

INTEGRATING MOTIVATION, TIME MANAGEMENT, AND METACOGNITIVE STRATEGIES TO ENHANCE EFL ACADEMIC WRITING IN INDONESIAN HIGHER EDUCATION

Sinarman Jaya 

English Education Department, Universitas Muhammadiyah Bengkulu, Indonesia

Corresponding author email: sinarman@umb.ac.id

ABSTRACT

Many EFL students in Indonesia struggle to organize ideas, build coherent arguments, and follow academic conventions, highlighting the need for strong self-regulated learning skills in motivation, time management, and metacognitive awareness. This study examined how these three factors interact to enhance students' writing performance in Indonesian universities. Using a mixed-methods approach, data were collected from 110 students across three universities through questionnaires and semi-structured interviews. Quantitative results revealed significant positive relationships among motivation, time management, and metacognitive strategies, indicating that these components support each other in developing writing competence. The qualitative findings further explained this connection, showing that students were motivated but often influenced by grades and deadlines. They managed their time by dividing writing tasks into smaller steps and used metacognitive strategies such as planning, monitoring, and revising with teacher feedback. These findings emphasize the value of integrating motivation, time management, and metacognitive strategies in writing instruction to strengthen self-regulated learning and academic writing performance. The study provides useful implications for lecturers, curriculum designers, and higher education policymakers.

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INTRODUCTION

Academic writing is an essential skill for students in higher education. Many EFL students in Indonesia find it challenging due to linguistic and cognitive demands, including organizing ideas, developing arguments, and meeting formal academic conventions (Alsariera & Alsaraireh, 2024; Osman et al 2025). Success in writing depends not only on language proficiency but also on Self-Regulated Learning (SRL) strategies, which help students plan, monitor, and evaluate their work (Anyichie et al, 2023; Gambo & Shakir, 2021; Hemmler & Ifenthaler, 2024).

Previous research has shown that Indonesian EFL students often struggle with linguistic accuracy, structural organization, and cognitive coherence when writing academic texts

(Bram & Angelina, 2022; Hamdani & Abid, 2025; Jaya, 2025a). These difficulties indicate that limited self-regulation, rather than linguistic factors alone, may constrain students' writing development. Effective writing therefore requires the integration of Self-Regulated Learning (SRL) strategies that enable learners to manage motivation, time, and metacognition throughout the writing process.

Among SRL strategies, motivation, time management, and metacognitive strategies are particularly important. Motivation drives students to stay engaged, persist through difficulties, and maintain focus on learning goals (Liem, 2021; Teng, 2021). Time management helps learners plan ahead, allocate effort wisely, and reduce the likelihood of procrastination (Lourenço & Paiva, 2024). Metacognitive strategies, including planning, monitoring, and revising, help learners evaluate their progress and adjust their writing approach (Jaya, 2025b) Rawian & Huang, 2025; Shen & Bai, 2022; Pintrich, 2002). When combined, these strategies support the complex and recursive nature of academic writing, allowing students to work more independently and effectively.

Responding to limited empirical evidence in Indonesian higher education, this research investigates the interrelated role of motivation, time management, and metacognition in shaping students' writing performance. Local challenges, such as teacher-centered instruction, large class sizes, limited writing resources, and assessment practices that emphasize final products over the process, can hinder students' ability to self-regulate (Sari et al, 2023; Umamah et al, 2022). Few studies have investigated how Indonesian learners integrate motivation, time management, and metacognitive strategies during writing tasks, or how these strategies interact as a dynamic system.

The present study addresses this gap by exploring how these three components function together to support EFL students' academic writing in Indonesian universities. Guided by Zimmerman's, (2002) cyclical model of SRL, which emphasizes planning, performance, and self-reflection, the research examines the interrelations among motivation, time management, and metacognition, rather than treating them as isolated skills. Understanding these interactions helps explain how students handle academic tasks and how teachers can support their self-regulated learning.

