

LEARNING OBSTACLES IN THIRD GRADE MATHEMATICS LEARNING AT SD N 1 PANJANG

Dhina Cahya Rohim¹,
Arienda Putri Margaretha²,
Amalia Rahmawati³,
Devy Aufia Abshor⁴,
Manggalastawa⁵

¹⁻⁵Universitas Muhammadiyah Kudus
dhinacahya@umkudus.ac.id

ABSTRACT

Mathematics is a means of solving problems from experience, knowledge and skills in everyday life so it needs to be mastered well. However, most students think that mathematics is a difficult subject, especially third grade students at SDN 1 Panjang. The perception that mathematics is a difficult subject is strengthened by the results of learning mathematics on multiplication of whole numbers which is below the KKM. This research aims to describe the learning obstacles by students and the factors that cause mathematical difficulties in multiplication of whole numbers. This research is qualitative research with the subject being the headmaster, third grade elementary school teacher and students at SDN 1 Panjang. The techniques used to collect data are observation, interviews, questionnaires and documentation. Data analysis was carried out by data reduction, data presentation, and drawing conclusions. The conclusion of this research is that the learning obstacles experienced by students include learning disorder, learning disability, learning dysfunction, teaching dysfunction, and under achiever. Meanwhile, the factors that cause obstacles to student learning consist of internal factors and external factors. Internal factors include negative attitudes in learning mathematics, low motivation to learn, body health, and sensory abilities. External factors include the lack of variation in teacher teaching, the use of learning media that is not optimal, the school infrastructure, and the family environment.

Keywords: learning obstacles, mathematics, elementary school students

INTRODUCTION

Education is a conscious and planned effort to provide guidance in developing children's potential, both physical and spiritual, which is given by adults to children to become human beings who have faith, noble

character, knowledge, creativity and independence who can be accepted in society and will provide experiences. study in formal, non-formal or informal education programs at school (Hidayat & Abdillah, 2019). Progress in education in the long term will be able to predict the quality of the nation from time to time. This shows that education is very important for every human being. Through education, students develop their ability to solve problems obtained from gaining experience, knowledge and skills that can also be applied in everyday life.

Problem solving requires systematic and logical thinking. One subject that can develop this ability is mathematics. Mathematics is a means of solving problems from experience, knowledge and skills in everyday life so it needs to be mastered well. Another opinion states that mathematics is a basic subject that requires reasoning, logical proof, and contributes to solving everyday problems (Dwiyono & Tasik, 2021). Mathematics in elementary school is the foundation of basic concepts that are used as a basis for learning, both for the next level of education and for application in everyday life. (Rismayanis, Kusnandar, & Juanda, 2022). Therefore, basic mathematical concepts are very necessary in developing skills for the continuation of human life.

The aim of learning mathematics is to improve students' abilities to develop, starting from understanding abilities to reasoning abilities (Indrawati, 2019). There are several basic concepts that must be mastered in mathematics lessons in elementary school, one of which is multiplication of whole numbers, namely addition which is done repeatedly. (Mutaqin, 2017). Elementary school students must master this concept because it is the initial capital for learning about mathematics and other sciences so that they can solve complex problems using the knowledge they already have. Lack of understanding in mathematics subjects, especially multiplication, causes students' learning difficulties. Learning difficulties are a normal thing experienced by students in every learning process which can be interpreted as a lack of students' ability to absorb the material provided at school (Amallia & Unaenah, 2018).

Most students think that mathematics is a difficult subject (Hamid, 2024). This view makes students easily give up before they even learn mathematics. This causes anxiety in students who do not like mathematics, making it difficult to understand the material presented and has an impact on low mathematics achievement.

