CONTRIBUTION OF MATHEMATICS LEARNING MOTIVATION TO STUDENTS' MATHEMATICS LEARNING OUTCOMES IN JUNIOR HIGH SCHOOL

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Abstrak.
Students who have great motivation and create positive perceptions in mathematics lessons will improve student learning outcomes. However, the learning motivation of class VIII students at SMP Negeri 3 Luwuk in mathematics is still low. Therefore, this research aims to determine the contribution of mathematics learning motivation to mathematics learning outcomes in class VIII students at SMP Negeri 3 Luwuk, while the research was carried out from May to June 2021. In this research, the variables to be studied consist of 2 variables, namely variables X and Y, where the motivation to learn mathematics is placed in variable Luwuk. The data collection methods used are observation, questionnaires, tests and documentation. The analysis used is product moment correlation. The research results show that the correlation coefficient (r) = 0.3598 or 35.98% is a positive number. This shows that the contribution of mathematics learning motivation to the mathematics learning outcomes of class VIII students at SMP Negeri 3 Luwuk is positive and the interpretation is between 0.20 - 0.399 which is interpreted as a low level of influence. The KD value = 12.96% shows the low influence of the contribution of mathematics learning motivation to the mathematics learning outcomes of class VIII students at SMP Negeri 3 Luwuk, amounting to 12.69%. Meanwhile, the value of tcount = 1.6808 with degrees of freedom (db) = 21-2 = 19 with a significance level of 0.05 = 2.093 so tcount is less than ttable or 1.6808 < 2.093, so the correlation that occurs is meaningless or not significant so The correlation is that there is no contribution of mathematics learning motivation to the mathematics learning outcomes of class VIII students at SMP Negeri 3 Luwuk. Thus the hypothesis is rejected.

A. INTRODUCTION

Education is closely related to the learning process. Where the learning process can produce changes in the individual. By learning, humans can change into better individuals, both for themselves and their environment. Mathematics is a science that is very useful for human life. Where we experience many benefits after studying mathematics, including developments in science, technology, and so on. Therefore, it is not an exaggeration to say that it is very

important to learn mathematics. By studying mathematics, someone will get used to thinking systematically, critically and creatively.

Students must have strong encouragement from within themselves, so that students will naturally study seriously to achieve learning outcomes that meet expectations. Encouragement that comes from within the student is known as internal or intrinsic motivation, while encouragement that originates from outside the student is known as extrinsic motivation (Sabrina et al., 2017). Good student motivation will give them positive energy to study various subjects, especially mathematics, so that students who have great motivation and create positive perceptions in mathematics will improve student learning outcomes.

Based on the results of interviews conducted by researchers with one of the class VIII mathematics teachers at SMP Negeri 3 Luwuk, students' learning motivation in mathematics lessons is still low. One of the causes of students' low learning motivation is that learning conditions during the pandemic meant that students did not focus on following the material and therefore lacked mastery of the material. A phenomenon that is often shown by students in mathematics learning activities is a lack of active participation in the learning process, students quickly forget the lesson material even though the material has just been presented which results in difficulty understanding the next material.

Student learning outcomes have a big influence on later grades. When students' learning motivation is good, learning outcomes will be good too. Likewise, when students' motivation to learn is lacking, their learning outcomes will be poor(K. E. Lestari & Yudhanegara, 2015).

According to Purwanto in (Hutauruk & Simbolon, 2018) he said that learning outcomes are a realization of achieving educational goals, so that the learning outcomes that are measured really depend on the goals. Fimansyah, et al (2015) explain that learning outcomes are the abilities that students have after receiving learning experiences. Meanwhile, learning outcomes according to Sulfemi (2019) are changes in behavior in students, which can be observed and measured in the form of knowledge, attitudes and skills.

From the explanation above, it can be concluded that learning outcomes are the results obtained by students after the learning process in the form of cognitive, effective and psychomotor abilities.

According to (Adiputra & Mujiyati, 2017) the motivation for each student will not be the same. High learning motivation is very important for students, with high motivation students will be enthusiastic in following lessons. On the other hand, students who have low motivation will be lazy about attending lessons. Meanwhile, according to

Emda (2018), learning motivation is a condition that exists in an individual where there is an urge to do something to achieve a goal.

