The effect of learning interest and self-efficacy on junior high school students' learning achievement

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Abstract

This study aims to determine the effect of learning interest and self-efficacy on learning achievement. The population used is all students of class IX, with a sampling technique using random sampling of 72 students. The data collection technique used was a questionnaire and then analyzed with descriptive statistics. The results of this study indicate that there is an effect of interest in learning on learning achievement based on the partial test of 5.067 > 2.291 with a significant 0.000 < 0.05, it can be said to be significant, there is also an effect of self-efficacy on learning achievement, with the test results showing a partial test of 3.659 > 2.291 with a significant 0.000 < 0.05, it can be said that it is also significant, then interest in learning and efficacy also have a significant effect simultaneously (together) on student achievement of 51,489 > 3.127. The value of R Square is 0.599 or 59.9% and the remaining 0.41 or 40.1% is influenced by other variables outside the variables of interest in learning and self-efficacy. Such as learning motivation, learning facilities, teacher communication skills, family environment, and students' emotional intelligence.

Keywords: interest in learning, self-efficacy, learning achievement, junior high school

Introduction

The success of achieving educational goals can be seen from the process experienced by students as learners and from their academic performance in school. One of the successes of student education can be seen from their academic achievements. Academic success is the outcome of evaluating students' educational progress following a formal learning period, with grades serving as indicators of their learning outcomes (Suryabrata, 2006). Every learning activity certainly expects to produce maximum learning outcomes. There are three types of learning outcomes, including skills and habits, knowledge and understanding, and attitudes and aspirations (Sudjana, 2013).

Students with a strong inclination for learning consistently exhibit utmost focus and dedication in their pursuit of educational objectives. Correspondingly, as stated by Gagne and Berliner, students with a pronounced interest in learning have a tendency to direct their attention towards the subject matter being taught. Individuals will experience the difference between one
subject and another. The differences are including learning with full awareness, learning with joy, high attention, learning with hard work and obtaining high satisfaction (Hosnan, 2016).

According to Lee, Chao and Chen (2011), learning interest is a personal preference related to learning, where individuals prioritize one thing over another. Learning interest is related to affective function and knowledge, which can create strong emotions such as positive feelings towards something, a sense of attachment, fascination, and enhance cognitive processes (Kpolovie et al., 2014).

In a study conducted by Rohim (2011) on the impact of students’ learning interest on their academic performance in Islamic Religious Education, it was discovered that the level of interest in learning among students can significantly influence their academic achievement at Dwi Putra Ciputat Junior High School. This can be seen from a moderate or significant correlation between the influence of student interest and academic achievement. The higher the students’ learning interest, the better their academic performance.

Apart from interest, academic performance is also impacted by self-efficacy. As outlined by Bandura (1997), self-efficacy refers to an individual’s confidence in their capacity to effectively organize and carry out the necessary tasks to attain a specific objective. The stronger one’s belief in their abilities, the greater their dedication and perseverance. Self-efficacy can influence multiple aspects of an individual’s thinking and actions (Syah, 2010).

Bandura (Feist & Feist, 2011) also added that when someone has high self-efficacy, their ability to regulate their behavior also improves. Students who have this ability to regulate their behavior tend to be able to think and act based on their own consciousness. Students who possess a strong sense of self-efficacy hold the belief that they are capable of accomplishing tasks and are driven to take action. As a result, they actively engage in the learning process, aiming to attain favorable learning outcomes (Ismayanti, 2022). They exhibit punctuality in collecting assignments, never expressing any dissatisfaction when assigned tasks, and consistently making an effort to complete challenging assignments (Basith, 2020). Individuals who are aware of the importance of learning will certainly be able to take responsibility as a learner. This can certainly encourage students to develop specific strategies to achieve their goals. Students with high self-efficacy tend to participate relatively actively, complete tasks, pursue future goals, expend great effort to achieve a set goal (Fadilah & Rafsanjani, 2021).

The efforts arise because students have confidence in their own abilities. Confidence in one’s own abilities or self-efficacy also helps students to become independent and not rely on others to be successful. Academic self-efficacy encompasses cognitive perceptions, such as the belief in one’s abilities to accomplish different academic objectives, confidence in performing tasks, and envisioning success (Nasir & Iqbal, 2019). Students with high self-efficacy believe that they can do something to change their surrounding and students with low self-efficacy consider themselves incompetent do everything around you (Ningsih & Hayati, 2020).