The conditions experienced by these students are because they experience learning obstacles, which is a condition where students experience difficulties in the learning process (Hidayah & Maemonah, 2022). Learning obstacles are disorders experienced by students related to internal and external factors in children which cause difficulties for the brain in following the normal learning process in terms of receiving, processing and analysing information obtained during learning. (Fernandes, Winardi, & Appulembang, 2019). Another opinion states that

learning obstacles can be expressed as a learning difficulty which is a condition where a person is unable to learn well (Pramesti & Prasetya, 2021). Learning difficulties experienced by students in the learning process have a large influence on the learning outcomes achieved, so that in general all students who obtain low learning outcomes are students who experience learning difficulties. (NUralam & Haswina, 2023). Learning obstacles that often occur in mathematics lessons include a lack of understanding of the material, resulting in errors in solving the problems given (Hidayah & Maemonah, 2022; Mawarsari et, 2023).

In general, there are 2 factors that influence students' learning obstacles, namely internal factors and external factors (Fernandes et al., 2019). Internal factors are factors or causes that exist within the individual, for example physical factors, psychological factors. Meanwhile, external factors are factors that come from outside the individual, including the family environment, school environment and community environment. Other opinions state that obstacles to learning mathematics can be caused by various factors, including individual differences in mathematical ability, lack of motivation, unsuitable teaching methods, health or emotional disorders, and environmental factors (Legista, Nabila, Astuti, & Ulumiah, 2023).

The results of interviews with students at one of the elementary schools in Kudus Regency, Central Java, namely SDN 1 Panjang in January 2024, stated that they still experienced a lack of understanding of mathematical concepts, especially multiplication material, so that when working on questions there were many errors when calculating. They are still confused about applying concepts to solve mathematical problems related to multiplication material. There are also students who say that they feel bored and sleepy when taking mathematics lessons so they are unable to understand the material presented by the teacher in class. Apart from that, the results of interviews with 3rd grade teacher at SDN 1 Panjang also showed the same thing, that there were still students whose daily test scores on multiplication of whole numbers were below the KKM. This was proven by 30 3rd grade students, there were 18 students who had not completed the KKM scores that had been determined. Thus it can be said that learning has not been achieved optimally. Teachers have made various efforts to improve students' mathematics learning outcomes, including using varied learning methods, but the learning achievements of some students still show results that do not meet the target.

Based on these conditions, this research was carried out with the aim of describing the obstacles experienced by students and the factors causing mathematics difficulties, especially in the material of multiplication of whole numbers at SDN 1 Panjang. Several similar studies have been conducted, including research by Dea Rizka Amalia, Faizal Chan and Muhammad Sholeh in 2022 which examined students' learning difficulties regarding multiplication calculation operations in mathematics learning in

4rd Grade. The results of the research show that there are several difficulties experienced by students in learning mathematics in 4rd Grade elementary school, including difficulty understanding concepts, students not memorizing multiplication and difficulty in distinguishing symbols for arithmetic operations. (Amalia, Chan, & Sholeh, 2022). Another research conducted by Siti Kurniani Ningsih, Aam Amaliyah and Candra Puspita Rini in 2021 resulted in students still experiencing learning difficulties so teachers must be more creative in choosing appropriate learning methods. (Ningsih, Amaliyah, & Rini, 2021). The research that will be carried out is different from that research. These differences include the factors analyzed which are only internal factors, while the material and level of subjects studied are also different. This research is considered very important to carry out in order to find out the factors that hinder students' learning so that teachers can determine appropriate learning methods and techniques. Apart from that, this research can also be used as evaluation material in making improvements to mathematics learning so that student learning outcomes can improve.

