

Improving English Reading Comprehension via Murdoch Integrated Approach on Students of Grade 5 in Thailand

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Article Info	Abstract
Received: 20 March 2025 Reviewed: 1 April 2025 - 10 June 2025 Accepted: 21 June 2025 Published: 26 June 2025	<p>Purpose This study aimed to test the effect of the Murdoch Integrated Approach (MIA) on English reading comprehension and analytical reading skills among Thai Grade 5 students.</p> <p>Methodology A one-group pretest-posttest design was employed with 37 Grade 5 students as participants. The intervention consisted of eight 16-hour MIA learning sessions conducted over one semester. Two 30-item multiple-choice tests—one for reading comprehension and one for analytical reading—were administered before and after the intervention. The tests were validated by experts, with Item-Objective Congruence (IOC) values between 0.60 and 1.00. Discrimination indices and reliability coefficients were also reported for both tests.</p> <p>Results/Findings Dependent t-test results showed significant improvements in both reading comprehension and analytical reading scores. Reading comprehension scores increased from 15.08 to 20.78 ($t(36) = 9.5, p < .000$), and analytical reading scores improved from 14.57 to 18.11 ($t(36) = 8.77, p < .000$).</p> <p>Implication These findings suggest that the Murdoch Integrated Approach has potential to enhance students' reading skills. However, the absence of a control group means findings should be interpreted with caution. Future research using a true experimental design is recommended to provide stronger evidence of MIA's effectiveness.</p>
Keywords: Analytical skills; Critical thinking; Murdoch integrated approach; Reading comprehension; Thailand	

1. Introduction

English reading comprehension and critical thinking skills are crucial for Thai students in today's interconnected world. Proficiency in English opens doors to a vast repository of knowledge, research, and opportunities in various fields, including science, technology, business, and international relations (Grabe & Stoller, 2019).

In an increasingly globalized society, the ability to access and understand information presented in English is essential for academic success, professional advancement, and active participation in the international community (Thai Minister of Education, 2008). Furthermore, strong reading comprehension skills are fundamental for developing critical thinking abilities, which are necessary for analyzing information, forming reasoned judgments, and solving complex problems (Cottrell, 2017). These skills are not only vital for academic achievement but also for navigating the complexities of modern life.

Developing critical thinking skills through reading is particularly important in the Thai context. As Thailand continues to integrate into the global economy, its citizens need to be equipped with the analytical and problem-solving skills necessary to compete in a dynamic and competitive job market (Charoenwongsak, 2010; Ratanasaenwong, 2012). Critical thinking enables individuals to evaluate information objectively, identify biases, and formulate well-supported arguments (Ennis, 2018). These skills are essential for decision-making, effective communication, and innovation, all of which are crucial for personal and national development. Moreover, fostering critical thinking through English language learning can empower Thai students to become independent learners, capable of engaging with diverse perspectives and contributing meaningfully to their communities.

The Murdoch Integrated Approach (MIA) has been regarded as an effective approach to improve reading comprehension and critical thinking skills in language learning (Murdoch, 1986, 2020). Therefore, this research aims to investigate the effectiveness of the MIA to significantly enhance English reading comprehension and critical thinking skills of elementary Grade 5 students in Thailand. Accordingly, a couple of H1 hypotheses are proposed:

- 1.1. Did the 5th-grade students demonstrate a significant difference in terms of reading comprehension after receiving English instruction using the MIA approach?
- 1.2. Did the 5th-grade students demonstrate a significant difference in terms of analytical skills after receiving English instruction using the MIA approach?

2. Literature review

2.1. MIA

MIA, developed by Murdoch (1986) and further refined (Murdoch, 2020), offers a structured framework for enhancing students' language learning. This approach comprises the following essential steps: Initially, engaging questions are posed to activate students' prior knowledge and ignite their interest. Following this, students are grouped and brainstorm to develop and refine their questions about the learning topics. These questions serve as guidelines for later exploration and learning. Before searching for relevant information, explicit vocabulary instruction is conducted to allow students a better understanding of the texts. Students then interpret, integrate, and summarize the collected texts, pictures, figures, and data to answer their self-proposed questions. Furthermore, students are urged to transfer their acquired knowledge to other contexts, which demonstrates a robust understanding. On the other hand, students are prompted to practice writing. Students are expected to utilize grammatical structures and sentence patterns learned through reading to complete reports. Subsequently, students make presentations in turn to share their findings, which requires oral communication skills and the use of technology, such as computers and projectors. Formative and summative assessments are provided to help teachers adjust their teaching and identify further skills students need. In MIA, teachers also encourage students to reflect on their changes before and after learning. This metacognitive reflection is a powerful tool for promoting deeper reading comprehension.

