



RESEARCH ARTICLE

ANALYSIS OF STUDENTS DIFFICULTIES TO COMPLETE THE STORY PROBLEM OF SEQUENCE AND SERIES IN CLASS XI SMA/MA

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ABSTRACT

Background: This research to the purpose investigate difficult experienced by students grade of class XI in MAN 1 Padang Panjang in finishing the story about sequences and series and factor that cause the students experience have difficulties.

Methods: The method of this research is descriptive with approach qualitative. The subject of this research was of students class XI IK to took 24 person. The instrument used is advanced interview and written test. Of the analysis of data is found difficulty and the causes of the difficulties experienced by students.

Results: The difficulty of the students are difficulty changing the problems into a variable, difficult to change into mathematical model. The cause of difficulty to a lack of insight the students for material. The students before can the change verbal language into variable form.

Conclusion: The students have some difficulties in mathematics.

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INTRODUCTION

The mathematical is the discipline of knowledge on learned education the basis of elementary until the basic of high level. The subject studies of mathematics helps the students make to form a logical, critical, and creative patterns. The paradigm students in studied mathematical competitors with the purpose studies of mathematics based on Permendikbud number 59 in 2014, one of which in order to study the social ability of the breakdown. Problems, understanding the ability of mathematics model, establishing the complete model and interprets the solutions obtained by the order to solve a problem in the real life.

National council of Teacher of Mathematics (NCTM) (2000) points out that the breakdown is the process of applied knowledge that have been before obtained on the new situation and different. NCTM is also revealed. The goal of 1 to the subject matter is to (1) the building up knowledge of new mathematics, (2) solving the problems that emerged in mathematics and in the other context, (3) implement and arithmetic which varied strategy to solve the problems and (4) to provide and reflects the process of the problems of the mathematics.

The purpose of the problem solving is how to solve the problems that are viewed as process, the story line is not purely on a particle's procedure, and strategy and such a partnership

solved the problem of real life. The breakdown of solving the problems form of students participants could complete to word relating to the daily life. The Academic participants students in the problem of sharpening on the story.

On mathematics, it is based on the story demanded students to think of a maximum because of the story requires a more understanding of understanding. The question of mathematics story is the students must understand what is known and asked to be on, how many of the students changed the story into mathematical models so that the students can determine what a strategy of what must to be complete the story.

The students will be solve the problems in the story if they are able to communicate with each other, which they had to must thought the story. Polya in Widodo (2013) provides some step to complete the problem of mathematics is understand problems, making a plan of solving the problem, carrying out a settlement planning, and reexamined the answer. The stages of must be have the students to be able to solve the problems of mathematics.

The difficulty of the competitors in completed on the math of mathematics could occur if there are errors in the work. According to Wood (2007) some of the issues of difficulties the students in mathematics is: (1) the problems difference numbers, symbols, as well as the space center, (2) does not have given the proposition mathematics, (3) written number not read or in small size, (4) does not understand the symbols of

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mathematical, (5) low ability to abstract, (6) low ability of metakognisi content (the low ability to identification as taking advantage algorithm in solving the item of mathematics).

Cooney (in Yusmin, 1995: 18) stated that the difficulties the students in studying mathematical classified into three difficulties, the difficulty in use of the concept, difficulty in use of the principle, difficulty in solving verbal problems. Based on the three kind of difficulties the Cooney (in Yusmin, 1995: 18) describes the following:

Difficulty in the Concept Stage

1. The ability to the names of a technically
2. The ability to include the meaning of the phrase representing certain concepts.
3. The ability to recall one or more conditions needed for a object to be expressed by the terms of which they represent.
4. The ability to recall a considerable condition for an object to be expressed by the term representing the concept.
5. Can not contain objects as examples of a concept from object rather than not example.
6. The ability to concluded the information from given concept.

Difficulty in Use of the Principle

1. The ability to perform the discovery of something and not careful in the computations or the operation of algebra.
2. The ability the students to determine the relevant factors and as a result of being of abstraction pattern.
3. The students can explain a principle but can not be extended, and can not implement the principle.

To discover the difficulty the students in resolving the story of mathematics, before the researcher an interview and first test see how the ability of the students in the analyze of the story. Information can the initial results, as well as 25% the students can the finish stories are well as the remaining 75% of the students were not able to complete the story. The difficulties which the most students are changing the story of the model of a mathematical model.

The Purpose of this Research is

1. To find the type of difficulty of the students in the course of the breakdown of the problems with the topic sequence and series in the class XI.
2. To find a the factor in the causes of the students breakdown of the problems with the topic sequence and series in the class XI.
3. To find how. His precise proponents of the difficulty the students in the course of the breakdown is the problem with the topic sequence and series in the class.

METHOD

The research this is descriptive research with a qualitative approach. A research place in MAN 1 Padang Panjang. Research time is the moon July until August 2018. The

research the subjects of students class XI IK in the MAN 1 Padang Panjang to consisted of 1 classes of 24 person.

The focus of research is critical analysis of the students in the completion of story of the sequence and series of which the previous of educated the students in class VIII. The students were given several questions about their opinion about the story. The question such as: the type of such a type that is difficult for the students (researchers provide the choice of the similarity: on the story or operation aljabar) and is also the reason. Other question for a reason the students liked the story and the students do not like the story.

