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ANALYSIS OF THE EFFECT OF TEACHING STAFF QUALITY, FACILITIES, AND SCHOOL LOCATION ON ELEMENTARY SCHOOL STUDENT GRADUATION RATE

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ABSTRACT
This study aims to analyze the influence of teaching staff, school facilities, and school location on student graduation by referring to PISA Report data. The research sample consisted of 50 students from various schools in Indonesia who participated in the PISA survey. This study used a quantitative descriptive approach with multiple linear regression analysis techniques through the assistance of JASP 0.16.1.0 software. The results of the study indicate that: (1) teaching staff has a negative and insignificant effect on student graduation; (2) school facilities have a positive and significant effect on student graduation, so that the availability of adequate facilities is proven to be an important factor in supporting learning success; (3) school location has a negative and insignificant effect on student graduation; and (4) simultaneously, teaching staff and school location do not have a significant effect on student graduation. The implications of these findings emphasize that the quality of school facilities is a key factor in supporting student academic success. Therefore, educational policy makers need to prioritize improving educational facilities and infrastructure, while schools and teachers can utilize existing facilities optimally to create a more effective learning process. This research also provides a basis for further study on how external and internal school factors can influence students' academic achievement in Indonesia.

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Introduction

Education is something very valuable, one of the inherent characters and this education is teaching something that is not known at first (pupu saeful rahmat & yanita nur indah sari, 2022). Law No. 20 of 2003 concerning the national education system has explained that education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have spiritual religious strength, self-control, personality, intelligence, noble morals, and skills needed by themselves, society, nation, and state (Ilham, 2019). Including new needs as their basic needs, among these needs is the need for education, because education is one of the most important life needs in supporting daily activities (Satria Lubis dkk., 2020). Every educational, community, social and religious institution as an organization is expected to be able to manage and organize its resources to improve quality so that it can increase student interest in continuing school (Halim dkk., 2020).

As an educational institution, schools are managed based on the interests of the academic community, consisting of students, teachers, and staff (Suleman, 2024) . In practice, schools must be equipped with various facilities to support the success of the school program's objectives (Saeful Uyun, 2020). Parasuraman, Zeithaml, and Berry state that "service quality is the comparison between the service expected by consumers and the service received." In other words, if the service received or felt is in accordance with expectations, the service quality is perceived as good and satisfactory. If the service or service received exceeds user expectations, the service quality is perceived as ideal. Conversely, if the service received is lower than expected, the service quality is perceived as poor. Service quality must start from user needs and end with user responses (Sukmawati, 2018). User responses to service quality itself are a comprehensive assessment of the excellence of a service. A popular teaching staff quality model and still widely used as a reference in service marketing research is the servqual (service quality) model developed by Parasuraman, Zeithaml, and Berry. Servqual which is used as a reference for measuring service quality is as follows: (1) reliability, (2) assurance, (3) responsiveness, (4) empathy and (5) direct evidence (tangibles) (Sesrianty dkk., 2019).

Schools must also have complete facilities so that learning can run smoothly (Suleman & Idayanti, 2024). Facilities are anything that can facilitate matters (smooth assignments and so on) or convenience. According to Suryadi, facilities are all means and infrastructure in education. According to Youti, facilities are everything, both objects and services that accompany the services provided by companies, whether service companies, trade or industrial companies. Facilities can also be interpreted as the means and infrastructure available in the environment or in the company office, intended to provide maximum service so that consumers or customers feel comfortable and satisfied. Facilities are the main supporting factor in the activities of a product. According to Kertajaya in Wahyu Kartika Aji, providing adequate facilities will help increase consumer empathy towards every condition created when consumers make a purchase. So that psychologically they will give a statement that they are satisfied in making their purchase. Things that need to be conveyed in service facilities include: 1) Completeness, cleanliness and tidiness of the facilities offered 2) Condition and function of the facilities offered 3) Ease of use of the facilities offered 4) Completeness of the tools used. Facilities are supporting means used by companies in an effort to increase customer satisfaction. The better the facilities provided to consumers, the more it will increase consumer satisfaction (Didi Pianda, 2021).

