



Leveraging social issues in writing Practices: Will metacognitive strategy help university students' critical literacy?

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Article Info

Article history:

Received 05 July 2024

Revised 05 October 2024

Accepted 18 November 2024

Available online 18 March 2026

Keywords:

critical literacy,
metacognitive,
social issues,
strategy,
writing practices

Abstract

The ability to write in a critical way is considered a challenge in today's learning. Classroom practices need to be supported with a suitable learning strategy which can help learners boost their critical thinking. This study aims to (1) investigate whether metacognitive strategy in writing can help increase students' critical literacy, (2) investigate how metacognitive strategy in writing impacts students' critical literacy. A mixed-method approach was used to respond these research questions. 61 participants in university level participated to fill out the questionnaire to assess their beliefs and perceptions in use of metacognitive strategy in their writing process. Descriptive statistics was used to summarize the students' responses, providing an overview of their perceptions and self-reported use of metacognitive strategies. The findings provide evidence that metacognitive strategy enhances students' critical literacy in analytical capabilities about social issues. Therefore, the results of this study indicate the improvement of students' critical literacy skills by practicing writing on social issues with metacognitive strategies as teaching strategies. The results align with previous studies that indicate addressing social issues in writing can potentially foster a deeper understanding and critique of social structures. The findings suggest that metacognitive strategies may contribute to the enhancement of students' critical literacy in their ability to analyze social issues.

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Introduction

In a time when societal challenges deeply influence all aspects of life, the role of education in developing critical literacy, is more vital than ever. Critical literacy, the ability to actively read texts in a manner that promotes

a deeper understanding of socially constructed concepts (Janks, 2014; Papadopoulos & Griva, 2017), is a crucial skill for university students. This skill encourages individual to understand and question the attitudes, values, and beliefs of written texts in order to understand what is right and what is wrong and such skill is needed

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<https://doi.org/10.34044/j.kjss.2026.47.1.11>

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to become thoughtful and active citizens (Vasquez et al., 2019). This study explores writing practices and critical literacy, particularly focusing on how leveraging social issues within academic writing can enhance students' critical thinking and comprehension. In delving into this exploration, the study acknowledges the dynamic and multifaceted nature of social issues in the contemporary world. These issues, ranging from racial and gender inequalities to environmental concerns and political unrest, are not only topics of academic discourse but also real-world challenges that students will confront as future professionals and global citizens (Govender, 2019; Young, 2020). Therefore, the ability to engage with, analyze, and articulate these issues through writing is not merely an academic exercise but a vital tool for meaningful participation in society (Clifton, 2022; Driessens & Parr, 2019). Thus, this research seeks to explore whether and how metacognitive strategies in writing might assist in bridging the gap between understanding social issues theoretically and applying such understanding in real-world scenarios. The concept of critical literacy is not new, but its integration into writing practices remains an evolving field. Previous research has emphasized the role of critical literacy in empowering students to understand and challenge societal norms (Bynoe & Katz, 2018; Land et al., 2018; Petrucco & Agostini, 2020). Several studies have recognized the instructions on critical literacy within the context of EFL and ESL classroom for educational practices (Abednia & Crookes, 2018; Iyer, 2010; Johnston, 2020; Molek-Kozakowska, 2013; Olin-Scheller & Tengberg, 2017; Van Sluys et al., 2006; Zhang, 2015). The findings of those studies outlined that critical practices within larger social discourse need to be further explored aiming to improve students' critical thinking, critical consciousness, and self-seeking. Hacker (2018) asserted that the active use of self-regulation and self-orchestration of cognitive processes for learning success is described as metacognition, while the vital aspect of critical perspectives is a process closely associated with metacognition. However, there is a gap in understanding the specific pedagogical strategies that most effectively foster this critical awareness. Thereupon, this study proposes to account the use of metacognitive strategies—self-reflective processes that encourage students to think about their thinking—as a potential catalyst in enhancing critical literacy when dealing with social issues in academic writing.

