

Reading into Writing: Exploring Strategic Interplay in Academic Article Development

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Abstract: This study aims to determine the relationship between the reading and writing strategies employed by undergraduate students when composing academic work. A quantitative study was conducted in the English Education Department of a private university in Jakarta, Indonesia, involving 70 Academic Writing students. The data were gathered through questionnaires assessing specific reading and writing methods, including reading dimensions such as global understanding, information processing, and metacognitive awareness, and writing dimensions covering planning, execution, monitoring, and revision. The data were analyzed using descriptive and correlational statistics. This study was limited to students from one institution and relied on self-reported questionnaire data. Students consistently applied diverse reading and writing techniques across the writing phases, reporting moderate-to-high levels of strategy engagement. Strategies related to checking sources, avoiding plagiarism, and maintaining sentence and paragraph coherence were reported most frequently. In contrast, strategies such as visualizing texts and seeking peer feedback were used less often. The most notable finding was a strong, positive correlation between the two domains: reading strategies related to global understanding and metacognitive awareness showed the strongest association with writing strategies. This evidence suggests the importance of integrated literacy instruction in educational settings, given the clear interdependence of reading and writing skills. The study contributes empirical insights into how specific reading and writing strategies interact during academic article development, which may inform instructional practices in EFL academic writing contexts.

Keywords: reading strategies, writing strategies, academic article development, integrated literacy instruction.

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■ INTRODUCTION

For students in higher education, mastering the comprehension of scientific literature and the creation of scientific writing is crucial (Bernal Lloréns et al., 2023). Brakes et al. (2021), assert that reading in academic settings involves comprehending written material in scientific literature. In contrast, writing is crucial for information transmission and knowledge synthesis, for producing new ideas (Nelson & King, 2023), and for advancing academic careers and understanding of scientific fields (Hubbard, 2021).

For students, writing for academic purposes is a really difficult task (AlMarwani, 2020) because it involves social, cultural, and cognitive elements. (Altýnmakas & Bayyurt, 2019).

In learning activities, students engage in reading and writing assignments, using systematic, deliberate efforts to improve their learning outcomes, which Selvaraj & Aziz (2019) term strategies. According to the behaviorist approach, a reading strategy is an unconscious or conscious physical or mental action employed to enhance text comprehension (Aryadoust, 2019).

According to Graham (2020), writing strategies are methods for controlling the cognitive processes involved in writing, including planning, composing, and revising. Although reading and writing strategies have often been examined as separate constructs, academic writing tasks, particularly article development, require learners to activate both strategy domains simultaneously. This suggests that examining strategies in isolation may be insufficient without understanding how they interact in authentic academic contexts.

From a theoretical perspective, reading and writing strategies are often viewed as interconnected processes that share common cognitive and metacognitive resources, such as planning, monitoring, and evaluating meaning. When students engage strategically with texts while reading, they are more likely to transfer these processes to their writing, particularly in tasks that require source integration and idea development. This conceptual linkage provides a basis for examining the relationship between reading and writing strategies in academic article development.

Extensive investigations into EFL reading and writing skills have spanned various international contexts, notably China, Vietnam, Thailand, and Taiwan. Recent evidence strongly indicates that both strategy-based instruction and the deliberate use of self-regulated writing strategies (SRWS) significantly boost writing outcomes for students learning English as a foreign language (Hu & Zhang, 2025; Q. Sun & Zhang, 2023; Liu et al., 2023). Crucially, studies focused on SRWS confirm that writers who consciously employ planning, monitoring, and revising techniques generate texts of demonstrably higher quality and complexity (Teng et al., 2022). This body of research not only clarifies the mechanisms underlying effective writing in higher-education EFL settings but also reinforces the vital role of pre-writing and self-regulation in improving the quality of composition.

Parallel research has explored specific strategies utilized by learners. Examining the Vietnamese EFL context, Manh Do and Le Thu Phan (2021) reported that undergraduates relied most often on problem-solving, support, and global reading strategies. Their analysis further revealed that students with higher language proficiency were more likely to employ metacognitive reading strategies. Comparable recent research also indicates that learners rely on metacognitive, cognitive, and compensatory reading strategies when engaging with academic texts, and that strategic profiles differ between more and less successful readers. These findings extend understanding of reading-strategy use in higher-education EFL contexts and justify the need to examine how reading and writing strategies interact during article development. Moreover, various strategies investigated in previous learner strategy research, as identified in this study, seemed culturally inappropriate in the context of Thailand. In 2021, a study by Baker and Boonkit (2004) reported that most Thai university students employed a cognitive writing strategy when developing argumentative essays and short academic texts. These similarities and differences may be influenced by variations in educational practices, academic expectations, and cultural norms across EFL contexts. In particular, instructional environments that emphasize teacher-centered learning and accuracy-oriented assessment may lead students to prioritize strategies for task completion, surface correctness, and compliance, rather than deeper metacognitive or self-regulated strategies. In some settings, such as Vietnam and Thailand, students may be more accustomed to teacher-directed learning, which can shape their reliance on certain strategies, particularly those related to task completion and accuracy rather than self-initiated strategy use. Such contextual factors suggest that strategy use is not universal, but closely linked to

the learning culture and instructional environment in which students develop their academic literacy skills.

