



Difficulty Learning Mathematics Material for Multiplication Counting Operations in Elementary School

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Abstract- Class III elementary school students are expected to be able to do multiplication sequentially both during the multiplication process and the accuracy of the results. However, students still do not fully understand the multiplication calculation operation, especially in a sequential way. This research aims to: 1) analyze the difficulties of learning mathematics in the Multiplication Calculation Operation material for class III students; 2) describe the factors causing these difficulties; 3) describe the efforts made to overcome these difficulties. This research includes qualitative research. The research results obtained: 1) Difficulty learning mathematical multiplication calculation operations experienced by class III Elementary School, namely: Difficulty understanding symbols, place value in multiplication, incorrect processes in multiplication, and calculations in multiplication; 2) Internal factors dominate the factors causing these difficulties; 3) Efforts made to overcome these difficulties are: the need to provide supporting training, guidance from teachers. This can be an essential note for teachers in mathematics and multiplication calculation operations. The impact of this research is as a consideration for mathematics teachers in teaching number multiplication material, as well as knowing more about the characteristics of students in solving number multiplication problems.

1. Introduction

One of the learning skills that elementary school students are expected to master is mathematics learning skills. Mathematics is a part of science that includes various mathematical studies to produce the ability to think and argue about mathematical ideas, both orally and in writing, to solve problems (Pamungkas, Sundari, & Saputro, 2022). Mathematics is also called knowledge of

Quantities, quantities, and measurements are closely related to logical thinking skills (Jabeen & et al., 2021).

Every student will experience difficulties in the learning process. Learning difficulties are disturbances that occur related to general and specific tasks, resulting in students having poor learning outcomes. The meaning of difficulty here is the inability to participate in learning, including learning mathematics (Amalia, Chan, & Sholeh, 2022). Apart from that, several other causes of difficulties in learning mathematics are students' lack of understanding or misunderstanding of other important mathematical concepts (Swain, Das, & Rout, 2023).

By definition, Jamaris explained that learning difficulties could be called learning disabilities, a disorder in individuals who experience difficulty effectively carrying out the learning process (Jamaris, 2015). According to Sukardi, analysis is the activity of understanding all the information in a case to find out what problems are occurring and then deciding what action must be taken immediately to resolve or solve the problem (Sukardi, 2007).

Jamaris believes that the factors that cause learning difficulties are challenging to solve because they are complex. However, Jamaris believes that learning difficulties are not directly related to the individual's level of intelligence but instead that the individual has difficulty mastering learning skills and experiences brain dysfunction (Jamaris, 2015).

Slameto believes that the cause of mathematics learning difficulties experienced by elementary and middle school children is due to the structured form of understanding mathematics. Each understanding is a prerequisite for the following performance (Slameto, 2010). For example, before learning whole number arithmetic operations, the conditions that must be understood are counting and speaking. Pre-concepts of numbers include number symbols, leaning forwards, counting backward, counting by twos or fives, and counting while analyzing. If a child cannot add, then he will experience difficulty in multiplication and so on. As a result, children experience stress because their abilities differ from their classmates.

Several factors also influence students' difficulties in learning; according to Abdurrahman, several factors cause individual learning difficulties, namely internal factors, namely those that come from within the person concerned, and external factors, namely those that come from outside the self. Concerned. Internal factors come from within the student (physical, psychological, and fatigue). Meanwhile, external factors come from outside (family, school, and society) (Syah, 2014). Internal factors come from within students, including attitudes toward learning, student interest in education, student motivation, and aspects of body health. External factors come from outside of students, including variations of teachers in teaching, use of learning media, and family environment (Netson & Ain, 2021). One of the difficulties experienced by students is difficulty in understanding the material on multiplication calculation operations. This results in low student learning outcomes, so students do not understand the following material (Pratiwi, Disurya, & Tanzimah, 2023). Several internal and external factors play a close role in the difficulty of learning multiplication material (Azzizah et al., 2022).

From the results of interviews with teachers at the school, it was found that there were still students who had difficulty learning mathematics subjects, especially multiplication. Some students make mathematics difficult, so many students get low learning outcomes. Students' lack of understanding of the material taught by the teacher, lack of memorization of the multiplication system, and students often feeling like they forget are also factors that make students' practice scores low.

