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Relationship between Self-efficacy and Learning Motivation with Student Learning Outcomes on Endocrine System Material at La Tansa High School

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Abstract

This research aims to determine the relationship between self-efficacy, learning motivation, and student learning outcomes in the endocrine system material at La Tansa High School. This study uses a quantitative approach. The instruments used in data collection were questionnaires and test questions. This research was conducted from 17 to 25 June 2023 using random sampling techniques. The number of samples in this research was 34 students. The self-efficacy and learning motivation questionnaire consisted of 28 questions, and the student learning outcomes test questions consisted of 25 questions. The results of data analysis of the variable analysis of self-efficacy, learning motivation, and student learning outcomes with a correlation coefficient value of R_hit 0.585 > t_table 0.3291 and a significant value of 0.002 with a significance level of 0.05 has a moderate correlation. This means that H_0 is rejected and H_a is accepted. The determination test results obtained were 34.2%. This research shows that "There is a positive relationship between Self-Efficacy and Learning Motivation with Student Learning Outcomes on Endocrine System Material at La Tansa High School."

Keywords: *Self Efficacy; Learning Motivation; High School*

INTRODUCTION

Education is a process of changing the attitudes and behavior of a person or group of people to mature humans through teaching and training, as well as ways of educating (Ministry of National Education). The aim of education is the expected change in students after experiencing the educational process, both behavior, personal life, and community life from the natural surroundings (Hidayat et al., 2019). Through education, individuals also learn from interactions with other individuals or groups in their environment through the learning process (Vivin, 2019).

The learning process is a process that contains a series of actions by teachers and students or other learning resources based on reciprocal relationships that take place in educational situations to achieve specific goals (Hidayat et al., 2017). Slameto (2003) states that learning is a struggle to obtain a new change in behavior due to one's experience in interaction with one's environment. Taufik et al. (2022) stated that there is a need for self-confidence in mastering learning or self-efficacy, as well as motivation that functions as a driving force for efforts to achieve optimal learning outcomes. It is reported that those with low self-efficacy tend to give up easily and cannot solve the problems faced or during learning. In contrast, students with high self-efficacy try hard to face the challenges of solving existing problems (Taufik et al., 2022). Apart from self-efficacy, students need encouragement to learn or motivation, attention, and will, which means the desire to move and channel learning behavior (Setriani et al., 2020).

Hamdu et al. (2016) stated that learning motivation is a student's tendency to carry out learning activities driven by the desire to achieve good learning outcomes. Increasing learning outcomes requires attention to achieve school achievement; therefore, improving learning outcomes is influenced by the cognitive perspective, namely, (1) attribution, (2) motivation to master skills, (3) self-efficacy, (4) goal setting and planning (Marneli et al., 2020). For this reason, if someone has good self-efficacy and high learning motivation, they will be able to make a difference in achieving learning outcomes at school, someone will have confidence and hope regarding their ability to carry out the learning process and will have high encouragement in learning lessons at school so that it will also produce high learning outcomes (Taufik et al., 2022). Therefore, Marlina (2022) shows that self-efficacy and learning motivation are closely related to high learning outcomes at school.

As per research results, Sinaga et al. (2017) stated that there is a positive relationship between student learning motivation and biology learning outcomes on the subject matter of the human excretory system. The research results of Rahayu et al. (2021) also show a positive and significant relationship between self-efficacy and students' cognitive learning outcomes in fungal material. Based on the results of preliminary observations, researchers obtained information that students felt less confident in expressing their potential. Students' level of learning awareness and self-confidence still needs to be improved because parents' encouragement or motivation is minimal due to the long distance; students' inability to recognize themselves means that the self-confidence they gain is also minimal, thus indirectly affecting their learning outcomes. Apart from that, students at the La Tansa 1 Islamic boarding school have many busy activities, including many general and boarding school subjects,

memorizing the Al-Qu'an, and extra-curricular activities that these students must participate in. Students who have high self-confidence or self-efficacy certainly have high motivation to learn.

And conversely, students who have low self-efficacy have low motivation to learn. So, self-efficacy and learning motivation are closely related to student learning outcomes. Based on the ideas above, the author intends to conduct research titled The Relationship between Self-Efficacy and Learning Motivation with Student Learning Outcomes on Endocrine System Material at La Tansa High School..