This study analyzed the interaction of motivation, time management, and metacognitive strategies in shaping Indonesian EFL students' academic writing performance. The findings contribute to SRL theory by demonstrating how these components operate as an integrated system in an EFL context. Practically, the study provides evidence-based implications for lecturers, curriculum developers, and policymakers to design writing instruction that promotes learner autonomy, enhances writing outcomes, and supports the broader development of self-regulated learners in higher education.

Figure 1 presents the conceptual framework that guided this study. It illustrates the dynamic relationship among the three components and their influence on students' writing performance.

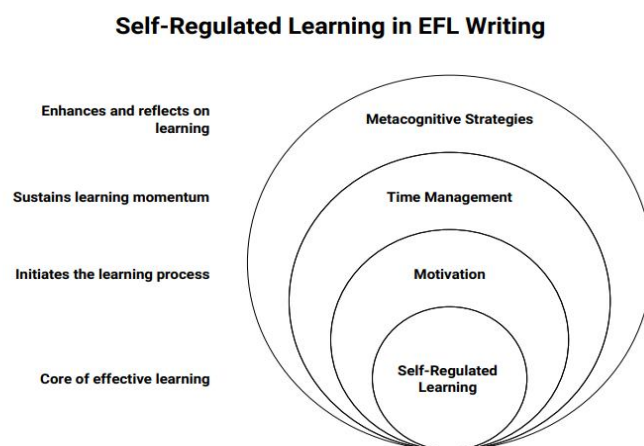


Figure 1. Conceptual framework Self-Regulated Learning (Zimmerman, 2002)

This study focused on four main research questions; (1) How did EFL students perceive their motivation in completing academic writing tasks? (2) What time management strategies did they use during the academic writing process? (3) In what ways did they apply metacognitive strategies to monitor and regulate their academic writing? (4) How did motivation, time management, and metacognitive strategies interact to influence their self-regulated learning in academic writing?.

By examining the integrated role of motivation, time management, and metacognition, this research contributes to understanding SRL in Indonesian higher education. It offers practical guidance for teaching, curriculum design, and policy development aimed at improving EFL students' academic writing performance, thereby filling a significant gap in local educational research.

RESEARCH METHOD

Research Design

This study used a convergent parallel mixed-methods design (Creswell & Plano Clark, 2018) to explore how motivation, time management, and metacognitive strategies support EFL students' academic writing. Quantitative surveys provided an overview of students' learning patterns, while qualitative interviews offered deeper insight into their experiences. Both types of data were collected simultaneously and integrated during analysis to compare statistical trends with students' narratives. This approach allowed the study to capture complementary perspectives and address the gap in research on how SRL components interact in Indonesian EFL writing.

Participants

The study involved 110 undergraduate EFL students enrolled in academic writing courses at three universities in Bengkulu, Indonesia. Participants represented varied academic backgrounds and demonstrated different levels of writing proficiency and prior learning experience. As shown in Table 1, the majority of students were female (70%) and distributed across all three years of study, with writing proficiency levels ranging from low to high.

Table 1
Demographic profile of participants

Variable	Survey Participants (n=110)	Interview Participants (n=15)	Selection Criteria
University	Univ A: 40, Univ B: 35, Univ C: 35	Univ A: 5, Univ B: 5, Univ C: 5	Represented all three universities
Gender	Female: 77 (70%), Male: 33 (30%)	Female: 11, Male: 4	Reflects survey proportion
Year of Study	1st: 30, 2nd: 40, 3rd: 40	1st: 5, 2nd: 5, 3rd: 5	Balanced across years of study
Writing Proficiency	Low: 30, Medium: 50, High: 30	Low: 5, Medium: 5, High: 5	Purposive selection to include different achievement levels
Motivation Level	High: 40, Medium: 50, Low: 20	High: 8, Medium: 5, Low: 2	Purposive selection for qualitative interviews to reflect diverse motivation levels
Willingness/Availability	All survey respondents invited	Only students willing and available for interviews	Ensured consent and active participation in the qualitative phase

For the qualitative phase, a purposive sample of 15 students was selected based on questionnaire responses, academic performance, and willingness to participate. Selection ensured representation of diverse learning experiences, including differences in motivation, achievement levels, and self-regulated learning strategies. Including participants from multiple institutions increased the representativeness of the data and helped reduce potential institutional bias.

