Examining Critical Thinking Skills in Reading Tasks of an Indonesian Senior High School English Textbook

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Abstract

This study examines the cognitive demands and opportunities for critical-thinking engagement in reading-related tasks in *Bahasa Inggris untuk Siswa SMA-MA/SMK-MAK Kelas 10*, an English textbook for Indonesian senior high school students. Using a qualitative content analysis approach, 540 reading-related tasks across ten chapters were analyzed using Bloom's Revised Taxonomy to identify the cognitive demands of each task, and the resulting patterns were subsequently interpreted through Facione's critical-thinking framework. The findings reveal a significant imbalance between lower-order thinking skills (LOTS) and higher-order thinking skills (HOTS). Although HOTS-level tasks involving analyzing, evaluating, and creating were found in every chapter, only 59 tasks (10.93%) were classified as HOTS, while most activities emphasized remembering and understanding. In addition, the uneven distribution of HOTS tasks across chapters limited opportunities for students to engage in more analytical and reflective reading activities. This study contributes to EFL textbook evaluation by providing empirical evidence on task characteristics that support critical-thinking engagement and offers implications for the evaluation and development of reading task design.

Keywords: Bloom's taxonomy, Critical thinking, Textbook analysis, Reading tasks

1. Introduction

In English language learning as a foreign language (EFL), critical thinking can be developed through activities that require students to use language to understand, analyze, evaluate, and respond to information. In reading activities, students are not only asked to find explicit information in a text but can also be encouraged to make inferences, identify relationships between ideas, evaluate arguments and evidence, compare different perspectives, and explain their conclusions. In English textbooks, these skills can be seen in the types of questions and activities provided in reading tasks. Questions that only ask students to recall or find explicit information generally involve lower cognitive demands, while questions that ask students to draw conclusions, evaluate opinions based on evidence, compare perspectives, or provide reasons offer greater opportunities for critical thinking. Therefore, analyzing reading tasks in English textbooks can help identify both the cognitive levels required by the tasks and the critical-thinking skills they potentially promote.

Critical thinking is an intellectual ability that can analyze, evaluate, categorize, and synthesize information in order to make well-informed decisions (Akpur, 2020; Sumarni & Salsabila, 2023). Although critical thinking and Higher-Order Thinking Skills (HOTS) are closely related, they are conceptually distinct. HOTS refers to higher-level cognitive processes that involve analyzing,

evaluating, and creating, as reflected in the revised Bloom's Taxonomy. Critical thinking, meanwhile, focuses more specifically on the ability to reason, evaluate information and evidence, analyze arguments, and make informed judgments. Therefore, critical thinking can be understood as one important aspect or manifestation of higher-order thinking rather than being synonymous with HOTS. It encompasses a range of cognitive and intellectual skills such as reasoning, inferring, correlating, and analyzing effectively.

This include breaking down problems into smaller components, recognizing patterns, and applying algorithms core processes that support a systematic and structured approach to solving complex issues (Zakaria et al., 2023). Based on those expert's perspectives, critical thinking can be understood as a curiosity-driven, logical process that integrates cognitive strategies and computational techniques to navigate and resolve challenges effectively.

Critical thinking also stands as a fundamental educational requirement for the 21st century because it enables students to handle complex situations and solve problems (OECD, 2018; Vincent-Lancrin, 2024). Currently, Indonesia is responding to low student performance in international assessments, particularly the 2022 PISA results. The results indicated that Indonesian students' reading performance remained below the OECD average, raising concerns about students' ability to engage with complex information and higher-order cognitive processes (OECD, 2023).

In response to ongoing concerns about students' learning outcomes and the need to strengthen student-centered learning, the Indonesian government introduced the Merdeka Curriculum, which emphasizes student independence, creativity, and higher-order thinking. The reform requires teachers to use Bloom's Taxonomy as a framework for both teaching and assessment practices (Kemdikbudristek, 2022). English language instruction is essential in this situation. English is a key subject that is supposed to promote both cognitive and language development. Since textbooks are the main teaching resources, it is believed that they will encourage higher-order thinking. But it's still unclear how successfully these objectives are supported by the English textbooks now utilized in Indonesian senior high schools.