Miles and Huberman in Sugiyono said that the three technique qualitative data analysis is the reduction of data, data presentation, and conclusion. Technique data analysis is selected for data presentation. The date of the data is appropriate when a collection of information is composed, so that it gives the possibility to the conclusion. A form of presentation of data is a narrative text (interview). The answer of the students for one question of description in a percentage. With the example N is total the students that have the same answer and P is percentage of the total students from 24 students is interview.

THE RESULTS OF RESEARCH

Interviews are conducted before the students study of the material sequence and series in the class XI senior high school.. The question to give relevant with the students opinions as question story. An interview is taken from the answer students the similar.

The first question asked to the students: 1) the type of which is difficult to work in the opinion of the students; 2) what the teacher is often given a story in every time of his subjects? 3) what do you like question story? 4) what do you dislike question the story? Answer the students for first question, 14 person (58%) the students in the class XI IK , which answer were difficult to work on the story and the rest 10 person the students to answer that question on the operation of aljabar difficult to do it.

The second question is what the teacher often give a story in every time of his subjects? As many as 24 person (100%) the students answer sometime the teacher given question of the story moment learning. Third question is what the students like by the story? As many as 5 person (21%) of the students like the story, there were several reasons they like the stories of such as: the stories can reply to use the word, on the story can help to the course of the passage, on the story of a more detailed description of the one, and on the story plus understand it. The fourth question is what the students dislike by the story? As many as 19 person (79%) of the students dislike the story, and the reason the do diverse. Some reasons the students dislike the story as: the story has been difficult to understand, the language of them and long, and settlement on the story more difficult.

After the students to study the material sequence and series it was conducted again in interviews with students. The question was given to think the students during studying the material sequences and series. A result of an interview is presentation to taken from answer the students in a large line.

The first question asked to the students : 1) How do think the students about educated 's public to the story question to give about material sequences and series ? 2) what the material difficult to be understand the students to concept discuss sequences and series? Answer the students about second question of these questions are described as follows:.

The first question: how think the students about the story to give sequences and series.

On the story, which is given interest because relevance with daily life. The story exists in the details also include of drawing images, so that the students disciples feel the help with the picture exist on any on. On the story that is given in arrange an work exercise.

The following examples display the story given to the students ..



Translate in English for the question above is: Rini make cake to sale in the store. Today is make 20 cake. The second day 22 cake, and so on. Every day many cake to make increase 2 than previous day. The cookies are always all over stock. If any cake produces a profit of Rp 1,000. So the advantage of Rini in 31 days was .

On top is one example. One of the story given to the students. It is related with material sequences and series arithmetic

The second question: what is difficult to be hard to understand the students in topic sequences and series?

Material that is isolated in the main ingredients of sequences and series that is about sequences and series of arithmetic, sequences and series of geometry, growth and decay, single flower, a compound flower, and anuitas. Of the sixth material that questions most of the students are thought to have the material sequences and series of geometry, growth and decay, and anuitas are difficult material to understood. The students before junior high school study material sequences and series aritmatika, as well as the sequences and series geometry.

The students were still difficulty in order to settle the story of the third material above. Difficulties resolved on the growth of the growth of the students, which is generally found to be the difficulty formulate of what is known and what question, the difficulty models as of what is known and did not provide the conclusion to the context of the story.

Research results suggest that the educated is in the difficulty of the students in the completion of the story of each material sequences and series. There are six material questions on the staple of the sequences and series, the three of the six materials are difficult to understand the students.

The three of the material is in the sequences and series geometry, growth and decay, and anuitas. Cooney in Yusmin (1995) stated that mathematical difficulties are characterized by an inability to stating the meaning of a specific concept and the ability concluded the information from the given concept.

The effect is difficult talked about is not to replace the concept sequences and series by the students, especially if the students only read without meaning to the terms is difficult of the students for the return. The students were still difficulties in making the model of mathematics. The students is difficult the verbal language has changed to the variable, so that the students is difficult to determine the settlement of story a given teacher. The difficulty due to the introduction of the students and not understand the significance of the fact that many of the mistakes in making the model of mathematics from story talk given.

After the students study make use of LKPD (students worksheet) about material sequences and series, the students more than motivation in the study. Step forward LKPD (students worksheet) interest helping the students follow material sequences and series.

CONCLUSION

From the results of the research it can be concluded that (1) the difficulty of the students in resolve the story on the ground sequences and series, that is: a) the difficulty changing the problem of in variable, b) the difficulty changing the story into a mathematical sentence, c) the difficulty of taking the operation aljabar to completion of a given story, (2) the difficulty of the students caused by several factors: a) lack of extracts of the content sequences and series so the students is difficulty to complete cause of the story the students before the concept, b) the lack of interest and coaching the students in learning, c) the students began to test when given the story of conversed from a given be exemplified ,

The research to explain the difficulty of the students in order to settle the story of the sequences and series. It was expected to the mathematic teacher, with reading the writing will be confirmed that have been difficulty in the completion the students of the story to refer to the sequences and series.

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