Instruments

Two instruments were employed to examine self-regulated learning in EFL academic writing: a questionnaire and a semi-structured interview guide. The self-regulated learning (SRL) questionnaire was designed to measure three core constructs: motivation, time management, and metacognitive strategies. It was adapted from established instruments by Pintrich, (2002) and Zimmerman, (2002), and modified to suit the Indonesian EFL academic writing context. The final questionnaire consisted of 35 items on a 4-point Likert scale, distributed as follows: 12 items assessed motivation, 11 items measured time management, and 12 items captured metacognitive strategies.

The instrument was piloted with a small group of students to ensure clarity, cultural appropriateness, and reliability. Internal consistency for each construct was calculated using Cronbach's alpha, confirming acceptable reliability for motivation, time management, and metacognition. This questionnaire provided quantitative data on students' perceptions and use of SRL strategies in academic writing.

The semi-structured interview guide was developed to complement the questionnaire and provide deeper insights into students' personal experiences with writing. The guide focused on how students set goals, managed time, monitored progress, and applied metacognitive strategies while completing academic writing tasks. Its development involved adaptation from prior SRL studies and review by two academic writing experts to ensure content validity.

Data Analysis

Quantitative data from the SRL questionnaire were analyzed using the SPSS. Descriptive statistics summarized participants' responses, providing an overview of motivation, time management, and metacognitive strategies. Pearson correlation analysis was

then conducted to examine the relationships among these three constructs, while multiple regression analysis assessed their combined effect on students' perceived academic writing proficiency. These statistical tests were chosen to answer the research questions because correlations reveal the strength and direction of relationships, and regression allows examination of predictive influence among multiple independent variables. Assumptions of normality, linearity, and multicollinearity were checked to ensure the validity of the results.

Qualitative data from semi-structured interviews were analyzed using Braun and Clarke's, (2021) thematic analysis. Transcripts were read repeatedly, coded inductively, and grouped into categories that were refined into themes reflecting students' motivation, time management, and metacognitive strategies. Coding reliability was enhanced through independent review by a second researcher and member checking with selected participants. NVivo software supported the organization and management of qualitative data.

To strengthen the study's validity, triangulation was applied by integrating quantitative and qualitative findings (Miles, Huberman, & Saldana, 2020). Survey results were compared with interview themes to identify convergences and divergences, providing a more comprehensive understanding of how the three SRL components interact in academic writing.

RESEARCH FINDINGS AND DISCUSSION

Research Findings

Motivation in Academic Writing

The quantitative results revealed that most students recognized motivation as a key factor in completing academic writing tasks. Descriptive statistics showed relatively high motivation levels ($M = 3.42$, $SD = 0.56$), indicating that students were generally motivated to engage in writing activities. Table 2 displays the detailed descriptive data for the motivation construct.

Table 2
Students' motivation in academic writing

Item	Mean	SD
Intrinsic motivation	3.51	0.54
Extrinsic motivation	3.33	0.61
Overall motivation	3.42	0.56

Correlation analysis showed that motivation was significantly correlated with time management ($r = .58$, $p < .01$) and metacognitive strategies ($r = .63$, $p < .01$), suggesting that more motivated students were better able to plan, manage, and monitor their writing. Regression analysis further indicated that motivation was a significant predictor of self-regulated writing performance ($\beta = .41$, $p < .001$), highlighting its central role in sustaining writing engagement.

Qualitative findings complemented the survey results. Interviews revealed that students' motivation was primarily intrinsic, driven by the desire to improve English proficiency and academic achievement. However, extrinsic factors such as deadlines, grades, and teacher feedback also shaped their persistence and effort.

