



THE INFLUENCE OF STUDY HABITS AND THE ENVIRONMENT ON MATHEMATICS LEARNING ACHIEVEMENT OF CLASS X SCIENCE 2 STUDENTS AT SMA NEGERI 8 KOTA SERANG

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Abstract

This research is motivated by student learning achievement, which is still far from expected. Student achievement is still meagre. Based on previous research, it is known that study habits and learning environments affect students' mathematics achievement. This study aims to determine whether there is an influence of study habits on learning achievement, learning environment on learning achievement and whether study habits and learning environment together affect learning achievement. This study uses a quantitative method with an ex post facto approach. With a total sample of 38 students of class X IPA 2 SMA Negeri 8 Serang City. The data collection technique in this study was distributing questionnaires for the variables of study habits and learning environment for the variable of learning achievement using test questions. The results of the t-test of study habits have a positive and significant effect on students' mathematics learning achievement. The value of $t_{count} > t_{table}$ ($3.404 > 1.688$) with a significant level of $0.002 < 0.005$, and the learning environment variable has no significant effect on learning achievement as evidenced by the value of $t_{count} < t_{table}$ ($0.626 < 1.688$) with a significant level of $0.536 > 0.005$. The results of the F test show an effect of study habits and learning environment together on students' mathematics learning achievement as evidenced by the value of $f_{count} > f_{table}$ ($6.318 > 3.27$). Study habits and learning environment have a combined effect of contributing 26.5% to learning achievement. So it can be concluded that there is a significant effect of study habits on learning achievement. The learning environment variable does not have a significant effect on learning. The variables of study habits and learning environment significantly affect mathematics learning achievement, contributing to 26.5%.

Keywords: Study Habits, Study Environment, Learning Achievement.

INTRODUCTION

Through education, people can gain the necessary knowledge (Sari et al., 2013). Rosyid Moh. et al. (2019: 9) define learning achievements expressed in the form of symbols, numbers, letters, and sentences that each student has achieved in a certain period, and it can be stated that learning achievement is the result of a learning activity accompanied by changes achieved. Student learning achievement is still far from expected, and student learning achievement is still meagre. Based on previous research, it is known that study habits and learning environments affect students' mathematics achievement. The term achievement in the popular scientific dictionary is defined as a result achieved. The high and low achievement of learning mathematics students is affected by two factors which include internal and external factors.

Internal factors arise within students, such as learning motivation ability, interest and attention, attitudes and study habits, perseverance, and physical and psychic factors (Sudjana, 2009: 3) (Sari & Widodo, 2013). External factors arise from outside the student, such as the school environment, family environment, and community environment. Djaali (2015:128) in (Diyantri Tri Kartika, 2013). Students' habits in attending lessons or lectures depend on regular study habits and continue Sudjana (2010: 173) in (Diyantri Tri Kartika, 2013). A student is said

to have good study habits. If the student has good ways of learning, a learning atmosphere that genuinely supports learning will be achieved.

A good learning atmosphere is the right atmosphere for understanding what is being learned by students. That way, the mastery of the subject matter will increase. The results of previous research that has been carried out said that the better the study habits carried out by students, the higher the learning achievements or learning outcomes they achieve. Effective study habits will have a positive impact on student learning achievement. So study habits are essential for students because good study habits will impact students' daily lives, where they will get used to doing things with good results. Indicators of study habits in this study are (1) Making lesson schedules, (2) Actively making small notes or summaries, (3) Redoing lessons, (4) Diligently utilizing the library by reading books in the library, (5) Confident in doing assignments, (6) Following lessons attentively and studying independently without being taken care of.

Learning is influenced by external factors, namely the student's learning environment. According to Shah (2010: 132), a conducive learning environment is needed to learn well. A conducive learning environment, in this case, means a learning environment that can support the achievement of learning goals. If the learning environment is conducive, students will be more interested in learning so that they will study comfortably for a long time. However, not all students can create a comfortable learning environment suitable for the circumstances of the student environment—the learning environment is an external factor affecting student learning achievement. The learning environment can be classified into three: namely, the family environment, the school environment and the community environment (Bahri, 2011: 175-180) (Kartika, 2013). The learning environment is a condition; all facilities are used for daily learning activities (Bahri, 2011) (Kartika, 2013).