Taken together, these studies indicate that strategy use in reading and writing is shaped by instructional context, learner characteristics, and task demands. However, most existing research still examines reading and writing strategies separately, offering limited insight into how they operate together in complex academic tasks such as article writing.

The research on reading strategies conducted by Swart et al. (2022) aimed to investigate the relationship between reading strategies and comprehension monitoring strategies, as well as the functions of these strategies in the comprehension process. The findings revealed that engagement in reading strategies is a cognitive process in which readers solve problems arising from a lack of language knowledge when understanding textual information (within the text). In contrast, the use of comprehension monitoring strategies is an intentional, corrective action in which readers integrate, monitor, and control their own reading processes (outside the text). Both techniques help readers become successful readers. However, the findings of this research also revealed that these techniques work well only when readers use them in specific contexts and for specific texts. Otherwise, even if readers use specific reading skills, they may still be unable to understand the material.

Beyond reading, EFL learners employ a complex mix of cognitive, metacognitive, and social/interactive methods to refine their writing. Research shows a clear, positive correlation between performance improvements and explicit instruction in these strategies (Han, 2024). Han's (2024) findings are crucial: when students employed explicit metacognitive strategies, their writing motivation and proficiency dramatically increased, coupled with a greater ability to track

and evaluate their own processes. This suggests that embedding strategy training into EFL programs is an effective lever for developing the self-regulation necessary for significant writing growth.

The mastery of academic writing is demonstrably tied to self-regulated learning, independent of a student's initial self-efficacy. These pedagogical approaches grant students autonomy by enabling them to actively control, evaluate, and modify their own writing processes. The growing importance of this research area calls for deeper investigation into the interaction between reading and writing strategies during scholarly production (Chen et al., 2025). Supporting this, Chen et al. (2025) found that promoting self-regulated strategy use not only improves output but also sustains higher engagement across diverse student groups.

From a theoretical perspective, reading and writing strategies are often viewed as interconnected processes that share common cognitive and metacognitive resources.

Building on this perspective, this study is grounded in the cognitive process model of writing proposed by Hayes and Flower (1980), which conceptualizes writing as a recursive process involving planning, translating, and reviewing. Within this framework, reading strategies can be positioned as part of the input and idea-generation processes that support writing development. This perspective allows the study to examine reading and writing strategies as interconnected processes within academic article development.

Furthermore, recent studies confirm the critical influence of affective factors on strategy use. Sun et al. (2024), examining Chinese EFL learners' writing practices (planning, organization, execution, and editing), observed a beneficial link between students' positive emotional engagement and their use of writing strategies. Similarly, Fan and Wang's (2024) work demonstrated that self-regulated techniques can both boost cognitive

skills and successfully lower writing anxiety and perceived difficulty.

Fan and Wang (2024) showed that using cognitive preparation techniques positively impacts confidence and reduces writing challenges, both of which are directly linked to self-assessed writing ability. Their research emphasizes that enhancing EFL writing proficiency requires focused teaching strategies that explicitly address the complex interactions among student competence, perceived difficulty, and strategy use. Such comprehensive strategies empower students by strengthening foundational skills and dismantling barriers to emotional performance. This idea is supported by Strong et al. (2025), who argue that teaching foundational skills through integrated reading and writing instruction directly reinforces the concept that reading ability affects writing efficacy.

Furthermore, the research conducted by Regis-Onuoha and Uwakwe (2022) on how incorporating reading instruction into writing exercises promotes deeper comprehension and improves writing proficiency supports systematic reading-writing integrated instructional designs. The need for a common approach to teaching reading and writing is underscored by Yang et al.'s (2022) finding that integrating self-regulated learning strategies into writing instruction significantly improved students' writing performance and their use of strategies in academic settings. These integrative strategies improve students' overall academic performance by emphasizing the value of reading in the writing process.

Overall, prior research provides a thorough analysis of learning English as a second or foreign language (ESL/EFL), both separately and in conjunction with reading and writing strategies. However, there are still few studies that examine how students use reading and writing strategies and how these strategies relate to one another for academic writing in higher education,

especially when creating articles. Despite increasing attention to reading-writing integration, empirical evidence focusing specifically on academic article development remains limited, particularly in EFL higher education contexts. This gap is significant given the growing emphasis on publication-oriented writing in university curricula.

This study deliberately focuses on the use of strategies as a central explanatory factor, since strategies represent learners' conscious, teachable actions during reading and writing. While factors such as language proficiency and prior writing experience may influence performance, examining strategy use offers a focused, pedagogically relevant entry point for understanding how students manage academic writing tasks.