In ELT Indonesian Senior High Schools, English books are the core tools of curriculum implementation. However, even though at the national and international levels have referred to the importance of critical thinking, many textbooks still favor lower-order thinking skills (LOTS) than prompting students to analyze, create, and evaluate (Febriyani et al., 2020; Siregar et al., 2024). Items in reading comprehension sections of tests often lack inference, synthesis, or evaluative-type prompts. This implies that the potential of textbooks as instruments for fostering students' higher-order thinking skills is not been fully realized.

The *Bahasa Inggris untuk Siswa SMA-MA/SMK-MAK Kelas 10* textbook is used in public senior high schools. The study looks at how much this textbook helps or does not help students build their critical thinking abilities, particularly through reading comprehension exercises. The use of Bloom's Taxonomy has been repeatedly demonstrated in earlier research to aid in the cognitive, emotional, and psychomotor development of students. For example, Edi et al. (2024) found that tasks aligned with Bloom's higher-order categories can improve students' ability to analyze, evaluate, and create, while also enhancing motivation and language use. Additionally, research indicates that employing scaffolding tools like graphic organizers and incorporating critical literacy can improve students' comprehension and engagement even more (Jung, 2024; Min et al., 2023).

One of the most widely used frameworks in education for describing levels of thinking is Bloom's Taxonomy. Originally developed by Bloom in 1956 and later revised by Anderson et al., (2001), Bloom's Revised Taxonomy outlines six hierarchical cognitive processes: remembering, understanding, applying, analyzing, evaluating, and creating. Remembering refers to recalling, recognizing, and retrieving information from long-term memory. Understanding involves making sense of information obtained from spoken, written, or visual sources through activities such as interpreting, giving examples, classifying, summarizing, comparing, and explaining ideas. Applying refers to using a process or method in a particular situation. Analyzing involves breaking information into parts to examine how they are connected and how they contribute to a larger purpose or meaning. Evaluating refers to making judgments or decisions based on certain standards by examining information and providing criticism or justification. Finally, creating involves combining different elements to produce something new, useful, or organized through activities such as planning, designing, and developing new ideas or products.

However, researchers have noted that Bloom alone may not sufficiently capture the *qualitative nature* of critical thinking, especially the reasoning skills embedded within higher-order levels. This gap is addressed by Facione (2015) core critical thinking skills, which elaborates key reasoning skills such as interpretation, analysis, evaluation, inference, explanation, and self-regulation. Facione's model therefore complements Bloom by providing the micro-level descriptors of how critical thinking manifests within tasks that involve analyzing and evaluating. In this research, a joint application of Bloom's Revised Taxonomy alongside Facione's critical thinking model will be implemented.

Previous studies have examined the representation of critical thinking and higher-order thinking skills in textbooks and learning materials from various perspectives. The following studies provide relevant evidence of how critical thinking and higher-order thinking have been represented in Indonesian textbooks and EFL learning materials.

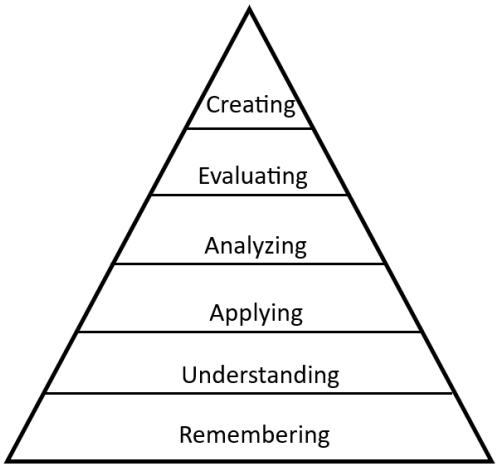

Figure 1. The Revised Version of Bloom's Taxonomy

Sadiah et al. (2024) did a qualitative content study to examine features of critical thinking in four Grade 4 Indonesian Language textbooks under the Merdeka Curriculum, published by Erlangga, Yudistira, Bumi Aksara, and Kemendikbudristek. The results demonstrated that these four publishers' textbooks, each with a distinct emphasis, clearly included elements of critical

thinking. Erlangga focused on "Obtaining and Processing Information and Ideas," Yudistira emphasizes "Reflecting on Thought and Thought Processes," while Bumi Aksara emphasized "Considering and Solving Problems." Lastly, the textbook from Kemendikbudristek likewise emphesized the "Considering and Solving Problems" part. The overall research emphasized how crucial it is to foster students' critical thinking skills from a young age because doing so is essential to educating them to become responsible, critical, and constructive members of society.

