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THE INFLUENCE OF EXTERNAL FACTORS, SCHOOL SCOPE ON STUDENT'S LEARNING OUTCOMES IN MATHEMATICS CLASS X, DEPARTMENT OF SCIENCE AT SMAN 1 PANJI

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Abstract: This study aims to determine the influence of external factor in the scope of the school student learning outcomes in mathematics subjects specialization in class X sciences in SMAN 1 Panji. In this study examined 3 independent variables contained in external factors in the scope of the school, namely the learning methods used by teachers, learning media, and socializing. This study in determining respondents using the proportional random sampling method, which consists of 177 populations of class X science students and taken 100 students as samples. The research design used was ex-post facto design. Retrieval of independent variable data using a questionnaire and Likert scale. Bound Variable Data using the method of documentation. Data analysis uses multiple linear regression analysis. The results of data analysis obtained the value of the correlation coefficient (r-count) of 0,014 and F count of 0,443, while F table of 2,70 at N = 100 with a significance level 5% means F count < F table.

Keywords: learning outcomes, learning methods, learning media, associating friends

INTRODUCTION

To increase the knowledge and potential that exists within humans requires education, which is an absolute element in human life. All forms of individual interaction with their environment and all life processes, both formally and non-formally up to a certain level of maturity, constitute education in a broad sense. Teaching and learning are known as formal forms in which there is a correlation process of teaching and learning which is the meaning of education in a limited way.

In supporting and realizing the process of internal student learning, it requires a learning system in which there are several series of events arranged in such a way (Anggraeni, 2014). According to (Slameto, 2013) to produce a completely new change in behaviour, a person needs to carry out a series of business processes called learning. The change that occurs in a person form not knowing to being able to know is the learning process that has been experienced.

Something that is learned can be more deeply understood and knowing it is possible because a person is encouraged to have a good interaction relationship between himself and the environment in every learning activity. But in learning activities, the changes experienced by students are not all experienced, many of the students are not optimal, the changes experienced and affect student learning outcomes. The achievement of the minimum completeness score set by the teacher can be used as a measuring tool to see the large number of students who experienced problems in the learning process.

Regarding the cause, it is influenced by factors that influence student learning outcomes, namely internal factors and external factors. According to (Slameto, 2013) factors originating within students include learning motivation, intelligence, talent, interest in learning, perceptions of subjects, subjects and subject teachers is the understanding of internal factors. In addition, there are also factors that come from outside the students themeselves, such as the school

environment, community environment, and family environment (Slameto, 2013). Many researchers examine both factors at the same time that influence learning outcomes, namely internal and external factors. So researchers are interested in examining external factors that have not been researched before, especially external factors within the school environment.

External factors are very important in determining students learning outcomes, especially factors that are influenced in the school environment such as the learning methods used by the teacher, the condition of the building, comfort and safety at school, the relationship between students and teachers, learning media, curriculum, and the environment where friend hang out. The focus of this research is the learning methods used by teachers, learning media, and friend associating between students and students. Seeing from the theory of the two existing factors, researchers want to analyze external factors that influence student learning outcomes, especially in mathematics specializing in vector material for class X science at SMAN 1 Panji, Situbondo. In this study, researchers took place at SMAN 1 Panji, Situbondo, Argopuro Street No. 1A, where the researcher carried out the PPL (Practical Field Experience). Therefore, based on the experience of field activities over the past few months, the researcher was interested in researching "The Influence of School-Scope External Factors on Student Learning Outcomes in Mathematics Specializing in Vector Material class X science at SMAN 1 Panji, Situbondo.

METHOD

Design Stage

This study used a descriptive quantitative approach and was analyzed using regression analysis. This study aims to analyze external factors that affect student learning outcomes in mathematics for class X science at SMAN 1 Panji, Situbondo. In this study, using an ex-post facto research design.

Research Locations

This research was conducted at SMAN 1 Panji, Panji District, Situbondo Regency, Argopuro Street No. 1A. The selection of research locations used the Purposive Sampling Area method. According to (STKIP PGRI Situbondo, 2013) Purposive Sampling Area, namely the way researchers deliberately set research in a certain place without any choice of other places. The reason for choosing this research was because no similar research had ever been conducted.

Research Respondents

The determination of research respondents is by sampling. The sampling technique was carried out using proportional random sampling. According to (Sugiyono, 2014) proportional random sampling is research that takes a portion of the population to study. In this study, students of class X science at SMAN 1 Panji and total of 100 samples were examined.