By focusing specifically on article development, this study contributes to the theoretical understanding of reading-writing integration by examining how the two strategy domains interact in an authentic academic literacy task. This perspective extends existing research on strategy by framing reading and writing as interdependent processes in higher-education EFL contexts.

Therefore, this study must fill this gap in the literature. Accordingly, this study seeks to address the following research questions: (1) What reading strategies are employed by EFL university students during academic article development? (2) What writing strategies are used in the same context? Furthermore, (3) Is there a significant relationship between students' reading and writing strategies in article writing?

■ METHOD

Research Design

To investigate the relationship between students' reading and writing strategies without altering any variables, the current study employed a descriptive-correlational research design. The researchers were able to determine the types and

frequency of strategy use, as well as the degree of correlation between the two constructs, within this design. In particular, the study aimed to understand how university students use reading and writing strategies when writing academic articles in English, and how these strategic behaviors relate to one another in an English as a Foreign Language (EFL) writing course. The study aimed to attain three primary goals within this framework: (1) characterizing the reading strategy used by students when writing English articles, (2) characterizing the writing strategy used, and (3) investigating the connection between the two strategy domains. The present research design adhered to a quantitative paradigm to ensure findings were based on objective measurement. We selected validated tools and complex statistical procedures specifically because they enable repeatable analysis. Consequently, this rigorous methodological framework established both the reliability of the data and the study's overall academic transparency.

Research Site and Participants

The research took place at the English Education Department of a private university in Jakarta, Indonesia. We strategically chose this location for its dedicated Academic Writing course, which specifically teaches students to compose research-based articles. Participants

were purposively sampled based on two strict requirements: they must have been actively enrolled in the fifth-semester Academic Writing course and must have completed the required mini-research article assignment. In terms of English proficiency, the participants were generally at an intermediate-to-upper-intermediate level, as indicated by their institutional placement and their ability to complete academic writing tasks in English.

Focusing on a single purposive institution allowed us to control instructional support and minimize confounding variables related to different teaching approaches. Seventy (70) students (all of whom agreed to take part in the study) met the correlational analysis's minimum sample size requirement. The age of the participants ranged from 20 to over 35 years old ($M=32$). In terms of educational background, the majority of participants held a degree in English Education (69%). Half of them reported experience in article development, either during their previous formal studies or in a non-formal program. Before data collection started, all participants signed informed consent forms, guaranteeing that ethical research guidelines were followed. Table 1 shows the participants' demographic distribution by gender, age, and educational background. The participants in the article-writing assignments were a diverse group of graduate students enhancing their academic literacy in English.

Table 1. Demographic information of respondents

Category	Sub-Category	Frequency (N)	Percentage (%)
Gender	Female	48	69.00%
	Male	22	31.00%
Age Group	Above 35 years	28	40%
	26-30 years	22	31.43%
	30-35 years	13	18.57%
	20-25 years	7	10.00%
Education	English Education	49	69.00%
	English Literature/Letters	11	15.50%
	Other	10	15.50%

As presented in Table 1, most participants were female (69%), while male participants accounted for 31%. In terms of age distribution, a large proportion of participants were above 26 years old, indicating a relatively mature student population. Regarding educational background, most participants were from English Education (69%), with the remainder from English Literature and other fields.

Data Collection Instruments

A questionnaire package was sent to participants as soon as their research articles were turned in. The Reading Strategy Use Profile (Dreyer & Nel, 2003) and the Reading Strategies in Integrated L2 Task (Plakans, 2009) were the two tools used in the study to evaluate reading strategies. The combination of these two instruments was necessary because Dreyer and Nel's questionnaire captures general reading strategy use, whereas Plakans' instrument specifically addresses reading processes in integrated reading-to-writing tasks; therefore, a single instrument was insufficient to comprehensively represent the strategic demands of academic article development. The two instruments were merged at the construct level,

followed by item validation and elimination procedures to ensure construct validity and internal consistency of the combined reading strategy measure.

The first instrument had 31 Likert-scale items measuring students' comprehension strategies when reading scientific texts. All questionnaire items used a four-point Likert scale ranging from 1 (Never) to 4 (Always). Additionally, to fully assess the specific demands of reading-for-writing, the second instrument focused on integrated L2 tasks to bridge the reading and writing constructs. It had 18 items spread across five indicators: comprehension processing, global understanding, information mining, goal-setting, and metacognitive awareness. The combined items were subjected to validity testing using item-total correlation analysis. Items with correlation coefficients below the acceptable threshold ($r < 0.30$) were removed to ensure construct validity. All retained items exceeded the minimum validity threshold of $r > 0.30$ and were considered appropriate for further analysis. The questionnaire's high internal consistency and reliability were confirmed by the Cronbach's Alpha reliability test, which produced a coefficient of 0.894.

