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Analysis of Learning Difficulties in Mathematics in the Material Build a Class VI SDN 060820 Ball Room

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Abstract

Mathematics is a field of study that must be mastered by students, because it is a means of solving everyday problems. The most common difficulties and errors experienced by students in solving contextual problems are the low critical thinking skills of students in solving contextual problem solving. The purpose of this study was to determine students' difficulties in understanding geometric material and to find out the factors that cause students' learning difficulties in mathematics. . This research was conducted at SDN 060820 Medan. This research was conducted in the even semester of the 2022/2023 academic year. This research is a qualitative descriptive research conducted to analyze and describe a phenomenon that usually occurs in the field by considering all the problems studied . The results showed that the difficulties experienced by students in the learning process of geometric material, especially on the topic of balls, namely: difficulty understanding concepts, skills difficulties, and problem solving difficulties.

Keywords : *Mathematics, Ball, Learning Difficulties.*

Abstract (English-Indonesian)

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Introduction (10%)

The main task of mathematics education is to explain students' thinking processes in learning mathematics with the aim of improving school learning. The purpose of learning mathematics, among other things, is for students to be able to deal with changing circumstances in an ever-evolving world, through practice acting on the basis of thinking logically, rationally, critically, carefully, honestly and effectively (Suherman, 2003). Part of the student's internal factors are interests, talents, verbal abilities, computational abilities and so on. The problem that arises is that there are still

difficulties in solving questions in the form of stories and tend to use words (Karnasih, 2015).

Because to work on word problems, good reasoning skills are needed in addition to numeracy skills (Umam Dliwaul, 2014).

Low internal factors cause low student learning outcomes through the inability of students to work on math problems, the indicator is seen from the errors that occur when working on the problems given by the lecturer. Another mistake that often occurs is because students memorize formulas but do not fully understand the concept so that practical methods tend to be used (Amir, 2017)

Mathematics is a field of study that must be mastered by students, because it is a means of solving everyday problems. This is in line with the opinion (Hasibuan, 2018) that mathematics education has an important role in everyday life, through mathematics education students are expected to become human beings who are able to think logically, critically, thoroughly, creatively, innovatively, work hard and be optimistic. With problem solving in everyday life, students are required to be able to think more concretely. However, in reality, students have not been able to fully implement their mathematical knowledge to solve problems that occur in everyday life. Hartika (Oktafia & Sutama, 2019) states that in the application of learning mathematics, not a few students have difficulty understanding questions.

Student difficulties allow for errors in solving questions on certain materials. According to Rosyidi (Fazzilah, et al., 2020) error is a form of deviation from what has been considered correct based on previously established procedures. Rindiyana (Prihatin & Setiawan, 2020) suggests that the most common difficulties and mistakes students experience in solving contextual problems are students' low critical thinking skills in solving contextual problem solving. Based on the results of interviews with several mathematics teachers, that in solving math problems, especially the subject of geometric shapes, there are still many students who experience difficulties, causing errors in solving problems. Errors usually occur because the level of students' conceptual understanding of the material is still low so that students find it difficult to remember the material that has been delivered by the teacher (Ulpa, et al., 2021).

The purpose of this study was to find out students' difficulties in understanding geometric material and to find out the factors that cause students' learning difficulties in mathematics.

Method

This research was conducted at SDN 060820, precisely on Jl. H. Bahrum Djamil SH. No. 1C, West Example, Kec. Medan City, Medan City, North Sumatra, with postal code 20217. This research was conducted in the even semester of the 2022/2023 school year.

This research is a qualitative descriptive research conducted to analyze and describe a phenomenon that usually occurs in the field by considering all the problems studied. The research steps are as follows:

1. Take care of administration at school
2. Prepare the necessary data collection instruments.
3. Conduct research.
4. Collect all research data.
5. Conduct research data analysis.
6. Draw conclusions

The subjects in this study were students of class VI at SDN 060820. The research target was students' difficulties in learning mathematics, especially in the material of curved side shapes, namely balls.

Data analysis

Qualitative data analysis in this study was carried out in four stages, namely: data collection analysis, data reduction, data presentation and drawing conclusions.

1. Analysis Data Collection

Analysis is carried out on data from preliminary studies or secondary data which will be used to determine the focus of the research, but the focus of this research is still temporary and will develop after researchers enter the field. If the research focus formulated in the proposal is not in the field, then the researcher will change the focus.

2. Data reduction

Reducing data means summarizing, choosing the main things, focusing on the important things, and looking for themes and patterns. Reduced data will provide a clearer picture and make it easier for researchers to carry out further data collection. Data reduction can be assisted by using electronic equipment such as mini computers by providing codes on certain aspects. In reducing data, each researcher will be guided by the goals to be achieved. The main goal of qualitative research is on the findings. Therefore, if researchers in conducting research find everything that is considered foreign, unknown, does not yet have a pattern, that is precisely what the researcher should

pay attention to in conducting data reduction. Data reduction is a sensitive thinking process that requires intelligence and flexibility as well as high depth of insight. For researchers who are new to doing data reduction, they can discuss it with friends or experts. Through these discussions the researchers' insights will develop, so that they can reduce data that has significant value findings and theory development. At this stage the authors describe all the data obtained through student scores and interviews conducted with class VI students at SDN 060820.

