



RESEARCH ARTICLE

THE EFFECT OF STUDENTS' ATTITUDE IN MATHEMATICS LESSONS ON UNDERSTANDING THE CONCEPT OF MATHEMATICS FOR HIGH SCHOOL STUDENTS

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Abstract

The purpose of this study was to determine the effect of student attitudes in mathematics lessons on understanding mathematical concepts. The research method used is a survey method by collecting data directly from respondents. To obtain data on student attitudes in mathematics, the researchers collected data using a questionnaire, then to obtain data on understanding mathematical concepts, the test results were distributed to students. Samples were taken as many as 100 students with a simple random technique. Data analysis using simple linear regression. The results showed that there was an effect of students' attitudes in mathematics on understanding mathematical concepts. To improve students' understanding of mathematical concepts, it is necessary to make changes to improve the ability of subject teachers, especially mathematics teachers, by providing training or upgrading, attending teacher seminars, providing opportunities to continue education, or getting their own references about generating student motivation.

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Introduction:-

Mathematics is a subject that develops communication skills using numbers and symbols as well as the sharpness of reasoning that can help clarify and solve problems in everyday life. However, in general, students think that mathematics is a subject that is considered difficult at school and even feared. This is possible because students are less creative and may not even get used to learning mathematics well.

To improve intellectually and increase understanding, especially in understanding mathematical concepts, one must pay attention to the learning process. Rohana (2011) In understanding mathematical concepts, high generalization, and abstraction skills are required. Meanwhile, at this time, students' mastery of mathematical concepts is still weak and even misunderstood. As stated by Ruseffendi (2006) that there are many students who after studying mathematics, are unable to understand even the simplest parts, many concepts are understood incorrectly so that mathematics is considered a difficult, complicated, and difficult science. Whereas understanding the concept is the most important part of learning mathematics as stated by Zulkardi (2003) that "mathematics subjects emphasize concepts". This means that in studying mathematics, students must understand mathematical concepts first to be able to solve problems and be able to.

Apply the learning in the real world. Concepts in mathematics are organized systematically, logically, and hierarchically from the simplest to the most complex. Understanding mathematical concepts are the basis for

meaningful learning of mathematics. Mastery or understanding of concepts can be interpreted as the ability of students to understand the meaning of mathematics scientifically, both concepts in theory and their application in everyday life (Dahar, 1996). So it can be concluded that students with a good level of conceptual understanding will be able to work on questions in any form with the same concept.

Bloom (Vestari, 2009) "Understanding the concept is the ability to capture the notion of understanding such as being able to reveal a material that is presented in a form that is more understandable, able to provide interpretation and be able to apply it". Shadiq (2009), concept understanding is a competency shown by students in understanding concepts and performing procedures (algorithms) in a flexible, accurate, efficient, and precise manner. Students are said to understand concepts if students can define concepts, identify, and give examples and non-examples of concepts, develop mathematical connection skills between various ideas, understand how mathematical ideas are related to one another to build a thorough understanding, and use mathematics in context. outside of math.

This mathematics contains theoretical material, therefore students who take this subject are required to have several abilities in understanding all the material and solving the problems. Fear of Mathematics (*Mathematicsphobia*) often affects the feelings of students from elementary to college levels and excessive fear of Mathematics makes students foreign and tends to be hostile to Mathematics learning. Students' attitudes towards mathematics lessons negative perceptions make study habits worse. In general, students who hear Mathematics are nervous, feel insecure because Mathematics is a very difficult subject. Learning Mathematics, without understanding the concepts and continuous exercises is impossible to master while students are usually reluctant to do the exercises and try them. In learning activities, several things are limited, including not getting used to learning and students' attitudes towards mathematics lessons that are owned by students so that student learning achievements have not met expectations. Because students' attitudes towards mathematics are low so students do not master the material given.

The attitude of students in mathematics is the tendency of students' actions towards a lesson in the sense that students are expected to determine and decide for themselves whether what is learned is useful for their future (Azwar, 2010). Students' attitudes towards mathematics are influenced by beliefs about these learning activities that will lead to satisfactory learning outcomes. Students' attitudes towards mathematics can be expressed as feelings towards mathematics and readiness to learn it. Meanwhile, feelings towards mathematics can be positive feelings or negative feelings towards mathematics. Positive feelings towards mathematics mean supporting and enjoying mathematics lessons, and conversely, negative feelings towards mathematics mean not supporting or not liking mathematics lessons. Azwar (2010) suggests that: Beliefs about what behavior is normative (expected by others) and the motivation to act by these normative expectations form subjective norms within the individual. Behavioral control is determined by experience and the individual's estimate of how difficult or easy it is to perform the behavior in question. This behavior control is very important when a person's self-confidence is in a weak condition.

