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The Effect Of *Self Confidence* On The Ability Of Understanding Mathematical Concepts Of Junior High School Students On The Triangle And Quarter Matter

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This research aims to analyze and study in depth about the self-confidence-influenced skills of matematiS from middle school students. The methods in this study use correlational methods with quantitative approaches. The population in this study was junior high school students in west Bandung regency and the sample of 30 people was determined by purposive sampling technique at one of the junior high schools in West Bandung Regency. Instruments in this ability in the form of comprehension ability tests as many as 5 points of questions and self-confidence scale students as many as 24 statement scales. The results of this study concluded that there is a positive influence between self-confidence and the mathematical understanding ability of middle school students. This shows that the higher the student's confidence, the higher the student's mathematical comprehension ability. Factors that affect high self-confidence include: (1) students with a high confidence attitude do not hesitate in making decisions in solving problems (2) students can have many ideas in working on the problem at hand. Meanwhile, students with less confidence will tend to have difficulty in answering potluck questions, students only memorize not yet to understand the understanding of the concept so that the student does not dare to make decisions when solving existing problems.

Kata kunci: *self confidence, mathematical understanding.*

1.Preliminary

Mathematics is one of the subjects that must be mastered by students because it is very important in everyday life. The purpose of learning mathematics is to understand a mathematical concept regulated in the Minister of National Education Regulation No. 22 of 2006. The initial foundation of learning mathematics is to strengthen understanding of concepts (Khairani et al., 2021) this is in line with (Asih et al., 2021) that the most The basis for understanding mathematics is understanding the concepts that are applied to mathematics, besides this is also stated by (Martunis et al., 2014) that mathematics has an abstract nature related to facts, operations or relations, concepts and principles that require comprehensive understanding. sequentially.

Understanding mathematical concepts is an aspect of ability that needs to be developed when learning mathematics so that students are able to understand concepts in solving mathematical problems. By having a high conceptual understanding, it will be easier to understand a concept well or even quickly, this is in line with (Dahlan 2004) that a good understanding will get good learning outcomes as well. Students' mathematical understanding ability is a goal in learning achievement, so students who have a strong mathematical understanding will have an impact in learning mathematics. This is in line with Nirmala (Purwosusilo, 2014) that building an understanding of concepts in mathematics learning activities will develop one's mathematical knowledge.

Human Resource Competence says that one of the abilities that must be mastered by students is the ability to understand concepts to achieve learning goals (Kilpatrick et al., 2002). (Silviana et al., 2021) understanding is defined as a process, action, way of understanding or understanding, and is also the level of ability to understand a meaning, concept, situation and known fact. Sujana (Karim, A. And Nurrahma, A 2018) There are three kinds of mathematical understanding, namely: 1) Understanding of translation (change), starting from translation in the true sense, other forms and giving meaning from various different variations. 2) Interpolation understanding, namely connecting previous information with what is known next from an idea, or connecting some parts of several theorems from reading not only with words and phrases. 3) Understanding extrapolation is expected that someone is able to see behind what is written, or the problem. So important is learning mathematics and the ability to understand mathematics that students must have, the government, schools, teachers and parents must provide maximum support and direction so that the results obtained are also maximal (Sarwoedi, Marinka, D.o, Febriani P, Wirne, I. N. 2018) But the fact is that many students have difficulty understanding concepts in mathematics, this is in line with research conducted (putra et al., 2018) that the ability to understand mathematics of junior high school students is still relatively low, which is below 50%.

One of the concepts in mathematics that is difficult for students to understand is quadrilateral material. The purpose of studying quadrilaterals and triangles is the basis for

studying other shapes such as blocks, cubes, pyramids and other shapes. Therefore, it is very important for students to master and understand the concepts of quadrilaterals and triangles well including the area and perimeter of quadrilaterals and triangles so that students do not experience difficulties in applying the material in mathematics and in everyday life. Flat wake material is a prerequisite material that students must have. By studying this quadrilateral material, it will be a provision for students at the next level. The material for rectangular and triangular shapes related to daily life (Sumiati et al., 2020) stated that students' difficulties in quadrilateral material such as most students still have difficulty understanding story questions and confusion when presented with HOTS questions, some students have not been able to translate the problem into In the mathematical model, students are still confused in determining the initial steps to work on the problem correctly, some students cannot apply the questions given to the related formula, and students do not understand the concept of a quadrilateral. In line with this (Puspaningrum et al., 2011) argues that students experience errors in understanding the questions. Based on this opinion, the factor that students have difficulty in learning the concept of a quadrilateral is not understanding the meaning of the problem.

