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The Influence of the Availability of Facilities and Infrastructure on Student Motivation at SMA Negeri 1 Parmaksian

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Abstract: This research aims to analyze the influence of the availability of facilities and infrastructure on student learning motivation at SMA N 1 Parmaksian. The method used is a quantitative inferential statistical method. The population of this study consisted of 195 students at SMA Negeri 1 Parmaksian, with a sample of 66 people. Data was collected through a closed questionnaire with 42 statement items. The results of the research show that there is a positive and significant influence on the availability of facilities and infrastructure on student learning motivation at SMA Negeri 1 Parmaksian. This research uses two types of analysis requirements, namely the normality test and the linearity test. The test results show that there is a positive relationship between the variables X and Y with a value of r_{count} = 0.404 > t_{table} (α = 0.05, n = 66) 0.235. Apart from that, the significance test shows that there is a significant relationship between the variables The hypothesis was tested through a regression equation test which produced the equation $\dot{y}$ = 41.957 + 0.475 and the regression coefficient of determination r^2 = 0.163. Hypothesis testing with the F test shows $F_{count} > F_{table}$ = 12.478 > 4.00.

Keywords: Availability, Facilities and Infrastructure, Learning Motivation.

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Introduction

Education is a learning process that is beneficial and can help an individual acquire knowledge and skills. The purpose of education is to motivate individuals to continually develop their inherent potential through ongoing education (M. Yusuf, 2018:14). Based Rumhadi (2017:35); Tobing et.al (2023). It is stated that motivation plays a crucial role in achieving desired goals, both in the context of teaching and other objectives. This underscores the importance of motivation in the effort to educate the nation. As articulated by the Indonesian Law No. 20 of 2003 on the National Education System, educational institutions function to enhance national intelligence through the improvement of capabilities, character building, and the creation of a dignified civilization. A strong drive for self-development is essential for every individual. With motivation, individual behavior will improve and develop, thereby contributing to the intellectual advancement of the nation.

In line with the opinion above, Uno (2018:9) Motivation is defined as the desire that originates from within or outside an individual to change one's behavior or activities for the better. In the context of learning, motivation is understood as a state in which an individual has the desire to undertake something in order to achieve their goals (Rahman, 2021: 292); Tobing et.al (2023) Therefore, motivation can be considered a driving force that encourages students when they engage in various learning activities to achieve specific goals. In this regard, teachers play a crucial role in fostering and maintaining students' motivation to participate in different educational activities.

Effective learning can be influenced by interest and enthusiasm for studying. As explained by Sasmita dkk. (2020: 68) If students are interested and motivated in their learning, the level of learning success will be higher. The achievement of students' learning is influenced by two factors: intrinsic factors that originate from within the students themselves, and extrinsic factors that come from outside the students (Rahman, 2021: 298). Thus, learning without motivation will struggle to achieve optimal success. This is consistent with the statement made by Manullang and Silitonga (2022), who assert that students must have intrinsic motivation to achieve learning success. Motivation itself is divided into two types: intrinsic motivation and extrinsic motivation (Sari dkk., 2021: 6).

Students with intrinsic motivation will possess a stronger drive to learn and will not rely on external circumstances, as they have their own expectations and desires to learn. In contrast, students with extrinsic motivation depend on external factors, such as rewards and environmental conditions (Rubiana & Dadi, 2020: 14). Environmental conditions may stem from family, school, and community. The family environment includes the encouragement and support provided by parents to their children. The community environment can involve peers or adults who influence the

individual. The school environment encompasses teachers who provide direct motivation and the availability of facilities and resources that support the students' learning process.

The availability of facilities and infrastructure encompasses both physical and non-physical aspects. Facilities refer to anything that can be utilized as tools and equipment to achieve learning objectives, such as educational materials, teaching aids, and supplies. In contrast, infrastructure includes the fundamental resources required to operate an educational institution, such as land, buildings, and classrooms (*Permendikbudristek RI No 22 Tahun 2023*).

Utomo, as cited in Rosmalah et al. (2022: 312), asserts that the availability of facilities and infrastructure in schools plays a crucial role in teaching strategies, as it enables teachers to utilize them optimally. With comprehensive facilities and infrastructure, educators can implement various teaching methods, thereby enhancing students' motivation to learn. This is supported by research findings from Yani et al. (2023: 32005-32006), Khatifah et al. (2021: 50), and Pongoh (2023: 5), which indicate that adequate facilities and infrastructure positively influence students' motivation to learn, as they empower students to engage more enthusiastically in the learning process.

