



ANALYSIS OF STUDENTS' LEARNING DIFFICULTIES ON MULTIPLICATION AND DIVISION MATERIALS IN PRIMARY SCHOOL

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ABSTRACT

There are still many students who find it difficult to solve multiplication and division material questions. This research aims to analyze students' learning difficulties in learning mathematics, multiplication and division material in elementary school. This type of research is qualitative research. The research subjects were class students, educators, the principal of SD N 3 Panca Tunggal, while the informants for this research were class III educators at SD N 3 Panca Tunggal. Data collection techniques are interviews, observation and documentation. The results of the research show that the difficulties experienced by class III students in solving multiplication and division problems are difficulties in understanding word problems, difficulties in understanding the concepts of multiplication and division, and difficulties in determining arithmetic operations. The efforts made by educators to overcome students' difficulties include practicing doing story questions repeatedly, making questions in language that is easy for students to understand, and taking their own approach with students who experience difficulties.

Keywords: learning difficulties, multiplication and division, elementary school

A. INTRODUCTION

Education represents not only a fundamental pillar of individual development but also serves as a highly effective and efficient mechanism through which the fabric of national life can be shaped and transformed in significant ways that resonate throughout society. By harnessing the transformative power of education, individuals are afforded the invaluable opportunity to realize their full potential, thereby enabling them to actively engage and participate in shaping their own futures as well as the future of their communities. Consequently, it is imperative that concerted efforts are undertaken to facilitate the effective and maximal teaching of mathematics, ensuring that students are equipped to derive the greatest possible benefits from their learning experiences in this critical subject area. Numerous children, particularly those with learning disabilities, encounter substantial challenges when it comes to mastering the intricacies of mathematics, as highlighted by Nuraziza Rahmah in her recent research conducted in 2023.

In light of qualitative interviews conducted with third-grade educators at SD N 3 Panca Tunggal, it has been observed that the difficulties students face in learning mathematics are underscored by their failure to meet the KKM, or Minimum Completeness Criteria, which serves as a benchmark for academic achievement in the subject. This phenomenon is further illustrated by various indicators that reflect the students' inadequate understanding of mathematical concepts and practices. The challenges that students encounter in grasping mathematical principles have a demonstrable impact on their overall learning outcomes in this subject area, which can be quantitatively assessed through their scores on daily tests and semester examinations. A review of the mid-semester and semester examination

results reveals that a concerning number of students, specifically 5 out of 18, scored below the KKM threshold during the first semester, highlighting a pressing need for intervention.

The instructional strategy employed by educators in this context predominantly revolves around traditional lectures and demonstrations, whereby educators take on the role of facilitators who guide students through the material in a direct manner. Educators also attempt to create an open environment by encouraging students to pose questions regarding any aspects of the material that may remain unclear or confusing. However, it has been noted that students frequently exhibit a lack of initiative when it comes to seeking clarification through questions, which can subsequently hinder their overall academic performance and learning outcomes in mathematics.

In response to the aforementioned issues, it becomes evident that there is an urgent need for the development and implementation of alternative solutions to address the persistent learning challenges that have been identified. One promising approach involves the integration of pedagogical strategies that specifically aim to cultivate and enhance students' critical thinking skills, thereby necessitating the adoption of a learning model that fosters an active learning environment. Such a model would not only encourage collaboration among students but also empower them to engage in problem-solving activities that are relevant to their educational experiences. Additionally, despite the ongoing challenges pertaining to low learning outcomes, it is noteworthy that the variety of educational media utilized by educators in the third grade of SD N 3 Panca Tunggal remains markedly insufficient, as the resources available are still limited in number.

Moreover, observations regarding student behavior during mathematics lessons indicate that many learners tend to become easily bored, and a significant number of students display hesitance when invited to approach the board to solve problems, with only a select few demonstrating the confidence required to volunteer. This combination of factors further underscores the critical need for innovative teaching strategies and an expansion of educational resources aimed at enhancing student engagement and improving mathematical understanding in this vital area of study.