Based on the opinion above, it can be understood that it is important for every student to have high learning motivation, in order to achieve learning goals and obtain satisfactory learning results.

Factors in learning motivation are events that influence student motivation. These factors will influence students in achieving learning goals. According to Fauziyatun (2014), in general there are two factors of learning motivation, namely factors within the student (internal) and factors from outside the student (external). Factors within students include: 1) physical and mental health; 2) talent; 3) interest; 4) concentration; 5) self-confidence; and 6) commitment. Meanwhile, factors from outside the student include: 1) stimulation; 2) strengthening; 3) school environment; 4) family environment; 5) friendship; 6) community conditions; 7) learning facilities; 8) learning atmosphere, and 9) study time.

From the explanation above, it can be concluded that in general there are two learning motivation factors that influence students in achieving learning goals, namely internal factors (from within the student) and external factors (from outside the student).

Motivational factors for learning mathematics are related to mathematics learning outcomes. Because the existence of motivation in students will have a big influence on the students' learning outcomes themselves. Students who have high learning motivation will be seen from the way they study, they will be serious about studying the material given, actively involved during the lesson, working on the questions given, students who have high learning motivation will not be satisfied with what they get, There is always a sense of curiosity to know something more broadly. If students encounter difficulties they will try their best to find solutions to the problems they face.

Therefore, motivation has a very important role in learning activities, especially in improving learning outcomes. So it is suspected that there is a contribution between mathematics learning motivation and mathematics learning outcomes.

B. RESEARCH METHODS

The type of research that researchers use is survey research, where this research attempts to see the relationship between variables through hypothesis testing (P. Sugiyono, 2017). The hypothesis that will be tested is to determine whether there is a contribution of mathematics learning motivation to students' mathematics learning outcomes. By using quantitative methods. According to (S. Sugiyono, 2014), it is called a quantitative method because research data is in the form of numbers and analysis uses statistics. This research aims to determine the contribution of mathematics learning

motivation to the mathematics learning outcomes of class VIII students at SMP Negeri 3 Luwuk.

Population is all data that is the center of attention of a researcher within a predetermined time scope, population is related to data. The population that researchers took in this research were all students in class VIII of SMP Negeri 3 Luwuk for the 2020/2021 academic year with a total of 328 students.

According to (S. Sugiyono, 2014) to calculate the number of samples from a known population using the formula from Isaac and Michael with their formulation $s = \frac{\lambda^2.N.P.Q}{d^2(N-1)+\lambda^2.P.Q}$. The samples taken were class VIII students at SMP Negeri 3 Luwuk. So, a sample of 56 students was obtained from a population of 328 students. However, at the time of the research the number of students who filled out the questionnaire and test was only 21 people due to the current pandemic situation where students are still learning from home (online). To make it easier for researchers when distributing questionnaires and tests, researchers use the Google Form application.

Data collection techniques use observation methods, questionnaires, tests and documentation. In this case, researchers used Microsoft Excel 2010 as a tool to make it easier to process descriptive statistical data and inferential statistics.

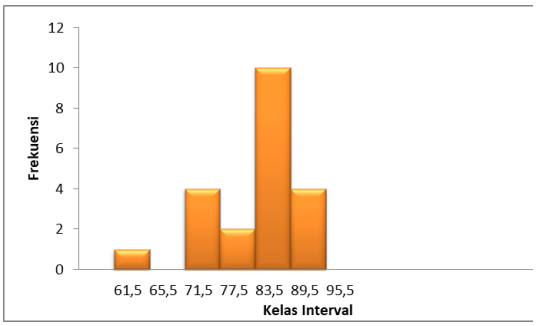
C. RESULTS AND DISCUSSION

The research results obtained from the Mathematics learning motivation questionnaire and mathematics learning outcomes test at SMP Negeri 3 Luwuk can be presented in the following table.

