THE RELATIONSHIP BETWEEN LEARNING TIME MANAGEMENT, LEARNING MOTIVATION, AND PEER INTERACTION WITH MATHEMATICS LEARNING OUTCOMES IN STUDENTS CLASS VIII OF SMP NEGERI 1 PANDANARUM BANJARNEGARA REGENCY IN ODD SEMESTER IN ACADEMIC YEAR OF 2016/2017

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ABSTRACT

Student mathematics learning results which are low related to several factors. The correlation between learning time management, learning motivation, and peer interaction are several factors are likely related to learning results. This study aims to determine whether there is a positive and significant correlation between Learning Time Management, Learning Motivation, and Peer Associations with Mathematics Learning Results of Students at Grade VIII, State Junior High School of 1 Pandanarum (SMP Negeri 1 Pandanarum) in Banjarnegara Regency in odd semester in academic year of 2016/2017.

The population in this study were eighth grade students of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017, consisting of classes VIII A, VIII B, VIII C, VIII D, VIII E, totaling 145 students. The research sample was determined by *random sampling* technique. Data collection techniques were performed using a questionnaire method to obtain data on learning time management, learning motivation, and peer interaction, and test methods to obtain data on mathematics learning results. The research instrument test includes validity test, different power test and reliability test while the analysis prerequisite test includes normality test, linearity test and independence test. In this study, data analysis was performed using product moment analysis and multiple linear regression analysis.

The results showed that there was a positive and significant correlation between learning time management, learning motivation, and peer interaction with mathematics learning results of Grade VIII students of SMP Negeri 1 Pandanarum Banjarnegara Regancy in odd semester in academic year of 2016/2017. This is indicated by $F_{\text{count}} > F_{\text{table}}$ which is 8.0123 > 2.9912 with R = 0.7001 and $R^2 = 0.4902$ with $\hat{Y} = -43.7046 + 0.6181 X_1 + 0.0262 X_2 + 0.5848X_3$, with $SR X_1 = 51.2855 \%$, $SR X_2 = 15.1763\%$ and $SR X_3 = 33.5381\%$, $SE X_1 = 25.1391\%$, $SE X_2 = 7.4391\%$ and $SE X_3 = 16.4397\%$.

Keywords: Learning Time Management, Learning Motivation, and Peer Interaction, Mathematics Learning Results.

Introduction

Education is a process to help humans in developing their potential so that they can face every change that occurs. Quality education will produce quality human resources, superior, and able to compete. Education aims to foster human potential to become mature, civilized, and normal human beings. Education will bring changes in attitudes, behavior, and values in individuals, groups, and society. Through education, it is expected that it can be able to form competent individuals in their fields so that it is in line with the development of science and technology.

In line with the development of society today, education faces many challenges and obstacles. One obstacle is the low quality of education in this country so that it is a challenge for education managers to improve the quality of education in Indonesia. The challenge is a tool that can bring up new thoughts and innovations in learning methods.

In Indonesia itself, mathematics has been taught from elementary schools to high schools. In general, the purpose of giving mathematics in schools is to prepare students to be able to face the changes in life and an ever-evolving world. Through practice, students are expected to act on the basis of logical, rational and critical thinking. It is also to prepare students to be able to use mathematics in daily life, study science, technology and art (IPTEKS). While emphasizing the general purpose of giving mathematics in schools is structuring reason, forming students' attitudes and skills in the application of mathematical science.

A learning success is basically caused by several factors that can be classified into two groups, namely internal factors and external factors (Slameto, 2010: 54-55). Internal factors are factors found in students, including intelligence, numeracy, independence, interest and motivation. While external factors are factors that exist outside of students include the environment, parental attention, facilities and infrastructure and others.