For the analytical categories, Hasnah et al. (2024) used Ilyas' critical thinking framework. English as a Foreign Language (EFL) course materials intended for students in grades X-XII were examined using a qualitative content analysis. The results demonstrated how few critical thinking variables were included in the textbooks. This suggests that English textbooks failed to address all critical thinking requirements. 76 out of 690 questions encouraged students to think critically in accordance with Ilyas's critical thinking framework, while the remaining questions left a vacuum in their critical thinking abilities. Viewpoints or perspectives, arguments and supporting data, and agreement and disagreement were among the assignments that demonstrated reasoning components.

In order to identify the critical thinking skills indicators and microlearning elements incorporated into the English reading materials for vocational school students in Indonesia, Sumarni & Salsabila (2023) conducted a content analysis. The integration of critical thinking skills was assessed using the eight critical thinking skill indicators put forward by Anderson et al. (2001). According to the study, reading materials for Grade X might include markers of critical thinking abilities. The analysis found that most of the critical thinking indicators included in the reading materials were at the levels of analysis and assessment.

Rinekso (2021) adopted a content analysis research design, with a EFL textbook used by Grade 7 students as the focus of the study. The purpose of this study was to examine how 21st century abilities were portrayed in an Indonesian EFL textbook. The results revealed that the textbook contained 21 examples of critical thinking and problem-solving techniques spread over several parts. Two of these were incorporated into visual resources, five were discovered in teacher-student roles, and fourteen were found in procedural exercises. Overall, the survey found that the English textbook *When English Rings a Bell* covered a number of 21st-century abilities, with cooperation and communication being the most prevalent.

Muhayimana et al. (2022) carried out a qualitative study in Rwanda, notably in Africa, to look into the cognitive levels of the questions used in the Primary Six Leaving Examinations given in Rwandan schools. The study employed Bloom's revised Taxonomy to scrutinize the cognitive levels of 574 exam questions. The results revealed that lower-order thinking skills (LOTS) questions (98.79%) outnumbered higher-order thinking skills (HOTS) questions (1.21%).

Taken together, previous studies have provided valuable evidence regarding the representation of critical thinking, higher-order thinking, and cognitive processes in textbooks. However, the existing studies have generally examined critical-thinking indicators and cognitive levels as separate dimensions. As a result, limited attention has been given to examining how the cognitive demands embedded in reading-related tasks are systematically distributed across a textbook and how these demands may be interpreted in relation to specific critical-thinking skills. This distinction is important because the presence of higher-order cognitive tasks alone does not necessarily explain which aspects of critical thinking students may have opportunities to engage in. Therefore, the present study addresses this gap by employing Bloom's Revised Taxonomy and

Facione's critical thinking framework in complementary roles. Bloom's Revised Taxonomy is used as the primary coding framework to systematically map the cognitive levels of the reading-related tasks, whereas Facione's framework serves as an interpretive lens for examining how the identified cognitive demands may provide opportunities for students to engage in specific critical-thinking skills.

Accordingly, this study aims to examine the cognitive demands embedded in the reading-related tasks of an Indonesian senior high school English textbook using Bloom's Revised Taxonomy, with particular attention to the representation and distribution of higher-order cognitive processes across chapters and task types. The identified patterns of cognitive demands are subsequently interpreted through Facione's critical-thinking framework to examine the extent to which the tasks provide opportunities for students to engage in specific critical-thinking skills.

2. Method

This study adopts a qualitative content analysis to examine how critical thinking skills are represented in the reading comprehension tasks of an Indonesian senior high school English textbook. Content analysis enables systematic interpretation of textual data and is particularly suitable for investigating the alignment between curriculum objectives and textbook task design (Krippendorff, 2019).

