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THE EFFECTIVENESS OF STUDENTS' LEARNING THROUGH THE CONTEXTUAL APPROACH APPLICATION IN ONE VARIABLE LINEAR EQUATION

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Abstract

The results of students' mathematics learning, especially in the one variable linear equation is still not yet as expected. The low result of learning are certainly caused by the learning process that held by the teacher which is less meaningful to the students. One of the efforts of teachers to help students achieve learning goals is through the implementation of learning with an approach that makes mathematic subject close to student life. One approach that can be applied to teachers in mathematics learning is contextual approach. Contextual approach is a learning approach that presents a mathematical problem in the form of real problems close to the life and experience of students. The purpose of this paper is to present the results of students' mathematics learning through the application of contextual approach. This research data is data about the results of students' mathematics learning after learning with contextual approach implemented. Data obtained through the results of student learning achievement test. Data were analyzed by comparing the test scores of students with a minimum completeness criteria (KKM) on the material of the variable linear equations. The results showed that the learning results of students who are taught through the application of contextual approach already achieve the effectiveness. It can help students achieve the learning objectives of this study. The implication of this research is the contextual approach needs to be implemented in the learning of mathematics to other material relevant as to provide opportunities for students to build their own understanding through everyday problems.

Keywords: Contextual approach, one variable linear equation, learning results.

INTRODUCTION

The purpose of learning mathematics is to prepare students to face the changes in life. Through the study of mathematics, students are trained to use mathematics as well as the mindset of mathematics in everyday life (Soedjadi, 2000). According to Nikson (as cited in Ratumanan, 2004), the purpose of learning mathematics is to help build students' understanding of mathematical concepts or mathematical principles. Mathematical understanding of students constructed through the introduction of issues close to students' lives.

But in fact, the students' understanding of mathematics learning still low. The low results shown by the findings of the National Final School Exam of Junior High School and Senior High School (Puspendik, 2015). According to Hestaliana (2012), the low results because of the students less enjoy the math subject. Students think math is hard and boring because mathematics only discuss about abstract formulas.

One of the basic material that taught at the junior level is one variable linear equations. Linear equations often arise in everyday issues, usually in problems form. In operating the form of one variable linear equation, not a few students who got into trouble, this happens because of the low ability of mathematical representations due to the presence of problems in the delivery of learning material of mathematics, namely the lack of development of the power of representation, students are not given the opportunity to present its representation alone but must follow what is has been exemplified by his teacher (Rahmah, 2014). Additionally, Mariana (2013) mentions these difficulties because the students are used to complete the equation by moving the numbers on the left side to the right side or vice versa, and many students are summing or subtracting the rate constant.

Meanwhile, students tend to be passive and student activity is often done just noted. Students are shy and afraid to ask the teacher if they have difficulty in understanding or completing the given problem. In addition, another drawback is though the teacher has to explain to the students how long but still do not understand, as a result of student learning outcomes obtained not maximized. According to Yati (2013) some of the causes of poor performance of students learning mathematics is learning approach used by the teacher is not in accordance with the characteristics of the material, learning resources, and students' initial ability.

The learning approach that used is less appropriate so that students understand the abstract mathematics materials. It is necessary effort so that the abstract material that is obvious by the students. This problem can be solved with the approach that presents a mathematical problem in the form of a real problem, it can be done with a contextual approach. As described by Nurhadi (2004) that the contextual approach is a concept of learning where teachers bring real situations into the classroom and encourage students to make connections between the knowledge possessed by the application in their lives as members of the family and society. This is in line with the opinion of Johnson (2006) that when students can associate the contents of subjects like math, science, or history with their own experiences, they find meaning, and the meaning of giving them a reason to learn. Contextual approach is one approach that can improve student learning results. The results of research related to the use of Contextual Approach that Fachurrazi (2012) concluded that learning with contextual approach can help students achieve the level of success. The problem of this paper is how the effectiveness of students' mathematics learning through the application of a contextual approach to the material one variable linear equations.