Based on the principles of social cognitive theory, individuals with high self-efficacy, which refers to their perceived confidence in their abilities, are more likely to develop an interest or cognitive motivation to actively pursue their learning objectives, particularly in terms of academic achievement among students (Rusmiati, 2017; Umbara & Sudihartinih, 2020; Zheng, Chang, Lin, & Zhang, 2021). Self-efficacy makes students have no doubt in their learning process because they have full confidence in their abilities. The concept of self-efficacy relates to the belief that everyone should evaluate their ability to perform a given task successfully (Sihaloho, 2018). The motivation that a student has will encourage them to carry out the learning strategies that have been created. If a student has a high learning motivation, then they tend to be driven to try and find other learning sources that can support their learning process.

The research conducted by Hindayani, Khosmas, and Syahrudin (2019) explores students’ self-efficacy in the 11th grade social science program at the 5 Pontianak senior high school. The objective of this study is to examine the impact of self-efficacy on the learning of economics and the academic performance of second-grade students enrolled in the social science program at
5 Pontianak Senior High School. The simple linear regression calculation is \( Y = 53.367 + 0.304 \). The coefficient of determination from the study shows how the variable reflects 39% of the students' academic achievement, while the rest is influenced by other factors. Based on the findings of this study, it can be concluded that self-efficacy has a noteworthy influence on the academic success of students enrolled in the social science program at 5 Pontianak Senior High School.

A preliminary investigation carried out at 144 Junior High School in Jakarta revealed that ninth-grade students exhibited moderate to low levels of learning interest, self-confidence, and academic performance on average. This situation occurred during the learning activities that were carried out, as can be seen from the activities and grades obtained by the students. Based on previous interviews, several students had scores below the average, and during the learning process, many students did not understand or pay attention to the material being taught. As a result, when immediate assessments such as quizzes were given, many students received low scores. This was influenced by the students' learning interest and self-efficacy at 144 Jakarta Junior High School.

Furthermore, the urgency of this research is to determine to what extent interest and self-efficacy affect students' learning achievements. Essentially, students always want the best results for their education, therefore such research must be conducted to measure the extent of students' learning interest and how students adjust their self-efficacy in their school lives.

**Method**

The type of research used in this study is descriptive quantitative. Based on a preliminary study at the research location, the researcher involved 288 ninth-grade students at 144 Jakarta Junior High School as the population, and a sample of 25% or 72 students was determined using random sampling technique (probability sampling).

The instruments used consisted of three psychological scales: the Learning Interest scale with indicators of feelings of pleasure, student interest, attention, and involvement; the Self-Efficacy psychological scale consisting of the level dimension, strength dimension, and generality dimension; and the learning achievement psychological scale consisting of cognitive, affective, and psychomotor aspects.

Furthermore, the instrument validity test was conducted. The results of the validity test for the learning interest variable, based on the validity test results using the product-moment formula applied using SPSS 23 for Windows, showed that out of 60 statements tested on 72 students, the value of \( r \) (n-2) at a level of 5% was 0.23. There were 50 valid statement items and 10 invalid statement items with alpha values greater than 0.60. As the \( r \) coefficient was greater than 0.807 > 0.60, the instrument was considered reliable with a high level of reliability.

Based on the results of item validity testing on the self-efficacy variable using the product moment formula applied using SPSS 23 for Windows, the value of \( r \) table (n-2) calculation at the 5% level is 0.23. From the 60 statements tested on 72 students, 49 statements were valid and 11 were not valid, with an alpha value > 0.60. Since the \( r \) coefficient is greater than 0.854 > 0.60, the instrument is reliable with a high level of reliability.

Based on the results of validity testing on the variable of learning achievement using the product moment formula applied using SPSS 23 for Windows, the obtained value of the \( r \) (n-2) calculation at the 5% level was 0.23, based on the 60 statements tested on 72 students. There were 50 valid statements and 10 invalid statements with alpha value > 0.60. Furthermore, since the \( r \) coefficient is greater than 0.808 > 0.60, the instrument is reliable with a high level of reliability.

In this study, the requirement analysis test employed a normality test, while hypothesis testing utilized a partial (t) test, a simultaneous (f) test, and a coefficient of determination test.
Findings and Discussion

Data description regarding the three variables, including learning interest, self-efficacy, and learning achievement of ninth-grade students at 144 Jakarta Junior High School, are categorized into three categories: high, moderate, and low. The following are presented tables 1, 2, and 3.

