The Effect of Learning Independence, Educational Facilities, and Learning Motivation on the Academic Performance of Eleventh-Grade Students in Economics at SMA Negeri 1 Telaga, Gorontalo Regency

ABSTRACT

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| The low achievement of student learning outcomes is an urgent problem in the implementation of education. The large number of students who have not met the criteria for mastery level in grade XI in Telaga District, Gorontalo Regency, Gorontalo Province, is a problem in itself. This study aims to analyze the influence of learning independence, learning facilities, and learning motivation on the academic achievement of 11th-grade students in the Economics subject at SMA Negeri 1 Telaga, Gorontalo Regency. The research was conducted over a period of 6 months, from July to December 2024. This study employs a quantitative approach using the SEM PLS method to analyze the relationships between variables. The study involved a sample of 156 students. Data collection instruments included questionnaires and observations. The results showed that, both partially and simultaneously, learning independence, learning facilities, and learning motivation significantly and positively influence students' learning outcomes. These findings emphasize the importance of enhancing these three factors to improve the quality of learning and students' learning outcomes in the Economics subject. |

*Keywords: Learning Independence, Learning Facilities, Learning Motivation, Learning Outcomes*

1. INTRODUCTION

[Education plays an important role in the development of quality human resources. One indicator of the success of education is student learning outcomes. Learning outcomes reflect the extent to which students understand the learning material taught, including in economic subjects. However, differences in learning outcomes among students are often influenced by various factors both internal and external.

Success in the learning process can be seen through student learning outcomes which are assessed based on three cognitive, affective, and psychomotor aspects (Rahmawati et al., 2021). Learning outcomes are influenced by students' experiences in interacting with the environment and learning materials, which are strongly influenced by their motivation and prior knowledge. In addition, learning outcomes reflect observable changes in behavior in aspects of knowledge, attitudes, and skills (Mustafa & Masgumelar, 2022). These changes show significant development, for example from not knowing to knowing or from a bad attitude to a more positive one through the observation learning model (Sulino, 2023).

The success of learning is determined by many factors, including the teacher as an educator who carries out the teaching and learning process. Teachers can directly influence, foster and improve the intelligence and skills of students. Therefore, an effort is needed in order to improve the quality of education and teaching, through strategies or ways and methods in delivering learning materials. So that an increase in student learning outcomes is obtained, especially in Economics lessons.

The learning process can take place because of the interaction between students, teachers, and the interrelated curriculum. Students will learn optimally if supported by adequate learning facilities and infrastructure, interesting learning models, and active student involvement in the learning process. Active participation of students in learning activities can prevent the onset of boredom or boredom while in class. However, in practice, the learning process is still dominated by an authoritarian and instructive approach from the teacher. This condition can have an impact on low student learning outcomes. Optimal learning outcomes are not only determined by student motivation, but also influenced by the learning methods applied by the teacher.

Improved learning outcomes are not only supported by students' willingness to learn, but the learning methods used can have an effect. Facts in the field show that there are still teachers who use learning models that are less interesting to students, which causes students to lack interest in learning. Current learning trends emphasize that students should learn through their own activities, involving direct understanding of concepts. Students are encouraged to gain learning experience through experimentation and are given the opportunity to discover principles independently. This approach aims to build a deeper and more meaningful understanding for students.

The learning process at school, teachers should choose and use approaches, methods, models, strategies and techniques that can involve students in the learning process so that students are active in the learning process, both mentally, physically and socially. With the interaction that occurs during the learning process is expected to have an influence on student learning outcomes, especially in economic subjects. The learning outcomes of students in economics subjects at SMA Negeri 1 Telaga are as follows:

**Table 1. Student Learning Outcomes of SMA Negeri 1 Telaga 2024**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Class** | **Number of Students** | **Achieved – Minimum Mastery Criteria (75)** | **Not Achieved – Minimum Mastery Criteria** |
| 1. | XI 1 | 28 | 75% | 25% |
| 2. | XI 2 | 30 | 60% | 40% |
| 3. | XI 3 | 28 | 50% | 50% |
| 4. | XI 4 | 29 | 47% | 53% |
| 5. | XI 5 | 30 | 60% | 40% |
| 6. | XI 6 | 27 | 64% | 36% |
| 7. | XI 7  | 27 | 55% | 45% |
| 8. | XI 8 | 29 | 43% | 57% |
| 9. | XI 9 | 28 | 66% | 34% |

Source: Administration of SMA Negeri 1 Telaga

Based on the table above, the learning outcomes of Grade XI students in the Economics subject at SMA Negeri 1 Telaga show that the Minimum Mastery Criteria (MMC) is set at 75%. Among the nine Grade XI classes, only Class XI-1 met the MMC in Economics, while Classes XI-2 through XI-9 have not yet met the required score.