B. RESEARCH METHOD

This type of research uses a qualitative descriptive approach. The research design used is a case study, as it is based on the phenomena that occur and aims to understand them in depth with the goal of identifying the factors that cause difficulties in mathematics learning in the third grade of elementary school. The subjects in this study are third-grade teachers and third-grade students at SD N 3 Panca Tunggal. With a total of 18 students. There are 11 male students and 7 female students. The students who are the focus of this research are 5 in number, namely students who experience difficulties in learning mathematics and often achieve low mathematics learning outcomes below the Minimum Completeness Criteria (KKM). The data collection instrument in this study is the Observation Technique. Observation is a method of data collection that involves the social interaction between the researcher and the informant in a research setting. (observation of research objects in the field).

Observation is conducted by observing and recording all events. This method aims to ascertain the truth or facts on the ground. The author observes the activities of students in the classroom during the learning process. Then using the Interview Technique, the interview used is a structured interview. Respondents are free to answer without any restrictions or predefined options provided by the author. This indirectly provides space for respondents to convey data comfortably and openly. With this interview model, the writer tends to obtain data other than what was asked of the respondents, because in open interviews, respondents' answers tend to expand unconsciously. This greatly supports the author in obtaining additional data as a cross-check for the triangulation results. For the completeness of research data, documentation is used. Documentation is written materials or photos used for testing, interpreting, and even predicting as evidence for a test. Document collection is used to verify the accuracy or correctness of information obtained through interviews. The documents collected in this research are students' work sheets, students' grade lists, and photos taken during the research.

C. RESULTS AND DISCUSSION

The research results are described with the aim of understanding the data that the researcher has obtained through observations, interviews, and documentation. The discussion of the topic presented is related to the observations made by the researcher during the research process. Interviews were conducted with 5 third-grade students and the third-grade mathematics teacher at SD N 3 Panca Tunggal. Observations were carried out directly on the third-grade students and the teacher during mathematics lessons and when the students were solving multiplication and division problems. The documents used included the students' work in solving multiplication and division problems. The students' answers are then analyzed using a checklist that contains the aspects to be observed.

1. Written response of student 1

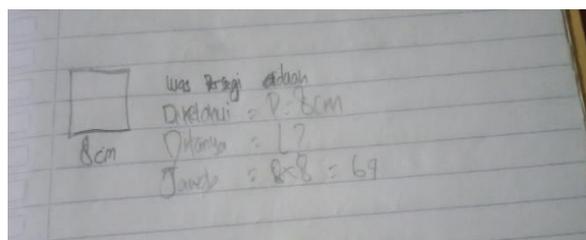


Figure 5.1. Work Results of Student 1

Upon careful examination of the written feedback provided by Student 1, it becomes evident that the student possesses the ability to articulate both the information that is already known and the specific inquiries that are being posed in the problem. Nevertheless, it is important to note that the student failed to document the relevant formula that is typically employed in the process of solving such mathematical problems. Furthermore, the overall execution of the problem-solving process by the student was not conducted with a high degree of proficiency or accuracy. In light of the outcomes presented by Student 1, the

researcher took the initiative to inquire about the particular challenges that Student 1 faced while attempting to resolve the questions that had been assigned by the educator.

In response to the researcher's probing question, "Why didn't you write down the formula when solving the problem?" Student 1 provided the following reply: "I forgot, sis, how to write the formula for finding the area of a square, but I remember how to multiply it." The exchange between the researcher and Student 1 reveals a significant struggle with identifying the appropriate mathematical operation necessary for effectively solving the presented problem. This difficulty seems to stem from Student 1's lack of understanding regarding the specific formula that is utilized for calculating the area of a square, which, in turn, has hindered the student's ability to apply the correct methodology in this particular context.