The family is the first institution or the first and foremost environment in education. An environment is a place that can influence the formation of a person's personality and behaviour attitude; any school will educate its students to become good individuals who are by the expectations of the nation because they are the ones who will advance and make the good name of Indonesia proud. Indicators of the family environment include the atmosphere in the house, how parents educate, and the relationship between family members. Indicators of the school environment are the state of the school environment, the relationship between students and other students and teachers, and school facilities and infrastructure.

METHOD

The type of research used is *ex post facto* research using a quantitative approach. *Ex post facto* research was conducted at SMA Negeri 8 Kota Serang, at Jl. Kolodran-Sidapurna Kel.Teritih Kec.Walantaka Kota Serang. The population in this study is the entire class, X. The sample of this study is class X science two, consisting of 38 students. The instrument in this study used the distribution of questionnaires to class X science two students to obtain data on variables of learning habits and learning environment and for variables of learning achievement using question tests. Data analysis techniques in this study are descriptive statistics, classical assumption testing (prerequisite test) and hypothesis testing. The hypotheses in this study are:

RESULTS AND DISCUSSION

Of the 25 items of the study habit variable questionnaire statement used, only 24 statements were declared valid. Furthermore, reliability testing was carried out on 24 items of valid statements with reliability of 0.849. For learning environment variables, there are 25 items of questionnaire statements that use 23 valuable items. Furthermore, conducting reliability testing on 23 useful items obtained a reliability of 0.883. Moreover, five questions

were tested and declared valid for the learning achievement variable, and then reliability testing was obtained by 0.780.

Descriptive Statistics

Table 1. 1 Summary Item Statistics

Study Habits	Mean	Minimum	Maximum	Range	N of Items
Item Means	1,823	1,474	2,263	0,789	24
Learning Environment	3,207	2,053	3,684	1,632	23
Learning achievements	44	13	80	67	5

The lowest respondent's answer score regarding study habits was at point 4, with an indicator of attending the lesson attentively with a score of 1,474 which is very low. Meanwhile, the average respondent's response to the variable of study habits is low, where the average answer score of 1.823 on a scale of 1.76-2.50 is relatively low. For the learning environment, it is in point 8 with indicators of relationships between family members, 11 with indicators of the state of the school environment, 21 with indicators of student relations with teachers and 24 with indicators of facilities and infrastructure in schools with a score of 2,053 where in low circumstances, the average respondent's responses to the variables of the learning environment are in a high state, where the average score of the respondent's answer score is 3.207 on a scale of 2.51-3.25. Based on the test results given to students, it can be known that the average test results of learning achievement variables are inadequate, where the average score of the respondent's answer score of 44 is on a scale of 26-50.

Based on the calculation of multiple regression between the variables of study habits, learning environment and learning achievement using SPSS 26, the results obtained are as follows:

Table 1. 5 Multiple Regression Test Results

		Coefficients				
Type		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error			
1	(Constant)	-34.481	34.224		-1.008	.321
	Learning habits	1.352	.397	.496	3.404	.002
	Learning environment	.267	.426	.091	.626	.536

a. Dependent Variable: Learning Achievement

Source: Primary data processed

From the results of the regression test calculation above, a multiple regression equation can be formed, namely:

$$Y = -34.4815 + 1.352 X_1 + 0.2665 X_2$$

Nis a variable constant of learning achievement of -34.4815. If the value of study habits and learning environment is 0, the learning achievement remains at - 34.4815 units. Learning achievements related to study habits and the learning environment are negative or below KKM. Nilai coefficient (b 1) of 1.352 means that study habits positively influence learning achievement, and if the variable of study habits increases by 1 unit and the value of the learning environment is considered 0, it will have an effect of increasing by 1, 352 units. Nilai coefficient (b₂) of 0.2665 means that the learning environment positively influences learning achievement. If the learning environment variable increases by 1 unit and the study habit are considered 0, it will increase learning achievement by 0.2665 units.