Furthermore, Sakia et al. (2022: 99) state that adequate facilities and infrastructure can optimize the learning process and enhance students' motivation to learn. Jannah and Sontani (2018: 68) also assert that facilities and infrastructure are factors that influence learning motivation. Additionally, Yusuf et al. (2023: 63) indicate that sufficient facilities and infrastructure can encourage students to be more enthusiastic about learning, as their needs are met. Therefore, it is essential for educational institutions to ensure the availability of adequate school facilities and infrastructure.

Based on observations regarding the availability of facilities and infrastructure at SMA Negeri 1 Parmaksian, several resources were noted, such as textbooks, desks, chairs, classrooms, laboratories, teachers' rooms, the principal's office, restrooms, and school fields, among others. Additionally, supplementary observations and interviews with teachers and several students revealed that most students exhibit low learning motivation. This is evident from students' lack of diligence and independence in completing assignments, which leads to tendencies to cheat, frequent daydreaming, and sleeping during lessons, as well as a lack of confidence in their abilities. These issues can be categorized as intrinsic motivation problems. On the other hand, there are also extrinsic motivation issues, such as students frequently arriving late to school, insufficient parental attention due to parents being busy with work, and a lack of interest in lessons provided by teachers due to inadequate teaching media and resources. As a result, some students are less active during the learning process. Therefore, based on the aforementioned situation and conditions, the author is interested in conducting research at this school, titled The Impact of Facility and Infrastructure Availability on Student Motivation at SMA Negeri 1 Parmaksian.

Research Methods

This study employs quantitative inferential statistical methods. The research is conducted at SMA Negeri 1 Parmaksian from January to June 2024. The study population consists of 195 students from SMA Negeri 1 Parmaksian, with a sample size of 66 individuals. Sampling for this study is carried out randomly (random sampling), with the sample size determined using Slovin's formula. Data is collected through a closed-ended questionnaire with 42 positive statement items. The study uses a Likert scale with response options of 'always,' 'often,' 'sometimes,' and 'never.

Results and Discussion

This study aims to analyze the impact of the availability of facilities and infrastructure on student motivation at SMA Negeri 1 Parmaksian. The independent variable in this study is the availability of facilities and infrastructure, with indicators including learning resources, learning tools, and supporting learning facilities. The dependent variable is learning motivation, with indicators such as the desire and aspiration for success, the presence of drive and need in learning, future hopes and ambitions, engaging learning activities, and a conducive learning environment. The data description for each variable can be outlined as follows:

Table 1 Data Decription

Statistics

		Availability of Facilities and Infrastructure (Variabel X)	Motivation of Learn (Variabel Y)
N	Valid	66	66
	Missing	0	0
Mean		62,27	71,52
Median		63,00	71,50
Std. Deviation		6,96	8,18
Range		32,00	34,00
Minimum		44,00	54,00
Maximum		76,00	88,00

Based on the data description table above, the researcher then uses this data description to categorize the scores obtained from each respondent. The purpose of categorization is to place each respondent into groups based on the data levels (Azwar, 2019). The categorization is made based on the following normative formula:

Table 2 Categorization Form

No	Categorization	Norma Form
1	Very Low	$X < M - (1,8\ SDi)$
2	Low	$M - (1,8\ SDi) \leq X < M - (0,6\ SDi)$
3	Currently	$M - (0,6\ SDi) \leq X < M + (0,6\ SDi)$
4	Tall	$M + (0,6\ SDi) \leq X < M + (1,8\ SDi)$
5	Very Tall	$X \geq M + (1,8\ SDi)$

Explanation

X= Total score

M = Mean

SDi = Standar Deviasi

Based on the normative categorization formula above, the next step is to categorize the respondents into the five categories. The results of this categorization are as follows:

Table 3 Range of Categorization

No	Categorization	Availability of Facilities and Infrastructure	Motivation of Learn
1	Very Low	X < 49, 74	X < 56, 80
2	Low	49, 74 ≤ X < 58, 09	56, 80 ≤ X < 66, 61
3	Currently	58, 09 ≤ X < 66, 45	66, 61 ≤ X < 76, 43
4	Tall	66, 45 ≤ X < 74,80	76, 43 ≤ X < 86,24
5	Very Tall	X ≥ 74, 80	X ≥ 86, 24