The significance of this research lies in its potential to provide empirical evidence on the effectiveness of metacognitive strategies in writing practices focused on

the augmentation of critical literacy skill. By investigating the impact of these strategies on university students' ability to engage with and critically analyze social issues, the study aims to contribute to the broader discourse on teaching methods that best support the development of critical literacy practices. This is particularly pertinent in the context of higher education, where developing a critically literate student body is essential for fostering a socially aware and engaged citizenry (Cho & Johnson, 2020; Tolman, 2019).

Literature Review

To further contextualize this study, it is important to explore existing research on metacognitive strategies and their impact on critical literacy. Numerous studies have highlighted the significance of critical literacy in educational settings, particularly its role in empowering students to question societal norms and engage with complex social issues. In this section, we will review key theoretical frameworks and empirical findings that have shaped our understanding of critical literacy, with a focus on how metacognitive strategies have been applied to enhance students' reflective thinking and analytical abilities in academic writing.

Critical literacy is considered an important aspect of education, with various studies suggesting it fosters analytical and reflective thinking in students. Critical literacy is not just about reading and writing the word, but also about the world, suggesting that literacy education should be about understanding power dynamics and social inequities. This perspective highlights that critical literacy involves critically examining the relationships between language, meaning, and power structures. These theories provide a basis for the current study, which seeks to examine how these principles may be integrated into university-level writing practices. The role of social issues in education has garnered increasing attention, particularly in how these issues can be used to enhance critical thinking and empathy among students. Lamsal (2024) emphasizes the importance of addressing real-world social problems in the classroom to develop students' ability to think critically about their society. Similarly, research by Spires et al. (2021) suggests that integrating social issues into educational practices can make learning more relevant and engaging for students, thereby fostering deeper comprehension and critical analysis skills. Critical literacy, as a pedagogical approach, encourages students to question and challenge dominant power structures and ideologies in texts and

society. This approach has evolved over the years, with scholars like Huang (2012) expanding upon the idea that critical literacy is not only about reading and writing but also about understanding how these skills are connected to larger social and political contexts. These perspectives highlight the importance of integrating critical discussions of social issues within academic curricula.

In recent years, there has been a growing body of research focusing on how social issues can be used as a catalyst for developing critical literacy skills in students. Studies by Novianti et al. (2020) have shown that when students engage with social issues relevant to their lives, they develop a deeper understanding and a more critical perspective of the world around them. This engagement not only enhances their critical literacy skills but also fosters a sense of social responsibility and civic engagement.

Metacognitive strategies, which involve thinking about one's own thinking processes, have been identified as crucial in enhancing students' learning and writing skills. Moritz and Lysaker (2018), who first coined the term 'metacognition', describe it as a key component in understanding and regulating one's cognitive processes. In the context of writing, metacognitive strategies can include planning, monitoring, and evaluating one's own writing process. Research by Harris et al. (2006) demonstrates that these strategies can significantly improve the writing skills of students, suggesting their potential effectiveness in enhancing critical literacy as well. Several studies have highlighted the effectiveness of metacognitive strategies in enhancing critical literacy. Hacker (2018) argues that metacognition, which includes self-regulation, self-reflection, and self-assessment, plays a critical role in successful learning and writing processes. In the context of critical literacy, studies by Afflerbach et al. (2008) demonstrate that metacognitive strategies enable students to think more deeply about the content and form of texts, leading to more sophisticated analysis and critique.

Furthermore, integrating metacognitive strategies into writing practices, especially those involving social issues, has been explored to some extent. A study by Bahmani (2016) found that when students are taught to reflect on their writing process and the social issues they are writing about, they demonstrate increased engagement and a higher level of critical thinking. This finding is crucial for understanding the potential impact of metacognitive strategies on students' critical literacy skills, particularly in the context of writing about social issues.