METHOD

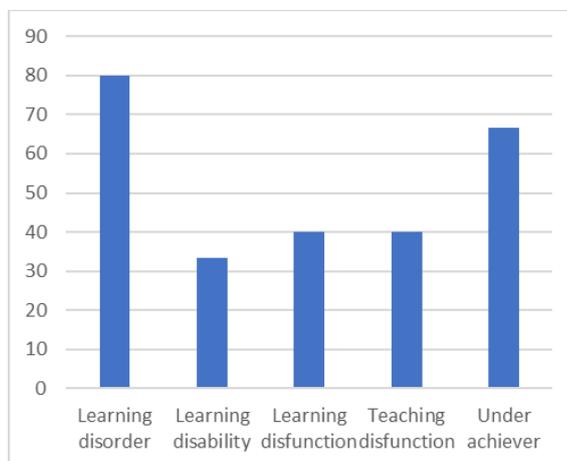
This research is qualitative research with the subject being the principal, third grade teacher, and third grade students at SDN 1 Panjang. Data collection techniques are the most important step in research, because the main aim of research is to obtain data (Alfansyur & Mariyani, 2020). Data collection is the most important stage that researchers will carry out to obtain data that will later be analyzed. The techniques used to collect data are observation, interviews, questionnaires and documentation. Observations were carried out using observation sheets to find out whether there were learning obstacles experienced by students through direct observation of the teaching and learning activity process. Interviews were conducted with the principal, teachers and third grade students of SDN 1 Panjang. The interview guide contains a list of questions to obtain information related to students' learning obstacles in mathematics subjects, especially multiplication of whole numbers. Documentation techniques are a source of supporting data for the data that has been obtained, while questionnaires are given to research subjects in the form of a series of questions to obtain data regarding students' learning obstacles in mathematics subjects. Data analysis was carried out by data reduction, data presentation, and drawing conclusions.

FINDINGS AND DISCUSSION

1. Classification of Learning Obstacles Experienced by students

Researchers conducted an analysis of data obtained from the results of filling out questionnaires by respondents regarding learning obstacles experienced by students. Data from the analysis are presented in the table as follows.

Graph 1:
Classification Data on Student Learning Obstacles



Based on graph 1, it is known that the learning obstacles experienced by students at SDN 1 Panjang can be classified into 5 categories, namely learning disorder, learning disability, learning dysfunction, teaching dysfunction, under achiever. Of the entire sample, it is known that 80% of them experienced learning disorders when learning multiplication of whole numbers. Obstacles experienced include often feeling tired of thinking when learning mathematics and not understanding the material presented.

The second learning obstacle is learning disability, which is 33.3% experienced by students, characterized by an inability to learn or behavior that avoids learning, which has an impact on student learning outcomes that are below average. Students pay less attention to the teacher and tend to talk to themselves and disturb their friends during learning. The third learning obstacle is learning dysfunction. Some students have sensory disorders or other psychological disorders. Based on the questionnaire filled out by respondents, there are 40% of students who experience learning dysfunction. They feel that they have poor vision, such as when looking at the blackboard from a distance away from where they are sitting, so they can slow down when writing or when watching the teacher explain the material. Apart from that, another problem is limited memory so that some students are unable to recall the material that the teacher has presented.

The fourth learning obstacle is teaching dysfunction. From the results of filling out the questionnaire, it was found that 40% of students considered the learning method used by the teacher to be less interesting so that learning felt boring and did not make it easier for them to learn multiplication. Apart from that, teachers do not use interactive learning media. The fifth learning obstacle experienced by students is under achiever. Of the entire sample, there were 66.7% of students who experienced low achievement. They get mathematics scores below the KKM, especially in the multiplication of whole numbers. To

overcome this, the teacher provides remedial and enrichment activities so that all students can achieve complete learning in accordance with the learning objectives..

2. Factors that influence student learning obstacles

Based on the results of observations and interviews conducted with respondents, the results showed that difficulties in learning mathematics, multiplication of whole numbers in third grade, were caused by internal and external factors as follows.

a. Internal Factors

1) Learning Attitude

Based on observations, it is known that there are students who like and dislike mathematics subjects. Students' readiness before studying looks good, but during learning, there are some students who are less serious, such as playing alone with their stationery and talking with friends when the teacher explains the lesson material. Students' negative attitudes towards learning mathematics will influence students in participating in the learning process. Students who have negative attitudes tend not to participate in learning well, do not pay attention to the explanations given by the teacher and do other activities during class such as chatting with their friends.

