

Analysis of Students' Difficulties in Understanding Concepts and Solving Fraction Problems in Class V of State Elementary School 5 Palangka

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Research Article

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ABSTRACT

Background: This research is based on researchers' observations of class V students at State Elementary School 5 Palangka. The phenomena found were not being able to differentiate the technical names between the numerator and the denominator, not being able to equate the denominators in the arithmetic operations of addition and subtraction, the inability to remember to cross-multiply the numerator and denominator in multiplying fractions, and forgetting the concept of division in fractions and when Solving word problems students have difficulty understanding the questions because they cannot change the questions into fraction form. *Aim:* This research aims to discover the causes of difficulties experienced by class V students at State Elementary School 5 Palangka in understanding the concept of fractions and the difficulties experienced by class V students at State Elementary School 5 Palangka in solving fraction problems. *Method:* This research is a qualitative descriptive study. The method used to carry out the research is the descriptive method. *Results and Discussion:* Based on the results of trials carried out by researchers on class V students at State Elementary School 5 Palangka, it can be seen that several class V students got scores below the average of the Minimum Completeness Criteria scores. These students are students who have difficulty understanding and solving fraction material problems. The difficulties experienced by students in class V State Elementary School 5 Palangka is difficulty in simplifying fractions, not being able to equate unequal denominators and same denominators in the arithmetic operations of adding and subtracting fractions, and when solving word problems students have difficulty understanding the questions because they don't You can change the question into fraction form. *Conclusion:* Based on the results and discussion of the research, it can be concluded that the difficulties of students in understanding the concept and solving fraction problems in class V were found to be three difficulties, namely difficulty in simplifying fractions, not being able to equate unequal and same denominators in the arithmetic operations of adding and subtracting fractions, and When solving word problems, students have difficulty understanding the questions because they cannot change the questions into fraction form.

Keyword: Difficulty, Understanding Concepts, Solving Fraction Problems.



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INTRODUCTION

One effort to make the nation smarter is through the education sector. Education is an effort to increase human potential. Education is an absolute necessity to increase the quality and potential of the nation's children. By increasing the potential of the nation's quality children, human resources will be created to compete in the field of Education and advance the nation and state. Law no. 20 of 2003 concerning the National Education System, as stated in Article 1 paragraph (1), states that Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their

potential to have religious, spiritual strength, self-control, personality, intelligence, noble morals, and the skills needed by themselves, society, nation, and state.

Then, in the education component, there is learning. Learning is an instructional system that refers to a set of components that depend on each other to achieve goals. One of the components is students. Learning will be achieved if communication between students and educators runs well and the learning material is achieved according to the curriculum applicable in Indonesia. In Law no. 20 of 2003 concerning the National Education System stated in Article 1, paragraph 20 states that learning is a process of interaction between students and educators and learning resources in a learning environment.

There are many subjects taken by students in elementary school, one of which is mathematics. Mathematics is a word taken from Latin "something that is studied." in Dutch, mathematics is known as "wiskunde" which means an exact science. In general, it can be said that mathematics is an exact science that is related to reasoning.

Mathematics is a subject that students consider difficult, even though mathematics itself is a disciplined science that improves thinking skills and supports solving everyday problems. Therefore, mathematics in elementary school needs to be understood because this is the basis of mathematics. Some students who have difficulty learning mathematics show that they will have difficulty doing the assignments given by the teacher. Students' low learning achievement demonstrates this. Their effort is not commensurate with the results achieved; they are slow to complete tasks and show inappropriate behavior.

The results of observations made on students show difficulties in understanding concepts and solving mathematical problems in fraction material, such as not being able to technically differentiate the names between the numerator and the denominator, not being able to equate the denominators in the arithmetic operations of addition and subtraction, being unable to remember cross-multiplying the numerator and denominator in multiplying fractions and forgetting the concept of division in fractions. When solving story problems, students have difficulty understanding the questions because they cannot change them into fractions. For example, Siti has half a kilogram of sugar, and then Siti buys another quarter of sugar. How many kilograms of sugar does Siti have now?

This research is very important so students can calculate fraction operations when studying mathematics. Apart from arithmetic operations on fractions, it plays a role in training precision, accuracy, work accuracy, logical thinking ability, problem-solving ability, analytical thinking ability, and discipline so that students can apply it in everyday life.