Economics subjects have a strategic role in shaping students' understanding of economic, financial, and entrepreneurial concepts in everyday life and the world of work. However, there is still a problem of low student learning outcomes in economics at SMA Negeri 1 Telaga. This encourages the need for a more in-depth study of the factors that influence student learning outcomes. Retnoningrum et al. (2021) suggest that student learning outcomes are strongly influenced by aspects of learning independence and the availability and quality of learning infrastructure. These two factors have a significant contribution to the effectiveness of the learning process and student academic achievement.

Learning independence is the ability of individuals to direct themselves in the learning process, which includes planning, controlling, and evaluating the understanding of the material. Learning independence plays an important role in determining student learning outcomes, because students who have a high level of independence tend to be able to manage time and choose effective learning methods (Mahrufah & Rijanto, 2024). Simkins (1999) stated that students who are independent in learning are generally more active, confident, and have initiatives in understanding learning materials, including in economic subjects. This has a positive impact on students' ability to absorb the economic concepts taught. Low levels of learning independence can cause student dependence on teachers or peers, which in turn hinders the achievement of optimal learning outcomes (Ilmaknun & Ulfah, 2023). In addition, Triwiratman et al. (2023) state that learning independence is influenced by various factors, including self-efficacy, motivation, and learning goals that students have.

Learning facilities are all forms of facilities and infrastructure that support the student learning process, including books, learning media, technology, and the learning environment (Sabrina & Darmawan, 2024). The availability of adequate learning facilities can create a comfortable learning atmosphere, thus increasing student concentration in participating in learning, especially in economic subjects. Learning facilities have a strategic role in shaping a conducive and effective learning environment. Aspects that can be used to assess learning facilities include the availability of facilities and infrastructure, the quality of facilities, the level of accessibility, the condition of the supporting physical environment, and suitability to student needs (Putri et al. 2024; Hasan et al. 2025). The existence of adequate learning facilities has a positive effect on students' motivation and ability to understand learning materials.

In the context of economics, facilities such as textbooks, access to information technology, and the use of interactive learning media can improve the understanding of abstract concepts to be more concrete (Yani & Santoso, 2023). With good facilities, students are expected to be more motivated to learn and improve their learning outcomes. However, the reality in the field shows the opposite—many students' learning outcomes in Economics are still below the Minimum Mastery Criteria (MMC), which is set at 75.

Learning motivation is an internal and external drive that influences students to act to achieve learning goals. According to Uno (2016), high learning motivation will encourage students to be more active in understanding and exploring material, including in economics lessons. Motivation acts as a driving force for students in completing learning tasks. Both intrinsic and extrinsic motivation have a significant effect on student success in learning (Deci & Ryan, 2017).]

2. methodology

[**2.1 Research Location and Time**

This research was conducted at SMA Negeri 1 Telaga, Telaga District, Gorontalo Regency, Gorontalo Province. The research was conducted for 6 months, from July to December 2024.

**2.2** **Research Design**

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**Figure 1. Research Design**

**2.3 Research variables**

This study consists of four observed variables, comprising three independent variables, namely learning independence, learning facilities, and learning motivation, and one dependent variable, namely learning outcomes. The learning independence variable (X1) consists of the factors of self-efficacy, motivation, and learning objectives. The learning facilities variable (X2) consists of the availability of resources and infrastructure, the quality of learning facilities, the accessibility of facilities, a supportive physical environment, and suitability to student needs. The learning motivation variable (X3) consists of the presence of desire and ambition to succeed, the presence of encouragement and support to learn, the presence of hopes and future aspirations, and the presence of internal rewards and interesting activities in learning. Meanwhile, the Y variable consists of the cognitive domain, affective domain, and psychomotor domain.

**2.4 Population and Sample**

The population defined in this study is the 256 students in grade XI at SMA Negeri 1 Telaga Gorontalo Regency. To determine the sample in this study, the Slovin formula was used with a margin of error of 5%, resulting in a sample size of 156 students out of a total of 256 students. The Slovin formula is as follows

$$n=\frac{N}{1+ Ne^{2}}$$

Explanation: n (sample size); N (population size); e (margin of error).

