

The Effectiveness of Self-Regulated Learning Strategies in Enhancing English Achievement among 11th Grade Students SMA Negeri 7 Kediri

Wieke Reza Anjani¹, Sulistyani² and Agung Wicaksono³

¹ English Education Department/University of Nusantara
PGRI Kediri
rezanjani0415@gmail.com

² English Education Department/University of Nusantara
PGRI Kediri
sulistyani@unpkediri.ac.id

³ English Education Department/University of Nusantara
PGRI Kediri
agungwicaksono@unpkediri.ac.id

ABSTRACT

This study investigates the effectiveness of Self-Regulated Learning (SRL) strategies in enhancing English achievement among 11th-grade students. Using a quantitative correlational design, data were collected from 34 respondents through a 30-item SRL questionnaire and academic performance records, including PTS, formative assessments (LM1, LM2, TP), and final scores. The SRL instrument demonstrated strong validity and excellent reliability (Cronbach's $\alpha = 0.913$). Descriptive results indicated generally high SRL levels and strong English achievement. Normality, homogeneity, and linearity assumptions were met, allowing the use of parametric analyses. Pearson correlation revealed a moderate and significant positive relationship between SRL and English achievement, particularly for PTS and final scores. Regression analysis confirmed that SRL significantly predicts English performance, explaining 28% of the variance. These findings suggest that students who actively plan, monitor, and evaluate their learning tend to achieve higher English outcomes. The study reinforces the importance of promoting SRL-based learning practices to improve academic achievement in English.

KEYWORDS: *Self-Regulated Learning, English Achievement, Regression Analysis.*

1.0 INTRODUCTION

English proficiency remains an essential requirement in Indonesian senior high schools, yet many students continue to struggle to achieve consistent academic results. Limited learner autonomy caused in part by teacher-centered instructional practices often reduces students' engagement and strategic learning behaviors. Self-Regulated Learning (SRL), defined as learners' ability to plan, monitor, and evaluate their own learning (Zimmerman, 2000), is widely recognized as an important factor influencing academic achievement. However, empirical evidence on how SRL contributes to overall English performance among Indonesian 11th-grade students is still limited.

Studies have shown that SRL enhances language learning outcomes in various contexts (Teng & Zhang, 2020; Setiyadi et al., 2016; Christanty & Arifin, 2022). In Indonesia, SRL-oriented instruction has been found to significantly improve reading comprehension (Maulidiyah et al., 2025). Related findings also show that strategic and metacognitive approaches, such as

Collaborative Strategic Reading, positively influence comprehension (Sulistyani et al., 2022). Yet, most prior studies focus on specific skills or higher-education contexts, leaving limited evidence at

the senior high school level.

Therefore, this study investigates the effectiveness of Self-Regulated Learning strategies in enhancing English achievement among 11th-grade students of SMAN 7 Kediri. It examines whether SRL significantly correlates with and predicts students' English performance, providing empirical support for improving instruction under the Merdeka Curriculum.

2.0 LITERATURE REVIEW

Self-Regulated Learning (SRL)

Self-Regulated Learning (SRL) refers to learners' ability to manage their own learning through a cyclical process of planning, monitoring, and evaluating (Zimmerman, 2000). SRL consists of three major phases: forethought, performance, and self-reflection, each involving cognitive, metacognitive, motivational, and behavioral strategies. The use of SRL is strongly associated with students' autonomy, intrinsic motivation, and sustained engagement in learning tasks (Pintrich, 2004). In language learning contexts, SRL enables learners to set goals, select appropriate strategies, maintain focus, and reflect on their progress, thereby promoting independent and effective learning.

English Achievement

English achievement in Indonesian senior high schools generally includes assessing of students' understanding across reading, writing, speaking, and listening competencies. Achievement is commonly measured through periodic assessments such as the *Mid-Semester Assessments (PTS)*, formative assessments (LM1, LM2, TP), and final summative assessments. Academic performance in English is influenced by several factors, including learning motivation, exposure to English, learning strategies, and instructional context (Setiyadi et al., 2016). In the Merdeka Curriculum, students' mastery is evaluated not only based on outcomes but also their learning process, making learning strategies increasingly important.

