

Investigating Critical Reading Strategies and Challenges among Thai EFL University Students: A Mixed-Methods Study

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Abstract. English as a Foreign Language (EFL) education widely acknowledges the importance of critical reading strategies in fostering individual scholarship. The revised Bloom's Taxonomy served as a framework for interpreting and exploring these issues. This study aims to identify and analyze critical reading strategies and their challenges among EFL students in Thailand. This research focuses on the critical reading strategies employed by 75 Thai third-year students majoring in English at a university in Songkhla Province, Thailand, as well as the challenges they faced when reading academic English texts. Using quantitative methods through questionnaires and statistical analysis, as well as qualitative methods through interviews and thematic analysis, the data was collected through surveys (n=75) and interviews (n=13). The results show the dominance of low-level strategies, and that the main difficulties are vocabulary and understanding complex texts. The students tended to rely on basic strategies, primarily those associated with lower-order thinking skills (e.g., highlighting key words and rereading for context comprehension), while neglecting higher-order strategies (e.g., evaluating credibility or synthesizing ideas). The exploratory factor analysis showed six components relating to higher-order thinking skills, especially "Analyzing" and "Evaluating," based on the revised Bloom's Taxonomy. Limited vocabulary knowledge hindered the students' critical reading abilities, as they reported struggling with complex texts or lengthy passages. This research contributes to extending the literature regarding the critical reading strategies utilized by Thai EFL students. Curriculum designers and educators in higher education should create supportive learning environments both inside and outside classes that enhance Thai students' critical literacy.

Keywords: critical reading strategies; EFL learners in Thailand; higher education; reading comprehension; mixed-methods research

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1. Introduction

The ability to read critically in a foreign language is an essential skill for English as a Foreign Language (EFL) learners, particularly at the university level. Critical reading involves not only the comprehension of the text but also the ability to analyze, evaluate, and interpret the material thoughtfully (Khamkhong, 2018), including questioning and reflecting on any challenges to the beliefs and values of readers (Begunova, 2018). Several studies across Asian countries, including Thailand, have indicated that EFL learners encounter difficulties when critical reading, even where they showed positive attitudes and perceptions of critical reading (Apairach, 2023; Din, 2020; Em & Khampirat, 2025; Ha Van Le et al., 2024; Rungswang & Kosashunhanan, 2021; Shamida et al., 2023).

Resource limitations and insufficient exposure to native English-speaking contexts frequently impede English competency in Thailand's educational systems, despite English being a mandatory subject at all educational levels (Emilia et al., 2025). The lack of resources and immersive experiences often leads to a gap in practical language skills – reading skills, in particular (Rosano et al., 2025), leaving students unprepared for real-world communication. As a result, many learners struggle to achieve proficiency, which hampers their academic and professional opportunities in an increasingly globalized world.

In Thai universities, the students continue to struggle with English reading, even though English critical reading is one of the compulsory courses (Ratanaruamkarn et al., 2023). When students are required to engage with an English text critically, they fail to apply critical reading strategies. For example, Apairach (2023) and Rungswang and Kosashunhanan (2021) found that Thai undergraduate students faced difficulties when reading, including guessing the meanings of unknown words and using different reading strategies.

Even though critical reading strategies, considering the Bloom's Taxonomy, have been increasingly experimented with, most students employed fundamental reading strategies (Apairach, 2023; Namsaeng & Sukying, 2021; Wichanee & Thongrin, 2024). Morsi and Rezk (2025) asserted that improved critical reading and literary analysis skills strengthens the capacity of students to express their ideas and promote sustainable practices and equality. Moreover, it involves the students' ability to assess the reliability of sources, to cross-reference data from several sources, and to assess the bias and language employed in the information's presenting (Maulida, 2025).

Therefore, understanding how Thai learners employ critical reading strategies can help educators design more effective reading instruction that enhances the students' analytical abilities and academic performance. Significantly, the strategies employed by EFL learners to engage in critical reading have not been extensively explored using a mixed-methods study, especially in the context of Thailand (Ratanaruamkarn et al., 2023). This study aims to investigate the critical reading strategies used by third-year English major students at a university in Songkhla, Thailand. By using a mixed-methods approach that combines a survey

and semi-structured interviews, this study aims to examine the critical reading strategies used by EFL students in Thailand and the challenges they face as a basis for developing a more effective curriculum. The research addressed the following questions:

RQ1: What critical reading strategies do students use while reading academic texts in English?

RQ2: What challenges do students encounter when using critical reading strategies?

This study can contribute to the field of English as a Foreign Language (EFL) by expanding the knowledge base on the critical reading strategies of Thai EFL learners. Moreover, this study offers practical recommendations for educators in designing effective reading instruction that fosters critical reading skills and metacognitive awareness.

2. Literature Review

2.1 The Concept of Critical Reading

Critical reading is widely recognized as a higher-order cognitive process that involves not only comprehending the text but also evaluating how well the authors justify the claims they make and the credibility of the sources used in the text. This evaluation relies not only on the information provided by the authors but also on the reader's relevant knowledge, experience, and the inferences the reader can draw from them (Ennis, 1985; Wallace & Wray, 2011).

It could be assumed that the more readers experience reading academic texts, the better they will comprehend the content and read critically. In the EFL context, Goatly (2000) stated that reading English texts could be challenging for those who are from non-native speaking countries. To read critically, a reader needs to consider vocabulary, grammar, and sentence structures, including cultural relations. Punkasirikul (2020) asserted that vocabulary development and sentence pattern awareness are primary steps in the reading process.

This foundational step is followed by the application of critical reading strategies such as scanning, skimming, identifying organizational patterns, and forming conclusions. Nguyen and Nguyen (2024) argued that students could significantly improve their comprehension by employing sequential strategies such as summarizing, inferencing, scanning, predicting, and skimming. Begunova (2018) and Fraser (2024) pointed out that critical readers are grounded in logic, evidence, and an open attitude, acknowledging the biases, assumptions, and motivations of both the author and audience. Unlike surface-level reading, critical reading requires readers to engage actively with the text, questioning its assumptions, identifying arguments, evaluating evidence, and synthesizing information from multiple sources.