RESEARCH METHODS

Place and Time of Research

This research was conducted at SMA La Tansa 1 class XI, Jl Parakansantri, Lebak Gedong District, Lebak Banten Regency, Banten Province. In the even semester T/A 2022/2023, a sample of class XI totaling 34 students was taken using random sampling techniques. This research uses a correlational method with a quantitative approach; this method, in principle, only looks for relationships between two or more variables (Kadir, 2010).

Research design

This research uses a correlational method; this method, in principle, only looks for a relationship or correlation (r) between two or more variables. The technique that can be used is a regression model (Kadir, 2010).

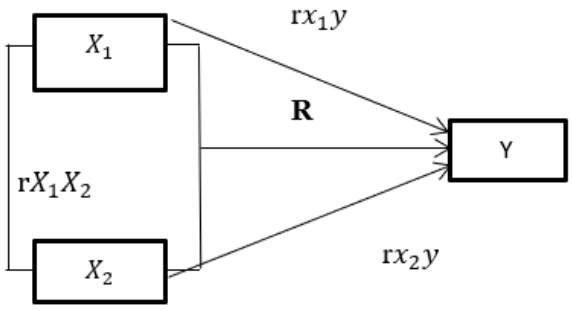

Figure 1. Research design of the relationship between X_1, X_2, and Y

Information :

X_1 : Self Efficacy
X_2 : Learning Motivation
Y : Student learning outcomes on endocrine system material.
$rx_1 y$: The strength of the correlation shows the magnitude of the relationship between variables X_1 and Y.
$rx_2 y$: The strength of the correlation shows the magnitude of the relationship between variables

X_2 and Y

$rX_1 X_2$: The strength of correlation shows the magnitude of the relationship between variables X_1 and X_2 together with Y.

Research Instrument

1. Self Efficacy

The data collection technique used in this research was a questionnaire or self-efficacy questionnaire. A questionnaire or self-efficacy questionnaire is a data collection technique where respondents fill out 28 questions, consisting of 23 positive and five negative questions. The questionnaire in this research is in the form of a Likert scale with four categories, namely, SS (strongly agree), S (agree), TS (disagree), and STS (strongly disagree).

Table 1. Self-efficacy instrument (Marneli et al., 2020)

No	Dimension	Indicator	Question		noun
			positive	negative	
1	*Level*	Have high confidence and effort in completing tasks.	1*, 2*, 3*, 4*, 5*	6*	6
		There is careful planning in learning	7*, 8*, 9*, 10*, 12	11*	6
2	*Generality*	Have confidence in your ability to learn.	13*, 14*, 15, 16*, 17	18*	6
		Use experience as a basis for increasing confidence.	19*, 20, 21*, 22, 23*	24	6
3	*Strenght*	Have high self-confidence	25*, 26*, 27*, 28*, 29*	30*	6
		Individual expectations of abilities	31*, 32*, 38, 34*	35*	5
Total					**35**

2. Learning Motivation

Learning motivation in this research is an impulse that moves a conscious effort to influence a person's behavior, forcing them to do something to achieve good learning outcomes on the endocrine system material. The data collection technique used in this research is a learning motivation questionnaire. A questionnaire or learning motivation questionnaire is a data collection technique where respondents fill out 28 questions, consisting of 18 positive questions and ten negative questions. The questionnaire in this research is in the form of a Likert scale with four categories. Namely, SS (strongly agree), S (agree), TS (disagree), and STS (strongly disagree).

Table 2. learning motivation instrument (Robbins, 2001)

No	Dimension	Indicator	Question		noun
			positive	negative	
1	*intensity*	Desire to do new things	1*	2*	2

No	Dimension	Indicator	Question		noun
			positive	negative	
		Try hard to carry out and complete the work.	3*	4*	2
		Having the courage to take risks	5*	6*	2
		Likes obstacles	7*	8*	2
		Carry out work duties with enthusiasm.	9*	10*	2
		Seriousness in work	11*	12	2
		The desire to achieve goals with a clear direction	13*	14*	2
2	*direction*	Putting aside interests other than duties	15	16*	2
		Excited to come to work	17*, 18*, 19*	20*	4
		Work knows no time	21*, 22*, 23*	24*	4
		Complete work optimally to achieve success	25*, 26*	27	3
3	*persistenc*	Orientation on achievement	28, 29, 30*	31*	4
		There is a desire to win and compete.	32*	33*	2
		It takes work to give up on work responsibilities.	34*	35*	2
Total					**35**