Table 1 Research on data from questionnaire results on mathematics learning motivation and mathematics learning outcomes

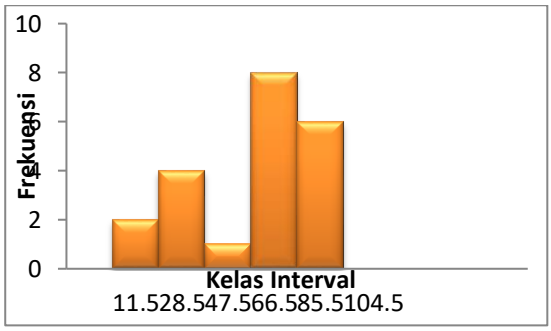
Data/Sumber	X	Y
N	*21*	*21*
Skor Min	*60*	*10*
Skor Max	*95*	*100*
Mean	*83,64*	*67,86*
Modus	*86,926*	*81,32*
Median	*85,6*	*74,81*
Std. Deviation	*82,3*	*25,3*
Varians	*6773,29*	*640,09*

More clearly, the data distribution based on the frequency distribution list of mathematics learning motivation (x) can be visualized in the following histogram:



Gambar 1 Histogram of Mathematics Learning Motivation Questionnaire

Meanwhile, the data distribution based on the frequency distribution list of mathematics learning test results (y) can be visualized in the following histogram:



Gambar 2 Histogram of Mathematics Learning Test Results

Data normality was tested using the Estimated Error Test with a significance level of 5% (α=0.05) and degrees of freedom (db) = n where n is the number of respondents for each sample group. The testing criterion is to reject the null hypothesis that the population is normally distributed if L0 = Lcount≥ Ltable = Llist in other circumstances the null hypothesis is accepted. The results of the normality test calculation show that data on mathematics learning motivation and data on mathematics learning outcomes of students at SMP Negeri 3 Luwuk obtained L0 0.131, which indicates that the data is normally distributed.

The calculation results using the data linearity test show that the two data groups have a level of data linearity as shown in the table below.

Table 2 Results of Linearity Test Data on Mathematics Learning Motivation and Mathematics Learning Results

Group	N	F_0	$F_{t(9/23)}$	Results
X	21	-0,89	4,64	Linear
Y	21			

Hypothesis testing is carried out to process research data that will be used to answer the problem formulation, so that it can produce conclusions that can provide answers to the proposed problem formulation logically and systematically.

The statistical test used is the product moment correlation test which is used to test the hypothesis that the influence was found;

$$r_{xy} = \frac{N \Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{[\, N \Sigma_{X^2} - (\Sigma X)^{\,2}][\, N \Sigma Y^2 - (\Sigma Y)^2]}}$$

$$r_{xy} = \frac{21\,(11600) - (1764)(1360)}{\sqrt{[(21(149590) - (1764)^2][21(105000) - (1360)^2}}$$

$$r_{xy} = \frac{(2436000) - (239940)}{\sqrt{[(3141390{,}0000) - (3111696{,}0000)][2205000{,}0000) - (1849600{,}0000)]}}$$

$$r_{xy} = \frac{36960}{\sqrt{\{29694{,}000)(355400{,}0000)}}$$

$$r_{xy} = \frac{36960}{\sqrt{10553247600}}$$

$$r_{xy} = \frac{36960}{102729{,}0008}$$

r_{xy} = 0,3598 atau 35,98%

The results of the analysis of the coefficient of determination which aims to calculate the magnitude of the relationship between the two variables of mathematics learning motivation (x) and mathematics learning outcomes (y) using the formula obtained the following results:

KD = r^2 x 100%

= $(0{,}3598)^2$ x 100%

= 0,1296 x 100%

KD = 12,96 %

Meanwhile, the results of the significance test using the t-test were obtained to answer the research hypothesis:

$$t_{hit} = \frac{r\sqrt{(n-2)}}{\sqrt{(1-r^2)}}$$

$$t_{hit} = \frac{0{,}3598\sqrt{(21-2)}}{\sqrt{(1-(0{,}3598)^2)}}$$

$$t_{hit} = \frac{0{,}3598\sqrt{19}}{\sqrt{(1-0{,}12946)}}$$

$$t_{hit} = \frac{0,3598\ (4,3589)}{\sqrt{0,8706}}$$

$$t_{hit} = \frac{1,5682}{0,933}$$

$$t_{hit} = 1,6808$$

Based on the significance test calculations, it can be seen that the price of thit (1.6808) with db = 19 and a significance level of 5%, is apparently smaller when compared to the price of ttab (2.093). In this case, it can be concluded that the hypothesis is rejected, which means there is no contribution of mathematics learning motivation to mathematics learning outcomes among students at SMP Negeri 3 Luwuk.