Table 4 Categorization Results for Each Variable

Categorization		Availability of Facilities and Infrastructure		Motivation of Learn	
		Frequency	Persentase	Frequency	Persentase
Valid	Very Low	4	6,1%	1	1,5%
	Low	11	16,7%	18	27,3%
	Currently	33	50%	24	36,4%
	Tall	16	24,2%	21	31,8%
	Very Tall	2	3%	2	3%
	Total	66	100	66	100

Based on Table 4 above, it shows the categorization of the availability of facilities and infrastructure for 66 students at SMA Negeri 1 Parmaksian. From the data, 4 students (6.1%) are in the very low category, 11 students (16.7%) in the low category, 33 students (50%) in the medium category, 16 students (24.2%) in the high category, and 2 students (3%) in the very high category. Furthermore, for the learning motivation variable, 1 student (1.5%) is in the very low category, 18 students (27.3%) in the low category, 24 students (36.4%) in the medium category, 21 students (31.8%) in the high category, and 2 students (3%) in the very high category.

Test Requirements Analysis

a. Results of the normality test using SPSS 29 with the Kolmogorov-Smirnov formula

Table 5 Normality One Sample Kolmogorov

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		66
Normal Parameters[a,b]	Mean	0,0000000
	Std. Deviation	7,48229417
Most Extreme Differences	Absolute	0,060
	Positive	0,053
	Negative	-0,060
Test Statistic		0,060
Asymp. Sig. (2-tailed)[c]		**.200[d]**

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

From the table above, it can be seen that the Asymp. Sig. (2-tailed) value is 0.200, which is greater than 0.05 (0.200 > 0.05). According to the criterion, if the Asymp. Sig. (2-tailed) is greater than 0.05 (Sutha, 2019: 75), it can be concluded that the research data is normally distributed.

b. Results of data linearity testing using SPSS 29 on *Test for Linearity.*

Table 6 Lineary test

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Learning Motivation* Availability of Facilities and Infrastructure	Between Groups	(Combined)	2210,056	26	85,002	1,550	0,105
		Linearity	709,478	1	709,478	12,939	**0,001**
		Deviation from Linearity	1500,579	25	60,023	1,095	0,392
	Within Groups		2138,429	39	54,832		
	Total		4348,485	65			

From the table above, it can be seen that the Asymp. Sig. (2-tailed) value is 0.200, which is greater than 0.05 (0.200 > 0.05). According to the criterion, if the Asymp. Sig. (2-tailed) is greater than 0.05 (Sutha, 2019: 75), it can be concluded that the research data is normally distributed.

a. Correlation Test

Table 7 Correlation Test Results

Correlations

		Variabel X	Varibael Y
Variabel X	Pearson Correlation	1	**.404****
	Sig. (2-tailed)		0,001
	N	66	66
Varibael Y	Pearson Correlation	.404**	1
	Sig. (2-tailed)	0,001	
	N	66	66

**. Correlation is significant at the 0.01 level (2-tailed).

The calculated value of r_{count} is 0.404, compared to the critical value of r_{table} for a 5% error margin and a confidence interval of 95% (100% - 5%) for n=66n which is 0.235. The comparison shows that $r_{count} \geq r_{table}$(0.404 > 0.235). Therefore, it can be concluded that there is a positive relationship between Variable X and Variable Y, specifically, the availability of facilities and infrastructure positively correlates with students' learning motivation at SMA Negeri 1 Parmaksian. This finding is consistent with the research conducted by Ranti et al. (2022: 50), which states that there is a positive relationship between the availability of school facilities and infrastructure and learning motivation.

b. Significance Test (test t)

Table 8 Significant Relationship Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	41,957	8,419		4,984	0,000
	Variabel X	0,475	0,134	0,404	**3,532**	0,001

a. Dependent Variable: Variabel Y

The calculated t_{count} is 3.532, compared to the critical t_{table} for a 5% error margin and $n-2=64$, which is 2.000. The comparison shows that the calculated $t_{count} > t_{table}$ 3.532 > 2.000. Therefore, it can be concluded that there is a significant relationship between Variable X and Variable Y, specifically, the availability of facilities and infrastructure significantly correlates with students' learning motivation at SMA Negeri 1 Parmaksian. This finding is consistent with the research conducted by Rosmalah et al. (2022: 311), which states that there is a significant relationship between the availability of school facilities and infrastructure and students' learning motivation. Furthermore, Pertiwi & Syur'aini (2024: 67) explain that there is a very significant relationship between learning facilities and learning motivation. However, Pratiwi's research is limited to social studies subjects for Paket B learning residents at PKBM Insan Cendikia in Padang City.