3. Student learning outcomes on endocrine system material.

The endocrine system test question is a data collection technique where respondents fill out 25 questions: C1, which consists of 9 questions; C2, which consists of 7 questions; C3, which consists of 7 questions; and C4, which consists of 2 questions.

Table 3 instrument for student learning outcomes on endocrine system material

No	Indicator	cognitive level	Question Items	noun
1	Attaching structures to the organs of the endocrine system	C1	1*, 4*, 5*, 9*, 12*, 18*, 17, 21, 24*	9
2	Explain the types of hormonal systems	C2	2*, 3*, 6*, 10*, 16*, 19*, 23*	7
3	Sequencing the hormones in the pituitary gland	C3	8*, 11, 13*, 15*, 20*, 22*, 25*	7
4	Identify various hormones or their functions in the body and disorders of the endocrine system.	C4	7*, 14*	2

No	Indicator	cognitive level	Question Items	noun
		Total		**25**

Data analysis technique

Linearity Test

Multiple linear regression discusses the relationship between the dependent variable and two or more independent variables concerning the visible variable that student learning outcomes in the endocrine system material (Y) are influenced by self-efficacy X_1, with learning motivation X_2. To be able to analyze multiple regression, the following formula is used:

$$\hat{Y} = a_0 + a_1X_1 + a_2x_2 + e$$

Simple Regression Test

Kadir (2010) states that the calculate simple correlations (X_1 with Y) and (X_2 with Y) is done with the help of the SPSS (Statistical Program For Social Science) version 22 (IBM SPSS Statistics) application with the following formula:

Regression model : $Y = \alpha + \beta X + \varepsilon$ (Population)
Estimate Function : $\dot{Y} = a + bX$ (Sample)

Multiple Regression Test

carried out with the help of the SPSS (Statistical Program For Social Science) version 22 (IBM SPSS Statistics) application with the following formula:

$$\mathbf{R}yx_1\,x_2 = \sqrt{\frac{r^2yx_1 + r^2yx_2 - 2ryx_1\,ryx_2\,rx_1x_2}{1 - r^2x_1\,x_2}}$$

Product Moment Correlation Coefficient Test

The correlation coefficient is a number that states the strength of the relationship between two or more variables (Brier et al., 2020).

$$r_{x\,y} = \frac{N\Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{[N\Sigma X^2 - (\Sigma X)^2][N\Sigma Y^2 - (\Sigma Y)^2]}}$$

Keterangan :

$r_{x\,y}$: **Correlation Coefficient**

ΣX_i : Sum of Item Scores

ΣY_i : Total Score (All Items)

N : Number of Respondents

3.8.5 Determination Test

The size of the contribution of self-efficacy (x_1) to learning motivation (x_2)) and student learning outcomes in the endocrine system materia (Y) can be determined using the determinant coefficient formula *(*Brier *et al*., 2020), as follows:

$$R^2 = \frac{a_1 \Sigma x_1 y + a_2 \Sigma x_2 y}{\Sigma y^2}$$

RESULTS AND DISCUSSION

This research was carried out in class XI Science SMA La Tansa T/A 2022-2023, totaling 34 students spread across two classes, namely class X2, and consisting of one variable, namely student learning outcomes Y. Based on the diagram , the frequency of self-efficacy variables in the very high category is three students (9%), the frequency of high self-efficacy variables is eight students (24%), the frequency of moderate self-efficacy variables is ten students (29%), the frequency of low self-efficacy variables as many as 11 students (32%), the frequency of the self-efficacy variable was shallow as many as two students (6%).