Based on the hypothetical statistical analysis of the research data described above, it needs to be studied further by providing an interpretation of the situation and the relationship between the analysis results obtained and the theories underlying this research. This study is intended to obtain conformity with the theory that has been put forward with the research results achieved.

From the results of the research, the researcher got an idea that the contribution of motivation to learn mathematics by reviewing the indicators: Need, Interest, Curiosity, Enjoyment, Clarity of Learning Goals, and Rewards by reviewing the indicators of mathematics learning outcomes, C1 (Knowledge), C2 (Understanding), C3 (Application), the correlation coefficient (r) = 0.3598 or 35.98% is a positive number. This shows that the contribution of mathematics learning motivation to the mathematics learning outcomes of class VIII students at SMP Negeri 3 Luwuk is positive and the interpretation is between 0.20 - 0.399, which is interpreted as a low level of influence. The KD value = 12.96% shows the low influence of the contribution of mathematics learning motivation to the mathematics learning outcomes of class VIII students at SMP Negeri 3 Luwuk, amounting to 12.69%. Meanwhile, the value of tcount = 1.6808 with degrees of freedom (db) = 21-2 = 19 with a significance level of 0.05 = 2.093 so that tcount is less than ttable or 1.6808 <2.093, so the correlation that occurs is meaningless or not significant so The correlation is that there is no contribution of mathematics learning motivation to the mathematics learning outcomes of class VIII students at SMP Negeri 3 Luwuk. Thus the hypothesis is rejected.

So, learning motivation based on indicators of need, interest, curiosity, enjoyment, clarity of goals and rewards contribution to learning outcomes, although at a low level. This is due to the variety of conditions that affect students. This is in line with what was axplained by (Fathia et al., 2021) that motivation in learning will influence mathematics learning outcomes. So it is important for teachers to be able to maximize their efforts in increasing their students' learning motivation which can also be a trigger for success in learning.

The results of the research show that the learning motivation of students at SMP Negeri 3 luwuk has positive influence on learning outcomes. Even though the motivation value has a low correlation with learning outcomes. Optimalizing motivation can be done by innovating learning activities that can stimulate interest, enjoyment, curiosity, setting learning goals and appreciation for sutdens. As also explained by (Hendri et al., 2021) which explains the need for learning activites that can arouse children's enthuasiasm and motivation to learn. This is in line with the explanation of (W. Lestari, 2017) that motivation can influence mathematics learning outcomes but not significantly.

D. CONCLUSION

Based on the research results and discussion that have been described, it can be concluded that the correlation coefficient (r) = 0.3598 or 35.98% is a positive number. This shows that the contribution of mathematics learning motivation to the mathematics learning outcomes of class VIII students at SMP Negeri 3 Luwuk is positive and the interpretation is between 0.20 - 0.399, which is interpreted as a low level of influence. The KD value = 12.96% shows the low influence of the contribution of mathematics learning motivation to the mathematics learning outcomes of class VIII students, amounting to 12.69%. Meanwhile, the value of tcount = 1.6808 with degrees of freedom (db) = 21-2 = 19 with a significance level of 0.05 = 2.093 so tcount is less than ttable or 1.6808 < 2.093, so the correlation that occurs is meaningless or not significant so The correlation is that there is no contribution of mathematics learning motivation to the mathematics learning outcomes of class VIII students at SMP Negeri 3 Luwuk.

So it can be concluded that learning motivation can contribute to mathematics learning outcomes even though the correlation is quite small.

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