Table 2. Summary of item validity testing

Item Category	Range of r-values	Decision
Reading strategy items	0.31–0.74	Retained
Writing strategy items	0.33–0.79	Retained

The Foreign Language Writing Strategy Survey Questionnaire (FLWSSQ), developed by Zhang et al. (2016) and cited in Hu (2022), was administered to assess writing strategies during the output phase. The four aspects of this instrument are planning, execution, monitoring, and revision, and it consists of 38 Likert-scale items. Following the same procedure used for the reading strategy instrument, we eliminated any invalid items identified during validation. The

resulting FLWSSQ instrument exhibited strong reliability in this sample, with a high Cronbach's alpha of 0.838.

The study relies on self-reported questionnaire data; this approach is appropriate for capturing students' strategic awareness and perceived strategy use, which are inherently internal and difficult to observe directly. The use of validated instruments and consistent response patterns further supports the reliability of the data.

Research Procedure

The study spanned one academic semester, with 16 meetings. Following necessary institutional approval, we collaborated with course instructors to identify qualified students who met all inclusion criteria. Data collection was conducted at the end of the semester in December 2023, specifically after regular class sessions. The questionnaires were administered twice, on December 16 and December 23 (corresponding to meetings 14 and 15). Prior to completing the questionnaires, participants were informed of the study's purpose and given clear instructions on how to complete the instruments. During the administration, the researchers were present and provided brief oral clarifications when participants requested further explanation regarding specific items or instructions. To ensure participants fully understood the content, all instruments were presented in Bahasa Indonesia. On average, each student required approximately 30 to 40 minutes to complete the questionnaire. Crucially, we guaranteed participant privacy by gathering all responses anonymously. Before the data were entered into the analysis system, completed surveys were assigned numerical codes. Finally, we conducted a thorough check for accuracy and completeness, systematically eliminating any invalid entries before analysis.

Data Analysis

Data Analysis was performed using SPSS version 26. We first computed frequency distributions to summarize the respondents'

demographic data. Next, to characterize the general trends in students' self-reported reading and writing strategies, we calculated descriptive statistics, including means, standard deviations, and percentages. To answer the third research question regarding the correlation between the variables, Spearman's Rank Correlation coefficient was employed to determine the strength and direction of the relationship. In addition, a simple regression analysis was conducted to examine the contribution of reading strategies toward writing strategies. This nonparametric test was chosen to account for the ordinal nature of Likert-scale data and to provide a robust measure of association without assuming a strictly normal distribution. Therefore, the non-parametric approach was considered more appropriate and methodologically consistent with the data's characteristics and the statistical assumptions required for the analysis.

■ RESULT AND DISCUSSION

Reading Strategies Employed by EFL University Students

The descriptive analysis of students' reading strategies revealed generally high levels of engagement among respondents, with scores ranging from 52 to 90. The overall average strategy use was substantial ($M = 82.59$, $SD = 8.277$). Furthermore, while some strategies were rated at the extremes of high or low frequency, the vast majority fell within the medium-frequency range (see Table 3).

Table 3. Descriptive statistics of reading strategies

Statements	Mean	SD	Frequency Use
I try to relate the important points in the text to one another to understand the entire text.	2.96	0.26	Moderate
I generate questions about the text.	2.73	0.65	Moderate
While I am reading, I reconsider and revise my prior questions about the text based on the text's content.	2.90	0.34	Moderate
While I am reading, I reconsider and revise my background knowledge about the subject based on the text's content.	2.86	0.52	Moderate

I plan how to read a text.	2.83	0.51	Moderate
I often look for how the text is organized and pay attention to headings and sub-headings	2.79	0.56	Moderate
I usually make predictions about what will come next.	2.59	0.69	Moderate
I take notes while reading to help me remember the text.	2.69	0.69	Moderate
When appropriate, I try to visualize the descriptions in the text I am reading to help me remember it.	2.40	0.78	Low
I summarize/paraphrase the material that I am reading in order to remember the text.	2.80	0.55	Moderate
When reading, I ask myself questions about the text to better remember it.	2.64	0.74	Moderate
After I have read a text, I review it.	2.64	0.66	Moderate
After I have read a text, I try to interpret what I have read	2.91	0.37	Moderate
After I have read a text, I evaluate what I have read	2.89	0.40	Moderate
While reading, I distinguish between information I already know and new information.	2.77	0.61	Moderate
I try to anticipate information in the text.	2.70	0.54	Moderate
As I read along, I check whether I anticipated information correctly.	2.76	0.52	Moderate
I set goals for reading (e.g., studying for a multiple-choice test, reading for a research paper)	2.89	0.43	Moderate
After I have read a text, I summarize it.	2.76	0.57	Moderate
Checking the task to integrate sources	2.97	0.24	High
Checking the task for appropriate citation	2.97	0.24	High
Breaking lexical item into parts/using phonological cues	1.87	0.88	Low
Rereading word	2.64	0.72	Moderate
Rereading phrase/sentence	2.73	0.63	Moderate
Rereading passage	2.87	0.41	Moderate
Asking questions	2.76	0.60	Moderate
Recognizing text structure/rhetorical cues	2.63	0.59	Moderate
Confirming understanding	2.77	0.54	Moderate
Paraphrasing	2.91	0.33	Moderate
Rereading to check for plagiarism	2.97	0.24	High