The data source is *Bahasa Inggris untuk Siswa SMA-MA/SMK-MAK Kelas 10*, which explicitly claims to promote critical and creative thinking in line with the Indonesian national curriculum (Djuharie, 2022). The unit of analysis consists of reading comprehension tasks across all ten chapters of the textbook. Reading tasks that involved written or spoken responses were retained, as they originate from the reading sections and aim to assess comprehension and interpretation. the units of analysis consisted of test items, instructional prompts, and reading texts found in the selected senior high school English textbook. When an instructional prompt consisted of several guiding questions, each question was treated as a separate coding unit, as each question may represent a different cognitive demand. These units were selected because they had the potential to reflect the levels of critical thinking targeted in the research.

Each reading task was carefully identified, labeled, and entered into a coding sheet in Microsoft Excel. The analysis encompassed both lower-order and higher-order thinking skills as categorized in Bloom's revised taxonomy. LOTS items were analyzed not only in terms of frequency but also in relation to how they shaped students' cognitive engagement and potentially scaffolded or limited the development of higher-order thinking. All identified tasks were systematically recorded in a coding sheet using a Microsoft Excel table.

The operational definitions for cognitive levels were adapted from Bloom's Revised Taxonomy. Each cognitive level was translated into observable coding indicators to ensure consistent classification of each unit of analysis. When a task appears to involve multiple levels, the coding is assigned to the highest cognitive demand required for successful completion. A coding manual specifying operational definitions, decision rules, and representative examples for each cognitive level was developed before full coding.

Table 1. Operational definition

Bloom level	Operational definition	Coding rule
Remembering	The unit of analysis demonstrates	Code as Remember only when the statement

	recall or recognition of previously learned facts, concepts, definitions, or information without further explanation or interpretation.	recalls, identifies, lists, names, defines, or repeats factual information without explaining meaning, application, or relationships among ideas.
Understanding	The unit of analysis demonstrates comprehension by explaining, summarizing, interpreting, classifying, or describing information in the student's own words.	Code as Understand only when the statement explains the meaning of a concept, paraphrases information, summarizes ideas, classifies information, or describes relationships at a basic explanatory level without applying or evaluating them.
Applying	The unit of analysis demonstrates the use of learned knowledge, concepts, procedures, or rules in a specific context or situation.	Code as Apply only when the statement applies a concept, principle, strategy, or procedure to solve a problem, illustrate a situation, or perform a task in a particular context.
Analyzing	The unit of analysis demonstrates the ability to examine information by identifying relationships among ideas, distinguishing components, recognizing organizational patterns, or identifying cause-and-effect relationships.	Code as Analyze only when the statement explicitly compares, contrasts, categorizes, differentiates, organizes information, identifies assumptions, or explains relationships among concepts or arguments.
Evaluating	The unit of analysis demonstrates judgment about the quality, credibility, effectiveness, validity, or appropriateness of ideas, evidence, arguments, or solutions using explicit criteria or reasoning.	Code as Evaluate only when the statement assesses, critiques, justifies, defends, or judges information based on evidence, logical reasoning, standards, or criteria rather than personal opinion alone.
Creating	The unit of analysis demonstrates the generation of new ideas, arguments, solutions, hypotheses, plans, or products by integrating or reorganizing existing knowledge.	Code as Create only when the statement proposes an original solution, formulates a new argument, develops a plan, designs a strategy, or synthesizes multiple ideas into a new and coherent whole.

The analysis was guided by Bloom's Revised Taxonomy, which categorizes cognitive processes into remembering, understanding, applying, analyzing, evaluating, and creating. An initial pilot coding of approximately 10–15% of the data was conducted to refine category definitions. The entire dataset was then coded by the researcher.

To establish coding reliability, 15% of the total dataset was independently coded by a second coder using the same operational definitions and coding rules derived from Bloom's Revised Taxonomy. The second coder classified the selected units independently before any discussion was conducted. Inter-rater reliability was assessed using Cohen's Kappa coefficient, which accounts for agreement occurring by chance. The researcher and the second coder independently coded the selected units of analysis and reached an observed agreement of 80.0%. Cohen's Kappa coefficient was $\kappa = 0.682$, indicating substantial agreement between the two coders(Landis & Koch, 1977). The remaining disagreements were resolved through discussion before the full coding process was completed.

