*24 (3), 2024, 1273-1280*

**Jurnal Pendidikan MIPA**

e-ISSN: 2685-5488 | p-ISSN: 1411-2531

http://jurnal.fkip.unila.ac.id/index.php/jpmipa/

# Rethinking the Connection Between GPA and Self-Regulated Learning: A Study in Indonesian Private Universities

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**Abstract:** This study investigates the relationship between self-regulated learning (SRL) strategies and academic performance, measured by grade point average (GPA), among undergraduate students at a private university in Indonesia. Using a quantitative correlational design, data were collected from 25 students through an online survey measuring four SRL dimensions cognition, metacognition, social behavior, and motivational regulation—and verified GPA records. Regression analysis revealed a non-significant relationship, with SRL explaining only 1.2% of GPA variance (R Square = 0.012, p = 0.601). These findings suggest that SRL strategies alone are insufficient to predict academic performance and highlight the context-dependent nature of their effectiveness. External factors, such as prior academic achievement, socio-economic status, and institutional support, likely play a more dominant role in influencing GPA. The study acknowledges its limitation in not empirically examining these external factors and calls for future research to explore their mediating or moderating roles. To maximize the effectiveness of SRL, integrating it with additional support mechanisms, such as coaching, technology-enhanced tools, and culturally tailored interventions, is recommended. This study underscores the need for a holistic approach that considers diverse influences on academic success to better address the complexities of student achievement in higher education.

**Keywords:** GPA, self-regulated learning, academic achievement, higher education.

## ▪ INTRODUCTION

Self-regulated learning (SRL) has been extensively studied as a vital component in educational psychology, often posited as a key factor in enhancing academic performance (Schunk & Zimmerman, 2008; Zimmerman, 2002). SRL involves students' ability to actively control their learning processes through goal setting, self-monitoring, and self-reflection, with the aim of improving outcomes such as grade point average (GPA) (Pintrich, 2004; Zimmerman, 2011). Numerous empirical studies have documented positive associations between SRL and academic success, suggesting that students who effectively manage their learning behaviors are more likely to achieve higher GPAs (Broadbent & Poon, 2015; Dent & Koenka, 2016).

However, recent evidence suggests that the relationship between SRL and GPA may not be as robust or straightforward as previously thought. Studies by Cho and Shen (2013) and Credé and Phillips (2011) have pointed out that the effectiveness of SRL strategies can vary significantly across different educational contexts and student populations. These findings highlight the need to reconsider the universality of SRL's impact on academic performance and to explore the conditions under which SRL may or may not significantly influence GPA.

The current study seeks to address these inconsistencies by examining the relationship between SRL and GPA among a sample of undergraduate students. Contrary to much of the existing literature, our findings indicate that SRL does not significantly affect GPA within this cohort. This outcome suggests that other factors might play a more

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DOI: http://dx.doi.org/10.23960/jpmipa/v25i3.pp1273-1280
Received: 29 December 2024
Accepted: 13 December 2024
Published: 16 December 2024

prominent role in determining GPA, or that the SRL strategies employed by these students are not as effective in this particular academic setting. Such results challenge the prevailing assumption that SRL universally leads to better academic outcomes and underscore the importance of context in understanding the efficacy of learning strategies.

Our findings align with the research of Dabbagh and Kitsantas (2012), who noted that SRL's impact on GPA can be minimal in certain contexts, particularly when external variables such as course design and instructor support play significant roles. Similarly, Kitsantas et al. (2008) found that while SRL contributes to academic success, its influence can be moderated by other factors such as prior knowledge and cognitive abilities. These studies suggest that the role of SRL in academic performance is complex and multifaceted, requiring a nuanced approach to understanding its impact on GPA.

The non-significant relationship observed in our study also resonates with the work of Wolters and Benzon (2013), who explored SRL in diverse learning environments and found that its effectiveness can be contingent on individual differences and the specific demands of academic tasks. Moreover, Hadwin and Winnie (2012) argue that SRL's contributions to academic achievement are often context-dependent, influenced by factors such as task complexity and the availability of external supports. These insights emphasize the need for further research to explore how SRL strategies interact with various contextual and individual factors to influence academic outcomes.