"Sometimes I really want to write well because I want to understand English better, but when the deadline is close, I just write to finish it quickly."
(Student 7, University B)

"When the teacher gives good feedback, I feel encouraged to improve the next paper."
(Student 12, University A)

These findings suggest that although students demonstrate strong intrinsic motivation, their effort fluctuates under time pressure or external demands. Effective pedagogical support

such as clear feedback, realistic timelines, and goal-oriented instruction can sustain motivation and enhance engagement in academic writing.

Time Management Strategies

The quantitative results showed that most students employed basic time management strategies during the writing process. Common practices included setting personal deadlines ahead of official ones, breaking assignments into smaller parts, and prioritizing tasks alongside other academic responsibilities. Table 3 presents the descriptive statistics of students' responses on time management strategies.

Table 3
Students' responses on time management strategies

Time Management Strategy	Mean	SD	Category
Setting personal deadlines	3.45	0.62	High
Breaking tasks into smaller parts	3.38	0.57	High
Prioritizing writing tasks	3.26	0.64	Moderate
Avoiding procrastination	2.78	0.81	Moderate
Balancing writing with other tasks	2.65	0.77	Moderate

Table 2 indicates that students demonstrated relatively strong planning and scheduling skills, particularly in setting personal deadlines and dividing large tasks into smaller goals. However, lower mean scores in avoiding procrastination ($M = 2.78$, $SD = 0.81$) and balancing writing with other tasks ($M = 2.65$, $SD = 0.77$) suggest difficulties in maintaining consistency under academic pressure.

Qualitative data provided further explanation for these patterns. Several students described how they struggled to apply effective strategies consistently, especially when faced with competing coursework or limited time. One student remarked,

"I always plan to start early, but sometimes I end up rushing near the deadline because other tasks pile up" (S7, Univ B).

Another noted, "Breaking tasks helps me focus, but it's hard to follow the schedule when there are too many assignments" (S12, Univ A).

These indicate that although students understand effective time management techniques, consistent application remains a challenge. Structured timelines, guided scheduling, and support in balancing workload may help students develop stronger time management habits and improve performance in academic writing.

Metacognitive Strategies

The data indicated that most students were familiar with metacognitive strategies such as planning, monitoring, and evaluating their writing. Many students reported using outlines and drafts to organize ideas and applying self-questioning during revision to improve clarity and coherence. However, the extent to which they implemented these strategies varied across participants. Table 4 shows the descriptive statistics of metacognitive strategy use.

Table 4
Students' metacognitive strategies

Time Management Strategy	Mean	SD	Category
Planning before writing (using outlines/drafts)	3.42	0.59	High
Monitoring writing progress	3.15	0.66	Moderate
Revising based on self-assessment	3.08	0.70	Moderate
Evaluating coherence and accuracy independently	2.85	0.78	Moderate
Reflecting on writing performance after feedback	3.30	0.63	High

The descriptive data show that students were most consistent in planning their writing ($M = 3.42$, $SD = 0.59$) and reflecting after receiving feedback ($M = 3.30$, $SD = 0.63$). However, lower mean scores for independent evaluation ($M = 2.85$, $SD = 0.78$) and self-assessment ($M = 3.08$, $SD = 0.70$) suggest limited confidence in evaluating their own work without external input.

Interview findings supported this pattern. Students described how planning and teacher feedback guided their improvement, while self-monitoring was less systematically applied:

“Making an outline helps me organize my ideas clearly before I start.”

(Student 15, University B)

“I try to check my writing, but I still need my teacher’s feedback to be sure.”

(Student 13, University C)

These results reveal that although students recognize the value of metacognitive strategies, their ability to independently evaluate and regulate their writing remains developing. Providing structured metacognitive training and guided reflection activities may strengthen students’ confidence and foster greater autonomy in EFL academic writing.