Methodology

Study Design

The methodology of this study is designed to address the two primary objectives: (1) to investigate whether metacognitive strategy in academic writing helps increase university students' critical literacy, and (2) to investigate how metacognitive strategy in academic writing impacts university students' critical literacy. This study adopts a mixed-methods approach, combining quantitative and qualitative research methods to provide a comprehensive understanding of the effects of metacognitive strategies on critical literacy. A mixed-methods approach was chosen for this study to allow for both breadth and depth in analyzing the effects of metacognitive strategies on critical literacy. The combination of quantitative data (through questionnaires) and qualitative insights (via content analysis of writing samples) ensures a more comprehensive understanding of how these strategies influence students' academic writing. This approach is well-suited to the study's objectives as it captures both measurable outcomes and nuanced reflections of the students' experiences, offering a holistic view of the impact on critical literacy development. Quantitative methods offered numerical insights, while qualitative methods provided rich, detailed information on student experiences, allowing for a comprehensive analysis. This approach was selected to capture both the measurable impact of metacognitive strategies through quantitative data and to explore deeper insights into students' reflective writing practices using qualitative content analysis. This combination was necessary to assess both the extent and nature of critical literacy development.

Participants

The study involved undergraduate students from one private university located in one region of Indonesia. A simple random sampling method was used to select participants from a natural formed group of second year students who took essay writing subjects. Participants were selected from second-year university students enrolled in an essay writing course to ensure they had foundational writing skills yet could still benefit from interventions aimed at developing higher-order metacognitive and critical literacy skills. Second-year university students were chosen as participants because they had completed foundational writing courses and were at a stage in their education where they could

benefit most from interventions targeting higher-order thinking skills. This group was considered ideal for the study because their writing skills were developed enough to allow them to engage meaningfully with complex social issues, yet there was still room for improvement in critical literacy and metacognitive strategy use. Their diverse academic performances in previous writing assessments also provided a representative sample of varying skill levels. Approximately 61 students, 38 female and 23 male participated in the experimental study. The participants were selected from students with varying levels of writing scores to ensure a diverse representation of EFL learners.

Procedure

Participants in the experimental group completed an academic writing course that incorporated metacognitive strategies (planning, monitoring, evaluating) in the context of writing about social issues. The data collection process included a questionnaire designed to measure students' use of these strategies during their writing. The questionnaire consisted of 10 items focusing on self-planning (e.g., "I review multiple sources before writing"), monitoring (e.g., "I check if my writing is well-supported by evidence"), and evaluation (e.g., "I reflect on feedback to improve future writing"). These items were validated through a pilot test to ensure clarity and relevance. Additionally, students' writing samples were collected for content analysis to assess the development of critical literacy skills. The experimental design was structured over two phases: instruction and application. In the first phase, students received training on metacognitive strategies—specifically self-planning, monitoring, and evaluation—through guided writing exercises that focused on social issues. In the second phase, students applied these strategies in their writing assignments. The rationale behind this design was to first familiarize students with the strategies in a controlled environment before allowing them to independently apply these techniques in their writing. This structure ensured that students had both the knowledge and opportunity to implement the strategies effectively. Students were introduced to metacognitive techniques such as planning, monitoring, and evaluating their writing, with an emphasis on addressing social issues. Following this instruction, they completed questionnaires to assess their use of these strategies and wrote opinion essays that were analyzed for critical literacy performance based on four dimensions of critical literacy. A total of 61 students

were who were taking writing course were asked to fill out a questionnaire examining their attitudes and use of metacognitive strategies during writing. Subsequently, they were asked to write an opinion essay so that their critical literacy performance could be assessed. The assessment of the critical literacy stances utilized the written analysis by coding the theme related to the 4 dimensions of critical literacy principles.

The four dimensions of critical literacy used in this study are: (1) Disrupting the Commonplace, which involves challenging widely accepted viewpoints and presenting alternative perspectives; (2) Interrogating Multiple Viewpoints, where students analyze issues from diverse perspectives, particularly those of marginalized groups; (3) Focusing on socio-political Issues, encouraging critical engagement with how texts reflect power dynamics and social inequalities; and (4) Taking Action, which promotes writing that not only critiques societal issues but also proposes actionable solutions. These dimensions were applied in student writing to enhance their critical thinking and ability to engage deeply with social issues, as evidenced by their ability to question norms, explore multiple perspectives, analyze power structures, and advocate for social change.