**2.5 Data Collection Techniques**

 This study uses data collection techniques involving research instruments in the form of questionnaires. This study also uses observation, interviews, and documentation methods.

**2.5 Data Analysis Techniques**

**2.5.1 SEM (PLS)**

 This study uses data analysis methods with Smart PLS version 3.0 software. The Partial Least Square (PLS) test is a structural equation modeling (SEM) approach based on variance used to analyze paths with more than one dependent and independent variable (Mardiana & Faqih, 2019).

**2.5.2 Outer Model**

 The outer model in the Partial Least Squares test is used to test internal validity and reliability. Outer model analysis specifies the relationship between latent variables and their indicators, or it can be defined that the outer model explains how each indicator is related to its latent variable.

1. Exogenous latent variables are independent (free) variables that influence dependent (bound) variables. In this study, the exogenous latent variables are Learning Independence (X1), Learning Facilities (X2), and Learning Motivation (X3).
2. Endogenous latent variables are dependent variables influenced by independent variables. In this study, the endogenous latent variable is Learning Outcomes (Y).

**2.5.3 Convergent Validity**

To measure construct validity, this study uses convergent validity. Convergent validity refers to the extent to which the indicators of a construct are correlated with each other and show that they measure the same construct (Mardiana & Faqih, 2019). Convergent validity testing is carried out through three main criteria, namely:

1. Factor Loading (Standardized Factor Loading):

An indicator is said to have good convergent validity if the factor loading value for the construct is ≥ 0.5, and ideally ≥ 0.7 (Mardiana & Faqih, 2019). A high factor loading indicates that the indicator has a significant contribution in measuring the construct.

1. Average Variance Extracted (AVE):

AVE is used to measure how much variance is captured by the construct compared to the variance caused by measurement error. An AVE value ≥ 0.5 indicates that the construct explains more than 50% of the variance of its indicators (Fornell & Larcker, 1981). AVE formula:

AVE = $\frac{\sum\_{i=1}^{n}λi^{2}}{n}$

d The symbol λ represents the standardized loading factor and i is the number of indicators.

1. Composite Reliability (CR):

CR is used to measure the internal consistency of indicators in measuring constructs. A CR value ≥ 0.7 indicates adequate reliability (Mardiana & Faqih, 2019).

Convergent validity testing was conducted using statistical analysis software based on Structural Equation Modeling (SEM), such as AMOS or SmartPLS.

**2.5.4 Discriminant Validity**

Discriminant validity indicates the extent to which a construct is truly different from other constructs in the model. Testing is carried out by looking at the cross loading value, which is the indicator loading value for the target construct that must be higher than the loading for other constructs. If this condition is met, then the construct has adequate discriminant validity (Hair et al., 2019).

**2.5.5 Inner Model**

The inner model aims to test the causal relationships between latent constructs. Evaluation of this structural model can be done through several indicators, including:

1. Coefficient of Determination (R²): Measures the amount of variation in the endogenous construct that can be explained by the exogenous construct. A higher R² value indicates that the model is better at explaining the variable.
2. Q² (Predictive Relevance): Measures the predictive ability of the model against observed data. A Q² value > 0 indicates that the model has predictive relevance, while a Q² value < 0 indicates a lack of predictive relevance (Chin, 1998).

**2.5.6 Hypothesis Testing**

This method uses an explanatory research approach through the Partial Least Squares (PLS) technique. Hypothesis testing is carried out using two approaches:

1. t-statistic value: The hypothesis is considered significant if the t-statistic value > 1.96 at a significance level of 5% (α = 0.05). This means that H₀ is rejected and Hₐ is accepted.
2. Probability value (p-value): If the p-value is < 0.05, then the alternative hypothesis (Hₐ) is accepted, and the null hypothesis (H₀) is rejected (Mardiana & Faqih, 2019).]