Ennis (1985, p.47) describes the concept of critical reading as having roots in the broader field of critical thinking, as "*reasonable reflective thinking focused on deciding what to believe or do*". In this sense, critical reading is not simply about what a text says but also about how and why it says what it does – and whether it should be

believed. It encourages readers to look beneath the surface of the text, to uncover underlying ideologies, to detect bias, and to evaluate the strength of present arguments (Butterfuss et al., 2020; Kazazoglu, 2022). Many times, readers are required to connect their past experiences with their prior knowledge during reading (Juliana & Anggraini, 2024). While critical reading is a key component of academic literacy in first-language contexts, its importance in second and foreign language education has become increasingly recognized.

In EFL settings, the integration of critical reading is essential for fostering learners' academic skills, particularly in environments where English has become a powerful tool in communication. However, critical reading constitutes unique challenges for EFL learners, who lack not only the language competence to decode complex texts but also the cultural knowledge and background schemas necessary to critically interpret them (Butterfuss et al., 2020; Kazazoglu, 2022).

Critical reading is also situated within a broader literacy framework that includes both cognitive and sociocultural dimensions. In a cognitive context, it requires metacognitive awareness—readers must plan, monitor, and evaluate their understanding of the text (Juliana & Anggraini, 2024). Engaging in strategies such as questioning the author's purpose is done to identify logical fallacies or make inferences (Khamkhong, 2018; Wichanee & Thongrin, 2024).

From a sociocultural standpoint, critical reading is influenced by the reader's context, values, and prior experiences (Begunova, 2018; Butterfuss et al., 2020). As Paul and Walsh (1988, cited in Kazazoglu, 2022, p.1) stated, this skill does not develop on its own since receiving direct instruction has been a strong preference among students (Ampo et al., 2025). As a result, critical reading involves guided support, interpretation, inquiry, and an evaluation of power dynamics to understand the different schemas hidden in the text.

Recent developments in educational policy and curriculum design have underscored the need to integrate critical literacy practices into EFL teaching. National curricula in various countries, including Thailand, now emphasize the importance of developing the learners' critical thinking and analytical skills since a lack of critical thinking skills has been found (Sirisitthimahachon, 2018). Despite its theoretical appeal, the actual implementation of critical reading instruction in EFL classrooms remains inconsistent and under-researched (Ratanaruamkarn et al., 2023). To anchor this issue, investigating the strategies that students used while they are reading could be beneficial for teachers to determine an appropriate way to help students develop their English critical reading skills.

2.2 The Revised Bloom's Taxonomy and Critical Reading

Since the revised Bloom's taxonomy has been widely known as an effective conceptual framework, especially in English language teaching to help educators better understand the level of students' critical reading skills, it was utilized in this study to explore Thai university students' critical reading strategies use. Bloom's taxonomy proposes a hierarchy of cognitive learning objectives comprising six levels, starting with basic recall and advancing through

progressively complex and abstract cognitive processes, with evaluation representing the highest level. It comprises six categories, namely Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation (Krathwohl, 2002). In EFL classrooms, it has been applied especially in English reading courses since it was found to categorize student cognition levels in reading tasks (Ha Van Lee et al., 2024). Mayer (2002) suggested that the original taxonomy mostly focused on retention but the revised taxonomy emphasized the concept of transfer, highlighting the importance of students applying their acquired knowledge in conjunction with prior knowledge to make informed judgments when confronted with novel situations.

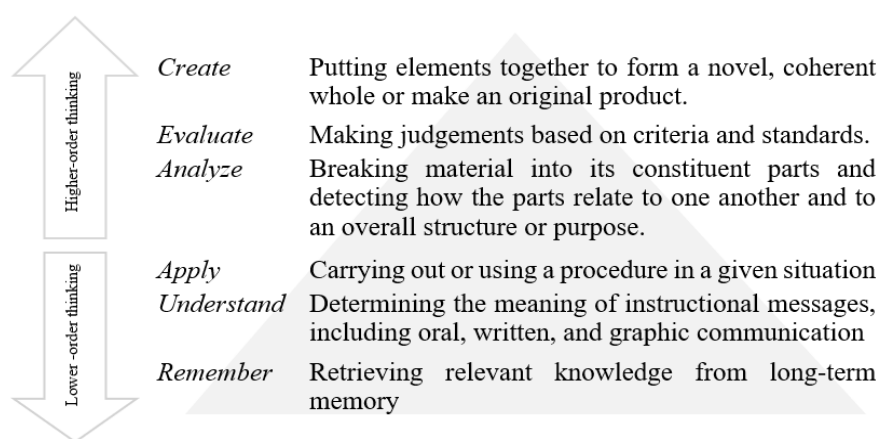


Figure 1: The Revised Bloom's Taxonomy (Krathwohl, 2002, p.15)

Krathwohl (2002) developed the revised Bloom's taxonomy which focused more on cognitive processes, meaning that "Analyze", "Evaluate", and "Create" were grouped in the higher-order thinking level, whereas "Remember", "Understand", and "Apply" were grouped in the lower-order thinking level. To enhance the understanding of Thai learners' use of critical reading strategies, the revised Bloom's Taxonomy provides a comprehensive explanation regarding this concern (see Appendix 1).

2.3 Strategies Used in Critical Reading

Critical reading goes beyond reading for comprehension. It requires integrating reading comprehension skills and critical thinking (Khamkhong, 2018). As Kazazoglu (2022) suggested, literature serves as a tool for critical thinking, enabling students to engage with the authors' perspectives in texts and to gain new insights through interpretation, analysis, and understanding. Recognizing the structure of a paragraph or text helps readers understand and follow the content of a text easier, such as explaining a sequential approach, linking one sentence to the next, and weighing up the descriptive facts or arguments for and against a proposition (Goatly, 2000).