One internal factor that affects student learning results is learning time management. According to Timpe, Susanto Budidharmo's translation (2002: 10), "time is a unique source, time is not saved but is used wisely". The amount of time is not so important but more important is how time is managed. Future time can be managed effectively only by planning from the start and how we use our time is a personal choice. There will be so many benefits if we can manage time well, and certainly a lot of results that we will get, especially for a student that is to achieve achievement with study hard.

Besides learning time management, there are also internal factors, namely motivation. Motivation is an individual's drive to do something to achieve the desired goal. Motivation in learning is a major factor that is beneficial for achieving satisfying results. Motivation is an absolute requirement for learning. Students can realize the point of learning and the objectives to be achieved with the lesson, if given a good and appropriate motivation. In learning activities, motivation can be said to be the overall driving force within students that gives rise to learning activities guaranteeing continuity of learning activities and which gives direction to learning activities, so that the desired goals of the learning subject are achieved. Its distinctive role is in growing passion, feeling happy and eager to learn. Learning results of students who have learning motivation with students who do not have learning motivation will be different.

External factors that are thought to have a relationship with learning results in students one of which is peer interaction. Not all students' peers behave positively in their

relationships at school and support student learning success. Students provide information that when they gather with their friends, they prefer to discuss things other than lessons, such as planning about what they are going to do that day. There are still noisy peers in class and do not pay attention to lessons during the teaching and learning process so that the learning process becomes disrupted, and also play truant when there are peers who skipped school.

The problems in this study are: 1) Is there a positive and significant correlation between learning time management with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017? 2) Is there any positive and significant correlation between learning motivation with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017? 3) Is there any positive and significant correlation between peer interaction with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017? 4) Is there any positive and significant correlation between learning time management and learning motivation with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017? 5) Is there any positive and significant correlation between learning time management and peer interaction with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017? 6) Is there any positive and significant correlation between learning motivation and peer interaction with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017? 7) Is there any positive and significant relationship between learning time management, learning motivation, and peer interaction with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017?

The objectives of this study are: 1) To find out whether there is a positive and significant correlation between learning time management with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017. 2) To find out whether there is a positive and significant correlation between learning motivation with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017. 3) To find out whether there is a positive and significant correlation between peer interaction with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017. 4) To find out whether there is a positive and significant correlation between learning time management and learning motivation with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017. 5) To find out whether there is a positive and significant correlation between learning time management and peer interaction with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017. 6) To find out whether there is a positive and significant correlation between learning motivation and peer interaction with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017. 7) To find out whether there is a positive and significant correlation between learning time management, learning

motivation, and peer interaction with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017.

THEORETICAL BASIS

According to Mujiyono, et al (2009: 5) argues that "Time management is planning, organizing, mobilizing, and monitoring time productivity." While Purwanto, Sigit (2008: 6) argues that: Time management is a daily process used to divide time, making schedules, to-do lists, task assignments, and other systems that help to use time effectively.

The definition of motivation according to experts including, according to Hamalik, Oemar (2005: 158) "Motivation is a change in energy in (personal) someone who is characterized by the emergence of a feeling of reaction to achieve goals". Meanwhile, according to Uno, Hamzah B (2007: 3), "Motivation is the impetus contained in a person to try to make changes in behavior that better meet their needs". According to Uno, Hamzah B (2007: 4) motivation is divided into two points of view, namely intrinsic motivation and extrinsic motivation. Intrinsic motivation is motivation that arises not requiring stimulation from outside because it already exists within the individual himself, that is in accordance with his needs. Extrinsic motivation is motivation arising from stimulation from outside the individual, for example in the education sector there is a positive interest in educational activities arising from seeing the benefits.

According to Ghozally, R. Fitri (2007: 80) argues that "association can be interpreted as relationships between individuals in which concerns behavior, feelings, and identity". Meanwhile according to Santrock (2009: 109), "Peers are children of a similar age or level of maturity". According to Desmita (2009: 224), "Peer interactions of most school-age children occur in groups, so this period is often called group age. " Forming peer groups, children place more emphasis on activities they do together, such as playing, sharing stories, and doing the same hobbies.