Taking those into account, this study aims to critically examine the universal applicability of SRL as a predictor of academic success by investigating its effectiveness in the specific context of undergraduate students at a private university in Indonesia. By focusing on this unique academic and cultural setting, the research seeks to explore the contextual limitations of SRL's contribution to GPA and provide insights into the factors that may moderate or mediate this relationship.

The findings challenge the assumption that SRL universally leads to better academic outcomes and underscore the importance of context in understanding the efficacy of learning strategies. Future studies should aim to explore the interactions between SRL and other variables to better understand the complexities of academic achievement.

## ▪ METHOD

This study involved 25 undergraduate mathematics education students from a private university in Indonesia. The sample size was deemed sufficient for the exploratory nature of this study, especially considering the homogeneity of the target population. Previous literature supports the use of smaller sample sizes in uniform populations for meaningful insights (Fraenkel, Wallen, & Hyun, 2012). Additionally, for regression analysis with a single predictor, the chosen sample size meets the minimum threshold of 10-20 participants per predictor variable (Green, 1991). While the small sample size limits the generalizability of findings, it provides a valuable basis for future research with larger and more diverse samples. Participants were full-time students who had completed at least one semester of coursework, selected through purposive sampling to ensure they were actively engaged in their academic programs and sufficiently exposed to the academic environment to assess SRL strategies and GPA.

A quantitative correlational design was used to explore the relationship between self-regulated learning (SRL) strategies and GPA. The study did not involve experimental

manipulation or the creation of control and experimental groups. Instead, the data were observational, collected from participants' responses to an online survey and their verified GPA records. This design was chosen to identify existing relationships without intervening in the educational process. The study spanned one month, starting with participant recruitment via university-wide emails and classroom announcements. Ethical approval was obtained, and informed consent was collected to ensure confidentiality and anonymity. Instrument preparation involved adapting the Self-Regulated Learning Questionnaire (SRLQ) from Teng & Zhang (2016). The SRLQ's validity and reliability were tested before use. Data collection occurred over one week via an online survey, which measured four SRL dimensions: cognition, metacognition, social behavior, and motivational regulation. The survey also collected participants' GPA data, which were verified against academic records. Participants completed the survey anonymously in approximately 15-20 minutes.

The SRLQ consisted of 39 items rated on a 4-point Likert scale (1 = strongly disagree to 4 = strongly agree), distributed across four dimensions. The cognition dimension included two subdimensions: Learning Process and Learning Memory, with a total of 9 items. The metacognition dimension comprised Idea Planning and Goal-Oriented Monitoring and Evaluation, with a total of 7 items. The social behavior dimension included Peer Learning and Feedback Handling, with a total of 5 items. Finally, the motivational regulation dimension included Interest Enhancement, Motivational Self-Talk, and Emotional Control, with a total of 18 items. The instrument demonstrated high internal consistency (Cronbach's alpha = 0.91). Participants' GPA data were verified through university records, ensuring accuracy and reliability of the dataset.

After data collection, responses were exported to a spreadsheet, reviewed for completeness to ensure no missing responses, and checked for accuracy by cross-verifying GPA entries with university records. The data were anonymized to maintain confidentiality. Descriptive statistics, including means, standard deviations, and ranges, were calculated to summarize the SRL scores and GPA. Normality tests (e.g., Shapiro-Wilk) were conducted to ensure data met assumptions for regression analysis, while linearity and multicollinearity were checked to validate the regression model. A multiple linear regression analysis was performed to evaluate the predictive power of the four SRL dimensions on GPA, providing key statistics such as R Square values for explained variance and p-values for significance. Regression coefficients and significance levels were examined to determine the strength and direction of relationships, with findings contextualized within existing literature and discussed in relation to the study's objectives. This approach ensured the validity and reliability of the analysis, enabling a comprehensive interpretation of the relationship between SRL dimensions and academic performance.

