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META-MIND SESSIONS AS A PEDAGOGICAL STRATEGY TO STRENGTHEN CRITICAL THINKING IN FIRST-YEAR BSED STUDENTS AT THE INTERNATIONAL SCHOOL OF ASIA AND THE PACIFIC

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ABSTRACT: *Critical thinking is a cornerstone of higher education, enabling students to move beyond rote memorization toward analytical, reflective, and applied learning. This study aimed to enhance the critical thinking skills of first-year Bachelor of Secondary Education (BSEd) students at the International School of Asia and the Pacific (ISAP) through structured MetaMind Sessions integrated into The Contemporary World course. Specifically, it sought to (1) measure students' pre-test and post-test scores in critical thinking, (2) determine the effectiveness of MetaMind Sessions in improving these skills, and (3) calculate the effect size of the intervention. The study employed classroom-based action research using a pre-test–post-test experimental design with 10 first-year BSEd students. Instruments included situational and application-based assessments, while the intervention consisted of metacognitive and interactive strategies such as Cornell note-taking, Socratic questioning, concept mapping, group demonstrations, and reflective evaluation. Data were analyzed using frequency counts, percentage distribution, paired t-tests, and Cohen's d to determine statistical significance and effect size. Findings revealed a significant increase in mean scores from pre-test (23.3) to post-test (33.6), with a large effect size (d = 2.23), indicating that MetaMind Sessions were highly effective in strengthening students' critical thinking abilities. The intervention fostered a shift from passive to active learning, encouraging deeper analysis, collaboration, and reflective engagement. It is concluded that MetaMind Sessions serve as a transformative pedagogical strategy for cultivating critical thinking in teacher education. The study recommends that administrators promote metacognitive teaching approaches, teachers integrate structured critical thinking activities into curricula, students adopt reflective study habits, and future researchers expand the scope of similar interventions across disciplines and institutions.*

Keywords: *Critical thinking; MetaMind Sessions; BSEd students; Contemporary World; metacognition; action research; pedagogy*

INTRODUCTION

Critical thinking in the context of the 'The Contemporary World' course enables students to connect with global concerns including sustainability, inequalities, and technological innovation in a systematic and informed way. In Indonesia, the findings in the study of Rusmin et al. (2024) reveals that students who are exposed to curricula that emphasize critical thinking and problem-solving are better equipped to tackle real-world challenges, demonstrating enhanced creativity, adaptability, and decision-making abilities. Similarly, in United States, Walck-Shannon et al. (2021) emphasizes that active study habits involving metacognitive strategies (planning, monitoring, evaluating learning) and deep engagement with material lead to better critical thinking outcomes compared to passive habits like rote memorization or highlighting. On the other hand, rote memorization emphasizes the recall of facts without understanding underlying concepts, leading students to learn "what to think" rather than "how to think." As a result, students often struggle to analyze new situations, solve problems, or adapt knowledge to real-world contexts (The Human Project Foundation, 2023).

In the Philippines, the Commission on Higher Education (2021), through CHED Memorandum Order No. 42, Series of 2021, supports the implementation of critical thinking, analysis, and problem-solving skills, which are essential components of teacher education and can be enhanced through structured workshops. Furthermore, study of Borbon et al. (2025) shows that both critical thinking skills and study skills were at high levels among students and significantly correlated with academic success. The study presents that domains of study skills-such as time management, note-taking, and reading strategies-alongside critical thinking abilities, played crucial roles in improving students' academic performance. Unfortunately, many learners continue to rely on rote memorization rather than in-depth, reflective learning.

At International School of Asia and the Pacific (ISAP) this problem is evident among first-year Bachelor of Secondary Education (BSEd) students enrolled in The Contemporary World course. While students generally score well on tests, answers tend to reflect on the surface-level comprehension, with insufficient analysis and review. This shows a gap between

academic performance and actual critical thinking abilities. To address this, study habit workshops serve as a practical method for assisting students in transitioning from passive to more active, reflective, and critical learning styles.

STATEMENT OF THE PROBLEM

Critical thinking empowers students to analyze, interpret, and apply knowledge beyond memorization. At the International School of Asia and the Pacific, many first-year BSEd students struggle with real-life tasks requiring deeper reasoning, highlighting the need for strategies like study habit workshops to support meaningful learning.

RESEARCH OBJECTIVES

1. To enhance the critical thinking skills of first-year BSEd students through study habit workshops.
2. To shift students' learning strategies from memorization to deeper understanding and concept application.
3. To explore students' perceptions of the effectiveness of study habit workshops in improving their learning and thinking skills.

IV. Research Questions

1. What is the pre-test and post-test score of the participants in "The Contemporary World" subject?
2. How effective is the MetaMind session in increasing critical thinking of the participants in "The Contemporary World" subject?
3. What is the effect size of the scores of the participants in "The Contemporary World" subject?