Knowledge of students' attitudes towards mathematics will be very useful in dealing with problems or difficulties in learning mathematics faced by students. The handling, among others, is in the form of giving certain stimuli to obtain the desired behavioral effect. Likewise, to solve math problems, students are required to practice a lot. Both practices work on math problems, as well as reviewing the mathematical concepts or theories that they have learned. In this case, to achieve optimal learning outcomes in mathematics lessons, a positive attitude is needed for a student.

Method:-

The method used by the researcher in this research is a survey method by collecting data directly from the respondents. To obtain data on the effect of students' attitudes on mathematics lessons, the researchers collected data using a questionnaire, then to obtain data on understanding mathematical concepts, the test results were distributed to students of class VIII Semester 1. The population in this study included students of State Junior High Schools in Bekasi City VIII class, which amounted to 1,223 people. In determining the number of samples, the researchers used the Taro Yamane formula as follows (Suwarsono, 2001) So the sample used was from a population of 1,223, the total number of 100 people was obtained. Data analysis using simple linear regression

Results and Discussion:-

Data Analysis of Student Attitude Variables in Mathematics

The score of students' attitudes in mathematics obtained from the respondents has an average of 77.43 with a standard deviation of 8.405, a median of 77.00, a minimum score of 52, and a maximum score of 95. A standard

deviation score of 8.405 shows the difference in answers between respondents including high. This shows that the attitudes of students on mathematics lessons from the respondents vary. From the description, it can also be seen that the average and median values are almost the same, namely 77.43 and 77.00. This shows that the data score of students' attitudes in mathematics in this study is quite representative. While scores that are above the average are more than those below the average, it shows that students who have high student attitudes in mathematics are more than those who have low student attitudes in mathematics.

Analysis of Mathematical Concept Understanding Data Data on Mathematical Concept Understanding

Obtained from respondents had an average of 16.27 with a standard deviation of 3.570 a median of 17.00 a minimum score of 5 and a maximum score of 22. This indicates that the average Mathematical Concept Understanding of the respondents includes tall. The standard deviation score of 3.570 indicates the difference in answers between respondents is high. This shows that the understanding of mathematical concepts from the respondents is quite diverse. From the description, it can also be seen that the average and median values are almost the same, namely 16.27 and 17.00. This shows that the data on the understanding of Mathematical Concepts scores in this study are quite representative. While the scores that are above the average are more than those below the average, indicating that the Understanding of Mathematical Concepts that are above the average are more than those who are below the average. below average.

Hypothesis analysis

Hypothesis Testing Table

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-5.353E-11	.089		.000	1.000
	Student Attitude	.200	.094	.200	2.104	.038

Based on the table above, it can be concluded that there is an influence of students' attitudes in mathematics on understanding mathematical concepts. This is evidenced by the value of Sig = 0.038 < 0.05 and tcount = 2.104. Yulaelawati (2007) understanding is defined as the ability to understand the material or materials. The process of understanding occurs because of the ability to describe material or materials to other materials or materials. Someone who can understand something, among others, can explain the narrative into numbers, can interpret something through a statement in his sentence or with a summary. Meanwhile, Mulyasa (2005) states that understanding is the cognitive and affective depth possessed by individuals. Furthermore, Ernawati (2003) suggests that what is meant by understanding is the ability to capture meanings such as being able to express a material presented in another form that can be understood, able to provide interpretation and be able to classify it.

Virlianti (2002) suggests that understanding is a conception that can be digested or understood by students so that they understand what is meant, can find ways to express these conceptions, and can explore related possibilities. The attitude of students in mathematics is the tendency of students' actions towards a lesson in the sense that students are expected to determine and decide for themselves whether what is learned is useful for their future (Azwar, 2010).

Students' attitudes towards mathematics are influenced by beliefs about these learning activities that will lead to satisfactory learning outcomes. Students' attitudes towards mathematics can be expressed as feelings towards mathematics and readiness to learn it. Meanwhile, feelings towards mathematics can be positive feelings or negative feelings towards mathematics. Positive feelings towards mathematics which means that they support and enjoy mathematics lessons, and conversely negative feelings towards mathematics that they do not support or do not like mathematics

Conclusion:-

This is evidenced by the value of Sig = 0.038 < 0.05 and count = 2.104, which means that there is a significant direct influence on students' attitudes in mathematics to understanding mathematical concepts

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