2. Written answer of student 2

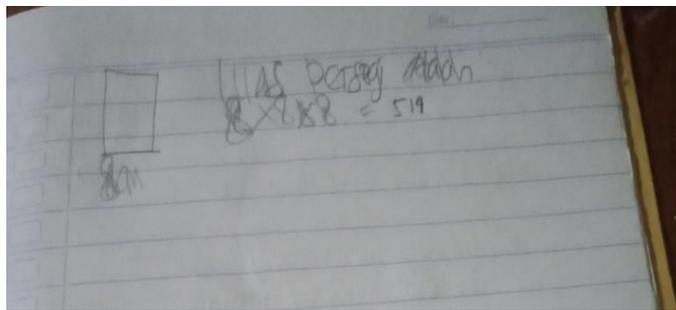


Figure 5.2. Work Results of Student 2

In light of the findings derived from the aforementioned scholarly work, it has become evident that student 2 failed to adequately document both the existing knowledge pertinent to the subject matter and the specific inquiries posed within the question, thereby demonstrating a lack of engagement with the material. Furthermore, the student neglected to articulate the necessary procedural steps required to effectively resolve the posed problem, instead opting for a superficial response that not only fell short in detail but also culminated in an erroneous conclusion. This oversight indicates a significant gap in the student's understanding and application of the requisite problem-solving techniques, which are essential for achieving accurate and comprehensive answers in academic contexts.

3. Written answer of student 3

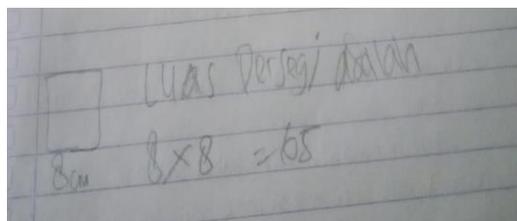


Figure 5.3. Work Results of Student 3

Based on the comprehensive analysis of the results derived from the aforementioned work, it is evident that Student 3 did not adequately articulate what they comprehended regarding the problem presented nor did they clearly identify what was specifically being asked in the question posed to them. Furthermore, it is notable that the student failed to

delineate the appropriate and systematic steps required to effectively solve the problem at hand, instead opting to provide merely a cursory answer followed by an incorrect response that deviated from the correct mathematical principles. In light of these observations, the researcher endeavored to engage in a dialogue with Student 3 after having scrutinized the results of their work, with the objective of discerning the specific challenges and difficulties that the third student is currently encountering in their academic endeavors.

The researcher posed the inquiry: "This answer derived from the multiplication of 8 times 8, how did it come to the conclusion of equating to 65?" In response, Student 3 articulated: "I comprehend the essence of your question, however, I find myself equally perplexed regarding the methodology of performing the calculation, hence I resorted to making an educated guess and replicated the answer provided by my peer."

In light of the insights gleaned from the interview excerpt above, it is apparent that Student 3 does not possess a clear understanding of the implications contained within the question, nor do they possess the requisite knowledge to identify what is being solicited in the inquiry. Consequently, this lack of understanding significantly hampers the student's ability to competently complete the question by employing the correct procedural steps that are fundamental to problem-solving in mathematics. Additionally, the student experiences considerable difficulty with fundamental multiplication operations, leading them to formulate an answer that is notably brief and based solely on their own limited reasoning. Ultimately, the conclusion drawn from the question was not articulated correctly, further underscoring the challenges faced by the student in grasping the underlying concepts of the mathematical problem presented.

4. Written answer of student 4

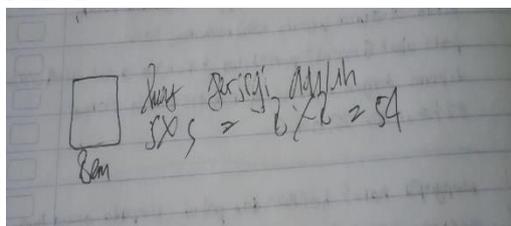


Figure 5.4. Work Results of Student 4

Based on an analysis of the findings derived from the aforementioned academic exercise, it has become evident that the student identified as student 4 failed to adequately articulate both the prior knowledge they possessed and the specific inquiries posed within the question at hand. Additionally, this particular student neglected to delineate the necessary procedural steps required to effectively arrive at a solution to the problem presented, choosing instead to provide only a cursory response that ultimately proved to be incorrect in its entirety.