Location selection according to (Buchari Alma, 2020) states that "Location is where a company operates or where a company carries out activities to produce goods and services that prioritize economic aspects." Based on the above theory, it can be concluded that location is a place where a company operates and produces goods and services and the choice of a company location greatly determines the success of a business. According to Fandy Tjiptono (2019) in the research of Aprih Santoso and Sri Widowati (2011), location variables use indicators such as 1) Accessibility of the location. 2) Smooth access to the location. 3) Proximity of the location. Choosing a place of education is certainly not an easy matter because many factors influence student graduation such as teaching staff, school facilities, and school location (Mulyasa, 2022). The impact of determining alternatives will have short-term or long-term effects, both in the form of benefits to be obtained and risks that will be borne by someone.

Based on previous research conducted by Chusnul Inayah et al., the results showed that the lack of facilities and infrastructure does not rule out the possibility of low learning outcomes. With a small number of students, teachers can more easily guide and supervise students, allowing them to learn optimally (Chusnul Inayah, 2021). The difference between this study and previous research is that this study discusses student graduation. Problems arise from staff performance, facilities, and school location. Therefore, the researcher is interested in discussing the influence of teaching staff quality, school facilities, and school location on student graduation. The researcher hopes this study can provide educators with insights into graduation outcomes, thus producing quality graduates. The researcher is interested in analyzing factors influencing student graduation, including teaching staff, school facilities, and school location. The purpose of this study is to determine the significant influence of teaching staff, school facilities, and school location on student graduation. This research focuses on the independent variables: teaching staff (X1), learning facilities (X2), and school location (X3). The dependent variable (bound variable) is student graduation (Y).

Methods

This study uses descriptive statistical methods, where this method is a data analysis technique by describing or drawing a condition of a research object as it is and does not intend to draw certain conclusions based on all the data that has been collected. The data presented are data describing the value of the average, tabulation, standard deviation, minimum value and maximum value, etc. in order to find out whether there are different data according to the category contained in the existing data and presented as is and no detailed analysis of the data is carried out, inferential statistics are said to be inductive statistics, namely data analysis techniques from an object or population from sample data drawn through a certain population. the aim is to describe a natural state regarding the influence of the quality of teaching staff, facilities and location on student graduation. The sample of participants consisted of 50 students from various schools in Indonesia who participated in the 2018 PISA Report. The data analysis technique used was multiple linear regression using JASP 0.16.1.0 Software.

Table 1 Data Collection Codes From PISA Reports

No	Variable	Code
1.	Teaching Quality	SC052
2.	School Facilities	SC017
3.	School Location	SC001
4.	Student Graduation	SC164

Result and Discussion

Classical Assumption Test The classical assumption test is a statistical requirement that must be met in multiple linear regression analysis before conducting hypothesis testing to ensure that the multiple linear regression test tool can be used. Normality Test The normality test is used to determine whether residual values are normally distributed or not. The results of the normality test can be seen in the figure below.

Standardized Residuals Histogram

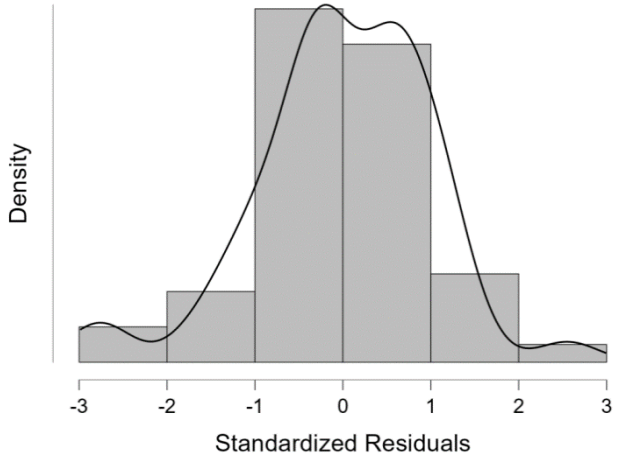

Figure 1 Normality Test Using Histogram Approach

Based on the figure above, it can be seen that the data in the model is distributed around the diagonal. This indicates that the regressed data in this study is normally distributed.

Multicollinearity Test

The multicollinearity test is used to determine whether there is a strong correlation between independent variables. If a model contains a high correlation between the independent variables, the relationship between the independent and dependent variables will be disrupted. To test for multicollinearity, a correlation hypothesis testing technique is used. A multiple regression model can be declared free of multicollinearity if its P-value is <0.01 and its Pearson correlation value is above 0.01. The results of the multicollinearity analysis test are shown in Table 2 below:

Table 2 Multicollinearity Analysis Results Test

Pearson's Correlations				
			Pearson's R	P
Facility	-	Location	0.433	0.002
Facility	-	Teaching Staff	-0.052	0.719
Location	-	Teaching Staff	0.046	0.749

Dependent variable: student graduation
Source: PISA research results (processed data, JASP)

According to Table 2, the results show that both variables have a p-value <0.01 and a Pearson r value above 0.002. These findings indicate that in the multiple regression analysis model, there are variables that experience multicollinearity.