3. Data Presentation

After the data has been successfully reduced, the next step is to display the data. In qualitative research the process of presenting data can be done in the form of brief descriptions, charts, relationships between categories, flowcharts, and so on. But what is most often used in qualitative research is narrative text. By displaying data, it will make it easier for researchers to understand what happened, plan further work based on what has been understood. It is recommended that in displaying data, apart from using narrative text, you can also use graphs, matrices, networks and charts. After the researcher succeeded in reducing the data into uppercase, lowercase and numbers, the next step was to display the data. In displaying data, uppercase, lowercase and numbers are arranged in order so that the structure can be understood. After that, an in-depth analysis is carried out whether there is an interactive relationship between the three things.

4. Conclusion Drawing

The third step in qualitative data analysis according to Miles and Huberman is drawing conclusions and verification. The initial conclusions put forward are still temporary, and will change if strong evidence is not found to support the next data collection stage. But if the conclusion is
stated at an early stage supported by valid and consistent evidence when the researcher returns to the field to collect data, the conclusions put forward are credible conclusions. Thus the conclusions in qualitative research may be able to answer the formulation of the problem that was formulated from the start, but maybe not because as has been stated that the problem has never existed. Findings can be in the form of descriptions or descriptions of something
objects that were previously dim or dark so that when examined they become clear, they can be causal or interactive relationships, hypotheses or theories. (Siddiq & Choiri, 2019) and the formulation of problems in qualitative research is still temporary and will develop after researchers are in the field. Conclusions in qualitative research are new findings that were previously

Results and Discussion (70%)

Based on the documentation of student learning outcomes in the field, it was found that student learning outcomes were in the low category. Student learning outcomes on geometric material are presented in the following table:

Table 1. Student Test results

range Score	Interpretation	Frequency	Percentage
0-40	Low	6	20%
41-70	Enough	10	33.33%
71-100	Good	14	46.67%
Amount		30	100 %

From the table above it is obtained that:

a. 20% of the sample or 30 students are at a low level in the range 0-40
b. 33.33% of the sample or 30 students are at an adequate level ranging from 41-80.
c. 46.67% of the sample or 30 students are at a good level ranging from 81-100.

Obtained data based on the results of observations, tests, and interviews of students having difficulty understanding concepts, skills difficulties, and problem solving difficulties. Understanding of the concept shows the ability of basic understanding of students. This can be seen in the observations that have been made, where there are some students who still find it difficult to distinguish the denominator and numerator and find it difficult to distinguish the symbols less than and more than. Likewise with the results of written tests that have been carried out, many data obtained based on the results of observations, tests, and interviews, students experience difficulties in understanding concepts, skills difficulties, and problem solving difficulties. Understanding of the concept shows the ability of basic understanding of students. This can be seen in the observations that have been made, where there are some students who still find it difficult to distinguish the denominator and numerator and find it difficult to distinguish the symbols less than and more than. Likewise with the results of written tests that have been carried out by many of their peers

or playing alone on their bench. This is appropriate
with the opinion of Ahmadi and Supriyono (2013) that "a child's lack of interest in a subject will result in learning difficulties". Students' low learning motivation can affect students' learning attitudes. Students who have low learning motivation do not have the enthusiasm to take math lessons. Based on the results of the interviews, it is known that students with learning difficulties have high motivation
This low level can be shown in the results of the interviews, many of them admitted that they did not repeat the lessons they had learned, they only studied when there were tests, and they would disturb their friends if they felt bored when the teacher was explaining math material. The use of media or tools that are appropriate to the material can help students understand concepts well. Conversely, the use of inappropriate media will result in students being less interested in paying attention to learning mathematics.

Based on the results of interviews with students with learning difficulties, they admitted that the teacher never used learning media during the lesson. Based on the results of interviews with students with learning difficulties in mathematics, it was found that the five students admitted that their teacher had never used media or visual aids on geometric material, especially balls.

This resulted in students not being able to understand the ball concept perfectly so that students could not solve the questions given correctly and experienced difficulties. As expressed by Ahmadi and Supriyono (2013) argued that "incomplete learning tools make the presentation of lessons less good, causing learning difficulties".

Students can certainly learn better and have fun if a school can meet all the learning needs of students. The problems students face in learning are relatively small. Student learning outcomes will certainly be better.

Based on the results of interviews with students with learning difficulties in mathematics, it was found that they did not feel comfortable in their classrooms. This is in line with what was stated by Ahmadi and Supriyono (2013) who said that "the condition of the building or classroom that does not meet the requirements will create an unfavorable learning situation so that lessons are hampered".

S Impulse (5%)

The results of the research and discussion that have been carried out can be concluded as follows:

1. The difficulties experienced by students in the learning process of geometric material, especially on the topic of balls, namely: difficulty understanding concepts, skills difficulties, and problem solving difficulties.
2. The factors that cause students to have difficulty learning mathematics in geometric material, especially on the topic of balls, are attitudes and learning demands that are still low.

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