2.2. Enhancing reading comprehension

MIA significantly enhances reading comprehension by fostering student engagement and self-directed learning. Initially, MIA cultivates purposeful reading through inquiry-based learning. This framework provides students with a clear rationale for reading, enabling them to focus on specific questions and actively seek answers. These student-generated questions subsequently guide information searching and facilitate active engagement in research, requiring students to question, analyze, and critically evaluate source material. Additionally, MIA typically incorporates a diverse range of text resources, including books, articles, websites, and primary sources, providing students with opportunities to practice reading comprehension skills within authentic contexts. Moreover, MIA promotes collaborative learning environments where discussion, clarification, and the co-construction of diverse viewpoints are integral. The processes of notetaking and information synthesis further support comprehension by enabling students to organize their thinking and establish connections between disparate ideas. Finally, MIA commonly requires students to present and share significant findings, which reinforces their understanding and highlights areas that require further clarification.

2.3. Facilitating critical thinking skills

MIA is intrinsically linked to the development of critical thinking skills in students. The inquiry-driven nature necessitates students' engagement in critical thinking processes. MIA encourages students to formulate their own questions, a fundamental aspect of critical thinking. By generating questions, students begin to analyze the topic at hand, identify areas of interest, and develop a purpose for their learning. Thus, students move beyond passively receiving information and actively pursue answers.

In their search for information, MIA requires students to evaluate its sources and discern credible information. Students are supposed to critically assess, interpret, and synthesize the information they access to identify patterns and draw their own conclusions. They also need to be aware of the potential trustworthiness of information sources. These skills are essential for navigating the abundance of information available today and are crucial for developing reliable opinions. These higher-order thinking skills are hallmarks of critical thinking.

Furthermore, MIA encourages students to apply their learning to new contexts for problem-solving and decision-making. Additionally, reflection is a key component of MIA. Students are encouraged to think about their learning process, evaluate their own thinking, and consider how their understanding has changed. This metacognitive reflection is a higher-order critical thinking skill that allows students to become more aware of their own learning and thinking processes.

2.4. Lesson design

This experimental study designed a teaching process using the MIA approach, which is composed of five phases (Murdoch, 1986). The experimental lesson consists of eight 16-hour lesson plans for Grade 5 students. This section uses one lesson, on global warming, as an example for interpretation.

The initial phase, "Tuning In," focuses on sparking curiosity and activating prior knowledge. Compelling visuals, such as a video or image montage depicting the effects of global warming, serve to capture student interest and establish the relevance of the topic. A provocative opening question encourages students to begin thinking critically about the issues at hand. This is followed by a class brainstorm, where students share their existing knowledge and ideas related to global warming and climate change. A KWL chart (Know, Want to know, Learned) is introduced to formalize this process, allowing students to articulate what they already understand and identify areas they wish to explore further.

The subsequent phase, "Finding Out," centers on student-driven inquiry. Students, guided by the questions they generated in the previous phase, embark on a research journey. Working in small groups, they delve into specific aspects of global warming, exploring topics that resonate with their interests. A variety of age-appropriate resources are provided, including curated websites from reputable organizations like NASA and NOAA, as well as age-appropriate articles, books, videos, and documentaries. Critically, explicit instruction in research skills, including evaluating sources, effective note-taking, and information synthesis, is provided to equip students with the necessary tools to conduct meaningful research.

The "Making Sense" phase emphasizes the synthesis, connection, and conceptualization of the information gathered during the research phase. Each group prepares and delivers a presentation summarizing their findings, fostering collaborative learning and communication skills. Class discussions are facilitated to connect the various aspects of global warming, highlighting the interconnectedness of different environmental systems and the complex nature of the challenge. The creation of a class concept map visually represents these interconnected relationships, providing a powerful tool for understanding the broader context of global warming. An optional "expert panel" activity, where each group acts as specialists on their chosen topic, can further deepen engagement and knowledge sharing.

The "Taking Action" phase shifts the focus to application and communication. Students are challenged to develop and implement action projects aimed at addressing global warming at a local level. These projects can range from organizing school-wide recycling campaigns to creating educational materials for the community or writing letters to local representatives. This phase instills a sense of agency and empowers students to make a tangible difference. Creative expression is also encouraged, allowing students to explore their understanding through various mediums, such as writing, art, or digital media. Sharing these projects and creative works with a wider audience, whether through a school assembly, local newspaper, or online platform, amplifies student voices and promotes community awareness.

The final phase, "Going Further," focuses on extending learning and reflection. Students are encouraged to consider how their understanding of global warming has evolved and what they have learned throughout the process. This metacognitive reflection is crucial for developing deeper understanding and promoting self-directed learning. Further inquiry into related topics that sparked student interest is encouraged, allowing them to pursue their own lines of investigation. Connecting the unit to real-world events and current news stories reinforces the relevance of the topic and highlights the ongoing nature of the climate challenge. Throughout the entire process, assessments are integrated to monitor student progress, provide feedback, and evaluate learning outcomes.