## ▪ RESULT AND DISSCUSSION

The regression analysis assessed the predictive power of self-regulated learning (SRL) strategies on grade point average (GPA) among undergraduate students. The R value of 0.110 indicates a weak correlation between SRL and GPA, while the R Square value of 0.012 shows that only 1.2% of GPA variance is explained by SRL strategies. This minimal explanatory power highlights the limited role of SRL in predicting academic performance within this study.

The adjusted R Square value of -0.031 further underscores the model's inadequacy, suggesting that including SRL as a predictor does not improve the model beyond random chance. The standard error of the estimate (0.11302) reflects considerable prediction error, with observed GPA values deviating significantly from predicted values.

Several factors may explain these findings. The small sample size (25 participants) limits statistical power and variability in SRL strategies and GPA. Additionally, the context of the study—a private university in Indonesia—may present unique academic and cultural influences that differ from other settings. External variables such as prior academic achievement, cognitive abilities, socio-economic status, and access to resources likely play a more dominant role in determining GPA (Credé & Phillips, 2011; Wolters & Benzon, 2013).

These results challenge the assumption that SRL universally enhances academic performance and emphasize the need to consider broader factors in academic success. Future research should utilize larger samples and examine the interplay between SRL and other contextual variables to better understand predictors of GPA.

The ANOVA analysis reveals no significant relationship between SRL strategies and GPA. The regression sum of squares (SS) is 0.004 with 1 degree of freedom (df), explaining a minimal portion of variance in GPA, while the residual sum of squares is 0.294 with 23 df, highlighting substantial unexplained variance. The total sum of squares is 0.297, representing the overall variance in GPA within the sample.

The F statistic of 0.282 ($p = 0.601$) confirms that SRL strategies do not significantly predict GPA, aligning with the low R Square value observed in the model summary. This suggests that SRL strategies, while potentially helpful for learning processes, may not directly impact GPA. Instead, other factors like cognitive abilities, socio-economic status, or prior academic achievements likely play a larger role (Cho & Shen, 2013; Credé & Phillips, 2011).

The majority of variance in GPA remains unexplained by SRL, as reflected in the high residual variance. With the mean square for regression at 0.004 and for residual at 0.013, the F statistic and p-value further emphasize the limited predictive value of the model. This underscores the need to consider broader influences beyond SRL when examining academic performance.

The coefficients table provides specific details about the relationship between self-regulated learning (SRL) strategies and grade point average (GPA) based on the regression analysis. This table helps to quantify the impact of SRL on GPA and assess the significance of this relationship. The result of coefficients can be seen in Table 1.

**Table 1**. Coefficient table

| Model | | Unstandardized B | Coefficients Std. Error | Standardized Coefficients Beta | t | Sig. |
|---|---|---|---|---|---|---|
| 1 | (Constant) | 3.784 | .160 | | 23.674 | <.001 |
| | SRL | .030 | .057 | .110 | .531 | .601 |

The coefficients table shows the limited relationship between self-regulated learning (SRL) strategies and grade point average (GPA). The unstandardized coefficient (B) for SRL is 0.030, indicating that a one-unit increase in SRL score leads to only a

0.030-unit increase in GPA. However, this effect is small, with a standard error of 0.057, yielding a non-significant t-value of 0.531 ($p = 0.601$). Similarly, the standardized coefficient (Beta) of 0.110 highlights the weak predictive power of SRL.

The constant term's unstandardized coefficient ($B = 3.784$) suggests that students would have an average GPA of 3.784 without any SRL engagement. This baseline is highly significant ($p < 0.001$), establishing the GPA level independent of SRL. However, the non-significant SRL coefficient aligns with earlier findings, reinforcing that SRL strategies have minimal impact on GPA in this study's context.

