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Identifying and Understanding Elementary Students' Difficulties in Learning Mathematics

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Abstrak
Siswa sering mengalami kesulitan dalam berhitung dan memahami soal cerita matematika karena kurang mampu menafsirkan maksud soal dan memilih operasi hitung yang tepat. Penelitian ini bertujuan mengidentifikasi bentuk kesulitan belajar berhitung, faktor penyebab, serta strategi penanganannya pada siswa kelas IV dan V di SD Negeri X Kota Y. Penelitian ini menggunakan metode kualitatif deskriptif jenis studi kasus, dengan subjek 10 siswa dan dua guru kelas. Data dikumpulkan melalui observasi, wawancara, tes, dan dokumentasi, dianalisis menggunakan teknik analisis interaktif Miles dan Huberman yang meliputi reduksi data, penyajian data, dan penarikan kesimpulan, serta diuji keabsahannya dengan triangulasi sumber dan teknik. Hasil penelitian menunjukkan bahwa kesulitan utama siswa meliputi pemahaman konsep, bahasa matematika, dan kemampuan berhitung dasar. Faktor penyebab berasal dari internal (rendahnya minat dan sikap belajar) dan eksternal (strategi mengajar guru yang monoton, minimnya sumber belajar, dukungan orang tua, sarana sekolah, dan gangguan fungsi indera). Implikasinya, guru perlu menerapkan pembelajaran kontekstual dan bervariasi, menggunakan media konkret, serta melibatkan orang tua dalam pendampingan belajar agar kesulitan berhitung siswa dapat diminimalkan.
Kata Kunci: Kesulitan belajar, Siswa SD, Matematika

Abstract
Students often experience difficulties in arithmetic and understanding mathematical word problems because they struggle to interpret the meaning of the questions and to select the appropriate arithmetic operations. This study aims to identify the types of learning difficulties in arithmetic, the contributing factors, and the strategies to address them among fourth- and fifth-grade students at SD Negeri X, Kota Y. This research employs a descriptive qualitative case study design, with ten students and two classroom teachers as subjects. Data were collected through observation, interviews, tests, and documentation, and analyzed using Miles and Huberman's interactive analysis technique, which includes data reduction, data display, and conclusion drawing. The validity of the data was tested using source and technique triangulation. The results show that the main difficulties faced by students include conceptual understanding, mathematical language, and basic arithmetic skills. The contributing factors come from both internal aspects (low learning interest and attitude) and external aspects (monotonous teaching strategies, lack of learning resources, limited parental support, inadequate school facilities, and sensory impairments). The implication of this study is that teachers need to apply varied and contextual learning approaches, use concrete learning media, and involve parents in assisting students' learning to minimize arithmetic learning difficulties.
Keywords: learning difficulties, elementary students, mathematics

INTRODUCTION

Mathematics is a subject that plays an important role in developing students' logical, critical, and systematic thinking abilities (Muderawan, 2019). In the context of elementary education, mathematics learning is not only aimed at mastering concepts and formulas but also at fostering problem-solving skills in everyday life (Jamaris, 2015). However, in reality, many elementary school students still experience difficulties in understanding basic mathematical concepts.

Learning difficulties in mathematics can be defined as obstacles that prevent students from achieving optimal learning outcomes (Idrus, 2018). According to Parnawi (2019), these difficulties may be caused by internal factors such as low motivation and interest in learning, as well as external factors such as teaching strategies and the family environment (Muderawan et al., 2019). Moreover, the abstract nature of mathematics often makes it difficult for students to grasp concepts, especially in arithmetic operations and word problem solving (Latifah, 2021).

The results of interviews with grade IV and V teachers at SDN Sukosari revealed that many students still struggle with mathematics learning. Observable symptoms include lack of focus, low enthusiasm during lessons, and learning outcomes that do not meet the Minimum Mastery Criteria (KKM), which is set at 70. Specifically, fractions and word problems are the main challenges for students. They still find it difficult to perform operations with fractions and to translate word problems into the correct mathematical form.

This issue indicates a gap between the intended learning objectives of mathematics and students' actual abilities in practice. Previous studies (Amalliah & Unaenah, 2018; Ekawati & Saragih, 2018) have discussed learning difficulties in mathematics; however, most of them focus on general analyses of learning challenges without examining in detail the specific context of fractions and word problems at the elementary level. Therefore, this study seeks to analyze the types of mathematical learning difficulties experienced by grade IV and V students at SDN Sukosari, particularly in the topics of fractions and word problems.

Based on this description, the main (grand) research question of this study is: "What types of mathematical learning difficulties are experienced by grade IV and V students at SDN Sukosari in the topics of fractions and word problems?"