The procedure involved two key phases. In the first phase, participants were introduced to metacognitive strategies—self-planning, self-monitoring, and self-evaluation—through a series of structured writing tasks focusing on social issues. This phase aimed to familiarize students with the strategies and encourage their application in real-time writing exercises. In the second phase, the data collection process incorporated two instruments: questionnaires and writing samples. The questionnaire included specific items designed to measure students' attitudes, beliefs, and self-reported use of metacognitive strategies during their writing process. These items were categorized into three sections: planning (e.g., "I review multiple sources before writing"), monitoring (e.g., "I check if my writing is well-supported by evidence"), and evaluating (e.g., "I reflect on feedback to improve my writing"). This ensured that students' attitudes and self-regulation practices were captured comprehensively.

Furthermore, the writing samples were collected to assess students' application of metacognitive strategies and their critical literacy development. The writing was analyzed using a thematic approach that measured their ability to disrupt commonplace thinking, interrogate multiple viewpoints, focus on socio-political issues, and take action.

Data Collection

In this study, the mixed-methods approach incorporated two primary data collection instruments: questionnaires and content analysis of student writing samples. Data collection was conducted systematically to ensure accuracy and validity. All 61 participants completed the questionnaire under controlled conditions during a scheduled class session to minimize distractions and reduce potential bias. The questionnaire, which measured students' use of metacognitive strategies, was carefully structured and pilot-tested for clarity and reliability. This process ensured that the data reflected the participants' genuine experiences and attitudes toward the use of metacognitive strategies in writing. Furthermore, student writing samples were collected immediately after the questionnaire to prevent inconsistencies between reported strategies and actual writing practices. The collection of writing samples was structured to align with real-time writing tasks, ensuring that the analysis was based on current and authentic student work. The questionnaire, designed specifically for this study, included items measuring students' use of metacognitive strategies in their writing. These items focused on three core areas: self-planning (e.g., "I organize my thoughts before starting to write"), monitoring (e.g., "I ensure my writing is supported with evidence from multiple sources"), and evaluation (e.g., "I reflect on feedback to improve future writing"). The questionnaire was administered under controlled conditions to reduce bias and ensure consistent responses across the sample. Additionally, students submitted writing samples that were carefully analyzed to assess the development of critical literacy, following a coding framework based on critical literacy dimensions. Multiple researchers independently coded the writing samples to increase the reliability of the data. The questionnaire was designed to gather quantitative data on students' perceptions, experiences, and self-reported application of metacognitive strategies in academic writing. These questionnaires would specifically target aspects such as students' confidence in their writing skills, their understanding of social issues, and their use of self-regulation and reflection in the writing process. This instrument would provide valuable insights into the subjective experiences of students as they engaged with metacognitive strategies in writing. The questionnaire was designed with specific items to measure students' perceptions and use of metacognitive strategies, focusing on planning, monitoring, and evaluating their writing processes. These items were validated through a pilot

test to ensure clarity and relevance. The data collection process was conducted systematically, with all 61 participants completing the questionnaire under controlled conditions to reduce bias.

Furthermore, for the qualitative component, the researcher conducted a thorough content analysis of the students' writing samples. This analysis focused on assessing the manifestation of critical literacy skills as evidenced in the students' written work. To ensure a structured and measurable analysis, the researcher adopted the framework which outlined four dimensions of critical literacy: disrupting the commonplace, interrogating multiple viewpoints, focusing on socio-political issues, and taking action. By applying these dimensions, the researcher could systematically evaluate the depth and extent of critical literacy skills demonstrated in the students' writing. This method would directly address the second research objective by providing concrete, observable evidence of how metacognitive strategies impact students' ability to engage critically with social issues in their writing.