2) Learning Motivation

Based on observations, only some students are enthusiastic about participating in mathematics learning, especially in multiplication of whole numbers. Some students stated that they only studied if they had homework, but there were also those who argued that they rarely studied because they were lazy and did not understand the material that had been taught. Thus, it can be said that the learning motivation of third grade students regarding the multiplication of whole numbers appears to be low so that learning outcomes are less than optimal. The main motivation to learn comes from oneself because the students themselves carry out learning activities. However, motivation can also be influenced by teachers and family factors also play an important role in providing motivation for students. Parents who do not give maximum attention will have an impact on students' low learning motivation at school. Low learning motivation makes students not pay attention to the material presented during class.

3) Body Health

Based on observations, the physical readiness of third grade students when taking part in mathematics learning about multiplication material looks good and healthy. Health is an important factor in carrying out mathematics learning activities. Students who are unhealthy will experience difficulties in learning. Students who are sleepy and unable to concentrate during class can be a sign that the student's physical condition is not in optimal condition. This situation results in students

being unable to absorb the material presented during ongoing learning. Some students have poor eyesight so they can slow down when writing or when watching the teacher explain the material.

b. External Factors

1) Learning Method

The use of varied learning methods and models is needed to attract students' attention and reduce students' boredom when studying mathematics. Based on the results of observations and interviews, it was found that teachers used conventional learning methods. The choice of method used is adjusted to the material to be presented.

2) Learning Media

Based on observations, learning has not used interactive media when explaining whole number multiplication material. The use of learning media will make the material presented interesting and well understood by students.

3) Learning Infrastructure

Based on observations made in the school environment, the facilities and infrastructure at the school support the mathematics learning process. Class conditions can be said to be good, the building is a permanent building that is safe to use for learning.

Picture 1:
SDN 1 Panjang Classroom



Source: Private document

Third grade rooms are quite clean and comfortable for studying and the school facilities are also sufficient to support the learning process. Apart from that, the classrooms are equipped with fans which support students' comfort in learning mathematics.

4) Family Environment

The family environment is an important factor in supporting students' learning process. The class teacher said that in 3rd grade of SDN 1 Panjang some students did not receive maximum attention at home. There are students who do not receive assistance when doing homework so that learning outcomes are not optimal.

CONCLUSION

The conclusion of this research is that the learning obstacles experienced by students at SDN 1 Panjang are classified into 5 categories, namely learning disorder, learning disability, learning dysfunction, teaching dysfunction, and under achiever. Meanwhile, the factors that cause obstacles to student learning consist of internal factors and external factors. Internal factors include negative attitudes in learning mathematics, low motivation to learn, body health, and sensory abilities. Meanwhile, external factors include the lack of variation in teacher teaching, the use of learning media that is not optimal, the school infrastructure, and the family environment.

ACKNOWLEDGEMENT

The author would like thank to the Rector and Head of LPPM Universitas Muhammadiyah Kudus who have given to author the opportunity to conduct research and compile this article. Furthermore, the author also would like to thank all parties who have helped, especially reviewers and subjects in this research. The author hopes that this article can be useful for the author himself in particular and society in general and can be used as a reference for further research.

REFERENCES

- Alfansyur, A., & Mariyani. (2020). Seni Mengelola Data: Penerapan Triangulasi Teknik, Sumber Dan Waktu pada Penelitian Pendidikan Sosial. *Historis*, 5(2), 146–150.
- Amalia, D. R., Chan, F., & Sholeh, M. (2022). Analisis Kesulitan Siswa Belajar Operasi Hitung Perkalian Pada Pembelajaran Matematika dikelas IV. *Jurnal Pendidikan dan Konseling*, 4(3), 1349–1358.
- Amallia, N., & Unaenah, E. (2018). Analisis Kesulitan Belajar Matematika Pada Siswa. *Attadib Journal of Elementary Education*, 3(2), 123–133.

