



Ability of students in completing mathematical story problems

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ABSTRACT

Background: Elementary school must be a strong foundation to reach a higher level of education. This is inseparable from the beginning of the level of education starting from early childhood and kindergarten because it is a level of education to start the formation of children's character. One of the subjects given at every level of education is Mathematics. Mathematics is one of the sciences that has an important role in shaping the mindset of students, because in mathematics students are required to have the ability to think logically, systematically, analytically as well as problem solving abilities. Various attempts have been made by the teacher in increasing the ability of students to understand mathematics subjects. However, the expected results are still not optimal, even the learning and teaching process becomes unpleasant and tends to be boring for students. One of the math problems that is often found is the difficulty of students in solving story problems. Even though the story problem is a form of evaluation of the ability of students in understanding the basic concepts of mathematics that have been learned, in the form of questions about applying formulas.

Purpose: This study aims to examine the extent to which students' ability to work on math story problems. It could help teachers to find out the problems of students in working on math story problems and make students able to solve problems in the form of stories with the right method.

Design and methods: The research method used is qualitative methods. Qualitative research is research in accordance with the data, utilizing existing theories as explanatory material.

Results: The results of this study show that there are many problems in students working on math story problems, and the teacher's methods during learning must be improved so that students can understand

Keywords: a matter of story, problem solving ability, mathematics learning

Introduction

Good quality mathematics learning is very necessary. It enforces students to think logically, rationally, operationally, and measurably according to the characteristics of this science. Primary school education must be a strong foundation to reach a higher level of education, this is inseparable from the beginning of the level of education that starts in early childhood and kindergarten because it is a level of education to start the formation of children's character. One of the subjects given at every level of education is mathematics. Mathematics is one of the sciences that has an important role in shaping the mindset of students, because in mathematics students are required to have the ability to think logically, systematically, analytically as well as problem solving abilities.

Various attempts have been made by the teacher in increasing the ability of students to understand mathematics subjects. This situation will be realized if students have the right indicators of achieving educational goals, It will produce learning that has good quality, one of which is how students solve math story problems. Mathematical story problems are questions that use verbal language and are generally related to daily activities. It is very important to be given in elementary school mathematics learning because in general story questions can be used (as a forerunner) to train students in problem solving. The difficulty level of story questions is not as easy as when students solve number questions, because most of the story questions are non-routine questions. Students are not only required to have numeracy skills, but also pay attention to the completion process in answering questions and require higher understanding.

It is expected that students solve story questions through step by step so that the teacher is able to analyze the abilities they already have. Especially students' understanding of the concepts used in solving the given story questions. But the expected results are still not optimal, even the learning and teaching process becomes unpleasant and tends to be boring for students. One of the math problems that is often found is the difficulty of students in solving story problems. Even though the story problem is a form of evaluation of the ability of students in understanding the basic concepts of mathematics that have been learned, in the form of questions about applying formulas.

But in fact students often have difficulty understanding what is meant by the questions, what is known and asked by the questions, continues on how or what way to solve these problems, as well as in communicating findings or results. The ability of students to understand the questions shows that students are not able to catch the problems outlined in the story problems.

The inability to understand the problem indicates the inability of students who are classified as low ability in doing math problems. If students are not able to understand the problem, of course there will be difficulties at the next stage which includes the ability to plan, the ability to solve, and the ability to check again.

This is in accordance with the stages of solving problem solving according to the pattern, that before the stages of planning, completing, and checking again, students must first be able to understand the problems that exist in the questions. This shows the importance of teachers to familiarize students with completing practice questions in the form of story questions.

In this study, the writer wanted to examine the extent to which students' ability to work on math story problems so that it could help teachers to find out the problems of students in working on math story problems and make students able to solve problems in the form of stories with the right method. Story questions are a form of evaluating the ability of students in understanding the basic concepts of mathematics that have been learned in the form of questions about applying formulas. Students can be said to have mathematical skills if they are skilled in correctly solving math problems.

