

Analysis of Learning Difficulties in Mathematics Among Fifth Grade SD Negeri Kalibatur Banyumas District in the 2024/2025 Academic Year

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ABSTRACT

This study aims to analyze the learning difficulties experienced by fifth grade students in Mathematics at SD Negeri Kalibatur, Banyumas District, during the 2024/2025 academic year. The research employed a descriptive qualitative approach using a case study method. The research subjects consisted of fifth grade students and their class teacher. Data collection techniques included observation, interviews, and documentation. The results showed that students faced difficulties in understanding mathematical concepts, using formulas and symbols, and solving word problems. The causes of learning difficulties included cognitive aspects, student motivation, attitudes, and the use of conventional teaching methods. The study concludes that there is a need to improve teaching strategies to be more interactive and contextual, as well as to provide additional motivation and guidance to help students overcome their learning challenges. These findings are expected to serve as a reference for teachers and schools in improving the quality of Mathematics education in the future.

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1. INTRODUCTION

Education serves as a primary vehicle in shaping high-quality human resources. At the elementary school level, education plays a strategic role in developing students' basic competencies across cognitive, affective, and psychomotor domains. One subject that holds a crucial role in fostering logical and systematic thinking skills is Mathematics. Mastery of Mathematics is not only fundamental for developing logical and systematic thinking but also essential in daily life and serves as a foundation for learning other scientific disciplines.

In practice, Mathematics is often perceived as a difficult subject by many students, especially at the elementary level. This difficulty is not merely perceptual but is also experienced in the day to day learning process. Mathematics demands abstract, logical, and systematic thinking skills, which are not yet fully developed in elementary aged children particularly those in fifth grade, who begin to encounter more complex topics such as operations with fractions, measurement, and basic geometry concepts.¹ This condition results in many students struggling to comprehend the material, leading to various issues in the learning process, such as low motivation, an inability to solve problems, and negative attitudes toward Mathematics.²

¹ Hadi, S. Metodologi Pembelajaran Matematika di Sekolah Dasar. Yogyakarta: Pustaka Pelajar, 2016, hlm. 45-47.

² Ahmadi, A., & Supriyono, B. Psikologi Pendidikan. Jakarta: Rineka Cipta, 2013, hlm. 78-80.

Mathematics learning difficulties can be defined as a condition where students face obstacles or disruptions in understanding and mastering mathematical content, resulting in suboptimal learning outcomes. According to Franklin (2018), learning difficulties are conditions that hinder the learning process, whether due to internal or external factors. Cooney et al. (1983) categorize Mathematics learning difficulties into three types: difficulty in learning concepts, difficulty in applying principles, and difficulty in solving verbal problems.³ Students who are unable to interpret questions, select and apply formulas, or solve word problems can be considered as experiencing Mathematics learning difficulties.

Several experts have also highlighted the factors contributing to Mathematics learning difficulties. Ahmadi and Supriyono (2013) state that a lack of interest in a subject can lead to learning difficulties. This is supported by Amalliah & Unaenah (2018), who found that students who are not interested in Mathematics tend to perceive it as difficult, confusing, and full of formulas that are hard to memorize. In addition, internal factors such as intelligence, motivation, attitude, and students' physical conditions, as well as external factors like teaching methods, family environment, and the availability of learning facilities, also play important roles in the emergence of Mathematics learning difficulties.⁴

This phenomenon is clearly evident at SD Negeri Kalibatur in Banyumas District during the 2024/2025 academic year. Data from student learning evaluations show that many fifth grade students have not met the minimum competency standards in Mathematics. This condition indicates the presence of learning barriers that need further investigation to uncover their root causes. According to Slameto (2010), low academic performance can be attributed to various factors, both internal such as cognitive ability and student motivation and external such as teaching methods and the learning environment.⁵

Previous research has shown that common Mathematics learning difficulties among fifth grade students include challenges in understanding fraction comparisons, calculating whole numbers, and solving problems related to Greatest Common Factors (GCF) and Least Common Multiples (LCM).⁶ Students also often experience confusion when interpreting questions, understanding mathematical symbols, and performing calculations, even when teachers have provided clear explanations and examples.⁷

Based on the above background, this study aims to analyze the Mathematics learning difficulties experienced by fifth grade students at SD Negeri Kalibatur, Banyumas District, during the 2024/2025 academic year. The results of this study are expected to provide a comprehensive overview of the types of difficulties students face and the underlying factors, thus serving as a basis for teachers and schools to design more effective and solution oriented teaching strategies.