To be critical readers, recognizing the purpose of a text is necessary, including identifying the author's main goal, looking for evidence of the author's intent, analyzing the historical background of the work, and rereading the text with a new perspective. Although various strategies have been found that effectively

enhance students' critical reading skills (e.g., Juliana & Anggraini, 2024; Kazazoglu, 2022), it is still questionable whether the application of these strategies is effective. When students have encountered academic texts outside their classes, they struggle due to their limited understanding of critical reading strategies, which has affected the students' attitudes and their proficiency regarding critical reading (Din, 2020; Ha Van Le et al., 2024; Ratanaruamkarn et al., 2023; Rosano et al., 2025; Shamida et al., 2023). Thai university students faced various difficulties when reading, including guessing the meanings of unknown words, and their ability to read between the lines, which often required the students to infer deeper meanings and themes that were not explicitly stated (Apairach, 2023; Rungswang & Kosashunhanan, 2021).

Moreover, a reader's past experience and prior knowledge also play crucial roles in critical reading (Butterfuss et al., 2020; Rungswang & Kosashunhanan, 2021), as they help the reader predict the content of a text, recognize which reading strategies could be applied, and go through the steps of lower-order thinking skills, such as scanning, skimming, inferencing, and summarizing (Juliana & Anggraini, 2024; Nguyen & Nguyen, 2024). Many Thai students are not sufficiently motivated to read English texts, although English is compulsory in Thailand. The scores of the students' English Ordinary National Educational Test (O-NET) scores showed low proficiency, as reported by the National Institute of Education Testing Service (NIETS, 2023).

Between 2019 and 2021, Thailand's average score was 39.06 out of 100, with Songkhla province having a score of 40.05. Apparently, the students' reading abilities relate to their learning environment, especially their previous school policy, lecturers, and their individual behavior (Rungswang & Kosashunhanan, 2021). The ability to comprehend and analyze academic texts critically requires these skills to engage with the ideas of the texts and to analyze the reliability of the sources that the authors used to claim their arguments (Fraser, 2024). This is challenging but essential.

Importantly, when it comes to obtaining higher order thinking skills, recognizing the authors' intentions and uncovering new insights through interpretation, exploration, integration, reflection, and evaluation while addressing critical questions are requested (Catoto, 2024; Fraser, 2024; Kazazoglu, 2022; Khamkhong, 2018; Morsi & Rezk, 2025; Wichanee & Thongrin, 2024). With the challenges mentioned, it is unsurprising why Thai students have encountered difficulties when engaging with complex texts. To identify appropriate approaches to enhance the Thai students' critical reading skills in places where critical reading has been insufficiently emphasized, an exploration of the strategies that students usually use while they are reading is necessary. This study could contribute to the knowledge of critical reading in the Thai context.

3. Methodology

This study exploited a mixed-methods design, incorporating both quantitative and qualitative data collection methods. This method helps to better understand the reading strategies used by EFL learners by combining the general trends

found in the questionnaire with the supporting information obtained from the interviews. This comprehensive approach allows for a more nuanced analysis of the participants' experiences and perspectives, ultimately leading to more effective instructional strategies tailored to their needs.

3.1 Population and Participants

The population of the study consisted of 86 Thai third-year English-major students enrolled in the first semester of the 2025 academic year at a university in Songkhla province, Thailand. The students were chosen through purposive sampling. As this group of students was required to do research in their fourth year, understanding their critical reading strategy usage would be beneficial to help the teachers plan their lessons and prepare the students for the research subject. The participants were required to pass at least one reading course held by the program with a GPA higher than 2.00, which is the minimum requirement for graduation from the university. Seventy-five students voluntarily completed the survey, and 13 of those 75 agreed to participate in the interviews.

3.2 Instruments

An online questionnaire was designed considering the critical reading strategies that students frequently used and found problematic in previous studies (e.g., Apairach, 2023; Maab et al., 2024; Rungswang & Kosashunhanan, 2021). The revised Bloom's Taxonomy by Krathwohl (2002) was used to investigate the students' use of critical reading strategies as it could explain the level of reading strategies used by the students, focusing on cognitive processes. The questionnaire includes multiple-choice items, 5-point Likert scale items, and an open-ended question. It was divided into three parts, with 57 items in total.

Part 1 was designed to present multiple choices (6 items) to gather the general information of the respondents. Part 2 was designed using a 5-point Likert scale (5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, and 1 = strongly disagree), which includes two sections: the 40 critical reading strategies items, which were distributed across the revised Bloom's taxonomy, and the 10 challenges faced when using critical reading strategies items. Part 3 is an open-ended question, which allowed the students to provide suggestions or comments related to employing critical reading strategies or the challenges students faced when they read a text.

A semi-structured interview was designed regarding a list of questions to get insights into the students' experiences and perceptions regarding critical reading strategies and the challenges students face when using critical reading strategies. The interview questions were designed to explore how the students approach reading tasks and their self-reflection when using critical reading strategies. Prior to the data collection, the research instruments were validated by applying the Index of Item Objective Congruence (IOC) to determine whether the content was correlated to the objective of the study. They were checked by three experts who have been teaching English in higher education institutions for more than 10 years.

The results showed that the average score of the IOC of the questionnaire was 0.98, while the reliability of Cronbach's alpha coefficient indicates a high value (0.933). The alpha value being above 0.7 is considered to indicate sufficient reliability, and values above 0.80 indicate high reliability across all items (Maab et al., 2024). Additionally, the IOC result for the interview questions was 0.97. Given that the mean score exceeds 0.5 (Rovinelli & Hambleton, 1977), and we can use the research instruments for the data collection.