Test F is carried out to determine the degree of significance of the influence of independent variables together on dependent variables

Table 1. 6 F Test Results

ANOVA ^a						
Type		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3774.124	2	1887.062	6.318	.005 ^b
	Residual	10454.428	35	298.698		
	Total	14228.553	37			
a. Dependent Variable: Learning Achievement						
b. Predictors: (Constant), Learning Environment, Learning habits						

Source: Primary data processed

The conclusion of this hypothesis test is that because the F value is $t_{\text{calculated}} > F_{\text{table}}$, (6.318 > 3.27), the sig value $0.005 < 0.05$ so that there is a significant influence together (simultaneously) of the variables of learning habits and learning environment on learning achievement.

The t-test is carried out to determine the degree of significance and whether each independent variable influences the dependent variable.

Table 1. 7 Test Results

Coefficients ^a						
Type		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-34.481	34.224		-1.008	.321
	Learning habits	1.352	.397	.496	3.404	.002
	Learning environment	.267	.426	.091	.626	.536
a. Dependent Variable: Learning Achievement						

Source: Primary data processed

From the results of the t-Test, a study habit variable was obtained with a count of 3.404, a table t value of 1.688 ($t_{\text{count}} > t_{\text{table}}$), and a significant value of $0.002 < 0.05$, then H_0 was rejected, and H_a was accepted. This means there is a significant favourable influence between the variables of study habits on learning achievement. The learning environment variable t count of 0.626 and t table of 1.688 ($t_{\text{count}} < t_{\text{table}}$) and a significant value of $0.536 > 0.05$ means that there is no significant influence between the learning environment variables on learning achievement.

The coefficient of determination test is carried out to determine how much the independent variable simultaneously affects the dependent variable indicated by the *adjusted value R – Square*.

Table 1. 8 Coefficient of Determination Test Results

Model Summary				
Type	R	R Square	Adjusted R Square	Std. The error in the Estimate
1	.515 ^a	.265	.223	17.283
a. Predictors: (Constant), Learning Environment, Learning habits				

Source: Primary data processed

Based on the table above, the coefficient of determination (R Square) is 0.265. This shows that all independent variables simultaneously influence 26.5% of learning achievement (dependent variables). At the same time, the remaining 73.5% was influenced by other factors not tested in this study.

CONCLUSION

This study aims to determine whether study habits and learning environment influence the learning achievement of class X science two students of SMA Negeri 8 Serang City teachings 2021/2022. Based on the test results, the author can draw the following conclusions:

There is a significant influence between the variables of study habits on learning achievement. From the t-Test results, a study habit variable was obtained with a t count of 3.404, a table t value of 1.688 ($t_{\text{count}} > t_{\text{table}}$), and a significant value of $0.002 < 0.05$, then H_0 was rejected, and H_a was accepted. This means there is a significant favourable influence between the variables of study habits on learning achievement. There is a significant influence between learning environment variables on learning achievement. This hypothesis is proven by a t-test with results that show the learning environment variable t count of 0.626 and t table of 1.688 ($t_{\text{count}} < t_{\text{table}}$) and a significant value of $0.536 > 0.05$ means that there is no significant influence between the learning environment variables on learning achievement at SMA Negeri 8 Serang City. There is a significant influence of learning habits and environment variables on mathematics learning achievement as evidenced by using the F test with F values calculated $> F_{\text{table}}$, ($6.318 > 3.27$) sig values $0.004 < 0.05$ so that there is a significant influence together (simultaneously) of the variables of study habits and learning environment on learning achievement. Study habits and learning environment contributed 26.5%, while other factors influenced the remaining 73.5%.

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