
IDENTIFICATION OF STUDENT DIFFICULTIES IN SOLVING STORY PROBLEM

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Abstract. Problem solving is the heart of mathematics learning. Application of knowledge and problem solving skills is very useful for everyday life. The development of students' potential can not be separated from the learning process that can develop students' skill or thinking ability. Turning the story into a mathematical symbol will make it easier for students to understand the problem and solve it. Inadequate instructions, lack of students' ability to interpret problems, difficulty changing the story into a mathematical model, low basic math skills, mastering procedures causes of student difficulties in solving math-story problem. From some research can be taken some alternatives solution that can be given to reduce the difficulty of learning the students in solving the Question (essay story), are as follows: 1) teachers must learn to make the story more communicative and clear instructions, so that students are not confused in understanding the story; 2) Realize heuristic special with use prominent examples (acquisitions strategy explicit), 3) Phase exercise for use The new heuristics obtained with difficulty different tasks, and 4) Extending context the strategy adopted.

INTRODUCTION

Mathematics is taught almost at all levels of education with the general goal that students have the ability to think logically, analytically, systematically, critically, and creatively. Today most students have not understood what the benefits of learning mathematics and how to apply mathematics in everyday life. Not infrequently they assume that learning mathematical concepts such as Geometry, Algebra or Calculus is less useful and even considered can not be applied in real life everyday.

The purpose of teaching mathematics to be effective is that the student must solve the problems faced in everyday life. Experience in solving a subject problem is very important to improve the development students' thinking skills and be able to help them gain more skills in solving problems of men in their daily lives [1], [2]. Mathematical problems merupakan tool used to assist students in developing their thinking skills, in addition to the math problem can also help students to develop their basic skills in solving problems, especially problems in everyday life [1].

Problem solving is considered the heart of mathematics learning because of its skills not only to study the subject but also to emphasize the development of the method of thinking skills. According to [3], Students can apply their problem solving knowledge and skills to be useful in everyday life because the process of solving mathematical problems is similar to general problem solving. The development of students' potential can not be separated from the learning process that can develop students' skill or thinking ability. One of them is by changing the matter of the story into the form of mathematical symbols then the students will be easier to solve. But the fact that there are still many students who have difficulty in solving the story and the problem of changing the story into the form of mathematical symbols.

METHOD

Type of research used in this research is literature research or also called literature review. Review of the literature (literature review, literature research) is a research that examines critically linked to knowledge, ideas, or findings contained in the study-oriented academic (academic-

oriented literature), as well as formulating the contribution of theoretical and methodological for certain topics Syaodih (2009). According to Syaodih (2009) literature study is a series of research related to library data collection method, or research whose research object is explored through various library information (book, encyclopedia, scientific journal, newspaper, magazine, and document) . As for the nature in this research is descriptive analysis, where the data obtained are described regularly, then interpreted and described in order to be well understood by the reader.

Data to be used in this research is secondary data. Secondary data is data obtained not through research / direct observation results, data taken from the results of research that has been done by others. Secondary data in this study is data in the form of reports of primary research results that have been published in journals either print or electronic that relate to the theme of research

The method used in this research is the documentation method. Meot documentation is one of the methods for collecting research data of literature review. The purpose of this method is to extract the data already collected and in accordance with the topic of study. The further cultivated data will be analyzed using descriptive analysis method. By way of describing the findings in the form of the facts of the results of peneliltian and then provide a sufficient explanation. The data that has been collected and analyzed is a proof to answer the questions that have been formulated.

RESULT AND DISSCUSSION

1. About Story

The story is a matter that is presented in the form of short stories [5]. According to Walle (2006), the story is a mathematical question in the form of a verbal sentence (using words in everyday life). Problem stories usually do not use the symbols of mathematical operations and presented in the form of stories or series of words (meaningful sentences). In line with Raharjo & Waluyati (2011), if the story is a matter of mathematics related to life around us to look for the solution using mathematical sentences that contain numbers, counting operations, and relations. In solving the mathematical problems presented in the form of the story of the required stages of completion, the

student must be able to understand the purpose of the matter, can develop a mathematical model and students should be able to find the relationship of the problem with the material that has been previously learned or using the ability already owned. According to Irawan, Jamiah, & Nursangaji, (2014) in solving a math problem in the form of a story sentence, the student must have the ability to understand mathematical concepts and skills, understand the issues being discussed in the matter and harsu able to make plans to establish what is being asked of the data that is already known.