Methods

The research method used by the author is to use qualitative methods. Qualitative research is research in accordance with the data, utilizing existing theories as explanatory material. This research is a qualitative research which is a library research which uses books and other literatures as the main object. This type of research is qualitative, namely research that produces information in the form of notes and descriptive data contained in the text under study. With qualitative research, descriptive analysis is necessary. Descriptive analysis method pro-

vides descriptions and explanations that are clear, objective, systematic, analytical and critical. A qualitative approach that is based on the initial steps taken by collecting the required data, then classification and description are carried out. In library research, the method used to collect research data is in the form of library data that has been selected, searched, presented and analyzed. The data source of this research is looking for literature data whose substance requires processing action philosophically and theoretically. Literature study here is a literature study without an empirical test. The data presented is data in the form of words which require processing to be concise and systematic. Data collection carried out in this study is to collect books on values, education and *taḥārah*. Then selected, presented and analyzed and processed so that it is concise and systematic.

Findings & Discussion

Methods and how to teach teachers are a very important part of achieving the results of student learning which of course cannot be separated from the existing curriculum in schools, even today many teachers still use the lecture method only in teaching, so this condition is not appropriate if done at the elementary school level (SD) because the catching power of elementary school students is certainly different from the level of junior high school students or high school students. In fact, there are still many elementary school teachers who still apply the method lecture. The lecture method positions students as listeners, making students passive.

The existing situation is one of the causes of the difficulty of students to grasp the lessons received, so that the ability of students to work on problems, especially story problems in mathematics is still low. This situation was shown by the results of research by Mursalin, Fauzi, Israwati in 2017 regarding the ability of grade V students to solve story questions at SD Negeri 1Pagar Air Aceh Besar, namely (68.18%) students did not understand the problems contained in story questions, participants students are less able to do problem solving planning of story problems, students are less able to solve problems, and students are also less able to carry out truth checks from problem solving to story questions.

In addition, the results of Wulandari's research (2014) revealed the difficulty of students in solving story problems for several reasons, including: a) Students do not understand the problem (write down what they know and what is asked) when given the problem, especially in the form of story problems. b) Students have difficulty changing the story problem into math form; c) Lack of mastering numeracy skills resulting in errors that could have been avoided

According to Insri (2011), students' difficulties in solving story problems are caused by several things, namely: a) Students cannot interpret the meaning of the problem carefully. b) Students have difficulty converting story problems into a mathematical model. c) Students do not master the procedures used to solve story problems. d) Students have difficulty determining what formulas should be used to answer questions.

According to Polya in Herman Hudoyo (2001: 164-165), there are two kinds of problems in mathematics, namely: a) Finding problems. Finding problems can be theoretical or practical, abstract, including finding puzzles is more important in elementary mathematics. The main part of the problem is 1) What do you look for? 2) How is the data known? 3) What are the conditions? These three main parts are the basis for solving the problem. b) Problems prove. The prove problem is used to show a statement is true or false but not both. Herman Hudoyo (2001: 45) states that the main part that can be used to solve problems to prove is the hypothesis and the conclusion of a theorem.

Proving problems are more prevalent in advanced mathematics. Of the two types of problems mentioned above, the focus in this paper is the problem of finding. According to Pandoyo in Muklis (1999: 10) it is said that a problem in mathematics is a math problem that becomes a problem for students if students do not have the ability to complete in terms of knowledge maturity, students do not have algorithms or procedures to solve, and students are less willing to solve the problem.

The goal of the teacher is to make students able to work on story form problems, so that students practice and think deductively, can see the relationship and use of mathematics in everyday life, and can master math skills and strengthen mastery of mathematical concepts. Story questions are a form of evaluating the ability of students in understanding the basic concepts of mathematics that have been learned in the form of questions about applying formulas. Students can be said to have mathematical skills if they are skilled in correctly solving math problems. Below are some of the stages that are often used in solving story problems according to Polya (1973), namely: a) understanding the problem, the first step at these stage students are required to understand the problem. Understand the information provided in the problem statement and understand the intended purpose. b) *Devising a plan*; After understanding the problem, students write plans that will be done to be able to solve the problem that has been given. c) *Carrying out the plan*; In the third stage, students must be able to complete the problem plan. The task of students at this stage is to determine the strategy to be chosen to produce meaningful clues to reveal problems. d) *Looking back*; After solving the problem according to plan, the last stage of students reviewing the solution process there are two reasons. The first reason provides opportunities for students to evaluate and improve the final results. The second reason brings the solution process into sharper focus.