Data Collection

Data collection to obtain material information that is accurate, relevant, and in a accordance with the aims of the researcher. According to (Sugiyono, 2015) the quantitative research method is a research method based on the philosophy of positivism, used in researching samples and research populations, sampling techniques are generally carried out randomly while data collection techniques use research instruments and data analysis is quantitative or statistical in nature with the aim of testing the hypotheses that have been set. The data collection techniques used in this study used the following methods:

1. Interview

   The interview used in this research is unstructured interview. The interview guide is in the form of an outline of the problem that will be asked of the interviewees. Unstructured interviews are often used in preliminary research or for more in-depth research on the respondent.
2. Questionnaire

   The way researchers use the questionnaire technique is to make a questionnaire with a Likert scale and rating scale. The questionnaire used in this study is a closed ended questionnaire or closed questionnaire, which is a collection of various questions made by providing answer options that are already available in the questionnaire, so that respondents only have to choose answers according to actual conditions.
3. Documentation

   According to (Arikunto, 2012) documentation technique is a way of collecting data that produces important records related to the problem being studied, so that complete, legitimate data will be obtained and not based on estimates.

Data Analysis

1. Instrument Validity Test

   The validity of a measuring instrument is an index of activities and exercises, namely how far the measuring instrument actually measures what needs to be measured and is said to be valid/sahih (Sugiyono, 2017). The validity of the instrument uses the product moment correlation. From the research results, all of the research instrument items are valid.
2. Instrument Reliability Test

   The purpose of holding reliability is to find out whether the data that has been collected is reliable or not. According to (Sugiyono, 2014) says that "reliability indicates an understanding that an instrument is reliable enough to be used as a data collection tool because the instrument is good". The reliability testing was carried out using the Alpha Cronbach technique. Consulted on r table with a significance level of 5% which is = 0,197, it can be said that the instruments of the three variables in this study are very reliable, because the r count value is greater than the r table value with the results r count learning method 0,870 > 0,197, r count learning media 0,851 > 0,197, and r count of friends hanging out 0,840 > 0,197 with very high criteria (very reliable) for the three variables.
3. Multiple Linear Regression Analysis

   According to (Sugiyono, 2014) multiple/multiple linear regression is used to model the relationship between the dependent (independent) variable and the independent (bound) variable, with more than one variable.

RESULT

Data Presentation

Below are the results of research findings obtained from research locations. The learning outcomes data used is the value of the students' daily mathematics test in class X science with vector material. The following is a histogram of the total score of the learning method questionnaire based on the output of SPSS Windows 22, which can be seen in Figure 1.1.

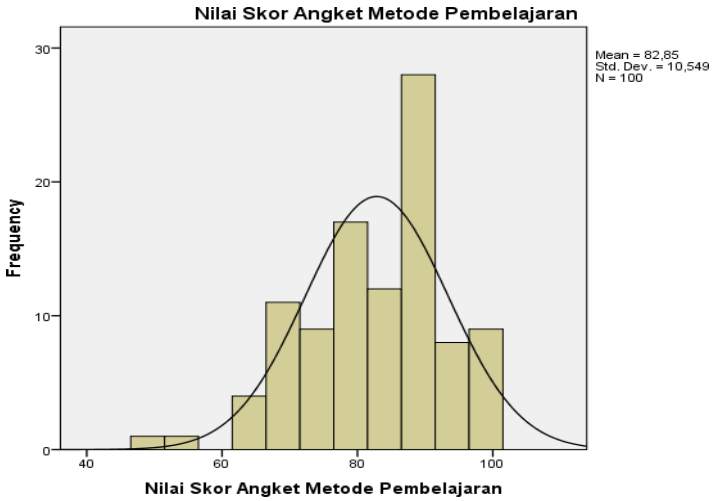

Fig. 1.1 The value of the questionnaire score of the learning method

Based on Figure 1.1, it can be seen that the number of questionnaire scores obtained by frequency is in the range of total scores 49 – 55 for 2 students, the total range is 56 – 62 as many as 0 students, total range 63 – 69 as many as 13 students, total range 70 – 76 as many as 11 students, total range 77 – 83 as many as 22 students, total range 84 – 90 as many as 21 students, the number range 91 – 97 is 26 students and the number range is 98 – 104 as many as 5 students. The frequency of the highest and lowest number of students is in the range of 91 – 97 and 49 – 55 with 26 students each and the lowest frequency is in the range of 2 students. From the acquisition of the number of questionnaires above, it can be seen that there are differences of opinion regarding the method learning used by the teacher. Then the histogram results of the learning media questionnaire will be seen in Figure 1.2:

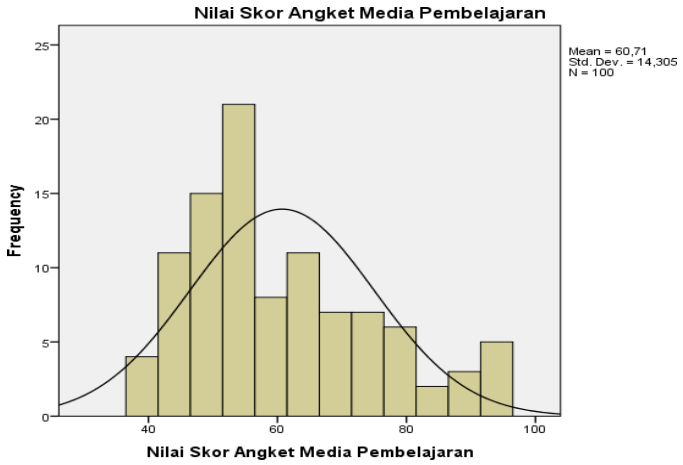

Fig. 1.2 The value of the questionnaire score of the learning method

Based on Figure 1.2, it can be seen that the number of questionnaire scores obtained by frequency is in the range of 39 – 46 as many as 15 students, the number range 47 – 54 as many as 23 students, the total range of 55 – 62 is 21 students, the total range of 63 – 70 is 16 students, the total range of 71 – 78 is 10 students, the total range is 79 – 86 is 7 students, the number range

87 – 94 is 5 students, the number range 95 – 102 is 3 students. From the acquisition of the number of questionnaires above it can be seen that there are differences of opinion regarding the learning media used by the teacher. Then the results of the questionnaire of friends hanging out can be seen in Figure 1.3 as follows:

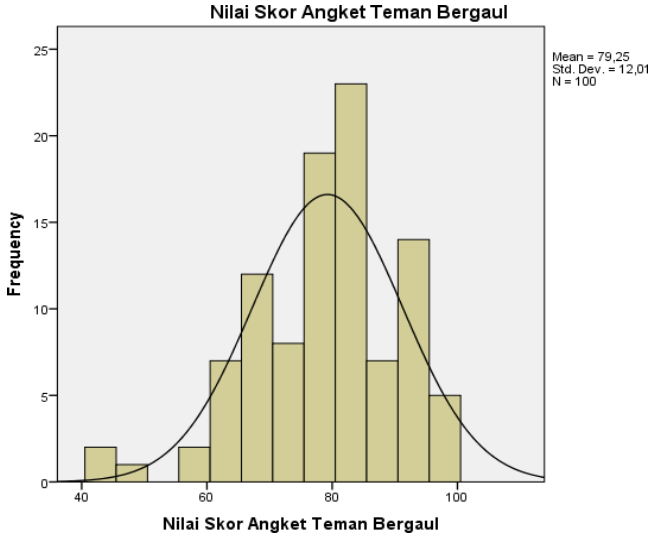

Fig. 1.3 Social friend questionnaire scores

Then the histogram of daily test scores (student learning outcomes) can be seen in Figure 1.4 as follows:

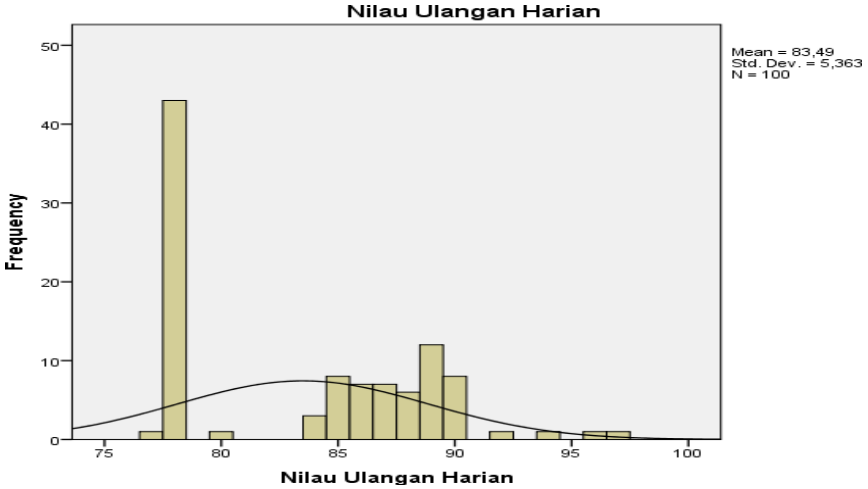

Fig. 1.4 Daily Rate

Based on Figure 1.4, it can be seen that the score for the test scores obtained is the frequency in the range of 77 – 80, the score is 46 students, the number range 81 – 84 is 3 students, the number range 85 – 88 is 28 students, the number range 89 – 92 is 21 students, the value range 93 – 96 is 2 students, the range is 21 students, the number range 91 – 97 is 26 students and the value range 97 – 100 is 1 student. The frequency of the highest and lowest number of students is in the range of 77 – 80 and 97 – 100 with 46 students each and the lowest frequency is in the range of 1 student. Based on the acquisition of student learning outcomes, it can be seen that there is an uneven distribution of students' daily test scores.

The Influence of Learning Methods, Learning Media, and Social Friends (X1, X2, X3) in Students Learning Outcomes (Y) Simultaneously/Together

To determine the extent to which external factors influence the school environment on student learning outcomes (major hypotheses), it can be calculated by calculating the correlation between the X and Y variables value r y(1,2,3), that is 0,014.

Table 1. Results of Detection of Imperfect Coffee Beans

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	,117[a]	,014	-,017	5,40844

a.Predictors: (Constant), Teman Bergaul (X3), media pembelajaran (X2), Metode Pembelajaran (X1)

To find out whether the proposed major hypothesis is accept/reject, the calculated R value is compared with the R table. Comparison between the R count with a significant level of 5% and the number of respondents 100 students obtained R table = 0,1966 while the major hypotheses R y(1,2,3) of 0,014 is that the R count is smaller than the R table, meaning that the working hypotheses (Ha) is rejected and the null hypotheses (Ho) is accepted is "There is no influence of external factors in the school environment on student learning outcomes in the mathematics subject specialization of class X IPA at SMAN 1 Panji, Situbondo. The R y(1,2,3) value is compared with the correlation coefficient interpretation table:

Table 2. Interpretation of The Correlation Coefficient

The value of r	Interpretation
between ± 0,00 and ± 0,20	Almost none/ Very low influence
between ± 0,21 and ± 0,40	Low influence
between ± 0,41 and ± 0,60	Moderate influence
between ± 0,61 and ± 0,80	High influence
between ± 0,81 and ± 1,00	Very high influence

When compared with the results of the interpretation table above, the value R y(1,2,3) = 0,014 lies between +0,00 to +0,20 meaning that the influence of external factors in the school environment is influence is very low and can be said to be almost non-existent.

Effect of Learning Methods (X1) on Learning Outcomes (Y)

To find out whether the first minor hypotheses submitted is accept/reject, we can calculate the partial correlation coefficient by continuing to look for the t count and compare it with the T table. After the data is processed and the partial R is obtained from X1, which is equal to 0,10215 and t count = 1,006. Then the comparison between t count with a significant level of 5% and the number of respondents 100 students obtained t table = 1,9845 while t count is smaller than t table which is equal to 1,006 < 1,9845, meaning that the working hypotheses (HA1) is rejected and the null hypotheses (Ho) is accepted, because t count < t table, the first major

hypotheses is: “There is no effect of learning methods on student learning outcomes in the mathematics subject of specialization class X IPA at SMAN 1 Panji, Situbondo.

We can find out this from Table 1.3, based on the results of the t count output value for testing the first minor hypotheses in the table below:

Table 3. The Results of The t count Output Value for Testing the First Minor

Coefficients[a]					
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		Std. Error	Beta		
(Constant)	79,49	4,741		16,76	,000
Metode Pembelajaran (X1)	,061	,061	,120	1,006	,317
Media Pembelajaran (X2)	-,026	,042	-,070	-,626	,533
Teman Bergaul (X3)	,007	,050	,015	,134	,894

From the SPSS output results, it can be seen that the significant value for the effect of the learning method (X1) on Y is 0,317 > 0,05 and the t count value is 1,006 < t table 1,9845 so it can be concluded that HA1 is rejected or there is no effect of X1 on Y.