**Table 1. Learning Interest Score**

<table>
<thead>
<tr>
<th>Range</th>
<th>Category</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>X&lt; 122</td>
<td>Low</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>122&lt;=X153</td>
<td>Moderate</td>
<td>58</td>
<td>81</td>
</tr>
<tr>
<td>X&gt;153</td>
<td>High</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>72</td>
<td>100</td>
</tr>
</tbody>
</table>

Based on the table above, it can be seen that some of the respondents in this study have a learning interest score in the moderate category, which is 81% of student respondents. Then, it goes towards high at 11%. This can be concluded that the learning interest goes from the moderate category towards high.

**Table 2. Self-Efficacy Score**

<table>
<thead>
<tr>
<th>Range</th>
<th>Category</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>X&lt; 112</td>
<td>Low</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>112&lt;=X147</td>
<td>Moderate</td>
<td>54</td>
<td>75</td>
</tr>
<tr>
<td>X&gt;147</td>
<td>High</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>72</td>
<td>100</td>
</tr>
</tbody>
</table>

Based on the table above, it can be seen that some of the respondents in this study have a self-efficacy score in the moderate category, which is 75% of student respondents. Then, it goes towards low at 14%. This can be concluded that the self-efficacy goes from the low category towards moderate.

**Table 3. Academic Achievement**

<table>
<thead>
<tr>
<th>Range</th>
<th>Category</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>X&lt; 118</td>
<td>Low</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>118&lt;=X151</td>
<td>Moderate</td>
<td>53</td>
<td>74</td>
</tr>
<tr>
<td>X&gt;151</td>
<td>High</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>72</td>
<td>100</td>
</tr>
</tbody>
</table>

Based on the table above, it can be seen that some of the respondents in this study have a learning achievement score in the moderate category, which is 74% of student respondents. Then, it goes towards high at 15%. This can be concluded that the learning achievement goes from the moderate category towards high.

Furthermore, before the research analysis was conducted, a normality test analysis requirement test was conducted first. The purpose of the normality test is to assess whether the data follows a normal distribution. The normality test was performed on each variable, namely learning interest, self-efficacy, and learning achievement, using the Kolmogorov-Smirnov test with the assistance of SPSS 23.0 for Windows. The criterion for determining normality is that if the significance value (sig.) is greater than 0.05, then the data is considered to be normally distributed. Conversely, if the sig. is less than 0.05, then the data is regarded as not being normally distributed.

**Table 4. Normality Test**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sig.</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Interest</td>
<td>.019</td>
<td>Normal</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>.064</td>
<td>Normal</td>
</tr>
<tr>
<td>Academic Achievement</td>
<td>.022</td>
<td>Normal</td>
</tr>
</tbody>
</table>

According to the provided table, the significance values for the learning interest, self-efficacy, and learning achievement variables are as follows: learning interest (0.019), self-efficacy (0.064),
and learning achievement (0.22). These values indicate that all three variables are normally distributed, as their significance values are greater than 0.05.

The hypothesis testing was carried out to determine the impact of learning interest and self-efficacy on learning achievement. This testing helps evaluate whether the hypotheses proposed in the study are accepted or rejected. Multiple linear regression analysis techniques were employed for hypothesis testing in this study. The specific results can be observed in the subsequent table.

### Table 5. Hypothesis Testing Results

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Beta</th>
<th>T</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>18.110</td>
<td>1.558</td>
<td>51.489</td>
<td>0.124</td>
<td></td>
</tr>
<tr>
<td>Learning Interest</td>
<td>.553</td>
<td>.105</td>
<td>5.067</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>.322</td>
<td>0.091</td>
<td>3.659</td>
<td>0.000</td>
<td></td>
</tr>
</tbody>
</table>

### Table 6. Regression Analysis Results

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.774</td>
<td>.599</td>
<td>.587</td>
<td>10.563</td>
</tr>
</tbody>
</table>

The regression analysis results in the provided table demonstrate the impact of learning interest and self-efficacy on students' learning achievement. It is evident that both variables have a substantial effect on the learning achievement of ninth-grade students at 144 Jakarta Junior High School, as indicated by the significance value of 0.000, which is lower than 0.005. Additionally, the obtained R Square value is 0.599 or 59.9%. This implies that approximately 40.1% of the learning achievement is influenced by other variables apart from learning interest and self-efficacy.