Based on this explanation, the researcher wants to conduct research entitled: Analysis of Mathematics Learning Difficulties in Calculating Multiplication Operations on Whole Numbers for Class III Students. To obtain a complete and detailed statement regarding the scope of the problem to be studied, several specific problem formulations were created: (a) What difficulties do class III students have in calculating multiplication operations? (b) What causes students to experience the challenges in calculating multiplication operations for class III students? (c) How can class III students overcome mathematics difficulties in multiplication arithmetic operations? This can be an essential note for teachers in mathematics and multiplication calculation operations.

2. Methods

This research is descriptive research with a qualitative approach. Using the interview technique, the source was directly from the class teacher, the class III teacher. In the interview process, we, as interviewers, asked several questions regarding students' learning difficulties in class III.

According to Sugiyono, the qualitative descriptive method is a research method based on the philosophy

of postpositivism used to research the conditions of natural objects (as opposed to experiments) where the researcher is the key instrument. Data collection techniques use triangulation (combination), data analysis is inductive/qualitative, and qualitative research results emphasize meaning rather than generalization (Sugiyono, 2016).

This research was conducted at SD Negeri 001 Letung School. The study was carried out on May 18, 2022. The documentation carried out in this research was by taking pictures in the form of photos and recording the results of interviews with related informants using video and audio. The results of interviews and observations are then analyzed, and conclusions are drawn.

3. Results and Discussion

Mathematics learning difficulties are an inability to perform mathematical skills expected for a person's intellectual capacity and educational level. According to Mulyadi, learning difficulties have a broad meaning, including (Mulyadi, 2010):

1. Learning Disorder is a condition where a person's learning process is disrupted due to conflicting responses. Thus, the learning outcomes achieved will be lower than the potential.
2. Learning Disabilities is a person's inability, which refers to symptoms where a person cannot learn (avoids learning) so that his learning results are below his intellectual potential.
3. Learning dysfunction is showing symptoms where the learning process is not functioning properly even though there are no signs of mental subnormality, sensory disturbances, or other psychological disorders.
4. Under Achiever refers to someone with intellectual potential above normal but relatively low learning achievement.

A specific learning disability is a disturbance in one or more basic psychological processes, including understanding and using spoken or written language. These disorders may manifest as difficulty listening, thinking, speaking, reading, writing, spelling, or arithmetic. These limitations include conditions such as perceptual disorders, brain injuries, dyslexia, and developmental aphasia.

This limit does not include children who have learning problems whose leading cause arises from visual, hearing, or motor impairments, impairments due to mental retardation, emotional disturbances, or environmental, cultural, or economic poverty. Learning difficulties refer to a group of difficulties manifested in the form of objective difficulties in the proficiency and use of listening, conversation, reading, writing, reasoning, or abilities in mathematics. From the opinions of these experts, it can be stated that difficulty learning mathematics is an inability to perform mathematical skills needed for intellectual capacity because of its association with central nervous system disorders.

Various factors cause learning difficulties experienced by students. According to Shah, in general, the factors that cause learning difficulties consist of two types, namely (Syah, 2014):

1. Internal student factors include psycho-physical disorders or deficiencies, namely cognitive, such as student intelligence; affective, such as increased emotions and attitudes; and psychomotor, such as disruption of the sense organs of sight and hearing.
2. Student external factors, including all surrounding situations and conditions, do not support student learning activities. These environmental factors include the family environment, such as the disharmonious relationship between father and mother; the community environment, such as naughty playmates; and the school environment, such as the condition of teachers and low-quality learning tools.

Multiplication in elementary school is one of the fundamental operations across grades in school mathematics, and it is the basis for early algebra (Lee & et al., 2021). The difficulty of elementary school students learning mathematics in integer operations was that they had trouble understanding the questions' purpose, so they were mistranslated into math sentences (Yazid, Atiaturrahmaniah, & Armila, 2020).