In addition, there are several important things that must be done by the teacher to improve the ability of students to follow the lessons being taught, namely: a) Delivering subject matter in creative forms; b) Delivering lessons using books that have been provided correctly; c) Provide additional assignments to students to practice the learning skills that have been given; d) Creating creative and interactive methods; e) Providing opportunities for students to present their results in front of the class.

Students' abilities will increase in learning, especially in mathematics if the teaching methods and styles of the teacher are very good and easily accepted by students. As well as how the ability of students to understand or work on math story problems

is how teachers can develop learning, namely by means of teachers that must always be required to be creative because this has been stated in the 2013 curriculum which is based on character and competence so that the teacher must create a conducive situation and arouse feelings. confident and curious with the aim of increasing the ability of students to solve story problems in mathematics.

According to HE Mulyasa, (2017) Teachers are agents of revolution and learning innovation in schools, to realize education in accordance with national standards, teachers as agents of revolution and learning innovation are required to have adequate competency and professional standards, such as the need to organize content, organize resources learning, manage the learning process and conduct assessments according to national standards.

Teachers must also be based on sincerity and responsibility for their chosen profession so that it has the potential to foster a strong personality and identity with the aim of creating ideals to improve students' abilities, especially in solving math story problems in schools. In addition, the teacher must understand the characteristics of students because it is the teacher is faced with a group or individual who has different characteristics as a capital to determine

the assessment of the ability of their students. This is inseparable from the teacher competency standards, namely professional, personal, pedagogical, and social. These standards are general standards as teacher capital to be able to complete their responsibilities with the aim of improving the learning abilities of students. Personal development of students is one of the important duties of parents at home, this cannot be separated from a teacher because every parent when they enter school, the role of the teacher is one of the substitutes for parents at home so what the teacher must do is to provide good service towards students, guiding students with the right target, and making.

Conclusion

One of the difficulties students often find is the difficulty of students in solving story problems. Even though story questions are a form of evaluation of students' abilities in understanding the basic concepts of mathematics that have been learned, so that teachers must motivate students to generate self-confidence and curiosity with the aim of increasing students' abilities in solving story problems in mathematics lessons. In addition, the ability of students will increase in learning, especially in mathematics if the teaching methods and styles of the teacher are very good and easily accepted by students and the teacher accustoms students to solving story problems.

As well as developing the independence of students is one of the important tasks of a teacher because when every parent enters the school, the role of the teacher

is one of the substitutes for parents at home so what the teacher must do is to provide good service to students, guiding participants students with the right target, and make students confident in doing their learning tasks at school, developing students' emotional intelligence is very important for teachers because it can produce students who have identities such as honest, sincere, disciplined, resilient, and have a sense of responsibility and build a character that is always positive.

For this reason, become a professional teacher based on a sense of honesty and responsibility for their duties not only limited to aborting their obligations as a teacher. This also cannot be separated from the importance of the role of parents at home to further improve thinking patterns, as well as a sense of responsibility for education for children because teachers are temporary substitutes because teachers have to help pave the way for each of their students to be successful because they are based on realizing national education standards. mastering basic teaching skills, and implementing the 2013 curriculum, this is inseparable for a professional teacher, he will be given an award in the form of teacher certification with the aim of improving professionalism.

Students can be said to have mathematical abilities if they are skilled at correctly solving math problems, so that the story questions aim to make students practice and think deductively to see the relationships and uses of mathematics in everyday life, and be able to master mathematical skills and strengthen mastery of mathematical concepts.

Suggestions

The methods and ways of teaching teachers are a very important part of achieving the results of learning objectives for students. Teachers are expected to practice various story questions more often. Starting from simple story questions to more complex story questions by emphasizing the use of story problem solving steps so that students are better trained in solving story problems and more systematically. In addition, the teacher is expected to be able to accommodate the complaints of students in solving math story questions and help the students' difficulties so that the basic mistakes made by students can be reduced.

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