3.3 Data Collection Procedure

All participants were informed of the purpose of the study, the procedure, and their right to withdraw from the study at any time. Additionally, it was explained that their personal data would be kept confidential and would only be used for research purposes. Then the researcher invited all participants to sign a consent form before conducting the survey. The QR code along with the questionnaire was distributed. The researcher was with them during the questionnaire completion in case they needed assistance. The 75 participants voluntarily signed the consent form and completed the questionnaire. They spent approximately 30 minutes completing it, and no missing data was found in the questionnaire.

Semi-structured interviews were conducted with 13 voluntary participants who completed the survey. They were allowed to respond either in Thai or in English regarding their experiences and perceptions related to critical reading strategies. Each interview took place face-to-face in a meeting room for approximately 10-15 minutes.

3.4 Data Analysis

3.4.1 Quantitative Analysis

Data from the questionnaire was analyzed in SPSS using descriptive statistics to identify the critical reading strategies that the students employed, as well as the frequency of their strategy use. The descriptive statistics used were the mean, standard deviation, and percentage. Exploratory factor analysis was used to identify the latent factors of the set of variables affecting the students' employment of English critical reading strategies. The criteria for interpreting the measured values of the Likert rating scale are: 4.20-5.00 = strongly agree, 3.40-4.19 = agree, 2.60-3.39 = neutral, 1.80-2.59 = disagree, and 1.00-1.79 = strongly disagree.

3.4.2 Qualitative Analysis

The data from the open-ended question in the questionnaire and the interviews was transcribed and analyzed using thematic analysis. This approach involves identifying recurring themes and patterns in the responses to uncover deeper insights into the students' experiences and perceptions of critical reading. The transcribed data from the interviews were approved by the interviewees before analysis to prevent transcription errors. The repeated patterns of meaning found in the transcription were coded, and then each code was linked and grouped under the same themes. An intracoder was adopted to ensure the consistency of the data coded.

3.5 Ethical Considerations

Ethical approval for the study was granted by the ethic committee from the Institutional Review Board for Human Subject Research at Sirindhorn College of Public Health, Yala. Certificate of Approval No. SCPHYLIRB-2568/405 was issued on June 19, 2025, and all participants were thoroughly informed about the study's objectives, procedures, and their right to withdraw from the study before providing their consent form. Additionally, the participants were explained that their personal data would be kept confidentially and were only used for research purposes.

4. Results and Findings

4.1 Demographic Data of the Participants

Regarding the 75 students, the majority of participants were female ($n=57$, 76%), followed by male ($n=16$, 21.3%), other ($n=1$, 1.3%), and prefer not to say ($n=1$, 1.3%). Most of them were aged between 18 and 21 ($n=67$, 89.3%), followed by between 22 and 25 ($n=8$, 10.7%). The majority received grades C (moderate) in the English reading course ($n=16$, 21.3%), followed by C+ (above moderate) ($n=15$, 20%), B (good) ($n=13$, 17.3%), D (very poor) ($n=10$, 13.3%), B+ (very good) ($n=8$, 10.7%), D+ (poor) ($n=8$, 10.7%), and A (excellent) ($n=5$, 6.7%).

The majority of students exhibited moderate confidence in their English reading comprehension skills ($n=41$, 54.7%), followed by low confidence ($n=24$, 32%), high confidence ($n=6$, 8%), and very low confidence when reading English texts ($n=4$, 5.3%). Concerning the frequency of reading academic English texts beyond the classroom, the majority of students ($n=31$, 41.3%) sometimes engaged with such texts outside of class, followed by rarely engaged with texts ($n=25$, 33.3%), and never engaged with texts ($n=13$, 17.3%). Not many of them responded often ($n=5$, 6.7%) or always ($n=1$, 1.3%) for reading academic English texts in their own time.

4.2 Quantitative Data Insights

The following tables disseminate the results of the overall scales on critical reading strategies use based on the revised Bloom's taxonomy (Krathwohl, 2002).

Table 1: The mean score of Thai undergraduate students' lower-order thinking skills

Items	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Mean (\bar{x})	S.D.	Level of Agreement
Remembering								
1. I read English academic texts more than once to understand them.	1	10	20	27	17	3.65	1.020	Agree
11. I underline or highlight key points while reading.	4	9	12	28	22	3.73	1.166	Agree
21. I look for unfamiliar words and try to understand them from context.	1	11	23	15	25	3.69	1.127	Agree

Items	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Mean (\bar{x})	S.D.	Level of Agreement
23. I read introductions and conclusions carefully to understand the main message.	3	16	26	20	10	3.24	1.063	Neutral
24. I take time to reread difficult parts of the text.	11	21	18	25	75	3.76	1.076	Agree
Overall mean						3.61	1.090	Agree
Understanding								
3. I identify the main arguments in academic texts.	9	30	28	5	3	2.51	.935	Disagree
6. I use background knowledge to interpret the text.	0	8	28	21	18	3.65	.966	Agree
12. I identify the author's purpose in the text.	7	19	32	13	4	2.84	1.001	Neutral
13. I ask myself questions while reading.	6	12	24	18	15	3.32	1.199	Neutral
14. I summarize what I've read in my own words.	3	20	24	18	10	3.16	1.091	Neutral
22. I distinguish between facts and opinions in the text.	1	16	23	21	14	3.41	1.067	Agree
25. I identify the tone or attitude of the author.	6	13	32	17	7	3.08	1.050	Neutral
29. I relate the reading content to my field of study.	3	16	34	19	3	3.04	.892	Neutral
30. I read English texts with a specific purpose or goal in mind.	3	12	29	19	12	3.33	1.057	Neutral
Overall mean						3.15	1.029	Neutral
Applying								
8. I take notes or highlight while reading academic texts.	3	16	18	27	11	3.36	1.098	Neutral
10. I discuss what I read in English with classmates or friends.	11	12	26	20	6	2.97	1.162	Neutral
27. I use graphic organizers (e.g., mind maps, outlines) to structure what I've read.	18	27	22	7	1	2.28	.980	Disagree
Overall mean						2.87	1.080	Neutral
Note: n=75								

Table 1 shows the different levels of how the students engaged with reading strategies, indicating that “remembering”, which is the simplest level in the revised Bloom’s taxonomy, has the highest mean score (\bar{x} =3.61, S.D. 1.090), while “applying”, the most advanced level of lower-order thinking skills, has the lowest mean score (\bar{x} =2.87, S.D. 1.080). The results indicate that the students mostly used foundation reading strategies, such as rereading (\bar{x} =3.76, S.D. 1.076), underlining or highlighting important points (\bar{x} =3.73, S.D. 1.166), finding unfamiliar words

and trying to understand them in context (\bar{x} =3.69, S.D. 1.127), and reading English academic texts multiple times for better understanding (\bar{x} =3.65, S.D. 1.020). These strategies were at an agreement level in the “remembering” phase.