c. Regression Test

Table 9 Regression Analysis Results

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	**41,957**	8,419		4,984	0,000
	Variabel X	**0,475**	0,134	0,404	3,532	0,001

a. Dependent Variable: Variabel Y

The regression equation obtained is ỳ = 41,957 + 0,475

d. Coefficient of determination test

Tabel 6 Model Determination Coefficient Test Results Summary[b]

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.404[a]	**0,163**	0,150	7,541

a. Predictors: (Constant), Variabel X

b. Dependen Variable: Variabel_Y

The coefficient of determination test yielded an r^2 value of 0.163. Based on the obtained (r^2) value, it can be concluded that the availability of facilities and infrastructure accounts for 16.3% of the motivation to learn among students at SMA Negeri 1 Parmaksian. Ozili (2023: 10) in his research revealed that an Rsquared value of at least 0.10 or 10% is empirically acceptable in social sciences.

The results of this study indicate that 16.3% of the learning motivation is influenced by the availability of facilities and infrastructure, while 83.7% is influenced by other variables. These other factors affecting learning motivation may come from both internal and external sources, such as expectations, aspirations, abilities, the efforts of teachers in the learning process, and the surrounding environment. This aligns with the opinion of Rubiana & Dadi (2020: 12), who stated that there are several factors influencing learning motivation, including needs, expectations, aspirations, rewards, and environmental factors encompassing family, community, and school environments. Furthermore, Pongoh (2023: 5) also stated that there are four factors influencing learning motivation: interest in subjects, learning environment, learning facilities, and family support. Additionally, Purwanto in Pranitasari & Noersanti (2017: 2) stated that there are two factors influencing learning motivation: internal factors such as intelligence, talent, interest, emotion, and cognitive skills, and external factors such as the environment (natural and social environments) and instrumental factors (curriculum, teaching programs, facilities and infrastructure, teachers, administration, and management). Thus, while facilities and infrastructure can influence learning motivation, they are not the sole factor in enhancing students' learning motivation as it is influenced by various other factors. For instance, Pratiwi (2019: 55) stated that adequate facilities and infrastructure can motivate students to learn in class, but adequate facilities and infrastructure are not the main determinants of high learning motivation. This indicates that aspects of the availability of facilities and infrastructure, including learning resources, learning devices, and supporting learning facilities, can positively impact the learning motivation of students at SMA Negeri 1 Parmaksian.

e. Test F

Tabel 4 Result Test F

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	709,478	1	709,478	**12,478**	<,001[b]
	Residual	3639,007	64	56,859		
	Total	4348,485	65			

a. Dependent Variable: Variabel Y

b. Predictors: (Constant), Variabel X

The value obtained from the analysis of variance table is F_{count} = 12.478, which is greater than the F_{table} with the numerator degrees of freedom k (number of independent variables) = 1 and the denominator degrees of freedom n–1=66–1=65, which is 4.00. Thus, $F_{count} > F_{table}$ (12.478 > 4.00), indicating that the null hypothesis (H_0), which states there is no relationship, is rejected, and the alternative hypothesis (H_a), which states there is a relationship, is accepted. Therefore, it can be concluded that the research hypothesis proposed by the author is accepted, indicating a positive and significant influence of the availability of facilities and infrastructure on students' learning motivation at SMA Negeri 1 Parmaksian. This finding aligns with the research conducted by Yani et al. (2023: 32001), which stated that there is a positive and significant influence of the availability of school facilities and infrastructure on learning motivation. Additionally, Khatifah et al. (2021: 50) also found that facilities and infrastructure influence students' learning motivation. Thus, it can be said that the more comprehensive the facilities and infrastructure at the school, the higher the students' learning motivation, as it encourages students to be enthusiastic about learning (Gultom, Nababan, Sihombing, Manulang, & Purba, 2022). This is also supported by Yusuf et al. (2023: 63), who stated that adequate facilities and infrastructure can encourage students to be enthusiastic about learning, as their needs are met.

Conclusion

Based on theoretical considerations and research findings, it can be concluded that the research hypothesis is validated, indicating a positive and significant influence of the availability of facilities and infrastructure on learning motivation. It can be understood that the better the availability of facilities and infrastructure, the higher the learning motivation will be.

Based on these findings, it is recommended that the school should enhance the quality of its services by equipping facilities and infrastructure, especially in the area of learning resources, to increase students' learning motivation at SMA Negeri 1 Parmaksian. Students are encouraged to maintain and even further improve their learning motivation, particularly by fostering hopes and aspirations for the future. Future researchers who wish to study learning motivation are advised to explore other variables that influence learning motivation

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