Effect of Learning Media (X2) on Learning Outcomes (Y)

To find out whether the proposed second minor hypotheses is accept/reject, we can calculate the partial correlation coefficient by continuing to look for the t count value and compare it with the t table. After the data is processed and obtained partial R X2 is – 0,0635 and t count = - 0,626, then the comparison between t count with a significant level of 5% and the number of respondents 100 students obtained t table = 1,9845 while t count is smaller than t table which is – 0,06356 < 1,9845, means that the working hypotheses (HA2) is rejected and the nul hypotheses (Ho) is accepted, because t count < t table, the second major hypotheses is: “There is no effect of learning media on student learning outcomes in mathematics specializing in class X IPA at SMAN 1 Panji, Situbondo.

We can find out this from Table 1.4, based on the results of the t count output value for testing the second minor hypotheses in the table below:

Table 4. The Results of the t count Value for Testing the Second Minor

Coefficients[a]			
Model	Unstandardized Coefficients	Standardized Coefficients	Sig.
	Std. Error	Beta	

(Constant)	79,498	4,741		16,76	,000
Metode Pembelajaran (X1)	,061	,061	,120	1,006	,317
Media Pembelajaran (X2)	-,026	,042	-,070	-,626	,533
Teman Bergaul (X3)	,007	,050	,015	,134	,894

From the SPSS output results, it can be seen that the significant value for the influence of learning media (X2) on Y is 0,533 > 0,05 and the t count is – 0,626 < t table 1,9845, so it can be concluded that HA2 is rejected or there is no effect of X2 on Y.

The Effect of Hanging Out with Friends (X3) on Learning Outcomes (Y)

To find out whether the proposed third minor hypotheses is accept/reject, we can calculate the partial correlation coefficient by continuing to look for the t count value and compare it with the t table. After the data is processed and obtained a partial R of X3, namely 0,0136 an t count = 0,134. Then the comparison between t count with a significant level of 5% and the number of respondents 100 students is obtained t table = 1,9845 while t count is smaller than t table, namely 0,0136 < 1,9845, meaning that the working hypotheses (HA3) is rejected and the null hypotheses (Ho) is accepted, because t count < t table, the third major hypotheses is: "There is no effect of socializing friends on student learning outcomes in mathematics specializing in class X IPA at SMAN 1 Panji, Situbondo.

We can find out this from Table 1.5, based on the results of the t count output value for testing the second minor hypotheses in the table below:

Table 5. The Results of the t count Output Value for Testing the Second Minor

Coefficients[a]					
Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
		Std. Error	Beta		
(Constant)	79,49	4,741		16,769	,000
Metode Pembelajaran (X1)	,061	,061	,120	1,006	,317
Media Pembelajaran (X2)	-,026	,042	-,070	-,626	,533
Teman Bergaul (X3)	,007	,050	,015	,134	,894

Based on the SPSS output results, it can be seen that the significant value for the influence of learning media (X2) on Y is 0,894 > 0,05 and the t count value is 0,134 < t table 1,9845, so it can be concluded that HA3 is rejected or there is no effect of X3 on Y.

DISCUSSION

After analyzing the hypotheses testing data, the value of the correlation coefficient level between the three independent variables simultaneously/together with the Y criterion, namely R y(1,2,3) is 0,014. While the correlation coefficient between X1 and Y is R yx1(X2X3) of 0,01215, the correlation coefficient between X2 and Y is R yx2(X1X3) of – 0,06356, and the correlation coefficient between X3 and Y is R yx3(X1X2) of 0,0136.

Based on the hypotheses testing, it was also obtained that the t count X1 was 1,006, the t count X2 was – 0,626, and the t count X3 was 0,134. Then prove the major working hypotheses by using the F test, the major working hypotheses will be proven if F is calculated > F table. Based on the calculation, it is obtained that F count is 0,443 while F table is 2,70 at N = 10 with a significant level of 5% meaning that F count < F table, so that it can be said that Ho is accepted and Ha is rejected. So, there is no influence of external factors in the school environment on student learning outcomes in the mathematics subject of specialization in class X IPA at SMAN 1 Panji, Situbondo.

Based on the table above, it can be seen that the effective contribution (SE) or the influence of learning methods (X1) is 1,2016%, the effective contribution (SE) or the influence of learning media (X2) is 0,1212% and the effective contribution (SE) or the size effect (X3) of 0,0771% with the total effect of all the variables studied on learning outcomes was 1,4% while other variables not examined were 98,6%.