Interplay of Motivation, Time Management, and Metacognitive Strategies

The findings highlighted a strong and interconnected relationship among motivation, time management, and metacognitive strategies. Students who reported higher motivation levels also tended to manage their time effectively and apply metacognitive strategies actively.

Table 5 presents the correlation coefficients among the three SRL components. All correlations were positive and statistically significant, indicating that improvements in one area were likely to enhance performance in the others.

Table 5
Correlations among motivation, time management, and metacognitive strategies

Variable	1	2	3
1. Motivation	—	.62**	.58**
2. Time Management	.62**	—	.65**
3. Metacognitive Strategies	.58**	.65**	—

*Note. $p < .01$ (two-tailed).

The qualitative data reinforced these results. Highly motivated students reported planning their writing carefully, managing time efficiently, and revising drafts thoroughly. In contrast, those with lower motivation tended to procrastinate and make minimal revisions. One participant explained,

“When I am really motivated, I plan my time better and check my writing carefully. But if I’m not in the mood, I just rush and don’t revise much.”

(Student 8, University A)

These findings demonstrate that motivation, time management, and metacognitive strategies operate as a unified system rather than as isolated skills. Each supports and strengthens the others, leading to improved writing outcomes. Instructional practices that integrate these components by encouraging goal setting, structured planning, and reflective revision may help students become more self-regulated and autonomous writers.

Discussion

The findings of this study reveal that most students were primarily driven by intrinsic motivation to enhance their English proficiency and academic performance. This supports Camacho, Alves, and Boscolo (2021), who emphasize the importance of self-determined goals in increasing writing engagement, and reinforces Ryan and Deci’s (2000) argument that intrinsic motivation encourages persistence and deeper learning. Students’ desire to write

well reflects a genuine interest in academic improvement, positioning intrinsic motivation as a key factor influencing writing performance. However, the data also demonstrate that students' motivation was shaped by extrinsic influences such as grades, deadlines, and teacher feedback. Many students reported completing writing tasks under time pressure rather than through sustained effort, a pattern consistent with Zimmerman's (2002) assertion that motivation in self-regulated learning fluctuates between internal and external drivers. Similar conclusions were drawn by Shen and Bai (2024), who show that interactions between intrinsic and extrinsic motivation influence students' engagement in self-regulatory strategies. Qualitative insights further indicate that students motivated by personal improvement showed greater persistence, whereas those driven by grades tended to work reactively near deadlines. These findings suggest that intrinsic motivation alone may be insufficient to ensure consistency unless supported by structured external systems. In the context of Indonesian higher education, where academic evaluation strongly prioritizes outcomes, reliance on external motivators is expected and may unintentionally reinforce performance-oriented rather than mastery-oriented learning cultures. Nevertheless, the results indicate that intrinsic and extrinsic motivators can function complementarily, highlighting the need for instructional approaches that integrate personal goal setting, meaningful writing tasks, reflective activities, and structured supports such as deadlines and formative feedback to sustain writing engagement (Umamah et al., 2022).

The study also found that many students employed practical time management strategies to support their academic writing, including setting personal deadlines ahead of official due dates and dividing large assignments into smaller tasks. These practices align with Zimmerman and Schunk (2011) and Lisá and Sokolová (2023), who argue that effective self-regulated learners actively plan and structure their time. Recent evidence further indicates that time-regulation strategies reinforced through SRL interventions can improve writing performance (Zhang & Chieh, 2025). Despite this awareness, some students continued to struggle with procrastination and balancing multiple academic demands: 40% reported frequent delays and half found it challenging to manage writing alongside other coursework. This pattern aligns with Graham (2022), Nevisi and Safiloo (2023), and Sari et al. (2023), who highlight that time pressure and competing responsibilities often hinder effective task management. The gap between knowing strategies and applying them consistently underscores a central challenge in SRL—translating cognitive awareness into sustained behavioral practice. Contextual demands such as heavy workloads, large class sizes, and high-stakes assessments may further reinforce reactive rather than proactive writing habits. Therefore, writing instruction should provide explicit scaffolding tools, such as pacing guides, writing planners, and structured in-class time allocation, to help students convert strategic knowledge into consistent action.