- Dwiyono, Y., & Tasik, H. K. (2021). Analisis Kesulitan Belajar Operasi Hitung Perkalian Matematika Siswa Kelas IV SD Negeri 019 Samarinda Ulu. *Jurnal Ilmu Pendidikan LPMP Kalimantan Timur*, (1), 175–190.
- Fernandes, L., Winardi, Y., & Appulembang, O. D. (2019). Hambatan Belajar Matematika: Studi Kasus Di Kelas VIII Suatu Sekolah di Semarang. *JOHME: Journal of Holistic Mathematics Education*, 3(1), 16–31.
- Hamid, N. (2024). Analisis Kesulitan Belajar Siswa Dalam Mata Pelajaran Matematika. *Journal on Education*, 6(2), 18–36.
- Hidayah, A., & Maemonah, M. (2022). Analisis Hambatan Belajar Siswa Kelas IV Pada Mata Pelajaran Matematika. *Symmetry: Pasundan Journal of Research in Mathematics Learning and Education*, 7(2), 232–240.
- Hidayat, R., & Abdillah. (2019). *Buku Ilmu Pendidikan Rahmat Hidayat & Abdillah*. (C. Wijaya, Ed.) (1st ed.). Medan: Lembaga Peduli Pengembangan Pendidikan Indonesia (LPPPI).
- Indrawati, F. (2019). Hambatan Dalam Pembelajaran Matematika. *Simposium Nasional Ilmiah & Call for Paper Unindra (Simponi)*, 1(1), 62–69.
- Legista, A., Nabila, A., Astuti, A., & Ulumiah, I. N. (2023). Analisis Faktor Penyebab Kesulitan Belajar Matematika Siswa Kelas VIII SMP Dwiguna Depok Tahun Ajaran 2023 / 2024. *Jurnal Arjuna: Publikasi Ilmu Pendidikan, Bahasa dan Matematika*, 1(6), 244–249.
- Mawarsari et, . al. (2023). Implementasi Problem Based Learning Berbantuan E-modul Untuk Optimalisasi Berpikir Geometris. *Prosiding Seminar Nasional Pascasarjana Universitas Negeri Semarang* (pp. 864–870). Retrieved from <http://pps.unnes.ac.id/pps2/prodi/prosiding-pascasarjana-unnes>
- Mutaqin, E. J. (2017). Analisis Learning Trajectory Matematis Dalam Konsep Perkalian Bilangan Cacah di Kelas Rendah Sekolah Dasar. *DWIJACENDEKIA: Jurnal Riser Pedagogik*, 1(2), 14–20.
- Ningsih, S. K., Amaliyah, A., & Rini, C. P. (2021). Analisis Kesulitan Belajar Matematika Pada Siswa Kelas Ii Sekolah Dasar. *Berajah Journal*, 2(1), 44–48.
- NUralam, S., & Haswina. (2023). Analisis Kesulitan Belajar Matematika pada Siswa Kelas III SDN Panyapu. *Jurnal Teknologi Pendidikan Madako*, 2(1), 27–31.
- Pramesti, C., & Prasetya, A. (2021). Analisis Tingkat Kesulitan Belajar Matematika Siswa dalam Menggunakan Prinsip Matematis. *Edumatica : Jurnal Pendidikan Matematika*, 11(02), 9–17.
- Rismayanis, A., Kusnandar, N., & Juanda, R. Y. (2022). Pengaruh Penggunaan Media Gelas Perkalian Terhadap Kemampuan Pemahaman Konsep

Pada Materi Perkalian (Penelitian Eksperimen Pada Siswa Kelas Ii Sdn Gudang Kopi Ii Kecamatan Sumedang Selatan Kabupaten Sumedang Tahun Pelajaran 2020/2021). *Jurnal Edukasi Sebelas April (JESA)*, 6(1), 10-18.