3. results and discussion

[**3.1** **Research Results**

 **3.1.1 Descriptive Statistics**

Descriptive statistics is a statistical analysis method that provides an overview of the characteristics of each variable in the study as seen from the average value (mean), maximum value and minimum value. In this study, descriptive statistical analysis was carried out on data that had met the assumption of normality. The following are the results of descriptive statistical analysis of respondents' answers:

Table 2. Statistical Analysis Results

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Mean** | **Min** | **Max** | **Excess Kurtosis** | **Skewness** |
| X1.1 | 17.340 | 6.000 | 24.000 | 0.326 | -0.582 |
| X1.2 | 18.385 | 10.000 | 24.000 | -0.260 | -0.429 |
| X1.3 | 19.346 | 10.000 | 25.000 | -0.185 | -0.545 |
| X2.1 | 11.154 | 4.000 | 15.000 | 1.031 | -0.927 |
| X2.2 | 11.391 | 4.000 | 15.000 | 0.239 | -0.510 |
| X2.3 | 11.397 | 4.000 | 15.000 | 0.042 | -0.494 |
| X2.4 | 11.429 | 3.000 | 15.000 | 0.604 | -0.716 |
| X2.5 | 11.160 | 4.000 | 15.000 | 0.697 | -0.680 |
| X3.1 | 12.295 | 4.000 | 15.000 | 0.621 | -1.105 |
| X3.2 | 11.994 | 3.000 | 15.000 | 1.239 | -1.161 |
| X3.3 | 12.045 | 4.000 | 15.000 | 0.427 | -1.019 |
| X3.4 | 11.949 | 4.000 | 15.000 | 0.598 | -0.885 |
| Y1.1 | 11.276 | 4.000 | 15.000 | 0.151 | -0.631 |
| Y1.2 | 11.282 | 4.000 | 15.000 | 0.188 | -0.502 |
| Y1.3 | 11.423 | 4.000 | 15.000 | -0.131 | -0.590 |

Source: Personal Data (2024)

Based on table 2, it can be interpreted that the variables analyzed have diverse characteristics.

1. The mean (average) value of each variable indicates the central tendency of the data. Variable X1.1 has a mean of 17.34, which indicates that the average value of the data tends to be close to 17.34. Meanwhile, variable X2.1 has a lower mean of 11.154, indicating that the average value of the data is lower than that of X1.1.
2. The minimum and maximum values provide an overview of the data distribution. For example, variable X1.1 has a minimum value of 6 and a maximum of 24, which indicates that the data has a fairly wide range. On the other hand, variable X2.1 has a minimum value of 4 and a maximum of 15, indicating a narrower range.
3. Kurtosis measures the sharpness of the peaks of the data distribution. A kurtosis value close to zero indicates a distribution that is close to normal. For example, variable X1.2 has a kurtosis of -0.260, which indicates a relatively normal distribution. However, variable X3.2 has a kurtosis of 1.239, which indicates a distribution that is more pointed (leptokurtic) than the normal distribution.
4. Skewness measures the slope of the data distribution. A skewness value close to zero indicates a symmetrical distribution. For example, variable X1.1 has a skewness of -0.582, which indicates a distribution that tends to skew to the left (negative skew). Meanwhile, variable X3.1 has a skewness of -1.105, which indicates a more significant skew to the left.

**3.1.2 Outer Model**

At this stage the researcher analyzes the Outer Model to test the internal validity and reliability of the research model. The Outer Model is used to specify the relationship between latent variables and their indicators. The following are the results obtained from SmartPLS 3:

1. Convergent Validity

Convergent Validity is tested to ensure that indicators on a construct are highly correlated and have adequate loading scores. The following are the results of Convergent Validity testing:

**Table 3. Convergent Validity Results**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable Let** | **Indicator** | **Loading Factor** | **Description** |
| Learning Independence (X1) | X1.1 | 0.844 | Valid (> 0.7) |
| X1.2 | 0.912 | Valid (> 0.7) |
| X1.3 | 0.900 | Valid (> 0.7) |
| Learning Facilities (X2) | X2.1 | 0.885 | Valid (> 0.7) |
| X2.2 | 0.881 | Valid (> 0.7) |
| X2.3 | 0.813 | Valid (> 0.7) |
| X2.4 | 0.882 | Valid (> 0.7) |
| X2.5 | 0.803 | Valid (> 0.7) |
| Learning Motivation (X3) | X3.1 | 0.842 | Valid (> 0.7) |
| X3.2 | 0.817 | Valid (> 0.7) |
| X3.3 | 0.858 | Valid (> 0.7) |
| X3.4 | 0.868 | Valid (> 0.7) |

Source: Personal Data *SmartPLS* (2025)

Based on Table 3, it can be seen that all variables meet the criteria for convergent validity testing because the factor loading values are greater than 0.70. Hair et al. (2014) state that an indicator is said to have good convergent validity if the factor loading value for the construct is ≥ 0.5, and ideally ≥ 0.7. High factor loadings indicate that the indicator has a significant contribution in measuring the construct. Additionally, redundancy serves as a measure to determine construct validity, which is an indicator of the quality of the structural model within each block of dependent variables obtained during the iterative algorithm process in the measurement model testing. Below are the AVE scores:

**Table 4. Results of Average Variance Extracted (AVE)**

|  |  |  |
| --- | --- | --- |
| **Variable Let** | **AVE** | **Description** |
| Learning Independence (X1) | 0.785 | Valid (AVE > 0.5) |
| Learning Facilities (X2) | 0.705 | Valid (AVE > 0.5) |
| Learning Motivation (X3) | 0.716 | Valid (AVE > 0.5) |
| Learning Outcomes (Y) | 0.759 | Valid (AVE > 0.5) |

Source: Personal Data *SmartPLS* (2025)

Based on the table above, the Average Variance Extracted (AVE) value exceeds the criteria, namely 0.5. Therefore, it can be concluded that all latent variables meet the Convergent Validity criteria because all loading factor values> 0.7 and AVE values> 0.5

1. Discriminant Validity

Discriminant validity is tested using Cross Loading to ensure that each indicator has a higher correlation with the latent variable it is supposed to measure than with other latent variables. The following are the results of discriminant validity testing:

**Table 5. Correlation between Average Variance Extracted (AVE)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Indicator** | **X1** | **X2** | **X3** | **Y** |
| X1.1 | **0.844** | 0.539 | 0.558 | 0.570 |
| X1.2 | **0.912** | 0.613 | 0.661 | 0.668 |
| X1.3 | **0.900** | 0.613 | 0.723 | 0.638 |
| X2.1 | 0.623 | **0.885** | 0.661 | 0.645 |
| X2.2 | 0.519 | **0.811** | 0.514 | 0.602 |
| X2.3 | 0.545 | **0.813** | 0.653 | 0.663 |
| X2.4 | 0.547 | **0.882** | 0.578 | 0.579 |
| X2.5 | 0.550 | **0.803** | 0.538 | 0.612 |
| X3.1 | 0.656 | 0.578 | **0.842** | 0.613 |
| X3.2 | 0.614 | 0.681 | **0.817** | 0.656 |
| X3.3 | 0.631 | 0.570 | **0.858** | 0.685 |
| X3.4 | 0.584 | 0.560 | **0.868** | 0.673 |

Source: Personal Data *SmartPLS* (2025)

Based on table 5, it can be concluded that each indicator has a higher correlation with the latent variable that should be measured than with other latent variables. This can be seen from the loading factor value of each indicator which is greater on the corresponding latent variable, such as indicators X1.1, X1.2, and X1.3 which have the highest correlation with Learning Independence (X1), indicators X2.1, X2.2, X2.3, X2.4, and X2.5 which most strongly measure Learning Facilities (X2), indicators X3.1, X3.2, X3.3, and X3.4 which are most correlated with Learning Motivation (X3), and indicator Y which is most closely related to Learning Outcomes (Y).

Discriminant Validity is fulfilled because no indicator has a higher loading factor on another latent variable. In other words, each indicator exclusively measures the latent variable in question without overlapping with other latent variables. This indicates that this research model has good discrimination between latent variables, so it can be used for further analysis.

1. Reliability

Reliability was tested using Cronbach's Alpha and Composite Reliability. The following are the test results:

**Table 6. Reliability Test Results**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable Let** | **Cronbach's Alpha** | **rho\_A** | **Composite Reliability** | **Average Variance Extracted (AVE)** |
| **X1** | **0.863** | 0.870 | **0.916** | 0.785 |
| **X2** | **0.895** | 0.896 | **0.923** | 0.705 |
| **X3** | **0.868** | 0.869 | **0.910** | 0.716 |
| **Y** | **0.841** | 0.841 | **0.904** | 0.759 |

Source: Personal Data *SmartPLS* (2025)

Based on the reliability testing results above, it is evident that all latent variables in this study meet the criteria for good reliability. The Cronbach's Alpha values for each latent variable—Learning Independence (X1) = 0.863, Learning Facilities (X2) = 0.895, Learning Motivation (X3) = 0.868, and Learning Outcomes (Y) = 0.841—are all greater than 0.7. This indicates that the research instruments have high internal consistency. The Composite Reliability values for all latent variables also exceed 0.7, which means that the constructs of the latent variables possess excellent reliability and are consistent in measuring their respective indicators.

Based on the results of the Outer Model analysis, it can be concluded that the measurement model in this study meets all the required criteria.