Learning is defined as a process of change in human personality, and this change is manifested in the form of increasing the quality and quantity of behavior, such as increasing skills, knowledge, attitudes, habits, understanding, skills, thinking power, and other abilities. According to (Herliani, et al, 2022), learning is a conscious/planned process of searching, understanding, and analyzing what occurs within an individual and obtaining new behavior that tends to persist. Behavioral and mental changes through learning experiences (interaction with the environment). Behavioral and mental changes should be made positively to meet their life needs.

From the several theories above, it can be concluded that learning is a process of change carried out by individuals consciously/intentionally, including behavior, attitudes, habits, knowledge, and skills, which leads to a more positive direction and is permanent or permanent due to interaction with the environment.

According to Widdiharto (Rizqi, et al, 2023), learning difficulties are a student's lack of success in mastering concepts, principles, or the flow of problem-solving algorithms, even though they have tried to learn them, and this is compounded by a student's lack of ability to abstract, generalize, think deductively and remember. Concepts and principles, they will usually feel that a lesson given is difficult. Learning difficulties are a process by which students are less than optimal and are less successful in mastering concepts and understanding due to interference with certain obstacles to achieving learning outcomes, thus causing the learning outcomes achieved by students to be below the class average.

Mathematics as a means of Education plays an important role in developing human resources as a tool for reasoning and forming students' personalities. Mathematics, as a basic science, is a pillar that supports the development of science and technology. Mathematics is one of the subjects studied by students from the elementary to even the tertiary level, emphasizing understanding concepts. Mathematics can serve various kinds of science because it contains formulas, axioms, and certain models that can help other sciences. By studying mathematics, students can think critically, are skilled at calculating, and can apply basic mathematical concepts to other subjects and mathematics itself.

Mathematics is a scientific discipline that can develop scientific thinking skills, contribute to solving everyday problems in the world of work, and provide support in the development of science and technology. So mathematics is a subject that exists in elementary schools and universities.

Mathematics education experts express their opinions regarding mathematics, saying that mathematics is a science that discusses patterns or regularities and levels. Meanwhile, difficulty is defined as a situation where you feel difficult, difficult or troubled, which is the definition in the Big Indonesian Dictionary. Difficulties related to the mathematics learning process for

students can be observed from their learning achievements. Based on the definition above, it is known that difficulty learning mathematics is a condition where the competence or achievement achieved is not following the standards set in mathematics learning (Masita, 2022: 85).

According to Abdurrahman (Heryanto, 2022), children who have difficulty learning mathematics have dyslexia, and children who have severe difficulty learning mathematics are called alexia. Dyslexia is a learning disorder characterized by difficulty reading, while alexia is a learning disorder characterized by difficulty reading and writing.

Difficulties in learning mathematics are experienced by individuals who have normal performance in intelligence tests but have deficiencies in transforming sentences into mathematical language. This occurs because of students' weak cognitive abilities and lack of interest in mathematics subjects.

Understanding is seeing the relationships between various factors or elements in a problematic situation. According to Bloom's Taxonomy, comprehension is a person's ability to understand or comprehend something. After that, something is known and remembered. In other words, understanding is knowing about something and seeing it from various aspects. A student can understand something if he can provide an explanation or a more detailed description of it using his own words.

Mathematical concepts are a person's ability to understand what is being taught and restate it in their language to understand mathematical concepts, operations, and relationships. In providing direction or guidance, students are not asked to memorize but to understand. Indicators of students' mathematical concept errors are errors in memorizing formulas without understanding the memorized formulas, errors in determining formulas to answer questions, and errors in entering formula data when answering questions.

Students must have problem-solving abilities to participate in the learning process well. The problem-solving skills that students must instill in themselves are ways to deal with problems related to learning activities, especially mathematics problems. Solving problems in mathematics learning does more than require students to work on problems; it can be expected that students are accustomed to carrying out the process of solving problems, which makes students able to face life with more complex problems and make problems simpler.

Problem-solving is the process of students' ability to face a problem related to learning activities, especially mathematical problems, and is a manifestation of a skill activity, a cognitive action intended to obtain a solution. Students need lots of opportunities to solve problems in the field of mathematics in real-life contexts to achieve a goal and to respond to an answer or answer method that is not yet obvious.