Mathematical understanding ability can also be caused by a lack of student self-confidence, because self-confidence is an important thing that students must have so that students do not feel burdened in doing learning in class and also never be afraid to do it even though they are wrong in solving problems. Low self-confidence can result in a person's lack of interest in a particular field, it can even give birth to an attitude of not wanting to learn. According to (Suhardita 2011) that the attitude of someone who shows himself not confident, among others, in doing something important and full of challenges is always faced with doubt, is easily anxious, unsure, tends to avoid, has no initiative, is easily discouraged, does not dare. Appearing in front of many people, and other psychological symptoms that prevent a person from doing something.

The purpose of this research is to find out whether there is an effect of self-confidence on the ability to understand mathematical concepts of junior high school students on rectangular material with the hypothesis H0 = There is no effect of interest in learning on the ability to understand mathematical concepts of junior high school students on rectangular material; and Ha = There is an effect of interest in learning on the ability to understand mathematical concepts.

2. Method

This research was conducted using a correlational quantitative approach with a survey method which is expected to find out whether there is an effect of self confidence on the mathematical ability of junior high school students on quadrilateral material. In this study, the data population was students of junior highschool Negeri 1 Padalarang, West Bandung Regency, class VII. While the sampling technique used cluster random sampling technique which obtained a sample of class VIII F as many as 30 students. The instrument in this study used tests and non-tests. The instrument is based on a good characteristic assessment of the ability to understand mathematics, while the non-test instrument is based on a good characteristic assessment of students' self-confidence. The mathematical understanding ability test is 5 items adapted from the thesis book and the students' self-scale of 24 statement scales are taken from (Hendriana et al., 2012). The data that has been taken is processed using a simple linear regression data analysis tool assisted by SPSS version 16 software which can answer the formulation of the hypothesis. Before testing the hypothesis, there are several prerequisite tests that must be met.

Mathematics understanding ability test as many as 5 questions

1.Mr.Irman owns a plot of land as shown in the picture below. If Mr. Irman's plot of land is named ABCD where DE is perpendicular to BC.
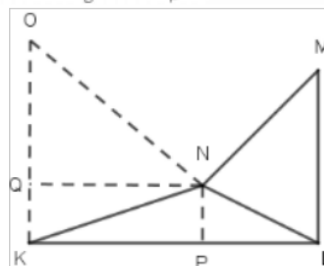
Make a mathematical model to calculate the area of
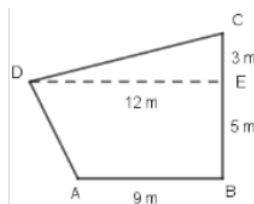
1. Pay attention to the picture on the side! ABCD rhombus and EFGH kite. Line BD//FH = 6 cm.
   Make a mathematical model to calculate the area of the EICJ?
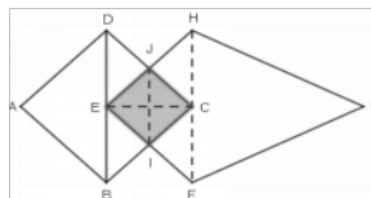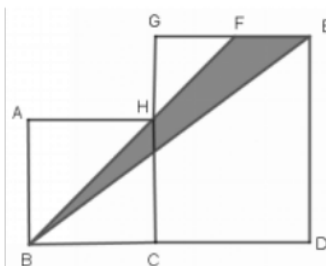

3. Pay attention to the the picture on the side!

NQ and NP are perpendicular to KO and KL, respectively. Length KQ = 1 cm, QO = 3 cm, LM = 3.5 cm, KP = 3 cm, and PL = 2 cm. calculate the area of KLMN and KNO, then what can you conclude!
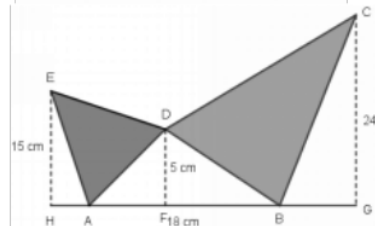
4. Look at the picture on the side! ABCH and CDEG are squares, length AB = 2 cm and F is the midpoint of side EG.

Calculate the area of   the shaded area!

5. Look at the picture beside!

Make a mathematical model to calculate the area of the shaded area!