In addition, content analysis was performed on the students' written essays, which were produced in response to prompts related to social issues. Each essay was analyzed using a coding framework based on the four dimensions of critical literacy (disrupting the commonplace, interrogating multiple viewpoints, focusing on socio-political issues, and taking action). Multiple researchers independently coded the essays to ensure reliability, and discrepancies were resolved through discussion. This mixed-methods approach, combining quantitative self-reports with qualitative textual analysis, provided a comprehensive and plausible understanding of how metacognitive strategies impacted critical literacy, thus ensuring the validity of the study's findings.

Data Analysis

The data were collected through two primary methods: questionnaires and content analysis of student writing samples, ensuring both quantitative and qualitative insights. The questionnaire included specific items designed to measure students' perceptions and self-reported use of metacognitive strategies, such as planning, monitoring, and evaluating their writing processes. These items were validated through a pilot test for clarity and relevance, and the data were collected under controlled conditions to reduce bias. In parallel, content analysis of student writing samples was conducted, where students wrote essays on social issues.

These essays were analyzed using a coding framework based on the four dimensions of critical literacy: disrupting the commonplace, interrogating multiple viewpoints, focusing on socio-political issues, and taking action. To analyze the data collected, a series of statistical tests were applied to the quantitative data (questionnaire responses) and qualitative data (content analysis of writing samples) within the mixed-methods approach. The descriptive statistics provided an overview of students' self-reported use of metacognitive strategies, offering insights into their planning, monitoring, and evaluation processes. Inferential statistical tests, such as ANOVA and chi-square tests, were employed to identify significant differences in students' critical literacy development. The rationale for choosing these tests lies in their ability to measure the relationship between metacognitive strategy use and improvements in critical literacy skills. By integrating statistical analysis into the discussion of the findings, the study presents compelling evidence that metacognitive strategies can positively impact students' critical literacy in the context of academic writing.

In the process of analyzing the data, distinct but complementary methods were also employed. The quantitative data from the questionnaires was processed using statistical methods. Descriptive statistics were used to summarize students' responses, providing an overview of their perceptions and application of metacognitive strategies. Following this, inferential statistical tests, such as chi-square and ANOVA, were applied to identify significant differences in metacognitive strategy usage and its effect on students' critical literacy skills. Additionally, correlation analysis was conducted to explore the relationships between the use of metacognitive strategies and students' self-assessed improvements in critical literacy.

The qualitative data from student writing samples were analyzed using the four-dimension framework of critical literacy. Each dimension was used as a criterion for assessing the depth and sophistication of the students' critical literacy skills. Thematic analysis involved coding for instances where students disrupted conventional thinking, interrogated multiple viewpoints, addressed socio-political issues, and proposed actions. This analysis provided insights into the student's ability to critically engage with social issues in their writing.

Results and Discussion

Research Objective 1: Investigating Whether Metacognitive Strategies Improve Critical Literacy

In response to the first research objective, which is to assess whether metacognitive strategies in academic writing help increase students' critical literacy, the results show moderate improvements based on self-reported data. The analysis of questionnaire responses suggests that students perceived themselves as employing metacognitive strategies such as planning, monitoring, and evaluation during their writing. In Planning Strategy, students reported relatively high engagement with planning strategies, with a mean score of 3.53. This indicates that many students often reviewed multiple sources before starting their writing. However, because the exact nature of the items used in the questionnaire is not presented, it is important to acknowledge that these responses reflect students' perceptions rather than direct observations of their behavior. The data reveal that a large number of students reported frequent use of metacognitive strategies such as planning, monitoring, and evaluating during their writing processes. For example, the planning strategy received a mean score of 3.53, suggesting that many students reported reviewing multiple sources before beginning their writing. Similarly, in Monitoring Strategy: the mean score for monitoring strategy use was 3.49, suggesting that students frequently reported checking their work for adequate support from evidence. However, this self-reported behavior does not necessarily confirm that students effectively implemented these strategies during their actual writing process. Future studies would benefit from integrating objective measures, such as analysing drafts or writing logs, to better capture this behavior. The monitoring strategy, where students checked their writing for adequate support from evidence, scored an average of 3.49, while the *Evaluation Strategy*, which involves reflecting on feedback to improve future writing, had a mean score of 3.03. The evaluation strategy received a lower mean score of 3.03, indicating that while students did reflect on feedback, this practice was less consistent than planning or monitoring. These results suggest potential areas for further improvement in metacognitive strategy instruction, particularly in helping students better assess and revise their work. These results collectively demonstrate that the implementation of metacognitive strategies positively impacted students' critical literacy skills by

fostering a more reflective and structured approach to academic writing.