In an effort to better comprehend the challenges encountered by the student in question, the researcher endeavored to engage student 4 in a dialogue subsequent to the evaluation of their work, seeking to uncover the specific obstacles that this fourth-grade learner was grappling with in the context of the academic task. The researcher posed a series of inquiries, including, "Are you able to grasp the underlying principles of the formula?" and "What might account for the inaccuracies in your final result?"

In response to these probing questions, student 4 articulated their perspective by stating, "I possess an understanding of the formula; however, I am at a loss regarding the computational process required to apply it accurately, which led me to resort to guessing, sis." From the insights gleaned during this exchange, it is apparent that although student 4 possesses a conceptual understanding of the formula referenced in the question, they struggle to comprehend the specific requirements of the question itself.

This lack of clarity has evidently resulted in significant difficulties for the student when attempting to navigate the problem-solving process using the correct methodological steps. Furthermore, it appears that the student faces particular challenges with multiplication operations, which compels them to generate brief responses that are predominantly reflective of their own reasoning, rather than grounded in a systematic approach to the problem. Consequently, the ultimate resolution to the question posed remains unaddressed and is rendered incorrect.

5. Written answer of student 5

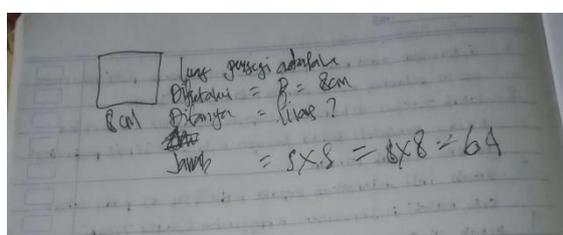


Figure 5.5. Work Results of Student 5

Based on the comprehensive analysis and evaluations conducted in the aforementioned academic endeavor, it has been observed that student 5 has successfully and accurately resolved the multiplication problems assigned by the educator, demonstrating a profound comprehension of the concepts at hand, particularly in distinguishing between what is already known and what is being explicitly queried in the posed mathematical questions. Furthermore, it is noteworthy that students have reached a level of understanding whereby they can effectively ascertain and articulate the formula pertinent to calculating the area of a square geometric figure, indicating a significant advancement in their mathematical education.

Learning difficulties, as identified in the context of this study, refer to the specific challenges encountered by students, predominantly manifesting as a deficiency in their academic performance, particularly in relation to their grasp of the educational material presented to them. The intricacies of this matter are compounded by the fact that learning difficulties are not readily identifiable or easily diagnosed for individuals who are experiencing such challenges (Asriyanti and Purwati, 2020). It has been determined that students facing hurdles in the realm of mathematics exhibit a diverse range of characteristics, which may include, but are not limited to, struggles with fundamental arithmetic operations, misapplication of mathematical formulas, and significant difficulties in resolving word problems effectively.

In accordance with the insights garnered from extensive field research, it has been established that the learning difficulties encountered by students are significantly influenced by an interplay of both internal and external factors, as derived from thorough

and in-depth interviews conducted with various students. This observation aligns with the assertions put forth by Hamdi et al. (2022), who articulate that internal factors are those that emanate from within the students themselves and encompass a range of elements, including their level of intelligence, ability to concentrate, overall attitudes and behaviors toward learning, as well as their memory functions. A notable number of students exhibit particular challenges when it comes to mastering division and multiplication operations, which may manifest in several distinct ways, including:

1. an inability to grasp the underlying concepts associated with division,
2. difficulties in applying appropriate methods, and
3. challenges in recalling the foundational principles governing division and multiplication operations.