Heteroscedasticity Test

The heteroscedasticity test is a technique used to determine whether there is inequality in the variance of residuals from one observation to another. The results of this heteroscedasticity test are depicted in this figure.

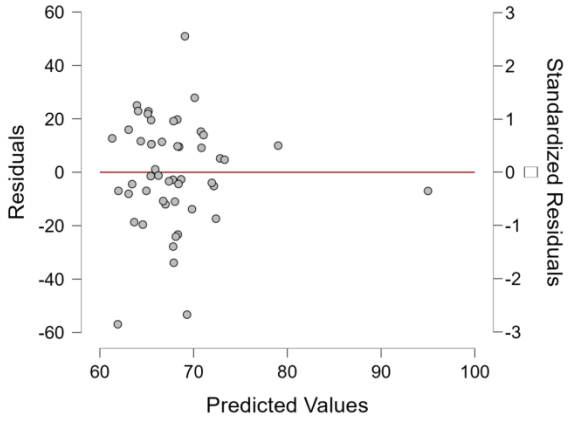

Figure 2 Heteroscedasticity Test

Multiple Linear Regression

The F-test, or simultaneous test, was conducted to determine the level of significance, as seen from an alpha value of <0.05, of the simultaneous influence of

teaching staff quality, school facilities, and tuition fees on student graduation. The test results in this study are shown below.

Table 3 Simultaneous F-Test Results

ANOVA

Model		Sum of Squares	df	Mean Square	F	p
H_1	Regression	1317.175	3	439.058	1.038	0.385
	Residual	19460.745	46	423.060		
	Total	20777.920	49			

Note. The intercept model is omitted, as no meaningful information can be shown.

In Table 3, the calculated F result is 1.038 while the F table at α = 0.05 is 2.786. From this result, it is known that the calculated F> F table and the significant value is 0.385 or <α = 0.05. The F table provisions are taken from:
df1 = k-1 = 3-1= 2

df2 = n-k = 50-3= 47

Therefore, the results can be concluded that H1 is rejected. This means that teacher quality, school facilities, and school location collectively have no effect on student graduation. Therefore, the presence of quality teachers, good school facilities, and a strategic school location can show significant results on student graduation.

Coefficient of Determination

The coefficient of determination is used to measure the influence of teacher quality, school facilities, and school location on student graduation. The coefficient of determination is determined using the Adjusted R-Square value, as shown in the following table.

Table 4 Value of Determination Coefficient (R Square)

Model Summary - graduation data

Model	R	R^2	Adjusted R^2	RMSE
H_0	0.000	0.000	0.000	20.592
H_1	0.252	0.063	0.002	20.568

In the table, the Adjusted R Square coefficient value is 0.063, which means that the quality of teachers (X1), school facilities (X2) and school location X3 can explain 63% of the variation in decision making and the remaining 37% is influenced by other variables outside the variables studied.

Partial t-test

Based on the results of the multiple regression equation for the influence of school facilities and education costs on student decision-making, the results obtained are as shown in the partial test table or t-test. This allows for a significance level of α < 0.05 for

each school facility, education costs, and school location on student decision-making, as shown in Table 5 below.

Table 5 Results of Multiple Regression Test on Quality of Teaching Staff, Facilities, School Location

Coefficients								
							Collinearity Statistics	
Model		Unstandardized	Standard Error	Standardized	t	p	Tolerance	VIF
H_0	(Intercept)	67.960	2.912		23.336	< .001		
H_1	(Intercept)	72.626	14.125		5.142	< .001		
	FASILITAS	0.220	0.298	0.118	0.740	0.463	0.807	1.239
	LOKASI	0.156	0.171	0.145	0.911	0.367	0.808	1.238
	staf pengajar	-2.389	2.889	-0.118	-0.827	0.413	0.991	1.009

Based on the table, the multiple regression equation in this study can be formulated as follows:

Y = -2,389 teaching staff + 0. 220 School Facilities + 0. 156 School Location + 72,626

