade Students at SD N 76/I Sungai Buluh*

**Table 1. Data on Comprehension Test Results of Students at SDN Sungai Buluh 76/I for the 2025/2026**

| Numeracy Literacy Level | Number of Students | Percentage |
|-------------------------|--------------------|------------|
| High                    | 3                  | 15%        |
| Medium                  | 4                  | 20%        |
| Sufficient              | 5                  | 25%        |
| Low                     | 8                  | 40%        |
| Amount                  | 20                 | 100%       |

Based on the results of data presentation and analysis, it is known that the comprehension ability of third-grade students at SD N 76/I Sungai Buluh is divided into several categories, namely high, medium, sufficient, and low. From the test results, it was obtained that 15% of students were in the high category, 20% in the medium category, 25% in the sufficient category, and 40% were included in the low category. A comparison of the levels of student comprehension abilities can be seen in the following diagram.



Picture 1

Based on the diagram above, it can be seen that only 15% of third-grade students at SD N 76/I Sungai Buluh are in the high category, where they are able to solve problem-solving problems well. This finding is in line with research (Setiyawati S.H., Putri R.D.Y., 2023) which shows that students with high comprehension have the ability to solve unstructured problems related to everyday life. Meanwhile, as many as 40% of students are still in the low category in comprehension ability. This condition is in accordance with the results

of the Programme for International Student Assessment (PISA) in 2018 which showed that Indonesia's mathematics scores were below average (Kompas.com, December 14, 2019). In general, the comprehension skills of third-grade students at SD N 76/I Sungai Buluh are still relatively low. This low comprehension ability impacts problem-solving skills. Conversely, students with good comprehension skills find it easier to solve problems. This is supported by research by Muzaki & Masjudin (2019) and (Mahmud & Pratiwi, 2019), which states that students with high comprehension are able to recognize the problems they face and are more skilled at obtaining a clear picture of the situation.

#### *Obstacles to Learning Mathematics at SD N 76/I Sungai Buluh*

Interview results and documentation indicate that students experience the following obstacles:

a. Calculating Whole Numbers

This obstacle occurs because students do not perform basic calculations correctly. The majority of students experience weaknesses in calculating whole numbers, making it the most common type of obstacle. This finding aligns with Rohmah & Jadmiko (2024) who stated that 54 percent of students experience obstacles in calculating whole numbers.

b. Understanding Word Problems

In this context, students lack understanding of the information in the problem, making it difficult to interpret and understand the meaning of the problem. This is consistent with the opinion of (Az'zahra et al., 2024), who explained that students often struggle to read problems, resulting in a lack of understanding of the information and ultimately difficulty solving the problem.

#### *Comprehension Skills of Third-Grade Elementary School Students in Sungai Buluh 76/I*

a. Learning of Students with High Comprehension Skills

Students with high comprehension skills still experience difficulties in basic arithmetic, namely adding integers. More specifically, when determining the location of a house, which requires arithmetic operations. The third-grade teacher stated that students' difficulties in solving problems are often caused by inaccurate basic calculations. In other aspects, students at SD N 76/I Sungai Buluh in this category are in dire need of a contextual learning model. The fourth-grade teacher also supported this, stating that students with high comprehension skills are able to utilize numbers and basic mathematical symbols to solve problems in various everyday contexts and are able to analyze information in various presentations. Therefore, students with this ability experience few difficulties when solving math problems.

b. Learning barriers for students with moderate understanding

Students with moderate understanding experience difficulties in calculation, particularly when performing multiplication operations incorrectly. Students frequently make errors in calculations. Furthermore, students also experience difficulties in transferring knowledge, such as being unable to plan steps to solve problems correctly and making errors in analyzing the order of the houses.

#### *Learning Obstacles for Students with Sufficient Understanding*

Students in the sufficient understanding category tend to experience obstacles in transferring knowledge, such as being unable to correctly determine problem-solving steps and frequently making inaccurate answers to integer addition and word problems. Students generally experience difficulties converting word problems into mathematical sentences. In addition to experiencing difficulties with multiplication operations, they are unable to understand the information in the problem, and they do not accurately state what is known or what is being asked. Other obstacles arise in the visual perception aspect, including the inability to visualize problems into mathematical concepts and errors in analogizing images to appropriate concepts.

#### *Profile of Learning Obstacles for Students with Low Comprehension*

Students at SD N 76/I Sungai Buluh with low comprehension often face obstacles, particularly in calculations, such as addition, multiplication, and division, when solving word problems. Students also experience obstacles in transferring knowledge, such as the inability to plan steps to solve the problem correctly, resulting in inaccurate answers. In terms of mathematical comprehension, students fail to grasp the information in the problem and do not write down the known or required data completely. Students with low comprehension tend to be unable to reason logically from the problem. Another obstacle experienced by low-comprehension students is in their perception of logical thinking, namely the inability to use mathematical

logic.

#### 4. CONCLUSION

Based on the results of this study on barriers to learning mathematics, as seen from the comprehension abilities of students at SD N 76/I Sungai Buluh, several conclusions can be drawn.

1. The results of the comprehension test of third-grade students showed that 15% were in the high category, 20% in the moderate category, 25% in the sufficient category, and 40% in the low category.
2. The types of barriers to learning mathematics experienced by students include:
  - a) weaknesses in calculation, especially in multiplication operations,
  - b) barriers to transferring knowledge, namely the inability to plan steps to solve problems and construct mathematical models of problems,
  - c) poor understanding of mathematical language, indicated by the inability to understand problem information and not writing down what is known or asked, and
  - d) barriers to visual perception, namely the difficulty in visualizing mathematical concepts and analogizing images with appropriate concepts.
3. The level of barriers to learning mathematics varies according to students' comprehension abilities. The higher a student's comprehension, the fewer barriers they face.

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