Based on the conducted research, it has been discovered that there exists a significant and positive influence of learning interest and self-efficacy on the academic achievement of ninth-grade students at 144 Jakarta Junior High School. Usman (2013) suggests that interest is a relatively stable characteristic within an individual and has a substantial impact on learning. When individuals possess interest in a particular subject, they are more likely to engage in related activities. Conversely, without interest, individuals tend to avoid such activities. Additionally, it has been noted that students with high interest levels tend to perform well academically, while those with low interest levels exhibit lower academic performance (Manzano-Sanchez et al., 2018).

Furthermore, according to Alwisol (2012), self-efficacy refers to an individual's perception of their ability to function effectively in a given situation. Self-efficacy is closely linked to an individual's belief in their capability to accomplish tasks that hold positive value. Hence, students with higher levels of self-efficacy tend to have greater confidence in achieving academic success.

The analysis results show that there is a positive and significant influence between learning interest and academic achievement. This is also in accordance with variable one (learning interest) which has a partial test value of 5.067 > 2.291. By accepting the results of this partial test, it can be concluded that learning interest plays a positive role in influencing student academic achievement. Furthermore, a significant relationship between learning interest and student academic achievement has been established, indicated by a significance value of 0.000, which is less than 0.05. This signifies that the regression equation holds significance. Thus, Ha is accepted and Ho is rejected. This is in line with Rohim's (2011) research on the influence of student learning interest on student achievement in Islamic Education subjects, which found that student learning interest can affect the academic achievement of students at Dwi Putra Ciputat junior high school. The results show that the calculated r-value is greater than the r table value at a significance level of 5% (0.523 > 0.004) or 1% (0.523 > 0.015), so the hypothesis is accepted. Sirait (2016) also studied the effect of learning interest on mathematics academic achievement. The result was the equation Ŷ = 22.15 + 0.78x with F value < F table (-1.52 t table (7.914 > 1.670)) therefore Ho is rejected at the 0.05 significance level.
Likewise, the second variable, self-efficacy, exerts a significant influence on academic achievement. This aligns with the partial test result for variable two (self-efficacy), which yields a value of 3.659, surpassing the threshold of 2.291. By accepting the outcome of this partial test, self-efficacy can be acknowledged as a positive factor in student academic achievement. Moreover, a significant relationship between self-efficacy and student academic achievement is observed, with a significance value of 0.000, indicating its statistical significance. Consequently, the regression equation is deemed significant. Thus, the alternative hypothesis (Ha) is accepted, while the null hypothesis (Ho) is rejected.

Similarly to Hindayani et al.'s (2019) research, which focused on the self-efficacy of eleventh-grade social science students at 5 Pontianak Senior High School, the current study aimed to examine the impact of self-efficacy on economic learning and academic achievement among second-grade social science students at the same school. The calculated t-value of 11.813 demonstrated the influence of the independent variable on the dependent variable. By comparing this calculated t-value with the critical t-value from the table, which is 2.003 at a significance level of 0.05, it is evident that the calculated t-value exceeds the critical t-value (11.813 > 2.003). Consequently, the alternative hypothesis (Ha) is accepted, while the null hypothesis (Ho) is rejected. This finding aligns with Ermannudin's (2021) investigation, which explored the impact of self-efficacy on the academic achievement of eleventh-grade social science students studying economics at 7 Kerinci Senior High School. The analysis results indicated that the calculated t-value of 2.285 exceeded the critical t-value of 2.011, or with a significance level of 0.034 < 0.05, leading to the rejection of Ho and acceptance of Ha.

According to Djaali (2008), "interest is a preference and an attraction to something or an activity, without anyone ordering it." On the other hand, as stated by Crow and Crow (in Djaali, 2008), "interest is associated with the manner in which individuals are motivated to engage with or interact with people, objects, activities, and experiences that are stimulated by the activity itself." Based on these viewpoints, this study establishes that learning interest, encompassing students' feelings of enjoyment, curiosity, focus, and engagement, has an impact on the academic achievement of ninth-grade students at 144 Jakarta Junior High School. These four aspects are included in the learning interest in this research.

According to Bandura (Hidayat, 2011), self-efficacy is an assessment of one's own abilities that is useful for regulating and carrying out established performance. Self-efficacy provides the basis for individual motivation, well-being, and achievement. Individuals believe that their actions will produce the desired results, even if there are some difficulties or challenges to overcome.