The analysis showed that the students were not likely to use critical reading strategies in “understanding” (\bar{x} =3.15, S.D. 1.029) and “applying” (\bar{x} =2.87, S.D. 1.080), as their answers suggested they were neutral about using the strategies in those categories. In the “understanding” category, the students agreed that they used background knowledge to comprehend the text (\bar{x} =3.65, S.D. 0.966) and distinguished between facts and opinions within the text during reading (\bar{x} =3.41, S.D. 1.067). The students expressed disagreement on the utilization of a method for recognizing main arguments in academic texts (\bar{x} =2.51, S.D. 0.935) and the application of graphic organizers to structure their readings (\bar{x} =2.28, S.D. 0.980).

Table 2: The mean score of Thai undergraduate students’ higher-order thinking skills

Items	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Mean (\bar{x})	S.D.	Level of Agreement
Analyzing								
2. I question the author’s opinion when reading English texts.	6	14	36	13	6	2.99	1.007	Neutral
4. I compare different authors’ viewpoints when reading.	5	26	24	13	7	2.88	1.078	Neutral
7. I look for bias or assumptions in what I read.	2	22	30	16	5	3.00	.944	Neutral
15. I look for evidence that supports or contradicts the author’s claims.	8	25	27	10	5	2.72	1.047	Neutral
16. I analyze how the argument is organized.	5	31	25	10	4	2.69	.972	Neutral
17. I make connections between the text and other readings.	4	16	33	14	8	3.08	1.024	Neutral
26. I check other sources to verify the claims in the text.	4	28	29	10	4	2.76	.942	Neutral
31. I examine the author’s reasoning to decide if their argument is valid.	2	22	35	13	3	2.91	.857	Neutral
32. I look for logical fallacies (e.g., false cause, generalization) in the author's argument.	6	29	28	11	1	2.63	.882	Neutral
36. I identify emotional or persuasive language and assess its impact on the argument.	5	23	30	14	3	2.83	.950	Neutral

Items	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Mean (\bar{x})	S.D.	Level of Agreement
37. I differentiate between the author's opinions and facts presented.	1	13	29	23	9	3.35	.951	Neutral
38. I ask myself how the author's background or context might influence their perspective.	2	26	29	77	7	2.93	.991	Neutral
39. I look for gaps or missing information in the author's explanation or argument.	10	20	29	11	5	2.75	1.079	Neutral
Overall mean						2.89	.979	Neutral
Evaluating								
5. I check the credibility of sources when reading online articles.	3	15	25	20	12	3.31	1.090	Neutral
9. I reflect on how the reading connects to real-life situations.	0	13	23	22	17	3.57	1.029	Agree
18. I evaluate whether the author's arguments are logical.	3	22	25	22	3	3.00	.959	Neutral
19. I read critically to form my own opinion on the topic.	2	16	31	14	12	3.24	1.051	Neutral
28. I reflect on how the reading changes or influences my opinion.	4	22	31	14	4	2.89	.953	Neutral
34. I check the author's use of evidence (e.g., data, sources) for accuracy and credibility.	8	25	19	21	2	2.79	1.056	Neutral
35. I reflect on the author's assumptions and whether they are justified.	3	30	28	9	5	2.77	.953	Neutral
Overall mean						3.08	1.013	Neutral
Creating								
20. I revise my understanding of a topic after reading new materials.	4	13	32	15	11	3.21	1.069	Neutral
33. I combine ideas from different texts to develop my own arguments or conclusions.	4	21	25	18	7	3.04	1.058	Neutral
40. I synthesize ideas from multiple readings to form my own critical perspective.	8	20	24	15	8	2.93	1.155	Neutral
Overall mean						3.06	1.094	Neutral
Note: n=75								

Table 2 indicates that "evaluating" has the highest mean (\bar{x} =3.08, S.D. 1.013), whereas "analyzing" has the lowest (\bar{x} =2.89, S.D. 0.979). The students exhibited engagement with employing reading techniques associated with higher-order

thinking skills at a neutral level, indicating infrequent usage of these methods while reading English academic texts. The predominant technique deployed by the students was reflecting on how the reading connects to real-life situations ($\bar{x}=3.57$, S.D. 1.029) at an agreement level. The identification of logical fallacies (e.g., false causation, generalization) in the author's argument was the least commonly applied strategy ($\bar{x}=2.63$, S.D. 0.882).

In an effort to ascertain the minimum number of factors necessary to identify the latent factors influencing the students' use of critical reading strategies, exploratory factor analysis was implemented to examine the dimensionality of the dataset, which comprises numerous indicators in part 2. In the initial estimation, 10 components were found to have eigenvalues exceeding one. Any items exhibiting repetition and lacking connections with other items were removed.

The final results indicated that six factors had eigenvalues greater than one, which accounted for 66.43% of the total variance. The KMO test yielded a value of 0.879, with $p < 0.01$. The six factors for critical reading strategies employed by the EFL learners (Table 3) can be labelled as follows: critical engagement with academic sources (CR1), understanding and analyzing academic texts (CR2), constructing meaning across texts (CR3), strategic reading behavior with critical thinking (CR4), purposeful and reflective academic reading (CR5), and connecting texts to context and discipline (CR6).