RESEARCH METHODS

This research is classified as quantitative research. This research used the form of research design in the form of the Interrelation Model between the Three Independent Variables and the Bound Variable (Sugiyono, 2010: 11). It was used one class in this study, namely the sample class. The population in this study were all students of grade VIII SMP Negeri 1 Pandanarum consisting of 5 classes with a total of 145 students. The sample taken in this study was grade VIII A. The sampling technique used was Random Sampling. Data collection techniques used were questionnaire techniques with instruments in the form of questionnaires while the test techniques was done by using objective questions in the form of multiple choice. Analysis prerequisite was done through test, namely by using normality test with Chi-squared formula, F-formula linearity test and Chi-squared formula independence test. The research hypothesis test used simple correlation test, multiple regression analysis test and multiple linear regression test with three independent variables. Research hypothesis used for this research was done by testing using a simple correlation test which is performed to determine the presence or absence of a positive and significant correlation between: 1) learning time management with student mathematics learning results, 2) learning motivation with student mathematics learning results, 3) peer interaction with learning results student mathematics. Furthermore, the research hypothesis test uses a multiple regression analysis test

carried out to determine the presence or absence of a positive and significant relationship between: 1) learning time management and learning motivation with students' mathematics learning results, 2) learning time management and peer interaction with students' mathematics learning results, 3) learning motivation and peer interaction with students' mathematics learning results. Whereas the multiple linear regression test with three independent variables was conducted to find out whether there is a positive and significant correlation between learning time management, learning motivation, and peer relations with students' mathematics learning results.

RESEARCH RESULTS

1. Test Prerequisites in Regression Analysis

a. Normality Test

The summary of normality test results can be seen in Table 1.

Table 1. Summary of Normality Test Results

Variable	$\chi^2_{\rm count}$	χ^2 table	Dk	Information
X_1	2,7827	5,5910	2	Normal
X_2	0,1970	5,5910	2	Normal
X_3	1,3928	5,5910	2	Normal
Y	0,7892	5,5910	2	Normal

From the normality test at a significant level of 5%, it is seen $\chi^2_{\text{count}} \le \chi^2_{\text{table}}$, which means that the distribution of data obtained on each variable is normally distributed.

b. Independence Test

The summary of independence test results can be seen in Table 2.

Table 2. Summary of Independence Test Results

Variable	$\chi^2_{ m count}$	$\chi^2_{ m table}$	Dk
X_1 dan X_2	27,382	37,652	25
X ₁ dan X ₃	28,672	37,652	25
X ₂ dan X ₃	32,216	37,652	25

From the independence test at a significant level of 5% ($\alpha = 0.05$) and degrees of freedom (dk)= (k-1)(b-1), it is seen $\chi^2_{\text{count}} \le \chi^2_{\text{table}}$. This means that the distribution of data obtained at each variable is independent of one another.

c. Linearity Test

The summary of linearity test results can be seen in Table 3.

Table 3. Summary of Linearity Test Results

Variable	F _{count}	F _{table}
X ₁ and Y	0,5336	2,5073
X ₂ and Y	0,5734	2,5073
X ₃ and Y	1,0880	2,5536

From the linearity test at a significant level of 5% (α = 0.05) and the degree of freedom v_1 numerator k-2 and v_2 the denominator n-k is seen $F_{count} \le F_{table}$ (1- α) (k-2, N-k)), this means that there is a linear correlation between the independent variable (X) and the dependent variable (Y).

2. Hypothesis Test

a. First Hypothesis

The summary of the results of the first hypothesis test can be seen in Table 4.

Table 4. Summary of First Hypothesis Test Results

t _{count}	t_{table}	Dk	Information
3,5170	2,0518	27	H ₀ is rejected, H ₁ is accepted

From the first hypothesis test at a significant level of 5% and dk = 27, it can be seen that $t_{count} = 3.5170$ and $t_{table} = 2.0518$, so that $t_{count} > t_{table}$, which means that there is a positive and significant correlation between learning time management with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017.

b. Second Hypothesis

The summary of the results of the second hypothesis test can be seen in Table 5.