Descriptive statistics and normality check

In this study, descriptive statistical analysis was used to determine the frequency distribution of the answers from questionnaire results. The analysis of metacognitive strategies is broken down into three categories, namely, planning, monitoring, and evaluating. Each of the descriptive statistical analysis was as follows:

The planning strategy

There are 2 questions for planning strategy in the questionnaire. They will be coded as P1-P2 or question number 1 and 2. The details are presented in [Table 1](#) below.

From the table above, it can be seen that Item P1 is at the highest level with an average value of 3.541. This means that most of the respondents agreed that they usually read some sources to get the current issue. Besides, the overall average score on “Planning strategy” is 3.533 which is in the very high category. This indicates that “Planning strategy” is rated very highly by respondents. It means that the “Planning strategy”

impacts the students’ critical literacy in their academic writing.

The monitoring strategies

There are 5 question items to discuss about monitoring strategies in the questionnaire. The question items for monitoring questions will be coded as M1-M5 or number 3–7. The results can be seen in [Table 2](#) below.

From the table above, it can be seen that item M1 is at the highest level with the mean value of 3.492. This means that respondents agreed that they usually check their writing again to see whether it is supported by sources in some articles or not. The overall average score in “Monitoring strategy” response is 3,121 which is in the high category. This indicates that “Monitoring strategy” impacts the students’ critical literacy in their academic writing.

The evaluation strategies

There are 3 question items of monitoring strategy in the questionnaire. The question items number 8–10 are needed to determine the result of evaluation strategy. In this study, the numbers 8≤10 were coded as E1-E3. The details can be seen in [Table 3](#) below.

Table 1 The Percentage of the Planning Strategy

Items	Percentage of Respondents’ Answers								M
	1		2		3		4		
	f	%	f	%	f	%	f	%	
P1	0	0	3	4.9	22	36.1	36	59	3.541
P2	0	0	4	6.6	21	34.4	36	59	3.525
Mean of Planning									3.533

Table 2 The percentage of monitoring strategy

Items	Percentage of Respondents’ Answers								M
	1		2		3		4		
	f	%	f	%	f	%	f	%	
M1	0	0	3	4.9	25	41	33	54.1	3.492
M2	0	0	4	6.6	33	54.1	24	39.3	3.328
M3	1	1.6	8	13.1	19	31.1	33	54.1	3.377
M4	0	0	8	13.1	38	62.3	15	24.6	3.115
M5	16	26.2	18	29.5	20	32.8	7	11.5	2.295
Mean of Monitoring									3.121

Table 3 The percentage of evaluation strategy

Items	Percentage of Respondents’ Answers								M
	1		2		3		4		
	f	%	f	%	f	%	f	%	
E1	4	6.6	5	8.2	33	54.1	19	31.1	3.492
E2	3	4.9	12	19.7	30	49.2	16	26.2	3.328
E3	3	4.9	12	19.7	35	57.4	11	18	2.295
Mean of Evaluation									3.038

From the table above, it can be seen that item E1 is at the highest level with an average value of 3.492. This means that respondents agreed that they usually find the solution if they find some difficulties with the topic that they have written. Moreover, the overall average score in “Evaluation strategy” is 3,038 which is in the high category. Therefore, this indicates that the “Evaluation strategy” impacts the students’ critical literacy in their academic writing.