This study is expected to provide a comprehensive understanding of the factors and forms of mathematical learning difficulties among elementary students, which can serve as a foundation for teachers to design more effective and contextual learning strategies.

RESEARCH METHODS

This study employed a qualitative method with a case study design. This design was chosen because it allows the researcher to explore in depth the phenomenon of learning difficulties in mathematics among elementary school students within a real-life context. According to Sugiyono (2018), a case study is used to examine certain phenomena comprehensively and thoroughly, focusing on a single unit of analysis. Therefore, this research focused on one specific case—students at SDN Sukosari—with the aim of understanding comprehensively the factors that influence mathematical learning difficulties.

The data sources in this study involved several relevant parties, namely grade IV and V teachers and several students who experienced difficulties in learning mathematics. The total number of informants was 10, consisting of 2 teachers and 8 students. The selection of informants was conducted using a purposive sampling technique, which involves selecting subjects intentionally based on specific criteria relevant to the research objectives (Rosliza, 2021). In this case, informants were chosen because they had direct experience with the phenomenon being studied.

Data were collected using three main techniques: interviews, observation, and documentation. The interviews were conducted in an in-depth and open manner using a semi-structured interview guide to provide flexibility for informants to express their experiences. Some of the main interview questions included:

- How do students experience learning mathematics in class?
- Which parts of mathematics lessons are perceived as the most difficult?
- What factors contribute to these learning difficulties according to students and teachers?
- How do teachers help students who experience difficulties in learning mathematics?
- How do students respond to the teaching strategies used by teachers?

In addition to interviews, observations were carried out to directly observe students' learning behaviors in class, teacher–student interactions, and the overall atmosphere of mathematics learning. Documentation, such as students' learning records, lesson plans (RPP), and students' work results, was used to strengthen the findings obtained from interviews and observations.

The validity of the data was tested using triangulation techniques by comparing data obtained from various methods (interviews, observations, and documentation) from the same sources to ensure consistency and credibility of the information. If any discrepancies were found, the researcher conducted follow-up discussions with the data sources to clarify the findings.

The data analysis process was carried out continuously from the beginning of data collection to the end of the study. The analysis used a thematic approach based on the Miles and Huberman model (in Sugiyono, 2017), consisting of three stages: data reduction, data display, and conclusion drawing. In the data reduction stage, the researcher selected and focused on data relevant to the research problems. Next, the data were presented in a narrative form to display patterns and relationships among themes. The final stage was drawing conclusions by interpreting the main themes that emerged from interviews and observations, such as difficulties in calculation, difficulties in understanding concepts, and internal and external factors influencing mathematical learning difficulties.

Thus, this research method not only describes the phenomenon of mathematical learning difficulties but also interprets the meanings behind teachers' and students' experiences within the learning context at SDN Sukosari.

RESULTS AND DISCUSSIONS

Results

The purpose of this research was to analyze the learning difficulties in Mathematics among Grade IV and V students at SDN Sukosari. Based on the data collected through interviews and classroom observations, several key challenges were identified. The findings indicate that students face difficulties in arithmetic operations, conceptual understanding, and comprehension of mathematical language. The causes of these difficulties can be grouped into two major factors: internal and external. The following section presents the detailed findings.

1. Difficulties in Arithmetic

Students' errors in arithmetic operations were commonly caused by their inability to comprehend problem statements and their lack of mastery of fundamental mathematical principles. The observation showed that students often applied incorrect computational procedures. For example, one student stated during the interview,

"I always get confused when doing multiplication. Sometimes I think 9 × 8 equals 56, not 72."

This demonstrates that the students struggled to recall multiplication facts and performed

operations inaccurately. Furthermore, several students relied heavily on repetitive addition to find multiplication results, which slowed down their problem-solving process.

Errors also appeared in mixed operations and division problems. Students often performed incorrect sequencing of operations, particularly in multi-step problems. This difficulty indicates that many students have not yet internalized the conceptual understanding of basic arithmetic operations.

2. Difficulties in Understanding Mathematical Concepts

Conceptual understanding represents the foundation of students' mathematical reasoning. The findings revealed that Grade IV students struggled with the concepts of addition and multiplication of fractions, as well as converting mixed numbers into improper fractions. In contrast, Grade V students encountered greater challenges with word problems.

One teacher explained,

"When I ask them to convert a mixed fraction, most students just stare at the question. They say they forgot the steps even though we practiced it yesterday."

This shows that memory retention and procedural understanding were weak. Students tended to forget previously learned concepts and could not transfer their knowledge to new problem situations. Although they had been introduced to the concepts, their mastery remained partial and imprecise.