Table 5. Summary of Second Hypothesis Test Results

t_{count}	t_{table}	Dk	Information
2,5071	2,0518	27	H ₀ is rejected, H ₁ is accepted

From the second hypothesis test at a significant level of 5% and dk = 27, it can be seen that $t_{count} = 2.5071$ and $t_{table} = 2.0518$, so that $t_{count} > t_{table}$, which means that there is a positive and significant correlation between learning motivation with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017.

c. Third Hypothesis

The summary of the results of the third hypothesis test can be seen in Table 6.

Table 6. Summary of Third Hypothesis Test Results

t_{count}	t_{table}	Dk	Information
2,1886	2,0518	27	H ₀ is rejected, H ₁ is accepted

From the first hypothesis test at a significant level of 5% and dk = 31, it can be seen that $t_{count} = 2.1886$ and $t_{table} = 2.0518$, so that $t_{count} > t_{table}$, which means that there is a positive and significant correlation between peer interactions and with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017.

d. Fourth Hypothesis

The summary of the results of the fourth hypothesis test can be seen in Table 7.

Table 7. Summary of Fourth Hypothesis Test Results

F_{count}	F_{table}	Dk	Information
8,2173	3,3690	$v_1 = 2$	H ₀ is rejected, H ₁ is accepted
		$v_2 = 26$	

From the fourth hypothesis test at a significant level of 5%, v_1 numerator = 2 and v_2 denominator = 26 so that it can be obtained F_{count} = 9.2203 and F_{table} = 3.3690 so that $F_{count} > F_{table}$, which means that there is a positive and significant correlation between learning time management and Peer interactions with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017.

e. Fifth Hypothesis

The summary of the results of the fifth hypothesis test can be seen in Table 8.

Table 8. Summary of Fifth Hypothesis Test Results

F _{count}	F _{table}	Dk	Information
9,2203	3,3690	$v_1 = 2$	H ₀ is rejected, H ₁ is accepted
		$v_2 = 26$	

From the fifth hypothesis test at a significant level of 5%, v_1 numerator = 2 and v_2 denominator = 26 so that it can be obtained F_{count} = 9.2203 and F_{table} = 3.3690 so that $F_{count} > F_{table}$, which means that there is a positive and significant correlation between learning time management and Peer interactions with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017.

f. Sixth Hypothesis

The summary of the results of the sixth hypothesis test can be seen in Table 9.

Table 9. Summary of Sixth Hypothesis Test Results

F _{count}	F_{table}	Dk	Information
10,0706	3,3690	$v_1 = 2$	H ₀ is rejected, H ₁ is accepted
		$v_2 = 26$	

From the sixth hypothesis test at a significant level of 5%, v_1 numerator = 2 and v_2 denominator = 26 so that it can be obtained F_{count} = 10.0706 and F_{table} = 3.3690 so that $F_{count} \ge F_{table}$ which means there is a positive and significant correlation between learning motivation and peer interactions with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017.

g. Seventh Hypothesis

The summary of the results of the seventh hypothesis test can be seen in Table 10.

Table 10. Summary of Seventh Hypothesis Test Results

F _{count}	F_{table}	Dk	Information
8,0123	2,9912	$v_1 = 3$	H ₀ is rejected, H ₁ is accepted
		$v_2 = 25$	

From the seventh hypothesis test at a significant level of 5%, v_1 numerator = 3 and v_2 denominator = 25 so that it can be obtained F_{count} = 8.0123 and F_{table} = 2.9912 so $F_{count} \ge F_{table}$, which means there is a positive and significant correlation between time management students, learning motivation, and peer interaction with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017.