SRL and English Learning Outcomes

Previous studies consistently show that SRL significantly contributes to language learning success. Learners with high SRL tend to demonstrate higher achievement because they can self-monitor, avoid distractions, seek help when needed, and adjust ineffective strategies (Teng & Zhang, 2020). Research in Indonesian contexts also reveals that students with better SRL strategies achieve higher scores in English tasks and assessments (Christanty & Arifin, 2022). SRL is particularly effective in English because language learning requires continuous practice, metacognitive awareness, and strategic repetition. Therefore, analyzing the relationship between SRL and English achievement among 11th-grade students is crucial to understanding how learners' independent study behaviors influence measurable academic outcomes.

3.0 METHODOLOGY

Research Design

This study employed a quantitative correlational research design, which is commonly used to examine the statistical relationships between independent and dependent variables in educational contexts. A correlational design is appropriate because the study sought to determine the extent to which students' Self-Regulated Learning (SRL) strategies predict their English academic achievement without manipulating any variables (Creswell, 2014; Ary et al., 2019). The design also allowed the use of inferential statistical procedures such as correlation, regression, normality testing,

homogeneity testing, and linearity analysis, all of which are required to analyze non-experimental educational data.

Participants

The participants consisted of 34 11th-grade students from SMA Negeri 7 Kota Kediri, selected through total sampling because all available learners from class XI-2 completed the SRL

questionnaire and English assessments. This sample size met minimum standards for correlational studies, where 30 participants are generally considered sufficient for estimation of Pearson correlations and simple linear regression (Fraenkel & Wallen, 2012). Student demographic information, including gender and learning support background, was collected to ensure contextual clarity but was not used as a predictive variable in the primary analysis.

Research Instruments and Data Collection

Data were collected through two instruments. The first was a 30-item Self-Regulated Learning questionnaire, adapted from Zimmerman (2000) and Pintrich (2004), consisting of forethought, performance, and self-reflection phases. The second instrument consisted of students' English academic scores, including PTS (midterm exam), formative scores (LM1, LM2, TP), and final summative score. These scores were obtained directly from teacher documentation, an approach consistent with standard educational measurement practice (Brown, 2004).

1. SRL Questionnaire (Variable X): SRL was measured using a 30-item Likert-scale instrument adapted from Zimmerman (2000), covering three phases:
 - a. Forethought (Items 1–10)
 - b. Performance Phase (Items 11–20)
 - c. Self-Reflection Phase (Items 21–30)

Each item used a 5-point scale (1 = Strongly Disagree to 5 = Strongly Agree).
Maximum score: 150.

2. English Achievement Data (Variable Y): Data were collected through documentation of students' academic records. The measure used was the Final English Score, English achievement consisted of four components:
 - a. PTS (Midterm Exam Score)
 - b. LM1 (Learning Module 1)
 - c. LM2 (Learning Module 2)
 - d. TP (Project Task / Performance Task)
 - e. Final Score

$$\alpha = \frac{k}{k-1} \left(1 - \frac{\sum \sigma_i^2}{\sigma_t^2} \right)$$

These data were obtained directly from the English teacher's assessment records for the same semester.

Validity and Reliability Testing

1. Construct Validity (Item Total Correlation)

Validity was tested using Pearson product-moment correlation for each of the 30 SRL items.

Criteria:

- a. $r_{table} = 0.339$ ($df = 32$, $\alpha = 0.05$)
- b. Items are valid if $r_{count} > r > r_{table}$

All 30 items were valid, with correlations ranging from *moderate* to *strong*, indicating that each item contributed significantly to measuring SRL.

$$r = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sqrt{\sum (x - \bar{x})^2 \sum (y - \bar{y})^2}}$$

2. Reliability (Cronbach's Alpha)

$$Y = a + bX$$

Responses used a five-point Likert scale, producing total SRL scores ranging from 30 to 150. The instrument's validity was tested using item total correlations, all exceeding the critical value of $r = 0.339$, indicating acceptable construct validity. Reliability was tested using Cronbach's Alpha, $\alpha =$

0.913, which demonstrates excellent internal consistency (Tavakol & Dennick, 2011). Thus, the SRL instrument is reliable and suitable for further statistical analysis.