These results challenge the assumption that SRL universally enhances academic performance. While SRL may support broader learning behaviors, its direct effect on GPA appears limited, likely moderated by contextual factors such as teaching quality, course difficulty, and resource availability. As highlighted by Credé & Phillips (2011) and Dabbagh & Kitsantas (2012), SRL's effectiveness depends on the learning environment, which may explain the weak association in this study's private university setting.

In practice, these findings suggest that educators should integrate SRL strategies with other academic support mechanisms to enhance student outcomes. Rather than relying solely on SRL, a comprehensive approach incorporating mentorship, tutoring, and resource access may better address the multifaceted nature of academic success.

The findings of this study challenge the assumption that self-regulated learning (SRL) strategies universally enhance academic performance. While SRL is often viewed as essential for success, the observed non-significant relationship with GPA highlights its context-dependent nature. Educational environments, individual differences, and cultural or institutional factors may influence SRL's effectiveness.

The educational context plays a critical role in shaping SRL's impact. SRL strategies may be more effective in independent learning environments, such as online courses, where students must self-manage tasks and time, compared to traditional classrooms with structured support (Richardson et al., 2012). Individual factors, including prior academic achievement, cognitive abilities, and motivation, also moderate SRL's influence. Students with strong foundational skills can better utilize SRL strategies, while those facing academic or external challenges may find these strategies less effective (Zimmerman, 2008).

Cultural and institutional factors further affect SRL's relevance. In settings like the private university in Indonesia, cultural attitudes toward learning and available resources might reduce SRL's utility, as collective learning and external support are more emphasized (Purdie et al., 1996; Klassen, 2010). Additionally, misalignment between SRL and academic tasks—such as in programs focused on rote memorization—can limit its effectiveness (Broadbent & Poon, 2015). SRL is more impactful when supported by instructional designs that encourage self-regulated practices (Wolters & Brady, 2020). These findings suggest that SRL is not a universal predictor of academic success but rather one influenced by various contextual factors.

The findings of this study suggest that self-regulated learning (SRL) strategies alone may not significantly enhance academic performance, emphasizing the need for integrating SRL with additional support mechanisms. Research highlights that SRL is more effective when combined with interventions like academic coaching, tutoring, and technology-enhanced tools. For instance, Devolder et al. (2012) found that SRL training

paired with personalized coaching yielded greater academic improvements than SRL alone, demonstrating the importance of continuous feedback and adaptation to individual learning contexts.

Technology-enhanced learning environments further amplify SRL's impact by offering real-time feedback and personalized recommendations. Tools such as learning management systems (LMS) and educational apps guide students in goal setting, progress monitoring, and reflection, as evidenced by Dabbagh and Kitsantas (2012), who found significant learning improvements when SRL prompts were integrated into online courses.

The effectiveness of SRL also depends on its alignment with the educational and cultural context. In problem-based learning (PBL) environments, SRL strategies emphasizing goal setting and collaborative regulation are particularly effective (Hmelo-Silver, 2004). Additionally, in collectivist cultures, incorporating SRL with group-based activities enhances its relevance and impact (Purdie et al., 1996). Tailoring SRL to the learning environment and cultural practices ensures its strategies resonate with students' experiences.

In conclusion, while SRL fosters independent learning, its impact on academic performance is amplified when combined with tailored interventions, continuous feedback, and culturally aligned practices. A more holistic approach to academic support is needed to maximize SRL's potential and address the diverse factors influencing academic success.

## ▪ CONCLUSION

In conclusion, this study highlights that self-regulated learning (SRL) strategies, while valuable for fostering independent learning, have a limited direct impact on academic performance as measured by GPA in this context. The findings emphasize the importance of integrating SRL with additional support mechanisms such as personalized coaching, technology-enhanced tools, and culturally relevant practices to maximize its effectiveness. Rather than relying solely on SRL, a more holistic approach that considers individual, contextual, and cultural factors is essential to enhance academic success. These insights call for a nuanced understanding of SRL's role in education and the need for tailored interventions to address the diverse needs of learners.

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