The analysis of reading strategies indicated a clear preference for practices centered on academic accountability; the most frequently reported strategies were checking citations and source integrity and conducting plagiarism checks. In contrast, students are less likely to employ local linguistic tactics such as visualizing content or breaking down lexical items. This pattern suggests that, rather than relying on decoding strategies, students focused heavily on

global and metacognitive strategies to ensure the integrity of their academic work. These results strongly align with Mokhtari and Sheorey's taxonomy, which identifies global and problem-solving techniques as key indicators of proficient reading (Tsai & Huang, 2023). Consistent with Ye and Liu's (2023) investigation in Taiwan, our respondents exhibited robust self-regulation and monitoring behaviors when engaging with academic texts; these are definitive characteristics

of strategic readers. The prevalence of plagiarism-avoidance and source-checking techniques further highlights the dominant role of accountability in academic writing.

These findings align with Erdiana and Panjaitan's (2023) claim that academic reading comprehension is multifaceted; it encompasses not only decoding processes but also critical analysis and the integration of information. In relation to established research on mature academic readers (Alimin et al., 2023; Kan et al., 2024), our results do not directly measure the depth of critical engagement. However, the prevalence of global and metacognitive strategies, particularly accountability-oriented practices such as source verification and plagiarism avoidance, may reflect a possible shift toward more advanced forms of academic reading, although further evidence is needed to confirm whether this corresponds to deeper levels of critical engagement. While the questionnaire data cannot confirm sustained critical engagement, these patterns are consistent with an early or developing movement from basic comprehension to more strategic participation in academic discourse.

Writing Strategies Employed by EFL University Students

Regarding EFL students' writing strategies, the overall mean score of 81.33 ($SD = 6.062$),

with individual scores ranging from 55 to 87, indicates that engagement with these strategies varies considerably among participants yet remains generally high. This spread suggests that while a portion of the students demonstrate consistent and strategic engagement, others may still be developing or selectively applying these strategies depending on the task. Although participants reported utilizing strategies across all four phases: planning, execution, monitoring, and revision, the execution phase emerged as the most frequently applied.

This prioritization may reflect a task-oriented mindset in which writing is viewed primarily as producing text rather than as a recursive process requiring deliberate planning and iterative refinement. The tendency to prioritize execution aligns with instructional patterns commonly found in EFL contexts, where pedagogical practices often emphasize the final product over process-based instruction. As a pedagogical implication, this pattern highlights the need for targeted scaffolding in planning and revision phases, so that students are supported in developing a more balanced and process-oriented approach to academic writing.

Figure 1 provides a visual overview of the mean scores across the four writing strategy sub-categories. As shown in the figure, execution strategies obtained the highest mean score,

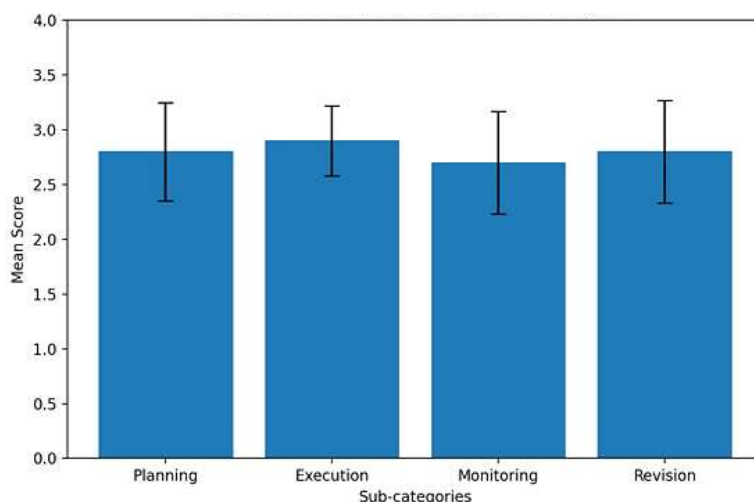


Figure 1. Mean scores of writing strategy sub-categories

followed closely by planning and revision strategies, while monitoring strategies recorded the lowest mean score.

During the writing planning phase, students reported using techniques at moderate levels, demonstrating a blend of cognitive and affective strategies. Cognitive tools included mind mapping

for organizing initial ideas, while affective preparation involved skills such as managing enjoyment and anxiety related to the writing task. The descriptive analysis further pinpointed the most frequently used planning areas: idea generation, topic selection, and defining the writing purpose (refer to Table 4).