3. Methods

A purposive and convenience sampling method was used in an elementary school located in Amnat Charoen Province, Thailand, where the researcher's affiliated university is located. This school had eight 5th-grade classes, and one of them was randomly recruited for the experiment. One class containing 37 students from Grade 5 was recruited.

3.1. Research design

As shown in Table 1, a One-Group Pretest-Posttest Design was employed in this study. This means that no comparative group was used; however, a pretest was conducted to compare the outcomes with the posttest after the MIA intervention.

Table 1: One group pretest posttest design

Pre-test	Variables	Post-test
T1	X	T2

Annotation: T1 is a test before learning management
 X is MIA learning management
 T2 is a test after learning management

3.2. Instruments

Two English reading tests were developed to assess the Grade 5 students: The English Reading Comprehension Test and The Analytical English Reading Test. The former targeted reading comprehension ability, while the latter focused on critical analysis ability. Both tests consisted of 30 multiple-choice questions, each with four options. Students were tested before and after receiving MIA instruction. Five experts evaluated the tests for the Index of Item Objective Congruence (IOC), resulting in a range of 0.60 to 1.00 for both tests. The English Reading Comprehension Test demonstrated a Discrimination Index between 0.25 and 0.88 and a reliability of 0.54. The Analytical English Reading Test had a Discrimination Index ranging from 0.22 to 0.78 and a reliability of 0.60.

3.3. Data analysis

Dependent t-tests were conducted to determine whether a statistically significant difference existed between the pre- and post-test scores.

3.4. Research Procedures

A pretest of the English Reading Comprehension Test and the Analytical English Reading Test was administered to assess students' prior knowledge in the second week of the first semester of 2024. Over the semester, eight learning plans, each spanning sixteen hours, were implemented. In the second-to-last week of this semester, posttests of the same two tests were administered to evaluate the progress of reading comprehension and analytical skills.

3. Results

Dependent t-tests were used to determine if there were significant differences between pre- and post-test results for both reading comprehension and analytical skills.

For reading comprehension, a dependent t-test was conducted to compare abilities before and after the intervention. The results showed a statistically significant difference ($t(36) = 9.5$, $p < .000$) between the pre-test ($M = 15.08$, $SD = 3.69$) and post-test ($M = 20.78$, $SD = 3.76$) scores. This indicates that the intervention had a positive impact on reading comprehension abilities.

Table 2: reading comprehension between pre-test and post-test

Situation	N	Full Score	Mean	SD	t	df	Sig. (2-tailed)
Pre-test	37	30	15.08	3.69	9.50	36	0.000***
Post-test	37	30	20.78	3.76			

*** $p < .001$ level

As shown in Table 3, a dependent t-test was conducted to compare analytical reading abilities before and after the intervention. The results indicated a significant difference between the pre-test ($M = 14.57$, $SD = 2.94$) and post-test ($M = 18.11$, $SD = 3.30$) scores, with $t(36) = 8.77$, $p < .000$.

Table 3: Analytical English reading before and after instruction (N=37)

Situation	Full Score	mean	SD.	t	df	Sig. (2-tailed)
Pre-test	30	14.57	2.94	8.77	36	0.000***
Post-test	30	18.11	3.30			

*** $p < .001$ level

4. Discussions and conclusions

This study investigated whether MIA instruction could significantly enhance reading comprehension and critical thinking skills in Grade 5 students in Thailand. A quasi-experimental design was adopted to examine the results. A pre-test to post-test increase from 15.08 points to 20.78 points was observed in English reading comprehension scores. A similar pattern of improvement was evident in analytical English reading scores, which increased from 14.57 points on the pre-test to 18.11 points on the post-test. Overall, the observed significant increases in mean scores following a single semester of intervention using the MIA approach are noteworthy.

These findings are consistent with existing literature (Suwanpanich, 2018; Noksin & Rodkroh, 2022; Prasansap, 2018; Sari, Oktaviani & Yulfi, 2020) that has documented significant gains in reading comprehension following interventions incorporating MIA principles. Furthermore, the statistically significant differences observed support the efficacy of the MIA approach in enhancing students' analytical skills, a result that aligns with research conducted by Sriphrom (2019) and Poolsawat (2021), who also reported significant improvements in analytical thinking and reading abilities using MIA and related methodologies. Notwithstanding these positive findings, a limitation inherent in the research design warrants consideration. One main constraint is the use of purposive and convenience sampling methods, which limits the generalizability of the results to the broader population of Thai students. In addition, the absence of a control group in the One-Group Pretest-Posttest Design precludes definitively attributing the observed improvements to the MIA intervention. Confounding variables, such as maturation or other external influences, cannot be definitively excluded as contributing factors to the statistically significant differences observed between pre- and post-test administrations. Consequently, a conservative interpretation of these results is recommended. It is suggested that future research implement a true experimental design to eliminate the potential variables confounding the research results.

Declaration of conflicting interest

The authors declare that there is no conflict of interest in this work.

Funding acknowledgment

The author received no financial support for the research, authorship, and publication of the article.

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