The story is expressed is a problem that happens in everyday life [5][5]. Raharjo & Waluyati (2011) said that the math problem in the form of stories is a matter related to everyday life that can be solved using mathematical sentences. Solving mathematical problems not only takes the final answer of a calculation, but harsu looks at the process of completion as well. Students are expected to be able to solve the story through a process and step by step so that it can see the flow of thinking. In addition can also be seen students' understanding of the concepts used in the matter of the story.

2. Difficulty in solve problem mathematics

According to Buschman (2004), Difficulties experienced by students in complete problem mathematics are : The strategy used no prevalent and no efficient , No understand problems , and No understand procedure completion . Besides the difficulty in complete problem mathematics also how understand and interpret question next translate it in form variable [10] , still according to Pape & Wang (2003) students also have difficulty in suggests three statement : the number of known , statements relationship between the number of known and no known .

Furthermore, research [11] concludes that there are at least 5 student difficulties in solving the problem: (1) basic understanding of letters and places in mathematics, (2) manipulation of letters or variables; (3) use of manipulation rules to solve equations;) the use of knowledge of algebraic structures and syntax to form equations, and (5) generalization of rules for repetitive patterns. Research Dhlamini, (2016) explains, students experience a lot of cognitive load f when solving topics in

mathematics. Most of the problems in financial mathematics are presented in a real-world context. This study has shown that interactivity appears to be very high if the context of the problem is not familiar to students thus heightening the student's burden that can hinder the problem-solving performance.

3. The Cause of Difficulty Completing the Story

Pape & Wang (2003): difficulty in solve period was is multi interpretation on the problem is given to students. While Zhang, Xin, Harris, & Ding (2014) difficulty caused by the quarry knowledge and understanding students in multiplication and ability as effect when interpret results . Purchase others reveal cause difficulty learn because no there is instructions given special about problem given and students no requested by explicit for draw representation schematic besides that students experience difficulty in interpret problems that exist Fagnant & Vlassis (2013). This is possible because there is no clarity of command questions given by teachers to students.

Insri (2011) expresses students' difficulties in solving the story problem caused by: (1) Students can not interpret carefully the intention of the problem. (2) Students have difficulty in changing the story into a mathematical model. (3) Students do not master the procedure used to solve the story problem. (4) Students difficulty yan g menentuan what formula should be used weeks to answer the questions. Research results Wulandari et al., (2014) reveal the difficulties of students in completing the story for several reasons: (1) Students lack understanding of the problem (write down what is in the know and what is asked) when given the problem mainly in the form of a story. (2) Students struggle when changing the story to a mathematical form. (3) Less master of numeracy skills so that errors that should be avoided.

Based on the above exposure, students' difficulties in solving the story problem can be divided into difficulties from within students and from outside. From within include student understanding about the given problem, lack of initial ability, lack of accuracy in doing the problem and less follow the procedures to do the story.

4. Troubleshooting Difficulty Solving Problems

In the study Fagnant & Vlassis (2013), the student's mistake was caused by the absence of special instructions given by the teacher, resulting in misinterpretation Zhang et al., (2014). according to Buschman (2004), the solution that can be given is, Improve the ability of mathematical literacy, and ask teachers to visit the classroom where problem solving is successfully taught. By increasing literacy skills, teachers will be easy to make the problem more communicative and easy to understand by students. So as to minimize errors in making the story.

Lein et al., (2016) Student involvement in learning is very important to solve the problem. Amy further explained with the involvement of students in learning will boost students' reasoning and student learning outcomes. Research Pimta, Tayruakham, & Nuangchale, (2009) explains that developing student skills in effective learning activities can help them solve math problems effectively.

Solve problem could set as a teaching process and learning period length on basically includes four phase according to Brother and Collet [19] namely : 1) Socialization intuitive with method and technique heuristic, 2) Realize heuristic special with use prominent examples (acquisitions strategy explicit) , 3) Phase exercise for use The new heuristic obtained with difficulty different tasks, and 4) Extending context the strategy adopted.

CONCLUSION

From some experts and research results above, it can be concluded that the cause of difficulty solving the story problem is 1). Inadequate instructions resulting in multiple interpretations 2) lack of students' ability to interpret problems thoroughly 3). Difficulty changing the story into a mathematical model 4). Having low basic math skills 5) lack of control of the procedures that must be used in solving the story problem. While alternative solutions to solve the problem of the story is 1) the teacher must learn to make the story more communicative and clear instructions, so that students are not confused in understanding the story; 2) Realize heuristic special with use prominent examples (acquisitions strategy explicit) , 3) Phase exercise for use The new heuristic obtained with difficulty different tasks, and 4) Extending context the strategy adopted.

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