Table 4. Planning strategies utilization

Writing Strategies: Planning	Mean	SD	Frequency Use
Before I write an English article, I tell myself to enjoy writing.	2.66	0.65	Moderate
Before I write an article in English, I tell myself not to worry.	2.84	0.44	Moderate
Before I write an English article, I think about the purpose of writing it.	2.99	0.12	Moderate
Before I write an article in English, I read about the topic.	2.96	0.20	Moderate
Before I write an article in English, I think about who will read it.	2.73	0.61	Moderate
Before I write an English article, I think about what ideas to write about by listing them.	2.90	0.42	Moderate
Before I write an English article, I think about what words, phrases, and sentences to use.	2.89	0.40	Moderate
Before I write an English article, I use graphic organizers (such as mind maps) to help me plan my writing.	2.64	0.72	Moderate

The planning strategies demonstrated by the students were clearly goal-oriented, aligning closely with Hayes and Flower's foundational (1980) model of cognitive writing (see Table 4). Furthermore, these results resonate with the writing process model developed more recently by Ye and Liu (2023). That model emphasizes creativity and strategic goal-setting as critical cognitive drivers for successful academic composition. The same findings were discovered by Sun and Zhang (2023), who noted that Chinese EFL students used a moderate number

of strategies and experienced mixed emotions (anxiety and enjoyment) when completing academic writing assignments.

Students showed a keen awareness of argument and literary structure during the execution phase, paying special attention to coherence, cohesion, and paraphrasing. Students placed a high value on ensuring that their writing was logically connected and flowed, as evidenced by the highest means observed for maintaining coherence and cohesion at the sentence and paragraph levels (Table 5).

Table 5. Execution strategies in writing development

Writing Strategies: Execution	Mean	SD	Frequency Use
When writing an English article, I put down my ideas first and improve the language later.	2.87	0.41	Moderate
When writing an English article, I make sure that my sentences are linked to one another.	2.97	0.17	Moderate

When writing an English article, I make sure my paragraphs are well linked.	2.97	0.17	Moderate
When I do not know a word or phrase in writing an English article, I stop writing and look it up in a dictionary.	2.81	0.52	Moderate
When I cannot think of an English word when writing an article, I paraphrase it.	2.96	0.26	Moderate

Students focused on preserving coherence and paraphrasing evidence of discourse-level awareness and intertextual control, as shown in Table 5. These results align with those of Khaleghi et al. (2024), who discovered that text-level coherence was given priority in ESP writing tasks by advanced EFL learners in Saudi Arabia. A study by T. Zhang & Zhang (2021) highlighted that cohesion and coherence management are characteristics of academic writing proficiency; the study's emphasis on sentence and paragraph

unity also implies that students were aware of discourse structure and genre-specific conventions.

While strategies like changing ideas and reading the draft aloud were less common during the monitoring phase, the most common strategy was comparing the article's structure to the provided template instructions. Peer review was one of the least-used techniques (Table 6), indicating that students relied more on self-monitoring than on group review.

Table 6. Monitoring and revision strategies

Writing Strategies: Monitoring	Mean	SD	Frequency Use
After finishing my article, I make sure that it meets the expectations of the writing task.	2.97	0.24	Moderate
After finishing my article, I make sure that its parts follow the template.	3.00	0.00	High
When I check my English article, I make sure that the grammar is correct.	2.97	0.17	Moderate
When I read my article, I think about whether my readers will like it.	2.61	0.66	Moderate
When I check my English article, I change the ideas in it.	2.44	0.82	Low
When I revise my English article, I reorganize its ideas.	2.66	0.67	Moderate
When I check my English article, I read it aloud to make sure that it reads well.	2.16	0.95	Low

Students relied more on teacher guidance and self-evaluation than on peer interaction, as Table 6 illustrates. The data suggest that students tend to be task-compliant, concentrating heavily on meeting formal criteria and achieving mechanical accuracy rather than conducting conceptual revisions. This behavior may reflect a surface-oriented approach to writing, in which students focus on task completion rather than deeper engagement with revision and text improvement.

While this compliance-focused strategy guarantees structural adequacy, it inherently hinders students' deeper engagement with critical reflection and content elaboration. This observation is strongly supported by Han (2024), who emphasized the critical need for explicit instruction in reflective revision strategies. Han's research also revealed similar patterns where EFL learners habitually limit their monitoring practices to structural correction, neglecting the essential task of idea development.

Students used most revision techniques at a moderate level, focusing primarily on internal corrections, such as fixing writing mechanics and modifying word choices, based on self- or teacher-provided feedback. The data reveal a strong bias toward mechanical accuracy checks (spelling and punctuation), which received the

highest mean scores. This internal focus is underscored by the finding that peer feedback was reported as one of the least-used revision strategies (Table 7).