METHODS

This study used an experimental method with the pre-experimental design and quantitative approaches. The data obtained is the result of the test is given only once at the end, therefore this kind of research is one shot case study (case study one shot), because the study was conducted on a class VII MTsN Model Banda Aceh with one post-tests conducted after treatment. Data collected through the learning results test conducted after the learning material one variable linear equations with contextual approach. The test instrument consisted of five questions description. The collected data are analyzed by comparing the test scores of student learning results with minimum completeness criteria (KKM). Students who are involved in this research were 36 students from class VII-2. The decision to involve class VII-2 as a sample of randomly selected from 10 classes.

Before the test, the researchers conducted four times face to face (four meetings), the first meeting to the third meeting of applied learning process by using a contextual approach to the material one variable linear equation, and at the last meeting held test student learning outcomes. During the learning process, the researchers prepare teaching materials such as lesson plans, worksheets, and power point

through screen and at the meeting to four students are given tests students' ability to solve the problems of linear equations with two variables amount of about 5 problems with a description about the shape of the real problems.

RESULTS AND DISCUSSION

This section describes the results of the analysis of data obtained from the test results of the students' learning.

Table 1. The test results of the students' learning.

No.	Students' name	Score	Effectiveness
1	Student 1	79	Effective
2	Student2	92	Effective
3	Student 3	87	Effective
4	Student 4	85	Effective
5	Student 5	59	Not Effective
6	Student 6	77	Not Effective
7	Student 7	89	Effective
8	Student 8	85	Effective
9	Student 9	77	Not Effective
10	Student 10	68	Not Effective
11	Student 11	94	Effective
12	Student 12	82	Effective
13	Student 13	79	Not Effective
14	Student 14	92	Effective
15	Student 15	93	Effective
16	Student 16	79	Not Effective
17	Student 17	85	Effective
18	Student 18	48	Not Effective
19	Student 19	87	Effective
20	Student 20	80	Effective
21	Student 21	80	Effective
22	Student 22	79	Not Effective
23	Student 23	94	Effective
24	Student 24	78	Effective
25	Student 25	89	Effective
26	Student 26	89	Effective
27	Student 27	75	Not Effective
28	Student 28	90	Effective
29	Student 29	78	Not Effective
30	Student 30	93	Effective
31	Student 31	92	Effective
32	Student 32	82	Effective
33	Student 33	78	Not Effective
34	Student 34	92	Effective
35	Student 35	90	Effective
36	Student 36	87	Effective
	Total (Σ)	2982	
	Average (\bar{x})	82,833	

The results showed that 25 (69.44%) of 36 students achieve effective learning results through contextual approach to the material one variable linear equations. This is consistent with the results of research Fachurrazi (2012, p. 40), who concluded that learning with contextual approach can help students achieve the level of success. The results of this study are also relevant to the study Abas (2013) which concluded that the application of contextual approach in learning mathematics can help students achieve learning objectives to the maximum. However, the number of students who achieve effective not reached 80%. Therefore, in the classical completeness has not been achieved (Trianto, 2010).

Although contextual learning approach offers a path to academic excellence that can be followed by all students (Johnson, 2006), but students need to be familiarized with the approach.

Researchers' experience when applying mathematics learning with contextual approach, students are not familiar. Therefore we need sufficient time to familiarize students to share, interact, and solve problems set by the teacher. Students need to get used to independently build understanding and not just hope the teacher as the only source of learning.

CONCLUSION

The effectiveness of student's learning through the application of contextual approach on material linear equations with one variable can be achieved by 25 (69.44%) of 36 students. It indicates that the student that the effectiveness does not reached 80%, yet. Therefore, it can be said classically, that the findings of student learning through the learning application with contextual approach doesn't reach the effectiveness yet because students are unfamiliar to learn independently and still had mindset that teachers as the only one primary learning resources. It needs more time to build the awareness from student-self, and the sense of responsibility and self-reliance will grow.

A total of 25 (69.44%) of 36 students achieve effective learning results through the application of contextual approach on the material linear equation of one variable. Therefore completeness student has not reached 80%, it can be said that in the classical effective learning results has not been achieved.

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