Conclusion

Based on the analysis of the experimental data and its discussion, ot can be concluded several points form this research as follows:

1. There was a positive and significant correlation between mathematics learning time management with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017. This was indicated by the $t_{count} > t_{table}$ or 3,5170 > 2,0518. Simple correlation

- coefficient (r) between learning time management and mathematics learning results was 0.5605 while the simple regression equation Y for X_1 was $\hat{Y} = 9,7544 + 0,7225 X_1$.
- 2. There was a positive and significant correlation between learning motivation with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017. This was indicated by the t-test namely $t_{count} > t_{table}$ or 2.5071 > 2.0518. Simple correlation coefficient (r) between learning motivation with mathematics learning results was 0.4433. In addition, a simple regression equation for Y over X_2 was also obtained $\hat{Y} = 10,6006 + 0,6925 X_2$.
- 3. There was a positive and significant correlation between peer interactions with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017. This was indicated by the t-test that was $t_{count} > t_{table}$ or 2.1886> 2.0518. Simple correlation coefficient (r) between peer interactions with mathematics learning results was 0.3882. In addition, it was also obtained a simple regression equation for Y over $\hat{Y} = 25,5419 + 0,5360 X_3$
- 4. There was a positive and significant correlation between learning time management and learning motivation with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017. This was indicated by the F test which was $t_{count} > t_{table}$ or 8.2173> 3.3690. The multiple correlation coefficient (R) between learning time management and learning motivation on mathematics learning results was 0.6223 and the coefficient of determination (R^2) is 0.3873 with a linear line equation $\hat{Y} = (-16,2656) + 0,6392 X_1 + 0,4485 X_2$. The relative contribution of X_1 was 67.1293% and X_2 was 32.8707% and the effective contribution of X_1 was 25.9986% and X_2 was 12.7305%.
- 5. There was a positive and significant correlation between learning time management and peer interaction with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017. This was indicated by the F test which is $t_{count} > t_{table}$ or 9.2203 > 3.3690. The correlation coefficient (R) between learning time management and peer interaction on mathematics learning results was 0.6442 and the coefficient of determination (R^2) was 0.4149 with a linear line equation $\hat{Y} = (-19,1567) + 0,7147 X_1 + 0,4421 X_3$. The relative contribution of X_1 was 70.0472% and X_3 was 29.9528% and the effective contribution X_1 was 29.0660% and X_3 was 12.44289%.
- 6. There was a positive and significant correlation between learning motivation and peer interaction with mathematics learning outcomes in Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017. This was indicated by the F test that was $t_{count} > t_{table}$ or 10.0706> 3.3690. The correlation coefficient (R) between learning motivation and peer interaction on mathematics learning results was 0.6607 and the coefficient of determination (R^2) was 0.4365 with a linear line equation $\hat{Y} = (-53,9331) + 0,8534X_2 + 0,6912 X_3$. The relative contribution of X_2 was 55.4873% and X_3 was 44.5127% and the effective contribution of X_2 was 24.2209% and X_3 was 19.4303%.
- 7. There was a positive and significant correlation between learning time management, learning motivation, and peer interactions with mathematics learning outcomes in

Students Class VIII of SMP Negeri 1 Pandanarum Banjarnegara Regency in odd semester in academic year of 2016/2017. This was indicated by the F test which was $t_{count} > t_{table}$ or 8.0123> 2.9912. The correlation coefficient (R) between management of learning time, learning motivation, and peer interaction on mathematics learning results was 0.7001 and the coefficient of determination (R^2) was 0.4902 with a linear line equation $\hat{Y} = (-43,7046) + 0,6181 \, X_1 + 0,0262 \, X_2 + 0,5848 \, X_3$. The relative contribution of X_1 was 51.2855%, X_2 was 15.1763% and X_3 was 33.5381% and the effective contribution was X_1 was 25.1391%, X_2 was 7.4391% and X_3 16.4397%.

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