Data Collection Procedures

Data were collected by administering the 30-item SRL questionnaire via Google Forms during a supervised class session, while English achievement scores (PTS, LM1, LM2, TP, and Final Score) were obtained from the English teacher's official records. The names from both datasets were standardized to ensure accurate matching, and the cleaned data were then prepared for statistical analysis. These scores were obtained directly from teacher documentation, an approach consistent with standard educational measurement practice (Brown, 2004).

Data Analysis Techniques

The data were analyzed using descriptive and inferential statistical techniques to capture both the overall patterns and the predictive relationship between variables. Descriptive statistics were applied to summarize SRL and English achievement scores, which is essential for understanding score distribution in quantitative research (Gall et al., 2010). Inferential analysis such as correlation and regression used to determine whether SRL significantly influences students' academic performance, following recommended procedures in correlational studies (Creswell, 2014). These techniques were chosen because they provide objective and statistically valid evidence to support the study's conclusions.

Descriptive Statistics

Descriptive statistics were used to summarize means, medians, standard deviations, and score ranges for SRL and English achievement. Assumption testing included the Shapiro Wilk test and Q-Q plots for normality, as well as Levene's test for homogeneity of variance Purpose: to determine whether SRL and achievement variables were normally distributed. Levene's Test was used to test variance equality between gender groups and between learning-support categories.

1. Pearson/Spearman Correlation

A Pearson Product moment correlation analysis was used to examine the relationship between SRL and all English achievement indicators because both variables met normality assumptions to examine the correlation between SRL and each academic variable use Pearson if both variables are normal & use Spearman if non-normal. Output included a correlation matrix and heatmap.

2. Linear Regression Analysis and Linearity Testing

A simple linear regression model was then computed to assess the predictive power $X = \text{SRL score}$, $Y = \text{English achievement (PTS or Final Score)}$, generating coefficients, significance levels, and R^2 values to support model interpretation. Linearity testing and graphical analysis including histograms, boxplots, scatterplots with regression lines, and a heatmap were used to visually confirm the statistical patterns found in the data. Tested whether the relationship between SRL and English achievement was linear using ANOVA linearity test and scatterplot. All figures will be displayed in the Results section.

4.0 RESULTS AND DISCUSSION

Descriptive Statistics

Descriptive results for SRL and English achievement variables (PTS, LM1, LM2, TP, Final Score) indicate that students generally show moderate to high levels of self-regulated learning and strong English academic performance.

Variable	Mean	Median	SD	Min. Score	Max. Score
SRL Total Score	116.3	117	18.2	58	150
PTS	92.1	94	5.6	78	99
LM1	96.0	100	6.9	85	100
LM2	89.7	90	7.8	70	100
TP	96.4	100	7.5	75	100
Final Score	84.7	88	4.8	76	88

Table 2.1. Descriptive Statistics

The SRL scores in this study ranged widely from 58 to 150, indicating substantial individual differences in students' self-regulation levels (Zimmerman, 2000). This variation suggests that learners employ diverse metacognitive and motivational strategies when studying English. Meanwhile, the English achievement scores were consistently high across the class, reflecting strong overall academic performance (Setiyadi et al., 2016). These findings imply that, although students differ in their degree of self-regulated learning, the group demonstrates generally strong mastery of English competencies.

Validity, Reliability, Normality Test of SRL Instrument

The SRL questionnaire demonstrated strong psychometric quality, with all 30 items showing item total correlations above the critical value of 0.339, indicating that each item validly represents the constructs of forethought, performance, and self-reflection (Zimmerman, 2000). The reliability analysis further confirmed the instrument's consistency, yielding an excellent Cronbach's Alpha of 0.913, which exceeds the commonly accepted threshold for high internal reliability (George & Mallery, 2019). Normality testing using the Shapiro Wilk test revealed nonsignificant values for SRL, PTS, and Final Score ($p > .05$), indicating that the distribution of all major variables met the assumptions of normal distribution. These findings were visually supported by Q-Q plots showing data points closely aligned with the diagonal line, allowing the use of parametric analyses such as Pearson correlation and linear regression (Field, 2024).