This research is strongly correlated with cultural factors identified in prior research. Nindya & Widiati (2020) found that culturally shaped

Table 7. Descriptive statistics of revision strategies

Writing Strategies: Revision	Mean	SD	Frequency Use
After finishing my article, I make sure that it meets the expectations of the writing task.	2.97	0.24	Moderate
After finishing my article, I make sure that its parts follow the template.	3.00	0.00	High
When I check my English article, I make sure that the grammar is correct.	2.97	0.17	Moderate
When I read my article, I think about whether my readers will like it.	2.61	0.66	Moderate
When I check my English article, I change the ideas in it.	2.44	0.82	Low
When I revise my English article, I reorganize its ideas.	2.66	0.67	Moderate
When I check my English article, I read it aloud to make sure that it reads well.	2.16	0.95	Low

attitudes emphasizing teacher authority lead Asian EFL students to rely heavily on instructor feedback over peer collaboration. While our students demonstrated responsibility in self-revision, this pattern implies that the social dimension of collaborative writing remains underdeveloped. Similar patterns have also been reported in several Asian EFL contexts where teacher-centered instructional practices tend to limit students' engagement in collaborative feedback and peer-supported revision activities. This lack of collective feedback engagement is significant, considering Zhang and Hyland's (2022) argument that peer interaction is crucial for developing higher-order reflective revision skills in EFL contexts.

Across Tables 3–7, a consistent pattern emerges: students demonstrate moderate to high engagement in both reading and writing strategies, with particular emphasis on strategies related to task completion, coherence, and structural accuracy. While reading strategies are dominated

by global and metacognitive processes, writing strategies show a stronger concentration in the execution and monitoring phases. This overall pattern suggests that students are actively engaged in managing their academic tasks but tend to prioritize performance-oriented strategies over deeper planning and reflective revision processes.

The Relationship between Reading and Writing Strategies

The correlational analysis established a strong, positive, and statistically significant relationship between students' reading strategies and writing strategies ($r_s = 0.699$, $p < 0.05$). This finding indicates that students who reported higher engagement in reading strategies also tended to report higher use of writing strategies during academic article development. The result suggests a meaningful association between the two strategic domains, although it does not imply causal influence.

Table 8. Correlation between reading and writing strategies

Variables	rs	Sig (2-tailed)	Interpretation
Reading - Writing Strategies	0.699	0.000	Strong Positive Correlation

The finding provides strong empirical support for the established reading-writing connection hypothesis (David et al., 2022; Joy et al., 2023). This hypothesis posits that both abilities draw upon similar cognitive and linguistic resources. Furthermore, this study aligns with research by Wang et al. (2020), which demonstrated that integrated reading-writing assignments successfully prompt students to deploy comprehension, synthesis, and self-regulation skills concurrently. This reciprocal reinforcement means that students who read strategically can more effectively transfer writing

techniques, such as content organization, information synthesis, and draft revision, into their reading process by anticipating text structure and tracking comprehension. This dynamic confirms the participatory approach to academic literacy (Bear, 2022; Kim, 2022), in which composition is mutually supported by comprehension, and comprehension, in turn, informs writing.

To provide a more detailed understanding of the relationship between dimensions, an additional correlation matrix among reading and writing strategy sub-scales is presented in Table 9.

Table 9. Correlation matrix among reading and writing strategy sub-scales

Reading Strategies	Planning	Monitoring	Revising
Global Reading	.52	.48	.44
Problem Solving	.49	.46	.41
Support Strategies	.38	.42	.40

Overall, the findings indicate that reading and writing strategies do not operate independently but are closely interconnected in the development of academic articles. The predominance of global and metacognitive reading strategies suggests that students actively monitor and evaluate textual information, as reflected in their writing behavior, particularly in execution and monitoring strategies. For instance, students' tendency to focus on source checking and coherence in reading aligns with their emphasis on maintaining sentence and paragraph coherence during writing. This pattern suggests that strategic reading supports the organization of ideas and the development of text, enabling students to transfer comprehension processes to written production. Therefore, the relationship between reading and writing strategies can be understood as a dynamic interplay in which

cognitive and metacognitive processes are shared across both domains.

Interpretation and Implications

Overall, the results indicate that EFL students actively use both reading and writing strategies at moderate to high levels, suggesting a developing metacognitive awareness that is vital for academic literacy (Momdjian & El Chidiac, 2024). The strong integration of these two domains confirms that students engage in more than mere text production and decoding; they exercise essential cognitive control over the learning process. Nonetheless, a key limitation remains: the dominance of execution and monitoring strategies over the planning and revision phases. This pattern implies that students' creative capacity remains restricted by a procedural focus. Expert writers are distinguished

from novices by their recursive control, that is, the ability to fluidly switch among idea generation, drafting, and revising (Al-Ghazo, 2023). Therefore, despite exhibiting surface-level strategic competence, students may still lack this crucial recursive skill.

The findings may also be interpreted through the lens of surface and deep strategy use. Strategies such as checking citations, maintaining coherence, and ensuring task compliance may be associated with characteristics commonly associated with more surface-oriented approaches, in which students focus on meeting external requirements and structural accuracy. In contrast, strategies involving metacognitive awareness, critical evaluation, and idea development may suggest forms of engagement often associated with deeper strategic processing during writing. The predominance of execution and monitoring strategies observed in this study may indicate a stronger orientation toward performance-related strategy use. At the same time, deeper strategic engagement, particularly in planning and revision, remains less developed. This pattern highlights the need for instructional approaches that explicitly foster deeper cognitive and metacognitive engagement in academic writing.