RESEARCH METHODOLOGY

A total of 10 first-year BSEd students enrolled in The Contemporary World course at the International School of Asia and the Pacific. The study used classroom-based action research to improve the critical thinking skills of first-year BSEd students through study habit workshops. Also, a pre-test and post-test experimental design was employed to assess the effectiveness of the intervention.

To gather data, the researcher utilized multiple instruments aligned with the research questions to capture the impact of the MetaMind Sessions. A pre-test and post-test with situational and application-based questions were administered to evaluate students' critical thinking skills prior

and after the intervention. The pre-test served as a diagnostic tool, and students who performed poorly on critical thinking were recruited for the study.

The intervention, termed as "MetaMind Session," involved structured activities like Cornell note-taking, Socratic questioning, concept mapping, demonstration, and introspection. These sessions were conducted after the pre-test to help students improve their learning skills while promoting deeper understanding.

Finally, Cohens-d was used to determine the effect size, which indicated how much students improved after the intervention and whether the change had a significant difference.

These data collection methods align with best practices highlighted in the literature review by Afzal et al. (2024), Allen (2025), and Cornejo et al. (2025), ensuring a reliable evaluation of the intervention's effectiveness in the local context of 10 first-year BSEd students at International School of Asia and the Pacific.

The participants' pre-test and post-test scores will be analyzed using frequency count and percentage distribution to show score patterns. Also, paired-t-test will be used to determine whether the study habit workshop or MetaMind session significantly improved critical thinking skills. Lastly, to measure how big the improvement is, Cohens-d will be used to calculate the effect size between the two sets of scores.

ACTION PLAN

This action plan aims to enhance the learning experience of first-year BSEd students by integrating interactive strategies that promote critical thinking, deeper understanding, and effective study habits during Contemporary World lessons. It seeks to shift learners from passive recipients of information to active participants in the learning process by employing reflective, collaborative, and inquiry-based approaches that foster meaningful engagement and long-term retention.

General Objectives:

1. to enhance the critical thinking skills of first-year BSEd students through interactive activities.
2. to shift students' learning approaches from memorization to deeper understanding and concept application.
3. to explore and improve students' perceptions of study strategies through reflective assessments and feedback.

Table 1. Implement interactive activities during the Contemporary World lessons over a four-week period.

Activities/ Strategies	Objectives	Persons involved	Time Frame	Expected Outcomes
Conducts pre-test assessment	To determine students' prior knowledge and understanding of key concepts related to the subject matter.	Teacher and students	Week 1 (First Meeting): Conduct pre-test assessment. Week 1 (Second Meeting) to Week 2: Implement Cornell Note-taking strategy and Socratic Method activities.	Improved their baseline understanding and to identify learning gaps.
Cornell Note-taking workshop	To equip students with effective note-taking skills using the Cornell Method to enhance their learning and retention of information.			Organized and effective note-taking.
Socratic-method utilization	Develop students' critical thinking and communication skills through art of questioning.			Demonstrated deeper understanding of concepts, and practice respectful, analytical discourse.
Engage in concept mapping and comparative	To enable students to visually organize and compare key ideas	Teacher and students	Week 3: Conduct comparative analysis on global	Created accurate and insightful

analysis on global religion	and practices of major world religions.		religions and facilitate group demonstration; Week 4: Administer post-test and conduct feedback session.	concept maps or comparative charts that show clear relationships and distinctions among global religions
Students present through a group demonstration activity.	To foster collaboration and synthesis of knowledge by working together to present learned concepts creatively			Delivered a well-structured semi-detailed lesson plan.
Administer a post-test and gather feedback	To evaluate student learning after the instructional activities and provide constructive feedback for improvement.			Improved understanding from the pre-test to the post-test, and received feedback to reinforce strengths and address any remaining gaps.

Week 1-2:

Introduced a pre-test, which acted as a baseline for determining their initial abilities. Cornell Note-taking was conducted which is structured for improving note-taking and knowledge retention. Following that, the Socratic Method was employed, which emphasizes the art of questioning in the topics on globalization specifically economic globalization in order to elicit experiential and practical lessons that are relevant to students' lives.

Week 3-4:

Students did concept mapping and comparative analysis to determine similarities and differences between world religions. They held group demonstrations of final topics which needed a Semi-Detailed Lesson Plan (SLP). A post-test, identical to the pre-test, measured improvement in scores and critical thinking, followed by feedback for future development.