2. RESEARCH METHODOLOGY

a. Research Methods

This study employs a descriptive qualitative approach using a case study method aimed at analyzing the learning difficulties experienced by fifth grade students in Mathematics at SD Negeri Kalibatur, Banyumas District, during the 2024/2025 academic year. This approach was selected because it is suitable for describing the phenomenon of learning difficulties in depth and comprehensively within the real-life context of the field.

b. Subjects and Location of Research

The research subjects consist of fifth grade students at SD Negeri Kalibatur who experience difficulties in learning Mathematics, as well as the fifth-grade teacher. The number of subjects is adjusted according to the needs of the research to obtain representative and indepth data.

c. Data Collection Techniques

Data were collected using several techniques, namely:

- 1) Direct observation of the Mathematic learning process to observe firsthand the difficulties experienced by students.
- 2) In-depth interviews with students and teachers to explore the factors causing learning difficulties and the efforts made in the teaching process.
- 3) Mathematics tests or learning evaluations to identify the types of difficulties students face in understanding the subject matter.

³ Khairullah, W., & Heriyana, T. (2023). Analisis Kesulitan Belajar Matematika Siswa Pada Materi Barisan Dan Deret Kelas XI Smk Karya Nasional Kuningan. *Indo-MathEdu Intellectuals Journal*, 4(2), 427–444.

⁴ Amallia, N., & Unaenah, E. (2018). Analisis Kesulitan Belajar Matematika Pada Siswa. *Attadib Journal of Elementary Education*, 3(2), 123–133. <https://jurnalfai-uikabogor.org/index.php/attadib/article/view/414>

⁵ Slameto. *Belajar dan Faktor-faktor yang Mempengaruhinya*. Jakarta: Rineka Cipta, 2010, hlm. 120-125.

⁶ Fajriyani, E. (2020). Kesulitan Belajar Siswa Dalam Mata Pelajaran Matematika Kelas V MIS Islamiyah Margasari 01 Sidareja Cilacap. *Skripsi*, 28.

⁷ Zuliani, R., & Puspita Rini, C. (2021). Analisis Kesulitan Belajar Matematika Pada Siswa Kelas V Sekolah Dasar Karawaci 11. Nusantara: Jurnal Pendidikan Dan Ilmu Sosial, 3(3), 478–488. <https://ejournal.stitpn.ac.id/index.php/nusantara>

- 4) Documentation, including teacher notes, daily assessment results, and student assignments, to support the research data.

d. Data collection technique

The data obtained were analyzed using the Miles and Huberman model of data analysis, which includes data reduction, data display, and conclusion drawing. This technique allows the researcher to systematically organize and interpret data in order to produce a valid picture of students' Mathematics learning difficulties.

e. Data Analysis Techniques

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f. Data validity

To ensure the validity of the data, this study applied triangulation techniques by combining multiple data sources and methods of data collection to enhance the credibility of the research findings. Expert opinions were also used as references in analyzing and interpreting the data to ensure that the results are valid and accountable. According to Sugiyono (2017), a descriptive qualitative method is highly appropriate for educational research that aims to understand learning phenomena holistically and contextually.

Additionally, Miles and Huberman (1994) emphasize the importance of systematic data analysis in gaining in-depth understanding of the problems studied, including the complex and multidimensional nature of Mathematics learning difficulties.⁹ Through this research methodology, it is expected that a clear picture will emerge of the forms of Mathematics learning difficulties experienced by fifth-grade students and the factors influencing them, thereby serving as a basis for developing effective teaching strategies at SD Negeri Kalibatur.

3. RESULTS AND DISCUSSIONS

Based on the results of observations, interviews, and tests conducted on fifth grade students at SD Negeri Kalibatur, Banyumas District, in the 2024/2025 academic year, several learning difficulties in Mathematics were identified. These difficulties can be categorized into several key aspects, as follows:

1) Difficulties in Understanding Mathematical Concepts

Most students struggled to comprehend basic mathematical concepts, particularly in topics such as fractions, decimals, and mixed operations. This was evident from their low conceptual understanding test scores and their inability to explain the material that had been taught.