Homogeneity Test (Levene's Test)

Levene's test showed:

- a. Between gender groups → $p > 0.05$ → Homogeneous
- b. Between learning-support groups → $p > 0.05$ → Homogeneous

This variance equality is met and the data appropriate for comparing groups & regression analysis.

$$Y = 68.21 + 0.141X$$

Correlation Analysis

Variable	r with SRL	p-value
PTS	0.482	0.004
LM1	0.301	0.083
LM2	0.411	0.015
TP	0.364	0.031
Final Score	0.529	0.001

Table 2.2 Pearson Correlation Result

The correlation analysis revealed that Self-Regulated Learning (SRL) was moderately and significantly associated with students' PTS scores ($r = 0.482$, $p = .004$) and their final English achievement ($r = 0.529$, $p = .001$). SRL also showed positive correlations with LM2 and TP, indicating that students who monitor and regulate their learning tend to perform better on formative assessments. In contrast, LM1 demonstrated only a weak but still positive association with SRL, suggesting variability in how different assessment components reflect students' self-regulatory behaviors. Overall, the findings support previous research showing that learners with stronger SRL strategies generally achieve higher academic outcomes (Zimmerman, 2000; Pintrich, 2004).

Heatmap Correlation

The heatmap shows a strong association between SRL and students' Final English Scores, indicating that higher SRL aligns with better achievement (Zimmerman, 2000). It also reveals that LM1, LM2, and TP cluster closely together as mutually correlated academic measures (Pintrich, 2004). SRL appears clearly separated from this cluster, highlighting its role as an independent learner-centered factor (Schunk & Zimmerman, 2011). This pattern confirms SRL as an independent predictor of English performance.

Regression Analysis & Linearity Test

A simple linear regression was run to predict English Final Score based on SRL.

Statistic	Value
Coefficient (β)	0.141
Intercept	68.21
p-value	0.001
R²	0.280

Table 2.3 Regression Output

A simple linear regression analysis revealed that Self-Regulated Learning (SRL) significantly predicted students' English Final Scores ($\beta = 0.141$, $p = .001$), indicating a positive and meaningful effect. The regression equation ($Y = \text{Final Score}$; $X = \text{SRL}$) $Y = 68.21 + 0.141X$ shows that each one-point increase in SRL corresponds to an increase of approximately 0.14 points in students' achievement, reflecting the theoretical assumptions of SRL effectiveness (Zimmerman, 2000). The model accounted for 28% of the variance ($R^2 = 0.280$), demonstrating that SRL is a substantial internal factor influencing English learning outcomes, consistent with prior findings in educational psychology (Panadero, 2017). These results confirm that SRL serves as a significant and practical predictor of English academic performance among senior high school students. ANOVA linearity test shows: $p < 0.05 \rightarrow$ Linear relationship confirmed Scatterplot + regression line also supports a clear positive linear trend.

DISCUSSION

Students demonstrated generally high SRL, which aligns with their strong English academic results. This supports Zimmerman's (2000) theory that forethought, performance control, and self-reflection enhance learning effectiveness. The moderate to strong correlations and significant regression coefficient show that highly self-regulated learners set goals, plan and monitor their study, evaluate their progress. These behaviors directly support better performance on PTS, tasks, and final exam scores. This finding is consistent with prior studies (Panadero, 2017; Schunk & Zimmerman, 2011) showing that SRL predicts academic success, especially in language learning. Interpretation of Regression Strength with SRL explaining 28% of the achievement variance SRL is a substantial internal factor influencing English learning, other external factors (motivation, teaching quality, environment) explain the remaining variance. Thus, SRL is effective but should be complemented by instructional support.

5.0 CONCLUSION

The findings of this study demonstrate that Self-Regulated Learning (SRL) strategies play a significant role in enhancing English achievement among 11th-grade students. Students exhibited generally high levels of SRL across the phases of forethought, performance, and self-reflection, which aligned with consistently strong English performance in PTS, formative assessments, and final scores. All SRL items were proven valid and highly reliable, and assumption tests confirmed that the dataset met normality, homogeneity, and linearity requirements. Correlation analysis revealed moderate and significant positive relationships between SRL and English achievement variables, while regression analysis showed that SRL significantly predicted students' final English scores, explaining approximately 28% of the variance. These results indicate that learners who actively plan, monitor, and evaluate their learning tend to achieve higher academic outcomes, supporting theoretical frameworks and prior empirical studies on SRL effectiveness. Overall, SRL is confirmed as a meaningful internal factor influencing English performance, highlighting the importance of fostering independent learning strategies within instructional practices and school policies to optimize students' academic success.

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