FINDINGS AND DISCUSSIONS

Table 2. Pre-test and Post-test Mean Scores

Group	N	Mean	SD
Pre-test score	10	23.3	5.66
Post- test score	10	33.6	4.50

Table 2 shows the pre-test and post-test mean scores of the first-year BSEd students at the International School of Asia and the Pacific. As shown in the table, there was a significant increase in critical thinking skills resulting from the MetaMind session. Their mean score increased from 23.3 in the pre-test to 33.6 in the post-test. This implies that students demonstrated a significant improvement in their ability to think critically after participating in the MetaMind session. For instance, the study of Guo et al. (2024) shows that integrating collaborative and reflective learning leads to significant improvements in analytical and critical thinking skills. Similarly, Alpindo et al. (2024) affirms a significant correlation between metacognition and critical-thinking skills, highlighting a robust effect of metacognition on critical-thinking skills, reflected in a significant measure of r = 0.649. Thus, increasing metacognitive abilities will improve critical-thinking abilities.

Table 3. Effectiveness of the Intervention to the Critical Thinking Skills of the Participants

Group	t-value	p-value
Pre-test score	-7.05	<.001

Post- test score		

Table 3 shows the effectiveness of the intervention to the critical thinking skills of the participants. A paired t-test revealed a statistically significant improvement ($t = -7.05$, $p < .001$), with a p-value below 0.05 indicating strong statistical evidence that the intervention significantly improved the participants' critical thinking skills. This implies that the MetaMind session had a measurable, positive effect on the participants' critical thinking abilities. According to Fatma (2023), effective teaching methodologies, including project-based learning and group activities, can cultivate metacognitive skills, thereby enhancing students' critical thinking capabilities. In line with this, Conception (2024) highlights that programs aligned with the Philippine Professional Standards for Teachers (PPST) emphasize the use of research-based pedagogical approaches, inquiry-based learning, and real-world problem-solving tasks to cultivate critical and creative thinking skills among students. These programs are meant to provide teachers with the skills necessary to develop higher-order thinking in a variety of learning environments, including BSEd students and subjects such as Contemporary World. Thus, the study underscores the value of the MetaMind session in improving critical thinking and learning outcomes within the local context of International School of Asia and the Pacific.

Table 4. Effect Size on the Critical Thinking Skills of the Participants

Group	Effect size
Pre-test score	2.23
Post- test score	

Table 4 shows the effect size on the critical thinking of the participants. The effect size of 2.23 suggests a very large significance, suggesting that the MetaMind session was highly significant in improving students' critical thinking in *the Contemporary World* course. This implies that the MetaMind session is an exceptionally effective teaching strategy for enhancing critical thinking in the Contemporary World course. The results are consistent with other studies that highlight the benefit of metacognitive training in boosting analytical thinking and academic achievement. For instance, interventions that combine metacognitive activities such as reflective questioning, self-evaluation, and collaborative problem-solving with critical thinking instruction result in measurable gains in students' ability to analyze, evaluate, and synthesize information (Rivas et al., 2022). In addition, the study of Oalanoarov (2024) revealed a significant improvement in the students' critical thinking abilities, suggesting that metacognitive strategies can play a vital role in enhancing students' cognitive and analytical

skills. The findings contribute to the growing body of research supporting the integration of metacognitive strategies into educational curricula to foster critical thinking.

CONCLUSION

Based on the findings, the researcher reached the following conclusions:

The findings of this study show a meaning improvement in how first-year BSEd students at the International School of Asia and the Pacific engage with learning. Prior to the intervention, students often relied on rote memorization and struggled to apply their information in complex, real-world, or analytical contexts. The MetaMind session, with its planned and progressive activities such as diagnostic assessment, Cornell note-taking, Socratic dialogue, concept mapping, group demonstration, and reflective evaluation, pushed students beyond surface-level understanding to deeper cognitive engagement. These strategies encouraged critical thinking, independent reasoning, and meaningful connections between ideas. More than just improving academic performance, the intervention fostered a shift in mindset from passive learning to active, reflective participation. By emphasizing inquiry, collaboration, and real-world relevance, the MetaMind session empowered students to navigate complexity, challenge assumptions, and become thoughtful, informed individuals.

As a result, it demonstrated its value as a transformative tool in teacher education, cultivating not only cognitive skills but also a learner-centered approach that future educators can carry toward into their own practice.

RECOMMENDATIONS

Based on the findings presented and the conclusions drawn, the researcher recommends the following:

1. School Administrators: Promote research-based metacognitive teaching strategies through faculty development, aligned with the PPST and focused on critical and higher-order thinking.
2. Social Science teachers: Should incorporate systematic metacognitive approaches, such as the MetaMind session, into the Contemporary World curriculum and related courses.
3. Students: Actively develop metacognitive study habits and critical thinking by engaging in processes that emphasize understanding, analysis, and application over memorization.
4. Researchers: Explore the effectiveness of interactive and metacognitive teaching strategies across various disciplines. Investigate their impact on student engagement, concept mastery, and independent learning in different educational contexts.

5. Future researchers: Conduct more studies with bigger and more varied student populations from various academic institutions to validate and further expand on the findings. It is also advised that metacognitive procedures be studied in the long term for their impact on academic achievement and other cognitive skills.

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