Inseparable from learning interest, self-efficacy is one of the supports in achieving student learning outcomes, where the higher the self-efficacy possessed by students, the higher the confidence to obtain the learning outcomes that will be achieved. According to Bandura (cited in Feist & Feist, 2011), self-efficacy is primarily the outcome of cognitive processes, involving decisions, beliefs, or assessments of the extent to which individuals perceive their ability to carry out specific tasks or actions necessary to attain desired outcomes. Based on this opinion, this research found that self-efficacy influences the learning achievement of ninth-grade students at 144 Jakarta Junior High School, where self-efficacy includes level, strength, and generalization dimensions, all of which represent self-efficacy in this research.

Self-efficacy cannot be disturbed by assessing the consequences which resulted from a behavior, but it can determine the desired outcome (Pratama, 2020). One's self-confidence will assist an individual in achieving success (Hidayat, 2011). Building upon this perspective, the present study asserts that self-efficacy has an impact on the academic achievement of ninth-grade students at 144 Jakarta Junior High School. Self-efficacy, encompassing dimensions such as level, strength, and generalization, represents the various aspects of self-efficacy examined within this research.

Furthermore, there is academic achievement, which according to Syah (2010), academic achievement is defined as the level of success a student achieves in reaching the goals that have been set in a form of teaching program. Indicators of academic achievement include the expression...
of learning outcomes that encompass all psychological domains that change as a result of a student's learning experience and process. These domains include creativity, emotion, and will. Academic achievement in educational field is the result of measuring students' cognitive, affective, and psychomotor aspects after participating in the learning process, which is measured using relevant instruments or tests instruments. Academic achievement is an educational assessment of a student's progress in everything learned at school that pertains to knowledge or skills expressed after research results. This results in statistical testing using the F-test shown below.

Following multiple research findings, a third hypothesis has been formulated to examine the impact of learning interest and self-efficacy on students' learning achievement. The F-test (simultaneous) shows a value of $51.489 > 3.127$. The R Square value is 0.599 or 59.9%, and the remaining 0.41 or 40.1% is influenced by other variables outside of learning interest and self-efficacy. This indicates that the overall X variables significantly affect the Y variable. In conclusion, there exists a relationship between learning interest and self-efficacy, which influences the learning achievement of ninth-grade students at 144 Jakarta Junior High School.

The finding aligns with Dewantoro, Sulistyarini, Rosyid's (2020) study on "The influence of learning interest and self-efficacy on economic learning outcomes". The objective of this study was to investigate the impact of learning interest and self-efficacy on student learning outcomes in the subject of Economics among twelfth-grade social science students at 5 Pontianak Senior High School. The results of the joint F test exhibited an F value of 24.126, surpassing the critical F value of 3.153, leading to the conclusion that there is an influence of learning interest and self-efficacy on student learning outcomes. Moreover, Putri, Rahman, and Rahmalia (2021) conducted a study on the influence of learning interest and self-efficacy on student learning achievement in Office Management among eleventh-grade students at 1 Jambi Vocational High School. The results of the study show that learning interest and self-efficacy have a significant simultaneous effect on learning achievement, with a contribution of 68.7% from student learning interest and self-efficacy toward student learning achievement, as shown by the coefficient of determination test where the result of R square is 0.687.

Conclusion

Based on what has been previously discussed, it can be concluded that learning interest in ninth-grade students at 144 Jakarta Junior High School has a significant positive effect. This can be seen from several supporting aspects of the learning interest variable, such as students' pleasure, interest, attention, and involvement. Furthermore, self-efficacy in ninth-grade students at 144 Jakarta Junior High School also has a significant effect. This can be seen from several supporting aspects of self-efficacy, such as level dimension, strength dimension, and generality dimension. Meanwhile, academic achievement in ninth-grade students at 144 Jakarta Junior High School also has a significant effect. This can be seen from several supporting aspects of academic achievement, such as cognitive, affective, and psychomotor aspects. Overall, it can be concluded that there is an influence of learning interest and self-efficacy on academic achievement in ninth-grade students at 144 Jakarta Junior High School.

Based on the research results, discussions, and conclusions presented by the researchers, some suggestions can be proposed for other researchers. The future researchers are recommended to broaden their knowledge on learning interest, self-efficacy, and academic achievement from other aspects and different research methods to provide input to related parties to pay more attention and conduct supporting activities to improve students' learning interest, self-efficacy, and academic achievement.

References


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