1. Convergent validity is met, indicated by the loading factors of all indicators greater than 0.7 and the Average Variance Extracted (AVE) value exceeding 0.5 for each latent variable.
2. Discriminatory Validity is also met, which is proven through the Cross Loading method. The results show that each latent variable has good discrimination and does not overlap with other latent variables.
3. Instrumental Reliability is met, with Cronbach's Alpha and Composite Reliability values for all latent variables greater than 0.7.

Thus, the measurement model (Outer Model) in this study is declared valid and reliable, so it is suitable for further analysis, namely the Inner Model or Structural Equation Modeling (SEM).

**3.1.3 Inner Model**

Inner Model analysis is carried out to predict the causal relationship between the latent variables tested. The following are the results of testing the Coefficient of Determination (R²) and Predictive Relevance (Q²):

**Table 7. Results of the Coefficient of Determination and Predictive Relevance**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variable Let** | **R Square** | **R Square Adjusted** | **SSO** | **SSE** | **Q² (=1-SSE/SSO)** |
| Learning Independence (X1) | - | - | 468,000 | 468,000 | - |
| Learning Facilities (X2) | - | - | 780,000 | 780,000 | - |
| Learning Motivation (X3) | - | - | 624,000 | 624,000 | - |
| Learning Outcomes (Y) | **0.694** | **0.688** | 468,000 | 230,324 | **0.508** |

Source: Personal Data *SmartPLS* (2025)

Based on the test results above, it can be interpreted that the Learning Outcomes (Y) variable has an R Square value of 0.694 and an Adjusted R Square of 0.688. This shows that 69.4% of the variation in Learning Outcomes (Y) can be explained by the variables of Learning Independence (X1), Learning Facilities (X2), and Learning Motivation (X3). The remaining 30.6% is explained by other variables outside the model. The Adjusted R Square value which is close to the R Square value indicates that this model is quite stable.

 The Predictive Relevance (Q²) value for Learning Outcomes (Y) is 0.508. Because the Q² value> 0, this model has good Predictive Relevance, meaning that the model is able to predict observations accurately. The Q² value of 0.508 indicates that the model has a strong enough predictive ability, so it can be used to predict Learning Outcomes (Y) based on the independent variables included in the model.

**3.1.4. Hypothesis Testing**

Hypothesis testing is carried out to test the causal relationship between the independent variables (X1, X2, X3) and the dependent variable (Y). The following are the results of hypothesis testing using the p-value:

**Table 8. Hypothesis Test Results**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables** | **Original Sample (O)** | **Sample Mean (M)** | **Standard Deviation (STDEV)** | **T Statistics (|O/STDEV|)** | **P Values** |
| Learning Independence (X1) → Learning Outcomes (Y) | **0,193** | 0,190 | 0,089 | 2,163 | **0,031** |
| Learning Facilities (X2) → Learning Outcomes (Y) | **0,328** | 0,324 | 0,089 | 3,708 | **0,000** |
| Learning Motivation (X3) → Learning Outcomes (Y) | **0,404** | 0,412 | 0,093 | 4,341 | **0,000** |
| X1,X2,X3→Learning Outcomes (Y) | R²=0,673 | - | - | - | <0,05 |

Source: Personal Data *SmartPLS* (2025)

Based on the results of hypothesis testing, it can be interpreted that the three independent variables, namely Learning Independence (X1), Learning Facilities (X2), and Learning Motivation (X3), significantly affect Learning Outcomes (Y).

1. Learning Independence (X1) has a positive and significant influence on Learning Outcomes (Y) with a path coefficient of 0.193 and p-values of 0.031 <0.05%. This means that the higher the level of student learning independence by 1, the value of learning outcomes will increase by 0.193.
2. Learning Facilities (X2) also has a positive and significant effect on Learning Outcomes (Y) with a path coefficient of 0.328 and p-values of 0.000 <0.05%. This means that if the value of learning facilities increases by 1, student learning outcomes will also increase by 0.328.
3. Learning Motivation (X3) has the greatest influence on Learning Outcomes (Y) with a path coefficient of 0.404 and p-values of 0.000 <0.05%. This means that if learning motivation increases by 1 then student learning outcomes also increase by 0.404.
4. Learning Independence (X1), Learning Facilities (X2), Learning Motivation (X3), has the greatest influence on Learning Outcomes (Y) with a path coefficient of 0.673 and a p-value of 0.000 <0.05 if X1,X2,X3 increases by 1 then student learning outcomes also increase by 0.673.