We can see that there are many divided factors that influence student learning, external factors in the school environment are still divided into many factors within it, but the author only examines some of the factors that are selected, namely learning methods, learning media, as well as associates and many more. External factors in the school environment that are not examined, for example curriculum, classroom learning material content, learning facilities, convenience, security, and others. So, there are a lot of other variables that are not examined in this external factor research affect student learning. In addition to these factors that have not been studied, there are many possibilities that make the results of this study insignificant, student questionnaires obtained from data collection during the study obtained very low scores so that the distribution was uneven and not normal. Many students have low daily test scores but high questionnaire scores, and conversely many students who get high daily test scores then have low questionnaire results.

Based on the results of previous research by Siswanto, Budi in 2016 with the research title “factors that influence student learning outcomes in learning electricity at Vocational High Schools in Yogyakarta” with the same research results, the influence of learning methods on learning outcomes also has very little effect, namely 4,34% and learning media of 5,58%. So, we can see that there is a very low or little effect of the two variables.

Based on the result of previous research by Puspitasari (2017) entitled “The Influence of Peer Association and Student Learning Motivation on Student Learning Outcomes at SD Ngaringan 3 in Gandusari District, Blitar Regency” with research findings there is no significant effect of peer association on student learning outcomes, with obtained by calculating a significance level of 0,078 which is less than a significance level of 5%, this indicates that Ho is accepted and H1 is rejected.

Previous research by Ervin Oktavia, 2015 with the research title “A Study of the Factors Influencing Student Achievement in the Mathematics Education Study Program, FKIP University of Jember” with research findings on the variable teaching methods used by lecturers/teachers has a very low effect with a significant level of 0,203 or smaller than the

significant level of 5%, this shows that Ho is accepted and H1 is rejected, meaning that there is no significant effect between the teaching methods used by lecturers on student learning outcomes.

CONCLUSION

The conclusions that can be drawn from the results of the tests that have been carried out are as follows:

1. After analyzing the hypotheses testing data, from the calculations, it is obtained that F count is 0,443 while F table is 2,70 at N = 100 with a significant level of 5% meaning F count < F table. Furthermore, the correlation coefficient between the three independent variables is also obtained simultaneously/together, same as the Y criterion, namely R y(1,2,3) of 0,014 while r table of 0,1966 at N = 100 with a significant level of 5% so that it can be said that there is no influence of external factors on the school environment on student learning outcomes in mathematics specialization in class X science at SMAN 1 Panji, with an overall effective contribution or a very low influence of 1,4%.
2. The results showed that the correlation coefficient between X1 and Y by controlling for variables X2 and X3 was R yx1(X2X3) = 0,10215 while the r table was 0,1966 and t count = 1,006. So, the comparison between t count with a significant level of 5% and the number of respondents for 100 students obtained t table = 1,984 t count < t table, so that it can be said that there is no effect of learning methods on student learning outcomes in mathematics specialization class X science at SMAN 1 Panji with effective or large contribution the effect is 1,2016%.
3. The research results show that the correlation coefficient between X2 and Y by controlling the variables X1 and X3 or X1 and X3 remains R yx2(X1X3) = - 0,06356, while the r table is 0,1966 and t count = - 0,026. So the comparison between t count with a significant level of 5% with a total of 100 students obtained t table = 1,984 t count < t table, so that it can be said that there is no effect of learning media on student learning outcomes in mathematics specializing in class X science at SMAN 1 Panji with an effective contribution or an influence of 0,1212%.
4. The results showed that the correlation coefficient between X3 and Y by controlling for variables X1 and X2 was R yx3(X1X2) = 0,0136 while r table was 0,1966 and t count = 0,134. So the comparison between t count with a significant level of 5% and the number of respondents for 100 students obtained t table = 1,984, t count < t table, so that it can be said that there is no effect of socializing friends on student learning outcomes in mathematics specialization class X science at SMAN 1 Panji with effective contribution or large effect of 0,0771%.

Based on the results of the discussion in the previous chapter and the conclusions set above, the author can provide suggestions to:

1. These results can be used as input for other researchers to carry out further research by adding other variables, and do not forget to also consider conducting an assessment of subject teachers who are assessed through a questionnaire instrument not only from one side of the students and other researchers can also research with subjects different and different levels too.
2. School should pay more attention to and invite their students to study more actively so they can improve student learning outcomes with various other internal and external factors that can affect student learning.

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