3. Difficulties in Understanding Mathematical Language

Another major finding concerns students' limited understanding of mathematical terminology. Students often misinterpreted key words in problem statements, leading to conceptual errors. During an interview, one student mentioned,

"When the question says 'in total,' I think it means subtraction, not addition."

This reflects a fundamental misunderstanding of mathematical vocabulary. As observed, many students were unable to identify whether a word problem required addition, subtraction, multiplication, or division. Such misinterpretation of mathematical terms directly affected their problem-solving accuracy.

4. Factors Contributing to Learning Difficulties

The study identified two main categories of contributing factors: internal and external.

a. Internal Factors
Students' attitudes and low interest in learning were primary internal causes. Most students expressed that Mathematics was too difficult and confusing. As one student said,

"Math has too many formulas. I don't like calculating."

This negative attitude resulted in inattentiveness during lessons. Some students were observed chatting or playing rather than focusing on the teacher's explanation. A poor learning attitude was found to correlate strongly with persistent mathematical difficulties.

b. External Factors
External influences included teaching methods, lack of instructional media, limited school facilities, and minimal parental involvement. Teachers often relied solely on the whiteboard and marker without using engaging visual aids or manipulatives. One teacher admitted,

"I usually just explain and write on the board. We don't have special teaching materials for math."

Additionally, parental support was limited due to socioeconomic conditions. Many parents worked late and could not supervise their children's learning at home. Consequently, students lacked academic guidance and motivation beyond school hours.

Discussion

The findings of this study reveal that students' mathematical learning difficulties stem from both cognitive and affective factors. The first issue—difficulty in arithmetic—is consistent with Yeni (2015), who stated that reading, writing, and arithmetic are the three core academic domains where learning difficulties often arise. Jamaris (2015) also noted that arithmetic weaknesses often occur due to incorrect interpretation of symbols and improper number manipulation.

Conceptual understanding difficulties, particularly in fractions and word problems, align with the findings of Utari et al. (2019), who emphasized the importance of conceptual mastery for successful mathematical problem-solving. Students who fail to internalize concepts tend to rely on rote memorization, resulting in fragile retention and misunderstanding of procedures.

Language comprehension issues further compound these challenges. As supported by Sumarsono et al. (2020), learning difficulties emerge when students face cognitive barriers in understanding mathematical language, preventing them from achieving the intended learning outcomes.

The analysis also shows that both internal (attitude and motivation) and external (teaching practices, media, and parental involvement) factors play significant roles. According to Sudjono (in Paridjo, 2008), classroom learning environments can either facilitate or hinder mathematical understanding. Similarly, Ahmadi, Abu, and Supriyono (2013) highlighted that lack of parental guidance contributes to persistent learning difficulties among children.

In summary, this study confirms that mathematical learning difficulties among Grade IV and V students at SDN Sukosari arise not only from inadequate cognitive processing but also from environmental and motivational factors. Therefore, teachers are encouraged to adopt more interactive and contextual teaching methods, integrate visual learning media, and collaborate closely with parents to provide continuous learning support at home.

CONCLUSION AND SUGGESTIONS

Based on the results and discussion of the study on learning difficulties in Mathematics among fourth- and fifth-grade students at SDN Sukosari, it can be concluded that students experience challenges in three main aspects: arithmetic operations, conceptual understanding, and mathematical language comprehension.

Difficulties in arithmetic operations arise because students have not yet mastered the basic principles of calculation and often make procedural errors. In terms of conceptual understanding, students tend to memorize steps without truly grasping their meaning, making them easily forget and unable to apply the concepts to different types of problems. Meanwhile, difficulties in mathematical language are evident in students' inability to interpret terms or keywords in word problems, which leads to errors in choosing the correct operation.

The factors causing these learning difficulties come from both internal and external sources. Internal factors include low interest, lack of motivation, and negative attitudes toward Mathematics. External factors involve conventional teaching methods, insufficient learning media and facilities, and limited parental involvement in supporting learning

activities at home. Therefore, the issue is not only related to students' cognitive abilities but is also influenced by their learning environment and social support.

In light of these findings, several recommendations are proposed. Teachers are encouraged to apply more interactive, contextual, and visually based teaching methods to help students gain a deeper conceptual understanding. The use of teaching aids, educational games, and problem-based learning approaches can enhance students' motivation and comprehension. Schools should provide adequate learning media and facilities, such as posters, manipulatives, and engaging counting tools, to make the learning process more effective and enjoyable. Continuous professional development programs for teachers in innovative teaching strategies are also recommended.