**3.2 Discussion**

**3.2.1. The Effect of Learning Independence on Learning Outcomes**

Based on the research conducted, it is known that the variable of learning independence has a very positive and significant effect on learning outcomes. These results show that if there is an increase in the value of student learning independence, there will also be an increase in student learning outcomes, especially in economics. Students who tend to be independent in learning have a great responsibility for their academic progress. They possess self-management skills, high initiative, and strong motivation to continue achieving better results.

Learning independence is considered a key factor that greatly influences success in the learning process (Matsani & Rafsanjani, 2021). Independent learning is a learning method that is active and involves individual participation, with the aim of developing self-potential without depending on the presence of other students, face-to-face meetings in class, or interactions with classmates.

Based on interviews with students, it was found that students' confidence levels were quite high in terms of their ability to understand lesson material, complete assignments, and take exams independently. This can be seen from the results of the student interviews as follows.

“I am confident in my ability to understand the subject matter without help from others.” (Average score: 3.8) and
“I feel confident completing school assignments through my own efforts.” (Average score: 4.0)

High scores on the self-efficacy indicator show that students have good confidence in facing academic challenges. This confidence encourages them to be more independent in their learning, which ultimately contributes to improved learning outcomes.

The Motivation indicator is also a strong supporting factor in independent learning. From the interview results, it is known that students have strong motivation to learn, both intrinsic and extrinsic motivation, both of which play an important role in encouraging students to learn independently. This can be seen from the students' interview responses as follows.

“I have an inner drive to always understand the subject matter.” (Average score: 4.2) and
“I study to improve my understanding, not just for grades.” (Average score: 4.1)

High motivation will encourage students to be more active in seeking learning resources, managing their time, and overcoming learning difficulties without relying on others.

Learning goal indicators are one of the factors that support learning success. Students who have specific learning goals tend to be more motivated and disciplined in managing their learning process. These clear learning goals help students to stay focused and consistent in their learning, so that they can achieve better learning outcomes. This can be seen based on the results of the interview answers, as follows.

“I study to achieve my future aspirations.” (Average score: 4.3) and
“I create a study plan to achieve my academic goals.” (Average score: 4.0).

Based on the results, it can be concluded that independent learning is the ability to make decisions independently, with or without the support of others, by considering the appropriate relevance without dependence on other parties. This includes initiative in facing and overcoming problems, confidence in completing tasks, and responsibility for all actions taken. Therefore, independent learning can affect the learning outcomes of the students themselves.

**3.2.2 The Influence of Learning Facilities on Learning Outcomes**

Based on the results of the study, it is known that learning facilities have a positive and significant effect on learning outcomes. These results show that if the value of learning facilities increases, it will also increase student learning outcomes, especially in economics. This result can occur because complete and adequate learning facilities will have a positive effect on learning outcomes. Comprehensive learning facilities can facilitate the learning process, make it easier to understand the material, and create a comfortable learning environment for students, thereby improving learning efficiency. These learning facilities include learning spaces, learning tools, learning equipment, learning media, and other supporting facilities, which collectively contribute to achieving optimal learning outcomes.

Based on interviews with students, the majority of respondents stated that schools provide adequate facilities and infrastructure to support learning. The high scores on this indicator indicate that the availability of facilities such as classrooms, libraries, and technology such as computers or projectors has met the needs of students. These comprehensive facilities enable students to access learning resources easily, thereby facilitating the learning process. This can be seen from the students' responses during the interviews as follows.

"I have access to adequate study rooms at school." (Mean score: 4.2) and "The school library provides complete books to support learning." (Mean score: 4.1)

In terms of the quality of learning facilities, the majority of students stated that the learning facilities in their schools were of good quality and functioned optimally. This can be seen from the results of student interviews as follows.

"Textbooks and learning materials at school are of good quality." (Mean score: 4.0) and "Learning facilities at school function well without damage." (Average score: 4.1)

Supportive and high-quality facilities, particularly textbooks and comprehensive laboratory equipment, will help students understand the material better.

In addition, the accessibility of learning facilities is also a significant factor in improving student learning outcomes. The ease of access provided by schools to students to learning facilities such as libraries and laboratories is a determining factor in learning success. As stated by the students in the following interview.