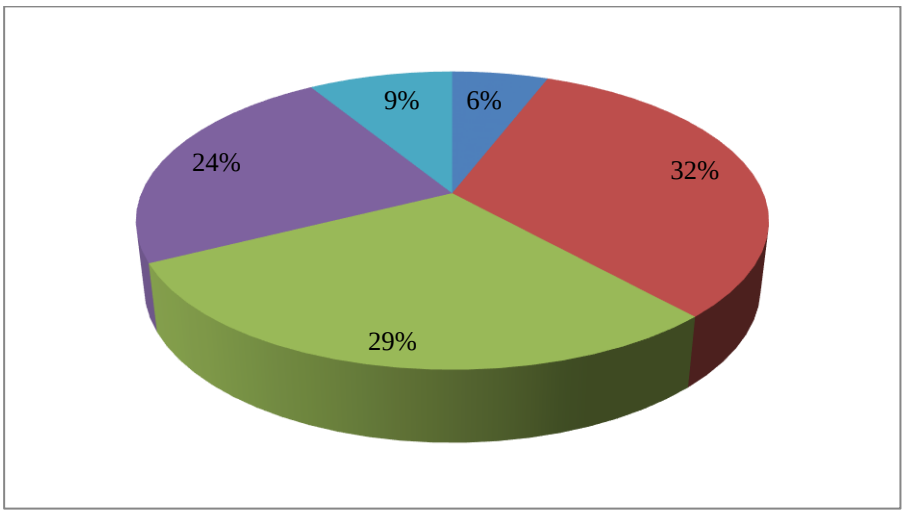

Figure 1. Distribution of Self Efficacy

Based on the table and diagram, the frequency of learning motivation variables in the very high category is 0 students (0%), the frequency of high learning motivation variables is 0 students (0%), the frequency of medium learning motivation variables is six students (18%), the frequency of motivation variables learning was low as many as 13 students (38%), the frequency of the learning motivation variable was shallow as many as 15 students (44%).

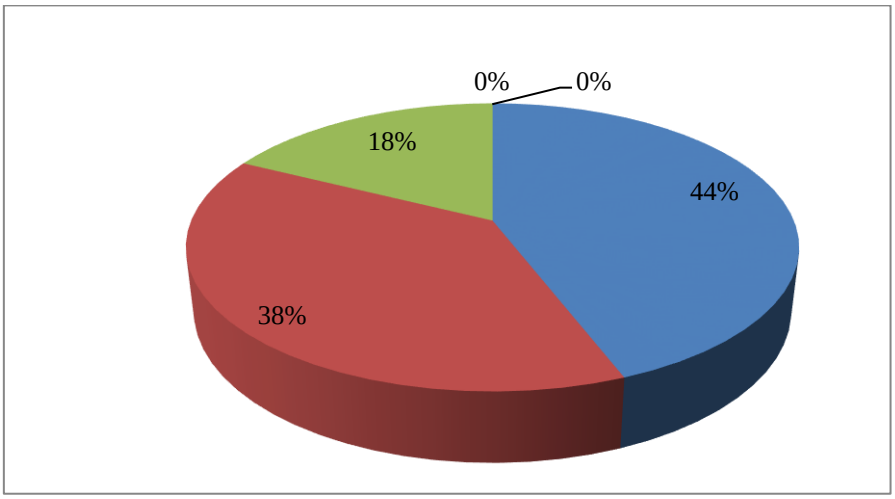

Figure 2. Distribution of learning motivation

It was based on the normality test using Kolmogorov-Sminov with the help of SPSS version 2, the Asymp.sig value of self-efficacy was 0.670, learning motivation was 0.932, and student learning outcomes were 0.593. This means that the three data have a significant value greater than 0.5, so it can be concluded that the data from each variable is normally distributed. Based on the results of the linearity test, the significant value of deviation from linearity self-efficacy towards student learning outcomes was 0.639 > 0.05, and the significant deviation from linearity value for learning motivation towards student learning outcomes was 0.476 > 0.05. So, the relationship between self-efficacy, learning motivation, and student learning outcomes is significantly linear:

Table 4. Multiple Correlation Test Results

Multiple Correlation Test Results	R	R Square	F Change	Sig
The relationship between self-efficacy and learning motivation together with student learning outcomes.	0.585	0,342	8,060	0,002

The significant test for the multiple correlation coefficient was obtained (R_(Y.12)) = 0.585, and sig 0.002 < 0.05 or H_0 was rejected. Thus, the multiple correlation coefficient between

(X_1), (X_2), and Y is significant. Meanwhile, the coefficient of determination is shown by R square = (34.2%), so that the variables (X_1) and (X_2) are related together to variable Y. The results of this positive relationship are supported by theory from research (Marlina, 2022), namely that there is a positive relationship between self-efficacy, learning motivation, and student learning outcomes.