1. The regression intercept value is 72.626, meaning that when the teaching staff, school facilities, and school location have a value of 0, student graduation will increase by 72.626. Using the multiple regression analysis equation when making a hypothesis test, the result obtained is the result of a mathematical calculation of 72.626. The results of the multiple regression analysis test can only be used with estimates of the existence of teaching staff, school facilities, and school location variables, but in a constant condition or without any changes.
2. The calculated t value for teaching staff (-0.827) is greater than the t table (2.007), or the significant t value for school facilities (0.413) is greater than α (0.05). According to the test results obtained, H1 is rejected for school facilities and H0 is accepted. Therefore, partially, teaching staff has a negative and insignificant influence on school graduation. It can be interpreted that teaching staff has no real influence in increasing student graduation. This shows that students want quality school teaching staff. Because the results of this study indicate that if the quality of teaching is good, student graduation will increase.
3. The calculated t value for school facilities (0.740) < when compared with the t table value (-2.007) or the sig t value for student graduation (0.463) > α (0.05). In accordance with the test results obtained, H1 is accepted for school facilities and H0 is rejected. Thus, partial school facilities have a positive and significant influence on student graduation. So, school facilities have a real influence on school facilities. With a positive and significant influence between school facilities and student graduation, it shows that

school facilities are able to increase student graduation. The higher the facilities, the more students will increase student graduation.

4. The calculated t value for school location (0.911) is > when compared with the t table value (-2.007) or the sig t value for student graduation (0.367) is > from α (0.05). Based on the results obtained, H1 is rejected for school location and H0 is accepted. Thus, partially, school location has a negative, insignificant effect on student graduation. This means that school location does not have a real effect on student graduation.

Based on the research results, it can be seen that the results of the hypothesis testing are as in the following table:

Table 6. Hypothesis Testing Results

No	Hypothesis	T_{count}	T_{table}	Sig<0,05	information
1.	Teaching Staff Has Negative and Insignificant Influence on School Graduation.	-0.827	2,007	0.413	Rejected
2.	School facilities have a positive and significant impact on student graduation. Therefore, school facilities have a significant impact on student achievement.	0.740	-2,007	0.463	Accepted
3.	School Location Has an Insignificant Negative Influence on Student Graduation.	0.911	-2,007	0.367	Rejected
No	Hypothesis	F_{count}	F_{table}	Sig<0,05	information
1.	Teaching Staff and Location Do Not Have a Simultaneous Significant Effect on Student Graduation.	1.038	2,786	0.385	Rejected

Conclusion

Based on the research results and discussions, several important conclusions can be drawn. First, the quality of teaching staff showed a negative and insignificant influence on student graduation. This indicates that although teachers are a key component in the educational process, their quality and contribution, in the context of this study, have not been able to significantly impact student success in completing their education. This factor can be influenced by various factors, such as a lack of varied teaching methods, limited professional development, or teachers' low ability to optimize student potential. Second, school facilities have been shown to have a positive and significant influence on student graduation. This means that the existence of adequate facilities and infrastructure, such as comfortable classrooms, the availability of textbooks, laboratories, and access to learning technology, play a significant role in supporting student success. These findings underscore the importance of investing in improving school facilities as a strategic effort to promote better education quality. Third, school location has a negative and insignificant effect on student graduation. This indicates that a school's geographic location, whether urban or rural, does not directly determine student academic success. This factor is more likely influenced by other aspects such as family support, learning motivation, and the quality of the school's learning environment. Fourth, simultaneously, the variables of teaching staff and school location did not show a significant effect on student graduation. Only school facilities were shown to make a significant contribution to student success in completing their education. These findings emphasize that although teachers and location are important factors, in this study, learning facilities were the dominant variable determining academic achievement.

Theoretically, this research enriches the study of factors influencing academic achievement, particularly by emphasizing the crucial role of school facilities as a determining variable. Practically, these findings can serve as a reference for the government and schools to prioritize improving educational infrastructure and encourage its optimal utilization in the learning process. Furthermore, this research recommends that education policymakers and schools focus more attention on improving and utilizing educational facilities. Efforts to improve infrastructure must be accompanied by effective management and utilization strategies to truly support the learning process. Furthermore, further research is needed with a wider sample size and additional variables such as student learning motivation, parental support, and the quality of school management to provide a more comprehensive picture of the factors influencing student graduation.

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