One of the mathematics lesson materials in elementary school, and the focus of this research is fractions. Fractions are one of the important materials that students must master. This is because the fraction material is related to other materials such as decimals, comparisons, scales, and measurements. However, in reality, elementary school students still have difficulty learning fractions. A fraction is a number that indicates a part of a whole that is divided into several parts of the same size. Fractions are usually written as a numerator and denominator separated by a slash (/) or period (.), which indicates the division operation. The numerator is the number above the slash or dot, while the denominator is the number below the slash or dot. According to Untoro (2006), a fraction is a number that is the result of the quotient between a number and a natural number where the value of the number being divided (numerator) is smaller than the divisor (denominator).

METHOD

In this research, the author tries to find natural or natural facts and plots without any treatment of the object under study. This research is a qualitative descriptive study. A qualitative approach is a way of research that emphasizes the aspect of in-depth data to obtain quality research results. In other words, a qualitative approach (qualitative approach) is a research work mechanism that relies on descriptive descriptions of words or sentences arranged carefully and systematically, starting from collecting data and interpreting and reporting research results. Because of that, according to Prof. Burhan Bungin (Ibrahim, 2018), the qualitative approach is a research process whose targets are limited, but the depth of the data is unlimited. The deeper and better the quality of the data obtained or collected, the higher the quality of the research results.

The method used by researchers to carry out research is descriptive. Descriptive language is a way of working that describes, depicts, and summarizes various conditions, situations, or variables observed. In the context of research, the descriptive method is a method of research work intended to describe, depict, or explain the state of an object (reality and phenomenon) as it is, according to the situation and conditions at the time the research was carried out.

With this method, a researcher only needs to describe the reality of the object being studied well, completely, clearly, and following the facts that appear to be seen (seen and heard). As in the experimental method, don't make things up, let alone manipulate variables. Qualitative research procedures are the instruments used in a structured list of questions related to the research. Collecting data is an important job and is very decisive in research. Research can be said to be successful if data can

be collected. On the other hand, if data cannot be obtained or collected, then research is deemed unsuccessful or failed. The data used in this research was obtained using data collection techniques: observation, tests, and documentation.

RESULTS AND DISCUSSION

Results

This research was conducted to find out what difficulties were experienced by class V students at State Elementary School 5 Palangka in understanding the concept of fractions and what difficulties were experienced by class V students at State Elementary School 5 Palangka in solving fraction problems. The stages of data collection are observation, testing, and documentation. The results observed by the researchers during the research were that some students were slow in understanding fraction material, and many still made mistakes when taking tests or questions.

Based on the results of trials conducted by researchers on class V students at State Elementary School 5 Palangka, it can be seen that several class V students got scores below the average of the Minimum Completeness Criteria scores. These students are students who have difficulty understanding and solving fraction material problems. The difficulties experienced by class V students at State Elementary School 5 Palangka are difficulty in simplifying fractions, not being able to equate unlike and same denominators in the arithmetic operations of adding and subtracting fractions, and when solving word problems students have difficulty understanding the questions because they cannot change the question into fraction form.

Discussion

The discussion of the research results found that students had difficulty understanding the concept of fractions and solving fraction problems in class V of State Elementary School 5 Palangka. This was obtained from the results of the researcher's observations during the learning process in class that there were several students in class V of State Elementary School 5 Palangka who experienced difficulties in not being able to differentiate the names between the numerator and the denominator technically, and not being able to equate the denominators in the arithmetic operations of addition and subtraction. , inability to remember to cross-multiply the numerator and denominator when multiplying fractions, and forgetting the concept of division in fractions. When solving story problems, students have difficulty understanding the questions because they cannot change them into fraction form. These findings also highlight the important role of understanding concepts and solving problems in fraction material because of students' ability to understand what is being taught and restate it in their language, so in providing direction or guidance, students are not asked to memorize but are asked to understand. Indicators of errors in understanding concepts and solving students' mathematical problems are errors in memorizing formulas without understanding what is memorized and providing examples of real-life contexts in answering questions or solving problems in questions.

CONCLUSION

Based on the results and discussion above, it can be concluded that the difficulties of students in understanding the concept and solving fraction problems in class V of State Elementary School 5 Palangka were found to be three difficulties, namely difficulty in simplifying fractions, not being able to equate unequal and same denominators in the arithmetic operation of addition and reducing fractions, and when solving word problems students have difficulty understanding the questions because they cannot change the questions into fraction form.

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