Table 3: The factor structure of the critical reading strategies employed by the students

	Factor					
	CR1	CR2	CR3	CR4	CR5	CR6
Critical Engagement with Academic Sources (CR1)						
34. I check the author's use of evidence (e.g., data, sources) for accuracy and credibility.	.740					
35. I reflect on the author's assumptions and whether they are justified.	.721					
38. I ask myself how the author's background or context might influence their perspective.	.679					
36. I identify emotional or persuasive language and assess its impact on the argument.	.661					
32. I look for logical fallacies (e.g., false cause, generalization) in the author's argument.	.659					
39. I look for gaps or missing information in the author's explanation or argument.	.657					
31. I examine the author's reasoning to decide if their argument is valid.	.579					
25. I identify the tone or attitude of the author.	.484					
17. I make connections between the text and other readings.	.416					
Understanding and Analyzing Academic Texts (CR2)						
15. I look for evidence that supports or contradicts the author's claims.		.678				
14. I summarize what I've read in my own words.		.661				

	Factor					
	CR1	CR2	CR3	CR4	CR5	CR6
4. I compare different authors' viewpoints when reading.		.647				
3. I identify the main arguments in academic texts.		.625				
16. I analyze how the argument is organized.		.555				
12. I identify the author's purpose in the text.		.517				
Constructing Meaning across Texts (CR3)						
24. I take time to reread difficult parts of the text.			.758			
20. I revise my understanding of a topic after reading new materials.			.730			
40. I synthesize ideas from multiple readings to form my own critical perspective.			.640			
33. I combine ideas from different texts to develop my own arguments or conclusions.			.480			
Strategic Reading Behavior with Critical Thinking (CR4)						
6. I use background knowledge to interpret the text.				.788		
13. I ask myself questions while reading.				.570		
18. I evaluate whether the author's arguments are logical.				.551		
19. I read critically to form my own opinion on the topic.				.452		
Purposeful and Reflective Academic Reading (CR5)						
30. I read English texts with a specific purpose or goal in mind.					.723	
28. I reflect on how the reading changes or influences my opinion.					.662	
9. I reflect on how the reading connects to real-life situations.					.609	
22. I distinguish between facts and opinions in the text.					.440	
Connecting Texts to Context and Discipline (CR6)						
37. I differentiate between the author's opinions and facts presented.						.737
29. I relate the reading content to my field of study.						.462
Note: n=75						

Table 3 demonstrates that the critical reading strategies students employed were mostly higher-order thinking skills, namely "analyzing" and "evaluating". According to the results, CR1 presented all higher-order thinking strategies, which reflects critical engagement with the texts. It includes items related to evaluating evidence and credibility, questioning, detecting gaps, recognizing attitudes, and connecting ideas across texts. CR2 includes items related to using foundational reading comprehension with critical reading strategies.

CR3 includes items that highlighted reflection and self-regulation, as well as the integration and synthesis of multiple readings and viewpoints to develop new ideas. CR4 emphasizes the importance of asking questions and applying prior knowledge to form arguments. CR5 relates to strategy, analysis, and personal engagement, which emphasizes intentionality, critical engagement, and self-reflection. CR6 includes items about analytical reading with disciplinary relevance. Considering the challenges faced when using critical reading strategies, the results are presented in Table 4.

Table 4: The mean score of the challenges the students faced in using critical reading strategies

Items	Mean (\bar{x})	S.D.	Level of Agreement
41. I find it hard to understand complex vocabulary in academic texts.	4.11	.938	Agree
42. I struggle to identify the author's argument.	2.92	1.062	Neutral
43. I find it difficult to evaluate the evidence provided.	3.28	1.085	Neutral
44. I lack confidence in expressing disagreement with authors.	3.28	1.134	Neutral
45. I have trouble recognizing bias in texts.	3.04	1.084	Neutral
46. I feel limited by my English proficiency when trying to think critically.	3.60	1.013	Agree
47. I do not know how to analyze an author's reasoning.	3.03	.930	Neutral
48. I find it hard to connect what I read to others' knowledge.	3.11	1.169	Neutral
49. I rarely receive guidance on how to read critically in English.	3.00	.973	Neutral
50. I get overwhelmed by the amount of reading required in English courses.	3.33	1.044	Neutral
Overall mean	3.27	1.043	Neutral

Table 4 indicates that the students did not perceive there to be difficulty when employing critical reading skills, as the mean score aligns with a neutral stance. Only items 41 and 46 showed distinction at an agreement level, indicating that their weak English ability constrained their critical reading abilities.

4.3 Qualitative Data Insights

The qualitative data from the interviews (n=13) revealed that the reading strategies students frequently employed were focusing on the main idea and overall meaning, repeated reading for deeper understanding, and vocabulary and translation strategies.

Six participants (46.15%) emphasized their focus being on the main idea and overall meaning of a passage. The methods employed included underlining key points, analyzing sentence-by-sentence meaning, and rereading multiple times to comprehend the overall concept of a text. Some also participated in reflective

practices, such as questioning the text or analyzing sentence connections, to reinforce understanding.

"I focus on understanding the main idea and review the content." (ST2)

"...I identify the main ideas, consider possible meanings, look at how the sentences are connected, and sometimes ask questions or gather information from multiple sources to help me understand better." (ST9)

Six students (46.15%) mentioned repeated reading for developing a better understanding of the texts. They described that before reading more slowly to identify important details, the strategy they used most frequently was scanning or reading rapidly to grasp the gist. Many times, translation, prediction, and sentence simplification were applied with additional resources, such as dictionaries and internet research, to enhance comprehension when repeated reading alone was not sufficient.