In addition, the findings indicate that students applied metacognitive strategies—including planning, monitoring progress, and revising drafts—to support their writing processes. These practices confirm Pintrich's (2002) view of metacognition as a critical component in regulating complex academic tasks. However, many students relied heavily on teacher feedback rather than independent evaluation, suggesting that their confidence in autonomous decision-making is still developing. This trend mirrors findings by Fan and Wang (2024) and Wang and Sun (2020), who observe that EFL learners frequently depend on instructor guidance for cognitively demanding writing tasks. Compared with Western educational contexts, where reflective and evaluative skills are introduced earlier (Zimmerman & Schunk, 2011b), Indonesian students may have fewer opportunities to develop autonomous evaluation skills. Instruction that integrates explicit metacognitive training, such as guided reflection activities, peer-review processes, and self-assessment checklists, can strengthen students' independent monitoring and revision abilities, thereby

supporting their development as self-regulated learners (Al-Othman, 2024; Yang, Liu, & Xu, 2022).

The interaction among motivation, time management, and metacognitive strategies reveals an interconnected system shaping students' academic writing behaviors. Students with higher levels of motivation demonstrated more effective time management and more consistent use of metacognitive strategies, reflecting the cyclical model of self-regulated learning proposed by Zimmerman (2002). These findings extend research by Jaya (2025a), illustrating how motivational and metacognitive engagement can mitigate linguistic and cognitive difficulties previously identified in Indonesian EFL writing. Consistent with recent evidence on SRL synergy (Ng et al., 2021; Pintrich & Zusho, 2022; Liu et al., 2024; Teng, 2021; Wang, 2024), improvements in one SRL component appear to foster growth in others. In Indonesian higher education, where students face substantial academic pressure, fostering the integration of these SRL components may enhance writing performance and promote learner autonomy. Therefore, writing instruction should adopt a holistic approach that supports motivation, structured time-management practices, and explicit metacognitive training simultaneously rather than treating them as discrete skills, providing targeted scaffolding that encourages coordinated development across all components (Alanazi, 2020; De Smedt et al., 2023; Nevisi & Safiloo, 2023; Yang, Zhang, & Dixon, 2023).

Based on these findings, several instructional implications emerge. Lecturers can enhance EFL students' writing by explicitly integrating SRL-focused activities such as goal setting, time-planning exercises, guided outlining, and reflective journaling. Feedback should address not only content and structure but also encourage reflection on writing processes and strategies used to reinforce autonomy. At the curriculum level, writing courses may be structured around sequenced tasks with checkpoints for planning, drafting, and revision to strengthen consistent SRL practice. Embedding these elements into the syllabus may enhance writing outcomes and foster long-term independence. At the institutional level, universities can support SRL development by establishing writing centers, peer mentoring programs, and workshops on time management and academic goal setting. Such support can help students transition from teacher-centered learning toward more independent academic environments and develop sustainable writing habits.

CONCLUSION

This study examined how motivation, time management, and metacognitive strategies interact to shape EFL students' self-regulated learning in academic writing. Unlike prior research that often considered these factors separately, the findings highlight their interdependent role, showing that motivated students who manage their time effectively and engage in active metacognitive strategies achieve better writing outcomes. Challenges such as procrastination and reliance on teacher feedback indicate areas for targeted pedagogical support. In the Indonesian higher education context, these findings suggest practical applications for teaching and institutional practice. Writing instruction can integrate SRL strategies through goal setting, structured planning, guided outlining, reflective journals, and feedback that encourage students to evaluate their writing process. The study underscores that self-regulated learning functions as an interconnected system. Supporting students in developing these skills can enhance learner autonomy, improve writing outcomes, and contribute to long-term academic success in Indonesian and similar EFL contexts. Future research could expand these insights by examining how writing anxiety, fluctuations in motivation, and self-confidence influence the use of SRL strategies.

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