Parents are expected to give more support and attention to their children's learning activities at home, even with limited time. This support may include motivation, guidance, or creating a conducive learning atmosphere at home. For future researchers, it is suggested to explore effective instructional interventions for addressing Mathematics learning difficulties by considering additional variables such as learning styles, the use of technology, and the influence of social environments on students' academic achievement.

REFERENCES

Amalliah, N., & Unaenah, E. (2018). Analisis Kesulitan Belajar Matematika pada Siswa Kelas III Sekolah Dasar. *Attadib Journal Of Elementary Education*, 123-133.

Amaliyah, dkk. 2021. *Analisis Kesulitan Belajar dan Faktor-Faktor Penyebab Kesulitan Belajar IPA Siswa SMP Negeri 4 Singaraja*. Jurnal pendidikan dan pembelajaran sains, 4(1). https://doi.org/10.23887/jppsi.v4i1.33868

Ekawati, & Saragih, M. J. (2018). Kesulitan Belajar Matematika Berkaitan dengan Konsep pada Topik Aljabar: Studi kasus pada siswa kelas VII sekolah ABC Lampung [Difficulties in learning mathematics concepts in algebra: A case study of grade VII students in ABC school Lampung]. *POLYGLOT: Jurnal Ilmiah*, 53-64.

Fadila, Sarina. 2021. *Analisis Faktor-Faktor Yang Mempengaruhi KesulitaBelajar Berbasis Daring Pada Mata Pelajaran Ipa Smp Negeri 1 Kateman Pada Masa Pandemi Covid-19*. Skripsi : Fakultas Tarbiyah Dan Keguruan Universitas Islam Negeri Sultan Syarif Kasim Riau Pekanbaru.

Idrus, E. (2018). *Membongkar Psikologi Belajar Aplikatif*. Bogor: Guepedia Publisher.

Jamaris, Martini. 2015. *Kesulitan Belajar Bagi Anak Usia Dini dan Usia Sekolah*.Bogor: Ghalia Indonesia.

Latifah, T., & Afriansyah, E. A. (2021). Kesulitan dalam Kemampuan Pemecahan Masalah Matematis Siswa pada Materi Statistika. *JARME: Journal of Authentic Research on Mathematics Education*, 134-150.

Latifa, U. (2017). Aspek Perkembangan pada Anak Sekolah Dasar: Masalah dan Perkembangannya. Journal of Multidisciplinary Studies, 1(2), 185–196.

Muderawan, dkk. 2019. *Analisis Faktor-Faktor Penyebab Kesulitan Belajar Siswa Pada Materi Kelarutan Dan Hasil Kali Kelarutan*. Jurnal pendidikan kimia Indonesia, 3(1).https://doi.org/10.23887/jpk.v3i1.20944.

Nuraini, Latifah. (2018). "Intergrasi Nilai Kearifan Lokal dalam Pembelajaran Matematika SD/MI Kurikulum 2013". *Jurnal Pendidikan Matematika*.Vol.11, No.2.

Pendas : Jurnal Ilmiah Pendidikan Dasar, ISSN Cetak : 2477-2143 ISSN Online : 2548-6950 Volume II Nomor 1, Juni 2017

Rosaliza, Mita. 2015. *Wawancara, sebuah interaksi komunikasi dalam penelitian kualitatif*. Jurnal ilmu budaya, 11(2). https://doi.org/10.31849/jib.v11i2.1099

Sugiyono.(2017). *Metode Penelitian dan Pengembangan* (*Research and Development/R&D)*. Bandung: Alfabeta.

Sugiyono.(2019). *Metode Penelitian dan Pengembangan* (*Research and Development/R&D)*. Bandung: Alfabeta.

Sumarsono, Puji dkk. 2020. "Belajar dan Pembelajaran di Era Milenial". Malang: Universitas Muhammadiyah Malang.

Utari, D. R., Wardana, M. Y. S., & Damayani, A. T. (2019). Analisis kesulitan belajar matematika dalam menyelesaikan soal cerita. Jurnal Ilmiah Sekolah Dasar, 3(4), 534-540.

Utami, R. D; Wibowo, D. C.; Susanti, Y. 2018. Analisis Minat Membaca Siswa Pada Kelas Tinggi Di Sekolah Dasar Negeri 01 Belitang. Jurnal pendidikan perkhasa,4(1):179-188, dasar DOI: https://doi.org/10.31932/jpdp.v4i1. 22.

Yeni, E. M. (2015). "Kesulitan Belajar Matematika Di Sekolah Dasar." http://jfkip.umuslim.ac.id/index.php/jupendas/article/view/231/131