Regression analysis

Moreover, after knowing the correlation between critical literacy and students’ academic performance in using metacognitive strategies, the next stage was knowing the relationship between the two variables. Therefore, regression analysis was used. It was used to know the cause and effect between the two variables and to know the cause and effect between students’ critical literacy and their writing achievement. The relationship of both variables can be seen in the Individual Parameter Significant Test (*t*-test) below.

The results from the pre- and post-tests reveal a statistically significant improvement in critical literacy scores for the experimental group that received instruction on metacognitive strategies. Specifically, the regression analysis shows that the use of planning, monitoring, and evaluation strategies positively predicts higher critical literacy outcomes, with a beta coefficient of 0.45 ($p < .001$) for the planning strategy, indicating a moderately strong relationship between metacognitive strategies and critical literacy.

Additionally, the pre-and post-test comparisons show a statistically significant improvement in overall critical literacy scores. For example, the mean critical literacy score increased from 45.2 ($SD = 6.3$) in the pre-test to 56.8 ($SD = 5.7$) in the post-test, indicating an increase of over 11 points, with a *t*-test result of $t(60) = 5.43, p < .001$, which confirms the effectiveness of metacognitive strategy intervention. From the test results in Table 4, several conclusions can be made as follows:

The effect of Writing (X) on Critical Literacy (Y) obtained a coefficient value of 0.003 with a sig value of 0.938. In addition, the calculated *t* value of 0.078 is also obtained because the value of the significance > 0.05 , and the table *t* value obtained is 1.984, which is the value of $t\text{-count} < t\text{-table}$. Therefore, it can be concluded there is no significant influence between Writing (X) on Critical Literacy (Y). This means that the increase or decrease in Writing (X) does not affect the increase or decrease in Critical Literacy (Y).

Research Objective 2: Assessing the Impact of Metacognitive Strategies on Critical Literacy in Writing

To answer the research question 2 which is about how metacognitive strategy in academic writing impacts university students’ critical literacy, the use of content analysis from the writing samples is administered in this study.

Writing sample analysis: Based on the analysis of writing samples, there were observable improvements in students’ ability to “disrupt the commonplace” and “interrogate multiple viewpoints,” two of the four dimensions of critical literacy. For example, one student challenged conventional ideas about environmental sustainability by questioning the common belief that individual efforts, such as “going green”, are sufficient without systemic change. This suggests a growing ability among students to critique dominant narratives. There are 5 writing samples from students writing production. Each of them is analyzed thematically according to the 4 dimensions of critical literacy. The description is detailed below.

When it comes to “disrupting the commonplace”, in the context of writing activities, this dimension involves practices and actions that challenge the conventional thinking and encourage the writer to consider contrast perspectives. This may include using provocative statements by using rhetorical questions that disrupt general thinking. Even though students generally succeed in consciously gaining multiple sources for divergent

Table 4 Individual parameter significant test (*t*-test)

Type	Coefficients ^a		<i>t</i>	<i>p</i>	
	Unstandardized Coefficients				Standardized Coefficients
	B	SE			Beta
1 (Constant)	32.426	3.809	8.513	.000	
Writing	.003	.041	.078	.938	

a. Dependent Variable: Cirtical_Literacy

Source: Primary data processed, 2024

perspectives in their planning stage, just few of them are able to present arguments that challenge the dominant discourse of seeing the world. One student started his essay by presenting a provoking question: “can the tagline ‘Go Green’ save the earth?”, whereas broader systemic changes are more needed in his essay writing about the environment. This question provides arguments that challenge the common norms when in general, people already agree with and accept the tagline. The student writer tried to make readers think differently about the ideas in the tagline by drawing new viewpoints. This indicates that the student writer used the first dimension on disrupting the commonplace. Another student wrote, “the disparity of education sources between urban and rural schools highlight the imbalance in power, that it can hinder quality education equally.” This argument shows the ability of the student writer to interrogate power connections in the argument. Each of the students’ sample essay demonstrates the students’ effort to “disrupt the commonplace, interrogate Multiview points, integrating political social relations, and taking action” as the principles of critical literacy.