"I can easily access the library whenever I need it." (Average score: 4.0) and "Learning facilities at school can be used by all students without restrictions." (Mean score: 4.2)

Easy access to learning facilities allows students to utilize them optimally, both for independent and group learning. Nusi et al. (2024) stated that the more complete and conducive learning facilities-such as classrooms, textbooks, media, and technology-are, the more motivated and engaged students are in the learning process.

In terms of supportive physical environment indicators, the majority of students stated that their classrooms had good lighting, were comfortable, and had a quiet environment, as shown in the following interview results.

"The classroom has good lighting to support learning activities." (Average score: 4.3). "The school environment is quiet and supports learning concentration." (Mean score: 4.2).

Based on the results of the study, it is known that learning facilities have a significant effect on learning outcomes. Dewi et al. (2016) showed that learning facilities have a significant influence on student learning outcomes. Based on interviews, it was found that the availability of complete, high-quality, easily accessible, and student-centered learning facilities can enhance the effectiveness of learning and encourage students to achieve better learning outcomes. Therefore, it is important for schools and policymakers to continue improving the quality and availability of school learning facilities to support student academic success.

**3.2.3 The Effect of Learning Motivation on Learning Outcomes**

Based on the results of the study, the learning motivation variable has a positive and significant effect. This means that Based on the results of the study, the variable of learning motivation has a positive and significant effect on learning outcomes. Where if the value of learning motivation increases, the learning outcomes of students in economics will also increase. The learning motivation possessed by students will encourage enthusiasm in learning and has the potential to improve their learning outcomes. Good learning motivation is one of the supporting or motivating factors for each student's enthusiasm for learning, which ultimately has a positive effect on learning outcomes. Based on interviews conducted with students, it was found that the majority of students showed high levels of motivation, both in terms of desire to succeed, internal drive, future expectations, and the rewards they received. This can be seen in the following interview results.

"I want to achieve good grades in every lesson" and "I study because I want to achieve my goals in the future".

High average scores indicate that students have a strong desire to succeed and are motivated to achieve their academic goals. Intrinsic motivation, such as an inclination to understand the material and achieve goals, is proven to increase student engagement in the learning process and have a positive impact on learning outcomes (Wigati, 2023).

In addition, encouragement and the need to learn are also important factors that influence student motivation. Students who feel that learning is an important part of achieving success tend to be more motivated to master the subject matter. This is evident from the following interview responses.

"I feel that learning is an important part of achieving success". the high average score indicates that students realize the importance of learning for their future. This motivation encourages them to be more persistent in facing academic challenges and trying to achieve optimal results. Trevino & DeFreitas (2014) showed that intrinsic learning motivation is positively and significantly correlated with student academic achievement, where intrinsically motivated students tend to be more focused, consistent, and achieve better learning outcomes.

Rewards and recognition also play an important role in increasing students' motivation to learn. Students who feel appreciated by teachers or peers for their achievements tend to be more motivated to continue achieving. For example, on the question

"I feel motivated when I get rewards for my learning achievements," the high average score indicates that external rewards can be an additional driver for students. This is in line with extrinsic motivation theory which states that rewards and recognition can increase students' enthusiasm for learning, although intrinsic motivation remains the main factor driving long-term success.

Based on these results, it can be concluded that learning motivation, both from within students (intrinsic) and from the environment (extrinsic), has a crucial role in determining student learning outcomes. High motivation not only encourages students to be more active and disciplined in learning, but also helps them overcome difficulties and achieve their academic goals. Therefore, it is important for educators to continuously nurture and sustain students' learning motivation through various strategies, such as providing positive feedback, creating a supportive learning environment, and helping students set clear learning goals.]

4. Conclusion

[Based on the results of the study, the following conclusions can be drawn:

1. Learning independence has a positive and significant effect on student learning outcomes. Students who have a high level of learning independence tend to be more responsible, have initiative, and are able to manage their learning process independently. This is in line with the theory which states that learning independence is a key factor in improving student learning outcomes.
2. Learning facilities also have a positive and significant effect on student learning outcomes. Complete, quality and easily accessible facilities can facilitate the learning process, facilitate understanding of the material, and create a comfortable and conducive learning environment. This supports students to achieve better learning outcomes.
3. Learning motivation has the greatest influence on student learning outcomes. High motivation, both from within students (intrinsic) and from the environment (extrinsic), encourages students to be more active, disciplined, and persistent in facing academic challenges. Strong learning motivation also helps students to achieve their academic goals.]

**Disclaimer (Artificial intelligence)**

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Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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Details of the AI usage are given below:

1.

2.

3.

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