Tabel. 1 Instrumen Tes Kemampuan pemahaman Matematis Siswa

No	Indikator dan Pertanyaan	Respon			
		SS	S	TS	STS
1	I am sure that I will do well in my math exam				
2	I am nervous when I have to explain math material in front of the class.				
3	I feel anxious when the teacher asks math material that I don't understand				
4	I am able to re-explain the mathematics material that has been taught by the teacher				
5	I find it difficult to solve math problems in the form of stories				
6	I am able to re-explain the mathematics material that has been taught by the teacher				
7	I am able to overcome problems or difficulties that arise in learning mathematics				
8	I'm shy when I have to do math problems in class				
9	I get discouraged when it comes to generalizing to a math problem or situation				
10	I'm sure I can learn any complicated math				
11	I am not able to understand math material so I need a teacher's help				
12	I like tasks that have many alternative solutions				
13	I have a high curiosity in math				
14	I feel challenged when faced with patterned numbers				
15	I find it difficult to manage time to study math				
16	I feel confused when the teacher starts to explain new math material				
17	I get nervous when observing math problems				
18	I can understand mathematics in general				
19	I dare to ask friends about math problems				

20	I don't dare to ask when my friends present the results of learning mathematics in class			
21	I am not able to express solutions to mathematical problems verbally			
22	I dare to answer the questions asked by the math teacher in class			
23	I don't dare ask the math teacher because I have the ability to communicate			
24	I get excited when debating in math discussion forums			

The stages carried out in this study were: (1) conducting a pre-survey and applying for permits to schools, (2) making instruments, validating instruments, and testing instruments, (3) conducting research surveys, (4) coordinating with teachers, (5) conduct a pretest or initial test and provide student activity questionnaires, (6) provide posttest and student activity questionnaires for each research group, and (7) data analysis.

3. Result And Discussion

Based on the results of the data normality test, it was found that the two variables, namely self-confidence and students' mathematical understanding abilities were normally distributed. After that, a linearity test was carried out to see the relationship between mathematical critical thinking skills on students' self-confidence with the test results shown in Table 1 below:

Tabel 1. Linearity Test between Self Confidence and Mathematical Understanding Ability

Model		Sum of squares	df	Mean square	F	Sig
1	Regression	39.219	1		1.100	.303a
	Residual	998.648	28			
	Total	1037.867	29			

a. Predictors: (Constant), understanding

b. Dependent Variable: self confidence

Based on the results of the linearity test between self-confidence and students' mathematical understanding abilities, it is seen that the relationship is linear. This is because the value of Sig. From Deviation from Linearity it produces a value of 0.303 > 0.05. It can be concluded that

there is a linear relationship between students' self-confidence and mathematical understanding abilities.

Furthermore, statistical regression tests were carried out to see whether there was an effect of students' self-confidence on the ability to understand mathematics with the test results presented in Table 2 and Table 3 below.

Tabel 2. Regression test results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	74.137	5.891		12.585	.000
	Understanding of concept	-.100	.096	-.194	-1.049	.303

a. Dependent Variable: self conidence

Based on the results of the regression analysis test in Table 2, the sig. of 0.000 which means that students' self-confidence has a positive effect on students' mathematical understanding abilities with a significance level of 5%. In addition, the value of the correlation coefficient is 0.096 and the value of the coefficient of determination is 0.303. This can be interpreted that the effect of students' self-confidence on mathematical understanding abilities is 57.3%, while 42.7% is influenced by other factors outside of students' self-confidence.

Tabel 3. Model Summary

| Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.194[a]	.038	.003	5.97210

a. Predictors: (Constant), pemahaman konsep

In addition, it is also seen that the coefficient of student self-confidence is positive. This means that self-confidence has a positive effect on students' mathematical understanding abilities. So it can be concluded that the higher the student's self-confidence, the higher the students' mathematical understanding ability.

DISCUSSION

From the results of the regression analysis test, a positive correlation was obtained between mathematical understanding ability and self-confidence with interpretation, the higher the student's self-confidence, the higher the students' mathematical understanding ability, this is in line with research conducted by (Rosmawati et al 2021) that self-confidence can affect the understanding of mathematical concepts. The things that cause this positive influence are: (1) students with good self-confidence in learning mathematics are brave in expressing opinions in learning; (2) students have many ideas in working on the problems at hand. (3) students can freely express their opinions and do not hesitate in solving problems, in line with (nurul 2021) a factor that can affect if the understanding of the concept is good is to have a good affective attitude too, therefore students who are not good and do not have self-confidence In

learning mathematics, students are more likely to solve potluck problems according to the knowledge gained and prioritize memorization, so students do not dare to make decisions when solving problems (Hendriana, 2012).