2) Difficulties in Using Mathematical Formulas and Symbols

Students had trouble memorizing and applying the correct mathematical formulas, such as those for calculating the area and perimeter of plane figures. In addition, a lack of understanding of mathematical symbols led to errors in solving problems.

3) Difficulties in Solving Word Problems (Application Problems)

Students encountered obstacles in connecting word problems to the relevant mathematical concepts. Many found it difficult to interpret the information in the questions, resulting in the inability to determine appropriate problem-solving steps.

4) Motivation and Attitude Toward Mathematics

Interviews with students revealed that some of them lacked interest and self-confidence in learning Mathematics. This negative attitude affected their concentration and learning efforts.

The mathematical learning difficulties experienced by fifth grade students at SD Negeri Kalibatur align with expert opinions, such as that of Ahmadi and Supriyono (2013), who stated that internal factors like motivation and interest greatly influence success in learning Mathematics. When interest is low, students are more likely to face challenges in understanding material and solving problems.¹⁰

Furthermore, difficulties in understanding concepts and applying formulas are consistent with the view of Cooney et al. (1983), who noted that obstacles in learning Mathematics often arise during the stages of conceptual understanding and the application of mathematical principles.¹¹ This underscores the need for a more contextual and interactive learning approach to help students better understand and apply mathematical concepts.

External factors such as teaching methods also play a significant role. Based on interviews with teachers, the dominant teaching methods used are still conventional and do not actively engage students. This results in a

⁸ Tyas, N. M. (2017). Analisis Faktor Penyebab Kesulitan Belajar Matematika Kelas IV Sekolah Dasar Negeri Di Kecamatan Ungaran Barat Kabupaten Semarang. Digital Repository IAIN Purwokerto, 1–197.

⁹ Zuliani, R., & Puspita Rini, C. (2021). Analisis Kesulitan Belajar Matematika Pada Siswa Kelas V Sekolah Dasar Karawaci 11. *NUSANTARA : Jurnal Pendidikan Dan Ilmu Sosial*, 3(3), 478–488. <https://ejournal.stitpn.ac.id/index.php/nusantara>

¹⁰ Ahmadi, A., & Supriyono, B. (2013). Psikologi Pendidikan. Jakarta: Rineka Cipta.

¹¹ Cooney, T. J., Wilson, P. S., & Stinson, D. W. (1983). Research in Mathematics Education: Issues and Directions. Reston, VA: National Council of Teachers of Mathematics.

lack of practice and motivation among students in learning Mathematics. According to Slameto (2010), unvaried teaching methods can lead to boredom and decrease students' motivation to learn.¹²

From the results of this study, it can be concluded that the learning difficulties in Mathematics among fifth-grade students at Kalibatur Public Elementary School are not solely caused by cognitive factors, but also by affective factors and teaching methods. Therefore, efforts are needed to improve the quality of teaching by implementing more engaging and contextual learning strategies, providing motivation, and offering intensive support to help students overcome their learning difficulties and improve their academic performance.

These findings provide valuable insights for teachers and school administrators in designing more effective Mathematics learning strategies, such as using engaging teaching media, implementing active learning methods, and offering additional tutoring for students who struggle. In this way, it is hoped that the quality of Mathematics education at Kalibatur Public Elementary School can improve and students' learning difficulties can be minimized.

4. CONCLUSIONS

Based on the analysis and discussion conducted, it can be concluded that fifth grade students at SD Negeri Kalibatur, Banyumas District, in the 2024/2025 academic year experienced various learning difficulties in Mathematics. These difficulties include understanding mathematical concepts, using formulas and symbols, and solving word problems. In addition to cognitive factors, students' motivation and attitudes toward Mathematics also play a significant role in the learning challenges they face. External factors, such as the continued use of conventional teaching methods, also contribute to the low interest and limited ability of students to comprehend mathematical material.

Therefore, there is a need for improvement in instructional strategies, including the implementation of more interactive and contextual teaching methods, as well as the provision of motivation and additional guidance to help students overcome their learning difficulties. Thus, the findings of this study can serve as a foundation for teachers and school administrators in designing more effective and enjoyable Mathematics learning programs, ultimately enhancing students' academic performance and reducing their learning difficulties in the future.

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¹² Slameto. (2010). Belajar dan Faktor-faktor yang Mempengaruhinya. Jakarta: Rineka Cipta.