Table 5. Correlation Test of Self Efficacy with Learning Outcomes

Correlation Test Results	R	R Square	F Change	Sig
The Relationship between Self-Efficacy and Student Learning Outcomes.	0,463	0,214	8,734	0,006
The relationship between motivation and student learning outcomes.	0,455	0,207	8,353	0,007
The relationship between self-efficacy and learning motivation together with student learning outcomes.	0,585	0,342	8,060	0,002

The table above shows a significant value between self-efficacy of 0.006 < 0.05 0 with a correlation coefficient of 0.463, which means the strength of the relationship is moderate. Meanwhile, the R square coefficient of determination value is 0.214, interpreted as the contribution made by self-efficacy and student learning outcomes, which is 21.4%. This low criterion indicates that some students need more self-confidence or self-efficacy in determining and carrying out their learning activities to achieve what has been previously targeted in learning to achieve satisfactory learning outcomes (Apriliani et al., 2022).

Apriliani et al. (2022) stated that self-efficacy is an important aspect that influences student learning outcomes because self-efficacy influences students' choices, goals, handling problems, and persistence in trying. Rachman et al. (2022) also stated that it is necessary to observe self-efficacy to see students' confidence in the learning process during the learning process. So teachers need to realize that part of their responsibility in helping students become outstanding students is one way of assisting students to be aware of their self-efficacy and independence during learning. In this way, they will become exceptional students because outstanding students are aware of the process they are carrying out (Susanti et al., 2022).

The correlation test results show significant values for self-efficacy and learning motivation with learning outcomes of 0.002 <0.05 with a correlation coefficient of 0.585, which means the strength of the relationship is moderate. Meanwhile, the R Square coefficient of determination value is 0.342, interpreted as the contribution made by self-efficacy and learning outcomes, which is 34.2%. Muthmainnah et al. (2020) think the medium criteria are because the school environment is cooperative, so, like it or not, teachers have to give intensive assignments to increase students' experience in carrying out assignments.

The results of this positive relationship are supported by Marlina's (2022) research theory, namely that there is a positive relationship between self-efficacy and, learning motivation and student learning outcomes. One of the parameters used to measure the level of learning success is student learning outcomes, which suggests that student learning outcomes are influenced by two factors, namely: (1) internal factors and (2) external factors. Internal factors include learning motivation and students' self-efficacy or self-confidence. Therefore, the relationship between self-efficacy, learning motivation, and student learning outcomes is closely related (Marneli et al., 2020).

CONCLUSION

Based on the research results, data analysis, and discussion that has been explained, it can be concluded that there is a positive relationship between self-efficacy and the learning outcomes of La Tansa High School students, with a correlation index of 0.393. Based on the results of the correlation test, it was found that Rhit 0.463 > Rtabel 0.3291; by the criteria, if the thit value > t-tabel, then H_0 is rejected and Ha is accepted, which means there is a positive and significant relationship between self-efficacy and student learning outcomes. A positive relationship exists between learning motivation and the learning outcomes of La Tansa High School students, with a correlation index of 0.455. Based on the results of the correlation test, it was found that the R_hit value of 0.455 > t_tabel 0.3291 corresponds to the criteria; if the t_hit value > t_tabel, then H_0 is rejected, and Ha is accepted, which means there is a positive and significant relationship between learning motivation and student learning outcomes. There is a positive relationship between self-efficacy and learning motivation and the learning outcomes of La Tansa High School students, with a correlation index of 0.585. This is based on the results of the correlation test; it is found that the R_hit value is 0.585 > t_tabel 0.3291, by the criteria, if the t_count value > t_tabel then H_0 is rejected and Ha is accepted, which

means there is a positive and significant relationship between self-efficacy, learning motivation and student learning outcomes as a whole. Together (simultaneous).

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