The learning difficulties experienced by students are, in fact, influenced by a combination of internal and external factors, where internal factors refer to those attributes that originate from within the students themselves, such as their level of intelligence, the degree of concentration they exert during learning activities, their attitudes and behaviors, any disorders affecting the functioning of their sensory organs, as well as their memory capabilities. Moreover, it has been observed that when students are subjected to unhealthy conditions, they may experience symptoms such as fatigue, dizziness, or an overwhelming tendency to feel drowsy, all of which can serve to diminish their motivation to excel academically within the classroom environment. Health-related issues can pose significant barriers to students' ability to maintain focus during lessons, leading to instances of falling asleep during mathematics classes, which could very well be attributed to their suboptimal physical conditions. These suboptimal physical conditions invariably impact the manner in which students are able to assimilate and process the information conveyed by their educators (Permatasari et al., 2023).

Conversely, external factors are those influences that originate from outside the students themselves, encompassing elements such as the home environment, the school environment, the surrounding community, and various other external contexts, all of which have a substantial bearing on the students' learning processes. Additionally, among the external factors that contribute significantly to the learning difficulties faced by students, the quality and availability of the school's facilities and infrastructure play a pivotal role. The organization of school buildings and classrooms, the strategic layout of libraries, the accessibility of essential educational resources and laboratories, the availability of textbooks, as well as the presence and utilization of various educational materials and media, are all critical factors that collectively foster and facilitate effective student learning activities (Sinaga et al., 2022).

The challenges faced by third-grade pupils at SD N 3 Panca Tunggal in their attempts to effectively resolve story problems related to multiplication and division are multifaceted and can be delineated as follows:

1. Challenges in Comprehending Story Problems The initial and arguably most crucial step in the process of problem-solving is to thoroughly read and comprehend the specific problem at hand. It is through the meticulous act of reading and internalizing the posed question that it is anticipated that students will be enabled to articulate

the essence of the question using their own vernacular. Subsequently, this comprehension allows students to systematically deduce what information is available to them and what precisely is being sought in the context of the question. The obstacles that students encounter while striving to comprehend story problems are as follows:

- a. Students frequently fail to meticulously document all elements that are known along with what is being queried in the problem statement.
- b. Students often neglect to appropriately record the known information pertinent to the specific portion of the question that requires attention.
- c. In numerous instances, students might not record any of the known variables or the questions being posed at all.

According to observational data collected from the third-grade cohort at SD N 3 Panca Tunggak, the challenges related to the understanding of these questions are exacerbated by the presence of third-grade students who exhibit significantly low proficiency in reading skills, which is a critical factor in their overall comprehension.

2. Challenges in Grasping the Concepts of Multiplication and Division The second category of learning difficulties pertains to the students' struggles with comprehending mathematical word problems, which are inherently complex. The nature of evaluative questions presented within the realm of mathematics is often intricately linked to scenarios encountered in everyday life, and these are commonly referred to as word problems in the discipline of mathematics. The endeavor to solve story problems proves to be considerably more challenging than addressing straightforward mathematical problems that are presented in a numerical format. Within the elementary educational framework, it becomes imperative for students to cultivate both patience and comprehensive literacy skills in order to successfully navigate and decipher the intricacies of story problems, as highlighted by Mahmud and Pratiwi in their 2019 research.

The various initiatives undertaken by educational professionals to tackle the challenges encountered by third-grade learners in their attempts to solve mathematical problems related to multiplication and division can be delineated as follows.