"I usually read repeatedly to truly understand. I identify the main point of the passage, focus on it, and work to understand it clearly." (ST1)

"I read repeatedly and take time to understand the text. I start by identifying the vocabulary I already know and try to connect it with the situation in the passage. At first, I read through the entire text and translate as much as I can based on what I already understand. Then, I guess or predict the meanings of unfamiliar words by the context of the situation to help me figure them out." (ST5)

"I usually start by reading quickly to get a general idea, then go back and read slowly to identify the key points. It's important to look at the overall meaning of each sentence. If the sentence is really difficult, I might try removing some words to help me better understand the core message." (ST11)

Five students (38.46%) reported that they often used translation tools, i.e. Google Translate, and dictionaries to aid understanding.

"...If I don't know the words, I often use a dictionary or translating application." (ST3)

"... I try to read and translate the parts I understand, highlight unfamiliar words or sentences I can't translate, and then use websites or English dictionaries to help me find their meanings." (ST9)

"... I read to understand the content first, then use the internet to translate it again for more confidence. Most of the time, I use Google and online translation tools, and if the teacher is available, I ask them for clarification as well." (ST10)

Out of 13 students, most of them (n=5, 38.46%) mentioned that distinguishing facts from opinions was the most helpful reading strategy, followed by identifying the author's purpose (n=3, 23.08%), asking questions to deepen understanding (n=2, 15.38%), analytical reading with critical thinking (n=1, 7.69%), considering sources of information (n=1, 7.69%), and identifying main ideas (n=1, 7.69%).

Regarding the challenges students faced when trying to read critically in English, the participants reported that limited vocabulary knowledge was the most problematic (n=10, 76.92%), followed by identifying the main idea (n=6, 46.15%), and a lack of understanding of the overall meaning of the text (n=2, 15.38%). Additionally, one student (ST8) stated that she often lost concentration when reading a long passage.

"Difficult vocabulary and complex sentences are a big challenge for me because they make it hard for me to fully understand what I'm reading."
(ST1)

"When I don't understand the context and come across difficult vocabulary throughout the whole passage, I also get stuck and don't know how to move forward." (ST7)

"Many times, when I come across a difficult word, I can't continue translating and end up not understanding the whole passage." (ST13)

The study found that students mostly used simple reading strategies like underlining important points, looking at sentences one at a time, and reading texts again. A lot of people started by translating things into Thai to help them understand, and it was also common to scan for the main ideas. When the students came across words they didn't know, they usually stopped to look them up in a dictionary or online instead of figuring out what they meant from the context. Separating facts from opinions was thought to be the most helpful strategy, followed by figuring out the author's purpose, asking questions, and reading analytically, although these were used less often. Some students said they had trouble staying focused on longer texts, and the main problems were a limited vocabulary, trouble figuring out the main ideas, and trouble understanding the overall meaning.

The results also showed that they were not very confident and didn't have much experience with English texts, so they relied on translation and reference tools, which made it harder for them to learn more advanced skills. Most strategies showed lower-order thinking, like remembering and understanding. Only a few students were able to synthesize the information and come to their own conclusions. The factor analysis showed that people read the same thing over and over and relied on basic understanding. Overall, the results show that students need more focused instruction in higher-order thinking skills. The results also show that more research is needed on how to help students move on to more complex reading strategies.

5. Discussion

This research investigated the reading strategies employed by Thai undergraduates, focusing on the efficacy and constraints of their employment of strategies. The results show that most people relied on lower-order thinking skills as defined by the revised Bloom's Taxonomy. These skills include underlining or highlighting key points, figuring out what new words mean in context, rereading texts, using what they already know, telling the difference between facts and opinions, and relating readings to real-life situations. These strategies are basic, while advanced critical reading practices are not being used frequently. Students exhibited a reluctance or deficiency in identifying arguments within academic texts and infrequently utilized visual organizers for their comprehension—strategies that are essential for enhanced understanding and synthesis.

Also, while higher-order thinking skills related to the "Evaluation" phase were sometimes present, they did not seem to be used in a consistent way. The students were aware of the importance of critical engagement with texts, and they were making deliberate efforts to interact with the text analytically. Fraser (2024) noted that critical reading skills involve engaging with the ideas presented in texts and analyzing the reliability of the sources that authors use to support their arguments. The study indicated that the students used certain strategies while seldom employing others or only applying them in response to academic tasks.

For example, the students reported that they reread texts to highlight important content; however, they employed higher-order thinking strategies when reading—such as recognizing fallacies, evaluating source credibility, and synthesizing information from multiple sources—less often. This is congruent with the findings of the survey where the students' reading skill was not efficient. The students' critical reading skills could be affected by their prior knowledge or past experiences (e.g., Butterfuss et al., 2020; Catoto, 2024; Rungswang & Kosashunhanan, 2021).

These challenges arise from a lack of understanding of the materials, insufficient background knowledge, or inadequate practice applying analytical skills. As a result, the students struggled to engage deeply with the materials, hindering their overall academic performance. A lack of vocabulary and language skills hindered their ability to engage in critical thinking regarding the material, especially comprehending challenging academic texts. The study could be attributed to the students' level of reading competence, their academic experience in critical reading, or the pedagogical methods used in their language classes.

The comprehensive results of this study clarify that there are continual problems in relation to the students' exposure to and proficiency in critical reading strategies. Even though these skills are known to be important for doing well in educational institutions, students still encountered difficulties figuring out how arguments work and critically reading English texts, as Apairach (2023) and Rosano et al. (2025) point out. This raises important questions about how well current teaching methods work.

For example, the continuing difficulty of insufficient vocabulary knowledge is not only a linguistic obstacle but a problem that inhibits engagement with higher-level, reflective, and analytical reading strategies. The literature indicates (Shamida et al., 2023) that the students' lack of confidence regarding their interpretative skills decreases their ability to critically engage, frequently resulting in passive acceptance of textual viewpoints. This indicates a more profound, systemic issue because the development of critical reading skills is intrinsically connected to the overarching affective and contextual context of the learning environment. This study encourages a critical examination of the structural and pedagogical constraints present in the Thai academic environment.