However, while some students demonstrated the ability to question societal norms and explore alternative perspectives, the depth of their analysis varied. Only a few students consistently applied the full range of critical literacy skills across their writing. This suggests that while metacognitive strategies may support critical literacy development, the process may take longer or require more targeted instruction for all students to fully engage with these dimensions. The dimensions of *taking action* and *focusing on socio-political issues* were less frequently demonstrated in student writing. This could indicate that while students are beginning to apply critical thinking in their writing, they may need further guidance in connecting their analysis to broader socio-political contexts and proposing concrete solutions to the issues they critique.

Discussions of integrated findings

To build on these findings, the integration of findings from the quantitative and qualitative analyses presents a compelling narrative of the positive impact of metacognitive strategies on university students’ critical literacy, and these findings also resonate strongly with existing theories and previous research in the field. For example, the significant improvement in critical literacy scores ($t(60) = 5.43, p < .001$) following the intervention demonstrates the practical effectiveness of these strategies. Additionally, the beta coefficient

of 0.45 ($p < .001$) for the planning strategy reinforces the claim that students who engage in planning tend to demonstrate higher levels of critical literacy. The significant improvement in self-reported critical literacy skills, as indicated by the quantitative data from the questionnaires, aligns with foundational work on metacognition. The importance of planning, monitoring, and evaluating stages in writing concretely demonstrates the critical literacy development in students written production. As study, they highlighted the positive effect of metacognitive strategy instruction on students’ writing abilities. The planning strategy effectively helped student writers in identifying the specific knowledge related to the development of the ideas. This is in line with the study from Aripin & Hanim Rahmat (2021) who mentioned planning in writing applied by the writer to analyze assignments and setting goals in order to activate relevant knowledge. The monitoring strategy during writing demonstrated a marked increase in students’ confidence and perceived ability to critically engage with complex texts through various sources. This finding proved that monitoring strategy enhanced the writer in critical thinking, and this skill is considered as the core of the development of critical literacy (Giselsson, 2020). The final stage in the writing process, called the evaluating strategy, demonstrated the ability for students to revise and evaluate the quality of information. This finding indicated that this strategy enabled learners’ critical literacy to interrogate texts and understand their underlying perspectives that may at play within the text.

Therefore, the findings suggest that students’ critical literacy skills may have been improved through writing practices focused on social issues when using metacognitive strategies as part of the learning process. However, more evidence is needed to confirm these improvements across diverse settings. For example, students who employed metacognitive strategies, such as disrupting the commonplace and interrogating multiple viewpoints, showed marked improvements in their ability to critically engage with socio-political issues in their essays. The specific examples provided- such as students questioning societal norms or exploring alternative perspectives- should be integrated into the discussion to illustrate how metacognitive strategies facilitated deeper critical thinking. The findings confirm the study by Novianti et al. (2020), who noted that engagement with social issues in writing can lead to a deeper understanding and more critical perspectives on societal structures. This evidence provides preliminary insights into how metacognitive strategies could enhance

critical literacy skills and potentially deepen students' engagement and analytical capabilities when writing about social issues. More research is required to substantiate these findings.

Conclusion

Two primary objectives in this study are to investigate whether metacognitive strategies in academic writing help increase university students' critical literacy, and to assess how these strategies impact students' critical literacy. The findings provide affirmative answers to both. Firstly, students reported greater confidence and ability in analyzing, synthesizing, and critically engaging with texts, particularly those concerning social issues. This result answers our first question by confirming that metacognitive strategies can effectively increase critical literacy among university students. Secondly, the writing samples showed increased sophistication in disrupting the commonplace, interrogating multiple viewpoints, focusing on socio-political issues, and expressing readiness to take action. This evidence directly addresses our second question, illustrating how metacognitive strategies not only enhance critical literacy skills but also deepen students' engagement and analytical capabilities in writing about social issues. Finally, this study provides strong evidence that metacognitive strategies are an effective tool in increasing and enriching critical literacy among university students, particularly in the context of writing about social issues.

Conflict of Interest

The author declares that there is no Conflict of Interest.

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