1. Employing instructional aids in the form of media that can significantly enhance the effectiveness of the students' learning experience is one of the foremost strategies. In this context, the third-grade educators have meticulously designed and developed educational media utilizing manila paper, which is innovatively fashioned to resemble a checkerboard, thus enabling students to better comprehend the intricate concepts of length, area, and perimeter. Additionally, the educators have ingeniously crafted dice from repurposed cardboard, and they have effectively utilized various educational resources that are readily available on the classroom walls, including an array of flat geometric shapes, encompassing both regular and irregular polygons. In accordance with the findings of Pradita and Sujarwanto (2019), it becomes evident that there exists a multitude of approaches aimed at ameliorating the learning difficulties faced by students, one of which involves the deployment of educational media that serves to

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- facilitate and enhance children's understanding of complex mathematical concepts.
2. The formulation of story problems employing language that is comprehensible and accessible to students is another pivotal strategy. The prevalence of complex and convoluted language can create significant barriers that hinder students' abilities to grasp the problem statements effectively. In this regard, Mrs. Lita, who serves as a dedicated third-grade teacher at SD N 3 Panca Tunggal, diligently crafts questions utilizing language that resonates with the students' comprehension levels. As per insights gathered from an interview conducted with her, it has come to light that Mrs. Lita independently devises story problems, particularly because the questions presented in the standard curriculum material, *Teman*, often employ language that may be perceived as overly intricate and challenging for third-grade students to fully understand. Therefore, in an effort to ensure that the third-grade students can effortlessly interpret the essence of the questions posed, she consciously opts to utilize language that is familiar and relatable to the students, which reflects their everyday vernacular, while also selecting distinctive and engaging words that are likely to capture their interest as they endeavor to solve the problems presented to them.
 3. Adopting an individualized approach to each student is yet another critical component of the educators' strategy. Observations conducted within the third-grade classroom at SD N 3 Panca Tunggal revealed that within a single class, there are approximately five students who continue to experience significant difficulties when attempting to solve story problems in mathematics, particularly those concerning the topics of multiplication and division. In light of the aforementioned circumstances, it has become increasingly apparent that concerted efforts are essential to effectively tackle the myriad challenges that students encounter when attempting to solve mathematical problems. In her capacity as an educator for third-grade students, Ms. Lita has taken proactive measures to confront this pressing issue by directly engaging with those students who are struggling to comprehend and resolve various math-related tasks. A student grappling with learning difficulties must not be forsaken or left to navigate these challenges in isolation; rather, it is imperative that such students receive specialized attention and support from both their educators and the surrounding educational environment. The implementation of this individualized approach facilitates the provision of tailored guidance and direction from educators to those students who are facing obstacles in their quest to successfully solve mathematical problems. By establishing a robust support system, educators can foster an environment conducive to learning, thereby enhancing the overall educational experience for students who may feel overwhelmed by the complexities of mathematics. Ultimately, the commitment to addressing these issues reflects a broader understanding of the necessity for comprehensive educational strategies that cater to the diverse needs of all students.

D. CONCLUSION

In light of the comprehensive analysis of the research findings and the subsequent discourse presented earlier, it can be deduced that the myriad challenges faced by students can be categorized into several distinct areas, which include but are not limited to: the

struggle to grasp the underlying meaning of the questions posed, the complexities involved in the procedural steps necessary for problem-solving, the challenges associated with performing arithmetic operations accurately, and the difficulties encountered when attempting to draw a conclusion from the ultimate answer derived from the problem. Furthermore, it is essential to recognize that the learning difficulties experienced by students are significantly influenced by a combination of internal factors, such as the level of intelligence possessed by the students, their capacity for sustained concentration during learning activities, their overall attitude towards learning, and their behavioral tendencies, in conjunction with external factors that encompass the familial environment in which they are raised, the educational setting of the school they attend, and the broader community environment that surrounds them, all of which play pivotal roles in shaping the students' educational journey and learning experiences.

To address and mitigate the various difficulties encountered by third-grade students when tackling multiplication and division problems, educators can implement a series of strategic interventions that may include, but are not limited to, the repetitive practice of solving story problems in order to reinforce understanding and proficiency, the development of story problems articulated in a language that is readily comprehensible and accessible to students, thereby facilitating their engagement, as well as the adoption of individualized approaches tailored to meet the specific learning needs and preferences of each student. By employing these targeted strategies, educators can create a more supportive learning environment that not only enhances students' problem-solving skills but also promotes greater confidence and success in their mathematical endeavors.

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