The results of students' work with self-confidence in mathematics are presented in Figure 1 and Figure 2 below.
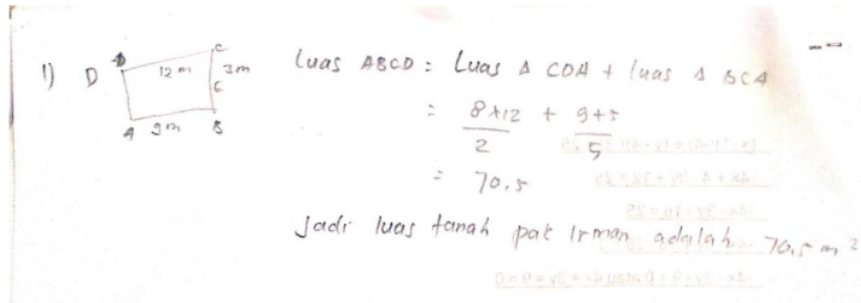
Picture 1. Student Activity Results With Good Self-confidence

Figure 1 shows the results of students' answers who took steps to work on the questions. This means that students are looking for a solution to the problem asked, namely looking for "land area of Mr. Irman" to produce a solution that is the same as the formula for the area of the completed triangle. In addition, the initial idea and solution strategy taken by the student was considered appropriate, although in the end the student re-examined the results of the solution he gave. This is in line with the research of Kusdinar et al., 2017) which argues that in the process of proving a problem, students' abilities are needed starting from formulating initial ideas and developing settlement strategies.
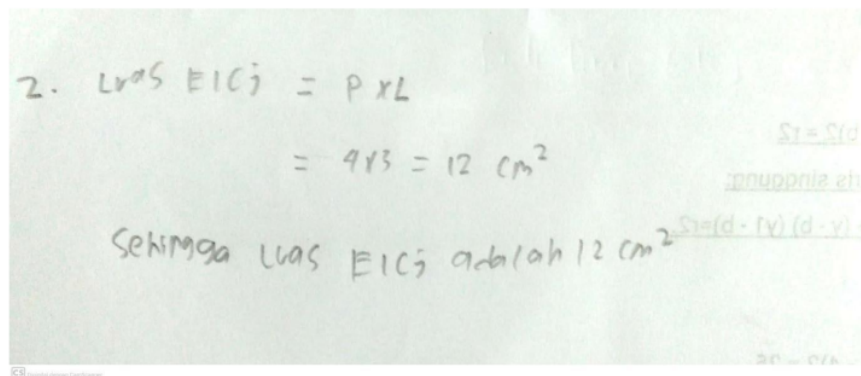
Figure 2. Student work results with poor self-confidence

With regard to the answers of students who have self-confidence in the poor category (Figure 2), it can be seen that the student forces an answer without thinking about the initial idea of solving it, causing the answer to be wrongly formulated or you could say a miss conception. So

that he finds it difficult and the answers tend to be sober the students give up with answers that are less precise than the problems given. Thus the student is not careful and not confident which results in very low fighting power in dealing with problems. This is because students who have weak fighting power in dealing with problems will result in unsatisfactory results which will result in a lack of strong self-confidence (Dini et al., 2018).

Based on the results of research that proves that self-confidence affects students' understanding abilities, this is because students with high self-confidence can give themselves confidence to be optimistic in solving problems that will be faced (Melyana et al., 2020). There are learning factors that greatly influence the relationship between the ability to understand mathematics and a person's self-confidence in dealing with problems, namely requiring students to be active in understanding concepts so that strong self-confidence arises. (Hendriana et al., 2017).

4. Conclusion

Based on the data analysis and discussion that has been presented, it can be concluded that there is a positive influence between self-confidence and the mathematical understanding ability of junior high school students. This shows that the higher the student's self-confidence, the higher the students' mathematical understanding ability. Factors that influence the level of self-confidence include: (1) students with a high attitude of confidence do not hesitate in making decisions in solving problems (2) students can have many ideas in working on the problems at hand. Meanwhile, students with poor self-confidence will tend to have difficulty in answering improvised questions, students only memorize not yet understand the understanding of the concept so that these students do not dare to make decisions when solving existing problems.

5. Suggestion

Based on the results of the research above, the researchers have suggestions that understanding mathematical concepts should be taught to students who are starting to enter junior high school so that a strong understanding of concepts can affect students' self-confidence in learning mathematics, especially understanding this concept is the beginning or root of strengthening mathematical concepts so that if the understanding of the concept is good it will make it easier for students to continue to a higher cognitive level and To teachers, especially mathematics teachers at SMP Negeri 1 Padalarang, West Bandung Regency, in order to better understand and have good children's confidence, give motivation and confidence to students.

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