The close, reciprocal relationship confirmed between reading and writing strategies powerfully underscores the necessity of integrated literacy instruction in EFL contexts. Teaching these two skills concurrently through activities emphasizing genre analysis, source synthesis, and reflective revision effectively boosts both receptive and productive academic skills (Ye & Liu, 2023; France & Eaton, 2023). EFL instructors must be urged to design reading-to-write assignments that deliberately foster cognitive transfer between comprehension and composition (Fekete, 2020). This relationship can be explained by the shared cognitive and metacognitive processes underlying both reading and writing activities. When students

engage in strategic reading, such as identifying text structure, evaluating sources, and monitoring comprehension, they simultaneously develop the cognitive frameworks needed to organize ideas and maintain coherence in writing.

Furthermore, this study's finding of low peer feedback engagement may be partially influenced by the current structure of the "Academic Writing" course, which does not consistently include formal peer-review sessions or guided collaborative evaluation activities. In several cases, peer review opportunities appear to be optional or informal, which might limit students' exposure to structured feedback practices. This contextual factor may help explain why students tend to rely more on self-monitoring than on collaborative revision. Incorporating scheduled peer-review workshops, clearer rubrics for feedback exchange, or digital platforms that scaffold interaction could strengthen the collaborative dimension of strategy use and support the development of audience awareness and evaluative skills (Yang et al., 2022).

We recommend promoting reflective practice and audience awareness by incorporating dedicated peer review workshops or digital collaboration tools. Theoretically, these results advance our understanding of how reading and writing function as mutually reinforcing cognitive processes. The clear correlation between the two domains demonstrates that holistic literacy development in EFL higher education must encompass affect, strategy use, and metacognition, alongside traditional language proficiency measures.

The strong interaction between reading and writing strategies in the creation of academic articles is now empirically supported by this study. This evidence suggests that intentionally increasing students' awareness and control of reading strategies, particularly global comprehension and metacognitive regulation, may directly translate into improved writing proficiency. To further build

on these findings, future research should explore the mediating effects of affective factors (e.g., writing motivation), digital literacy, and feedback literacy on the reading-writing relationship. Validation of these findings across broader institutional contexts should also be pursued by extending the study to larger, more diverse samples.

■ CONCLUSION

This study examined how EFL university students employ reading and writing strategies during the development of academic articles and how these strategies are related. The findings show that students actively used a range of strategies across different stages of article writing, with moderate to high engagement in both reading and writing domains. More importantly, the results revealed a strong positive relationship between the two sets of strategies, indicating that students who applied reading strategies more effectively also tended to employ writing strategies more effectively. This relationship highlights that reading and writing in academic contexts do not function as separate skills, but as interconnected processes that rely on shared cognitive and metacognitive resources. From a theoretical perspective, these findings support and extend existing reading-writing models by demonstrating that strategy-based interaction between reading and writing becomes particularly salient in complex academic tasks such as article development. Specifically, the findings demonstrate that reading strategies, especially those related to global understanding and metacognitive awareness, are closely associated with writing processes such as execution and monitoring. This suggests that reading and writing are not only conceptually related, but also operationally interconnected through shared cognitive and metacognitive processes in authentic academic contexts.

In terms of educational implications, the findings suggest that EFL writing instruction may

benefit from the explicit integration of reading and writing strategies, particularly those related to global comprehension, source use, and metacognitive regulation. Rather than teaching reading and writing as isolated skills, instructors may design learning activities that encourage students to transfer reading strategies into writing tasks, such as synthesizing sources and monitoring coherence. However, this study is subject to several limitations. The use of purposive sampling and the relatively small sample size drawn from a single institution may limit the generalizability of the findings beyond similar EFL academic contexts. These limitations point to directions for future research. Subsequent studies could include learners from multiple institutions, combine self-report data with textual analysis or classroom observation, and examine how factors such as feedback practices or writing experience interact with strategy use in academic writing development. Moreover, the study did not explore correlations at the subscale level, which may limit a more detailed understanding of how specific components of reading and writing strategies interact. Additionally, the reliance on self-reported data may introduce potential bias, as responses may not fully reflect students' actual strategy use in practice. Future research should explore the nuanced interactions among psychological and external factors that influence strategy selection and effectiveness. Future studies may incorporate additional data sources, such as analysis of student writing drafts or think-aloud protocols, to provide a more comprehensive understanding of strategy use.

■ DECLARATION OF GENERATIVE AI USAGE IN THE WRITING PROCESS

During the writing of this manuscript, the authors used ChatGPT (OpenAI) to assist with language refinement, grammar checking, and improvement of sentence clarity. The authors have

reviewed and edited the content generated by this tool and assume full responsibility for the accuracy, integrity, and content of the published article.

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