Based on research findings at SDN 001 Letung, several things were found, specifically in class III. This research was conducted face-to-face between the person asking (interviewer) and the person being questioned or answering (interviewee). Interviews were conducted with class teachers and Class III

elementary school students to obtain more precise and in-depth information about the research subject's learning difficulties in multiplication. Then, the researcher collected several interview results and made them into one document. This also aims to determine the extent of teachers' use and implementation of learning technology at SDN 001 Letung.

The results of the first research, difficulties in learning mathematical multiplication calculation operations experienced by class III students at SD Negeri 001 Letung, namely: (1) Difficulty understanding symbols, (2) Place value in multiplication in layers, (3) Wrong process in multiplication in layers, (4) Calculations in multiplication.

Observation results show that the difficulty in understanding visible symbols is in recognizing and using mathematical symbols, namely ($=$, $-$, $+$, $<$, $>$) and so on. It is due to impaired memory and visual perception. Students do not know how to do division problems. He answers the questions in his way (in a known manner). Students do not understand the multiplication symbols, so they do multiplication problems using addition and do not understand the steps or procedures for multiplication. Students do not understand the basic concept of multiplication. Apart from that, students do not understand the contents of the questions correctly.

Another difficulty in learning the multiplication arithmetic operation is a lack of understanding of place value. It makes it difficult for students if they encounter symbols for base numbers that are not ten. Therefore, learning mathematics in elementary school emphasizes arithmetic or counting, which can be used directly in everyday life. Misconceptions often occur in understanding the place value of two-digit and three-digit numbers. This happens because teachers have limited knowledge about place value from textbooks available at school or books containing only definitions and examples. The teacher's understanding is inadequate, so students do not understand the material presented, allowing errors and misconceptions. The observation showed that one of the students was working on problem 89×72 ; his understanding was focused on the multiplication algorithm, which started from multiplying $9 \times 2 = 18$; the student wrote the number 1 as a unit in the product and stored the number 8 as tens. Place value errors This makes it difficult for students to determine the results of division based on place value.

The results of the second study showed that the dominant factor causing difficulties in learning multiplication arithmetic operations was internal factors. The challenges in learning mathematics experienced by students, starting from conceptual errors, place value, calculations, and incorrect work processes, are students' lack of interest in learning mathematics. Students are less interested in studying calculation questions. Many students are afraid. Students are scolded by the class teacher and parents when they can't do a math problem or do it wrong. Some students are not interested in studying mathematics but are interested in learning English. Students feel tired because the math lesson schedule is in the last hour. Students are generally not ready to participate in lessons; they are not good at listening to teacher explanations. The relationship or communication between teachers and students is also a factor causing difficulties in learning multiplication arithmetic operations.

The interview results also showed that some students felt happy because they could communicate with the class teacher and learn mathematics well. However, several other students thought they could not share and follow mathematics lessons well. As a result, students' attention is lacking/weak. Apart from that, there is a lack of teacher variation in teaching, which makes students feel bored and end up ignoring the lesson. Relationships or communication between fellow students are also a factor causing learning difficulties. Students who sit on a bench with friends who are good at division calculation operations understand because they are helped. However, students not good at arithmetic operations sitting together will see the results of their friends' work and will not do it themselves. In this case, the class teacher tries to arrange seating so that learning remains conducive.

4. Conclusion

Based on the results of the research and discussion, it can be concluded: (1) Difficulty learning mathematical multiplication calculation operations experienced by class III students at SD Negeri 001 Letung, namely: Difficulty understanding symbols, place value in multiplication, and incorrect

processes in multiplication, as well as calculations in multiplication. Stacked; (2) The reason why many students are still unable to count in multiplication can be seen from the way students do the questions; many of them make mistakes when adding up the multiplication results. Students who cannot yet calculate basic mathematics, namely addition, subtraction, and multiplication. So, it makes learning difficult. In this case, learning difficulties can be said to be in the students themselves (internal factors), and in understanding the teacher pays attention to students who are not yet able to do basic arithmetic such as multiplication so that students do not experience difficulties when in higher grades; (3) In this case, to overcome challenges in learning mathematics, students must be given practice questions always to remember the lessons that have been taught previously. Students who are not yet able to understand the concept of multiple multiplication must need the teacher's tutoring so that students can understand the concept and principles of multiplication using their understanding and apply it in their own words.

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