Ampo et al. (2025) warn that students still rely heavily on their teachers for assistance, although there are various examples of teaching them how to read critically. This reliance could strengthen passive learning tendencies instead of promoting autonomous critical engagement. The students' low English proficiency in Thailand (EF Education First, 2023) makes things even more complicated. This indicates that difficulties in critical reading signify more significant challenges in language education. Thus, it is insufficient to advocate for motivation or organized practice without thoroughly considering the sufficiency of existing curricular frameworks, educator training, and the use of resources.

Additionally, the suggestion to combine critical reading with language and content teaching makes sense but it is challenging. There is a chance that critical reading will be added on instead of being a key part of academic literacy. Also, the way that power works in classrooms—where students may feel like they have to agree with what their teachers say—can make it hard for them to think critically. To fix these problems, we need more than just small changes to the curriculum. We need a big change to give students more power as active, independent learners and to create an academic culture that values different points of view and critical dissent.

In summary, the results highlight the necessity of explicit and cohesive critical reading instruction, while simultaneously revealing the insufficiency of existing instructions and the existing educational framework. Subsequent research and pedagogical initiatives must extensively analyze not only the approaches employed in teaching critical reading but also the influence of institutional, cultural, and emotional factors on the students' ability to engage critically with texts.

6. Conclusions

This study is able to contribute to the field of EFL education by examining the critical reading strategies utilized by Thai students. This study has indicated that students frequently employed basic strategies of the lower-order thinking level, and that sometimes they used higher-order strategies but not often. These are all important skills for academic engagement. It was also shown that understanding the meaning of words was the most essential factor in reading critically because the students often struggled when they read complex texts because of their limited

vocabulary knowledge. This affected their confidence when utilizing critical reading strategies.

According to the research results, the university EFL context should focus more on critical reading instruction, including English language development, reflective practice, and supportive learning environments. Furthermore, this study is significant as it was conducted with undergraduates, which constitutes a notable strength due to the limited number of mixed-method studies focused on English critical reading strategies used by Thai university students. Additionally, the context of study is a critical factor in comprehending the implications of critical reading strategies, therefore this study could reinforce the significance of research-informed practice within universities. It also contributes to understanding how to help EFL learners become better at critical reading strategies and employment.

This study has some limitations: first, the study was conducted with a small number of students at a single university in Songkhla province, Thailand, so the results cannot be generalized to other contexts or be representative of the whole country. Second, the inclusion of a pilot study should be considered to increase the reliability and validity of the research instruments. Third, the responses from self-reported questionnaires could present the bias of the participants, so this study recommends supplementing the self-reported data with classroom observations or reading performance assessments that could provide a more comprehensive picture of the students' actual strategy use. Lastly, this study used exploratory factor analysis only to identify the latent factors influencing the employment of critical reading strategies by students. It could be more efficient if there was an analysis of whether the variables are statistically significant in relation to the use of critical reading strategies.

The study suggests that curriculum designers and teachers should design, implement, and assess explicit critical reading strategy instruction – integrated with vocabulary development and critical reading training – to enhance students' motivation to read English academic texts. Arranging reading activities both in classes and outside classes, as well as designing games related to reading complex texts, will allow students engaging with critical reading strategies to focus on higher order thinking skills, which could be beneficial.

Creating a dynamic environment encourages positive experiences to do with English academic reading and this arouses students to engage with academic texts more frequently and confidently (Butterfuss et al., 2020; Fraser, 2024). The recommendation for future research is that it should include EFL learners from diverse academic institutions and cultural backgrounds to increase the generalizability and comparative value of the findings. More exploration of the pedagogical methods and curriculum design would be beneficial for further study.

7. Conflict of Interest

There is no conflict of interest.

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Appendix 1:

The Framework of the Revised Bloom's Taxonomy and Critical Reading Strategies

Lower-order Thinking Skills

Remembering	<ul style="list-style-type: none"> • Reading English academic texts more than once to understand them • Underlining or highlighting key points while reading • Looking for unfamiliar words and trying to understand them from context • Reading introductions and conclusions carefully to understand the main message • Taking time to reread difficult parts of the text
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Understanding	<ul style="list-style-type: none"> • Identifying the main arguments in academic texts • Using background knowledge to interpret the text • Identifying the author's purpose in the text • Asking questions while reading • Summarizing a text • Identifying the tone or attitude of the author • Relating the reading content to my field of study • Reading English texts with a specific purpose or goal in mind
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Applying	<ul style="list-style-type: none"> • Taking notes or highlight while reading academic texts • Discussing a text in English with classmates or friends • Using graphic organizers (e.g., mind maps, outlines) to structure a text
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Higher-order Thinking Skills

Analyzing	<ul style="list-style-type: none"> • Questioning the author's opinion when reading English texts • Comparing different authors' viewpoints when reading • Looking for bias or assumptions • Looking for evidence that supports or contradicts the author's claims • Analyzing how the argument is organized • Making connections between the text and other readings • Checking other sources to verify the claims in the text • Examining the author's reasoning to decide if their argument is valid • Looking for logical fallacies (e.g., false cause, generalization) in the author's argument • Identifying emotional or persuasive language and assess its impact on the
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	<p>argument</p> <ul style="list-style-type: none"> • Differentiating between the author's opinions and facts presented • Considering how the author's background or context might influence their perspective • Looking for gaps or missing information in the author's explanation or argument.
Evaluating	<ul style="list-style-type: none"> • Checking the credibility of sources when reading online articles • Reflecting on how the reading connects to real-life situations • Evaluating whether the author's arguments are logical • Reading critically to form own opinion on the topic • Reflecting on how the reading changes or influences reader's opinion. • Checking the author's use of evidence (e.g., data, sources) for accuracy and credibility • Reflecting on the author's assumptions and whether they are justified
Creating	<ul style="list-style-type: none"> • Revising reader's understanding of a topic after reading new materials • Combining ideas from different texts to develop reader's arguments or conclusions • Synthesizing ideas from multiple readings to form reader's critical perspective