Data analysis followed Krippendorff (2019) stages of unitizing, coding, reduction, and interpretation. In the first stage, the reading-related tasks were identified and divided into coding

units. Each unit was then classified according to the six cognitive processes in Bloom's Revised Taxonomy: Remembering, Understanding, Applying, Analyzing, Evaluating, and Creating. Following the coding process, the data were reduced and organized to identify the frequency and distribution of cognitive demands across the textbook, including their distribution across chapters and task types.

The resulting patterns were subsequently interpreted through Facione's critical-thinking framework. Facione's framework was not used as a second coding scheme; rather, it served as an interpretive lens for examining how the cognitive demands identified through Bloom's Revised Taxonomy may provide opportunities for students to engage in specific critical-thinking skills, including interpretation, analysis, evaluation, inference, explanation, and self-regulation. The interpretation considered the nature and requirements of the tasks rather than assuming a direct one-to-one correspondence between Bloom's cognitive levels and Facione's critical-thinking skills. To ensure trustworthiness, this study followed Tracy's (2020) criteria for qualitative rigor, emphasizing transparency, reflexivity, and coherence. Ethical considerations were addressed through appropriate citation practices and professional reporting of findings.

3. Results and Discussion

This study analyzed 540 reading-related tasks across ten chapters of *Bahasa Inggris untuk Siswa SMA-MA/SMK-MAK Kelas 10*. The analysis focused on identifying the distribution of cognitive demands based on Bloom's Revised Taxonomy and examining the potential opportunities provided by the textbook for students to engage in higher-order and critical-thinking processes.

Table 2. The distribution of cognitive levels based on Bloom's Revised Taxonomy

No	Cognitive level	Frequency
1	Remembering	268
2	Understanding	207
3	Applying	6
4	Analyzing	26
5	Evaluating	14
6	Creating	19
		540

Overall, the findings indicate a strong dominance of lower-order thinking skills (LOTS) throughout the textbook. Of the 540 tasks analyzed, 481 tasks (approximately 89%) were categorized as LOTS, primarily at the levels of remembering and understanding. In contrast, only 59 tasks (10.93%) were classified as higher-order thinking skills (HOTS), including analyzing, evaluating, and creating.

Table 3. HOTS analysis

Chapter	Task type	Cognitive level	Total
I	Long answer	Evaluating	1
I	Essay	Analyzing	1
II	Multiple choice	Analyzing	1
II	Long answer	Analyzing	1

II	Long answer	Creating	1
III	Multiple choice	Analyzing	3
III	Project	Creating	1
III	Essay	Analyzing	2
IV	Project	Analyzing	1
V	Long answer	Analyzing	2
V	Long answer	Evaluating	3
V	Long answer	Creating	1
V	Multiple choice	Evaluating	1
V	Project	Creating	4
V	Project	Analyzing	1
VI	Multiple choice	Evaluating	1
VI	Essay	Evaluating	1
VI	Project	Analyzing	1
VI	Project	Creating	1
VII	Matching	Analyzing	1
VII	Project	Creating	2
VII	Multiple choice	Analyzing	1
VIII	Project	Creating	1
VIII	Multiple choice	Analyzing	2
VIII	Essay	Creating	1
VIII	Essay	Evaluating	1
VIII	Long answer	Analyzing	4
VIII	Long answer	Creating	4
VIII	Long answer	Evaluating	5
IX	Project	Creating	1
IX	Essay	Analyzing	1
IX	Essay	Evaluating	1
IX	Essay	Creating	1
X	Multiple choice	Analyzing	3
X	Project	Creating	1
X	Short answer	Evaluating	1
			59

Across chapters, the proportion of HOTS tasks was uneven and inconsistent. While all chapters contained at least one HOTS-oriented activity, no chapter demonstrated a systematic or sustained emphasis on higher-order cognitive demands. Chapter VIII showed the highest proportion of HOTS tasks (24.63%), whereas other chapters contained fewer than 10% HOTS activities.

In terms of cognitive levels, analyzing was the most frequently represented HOTS category, accounting for 26 out of 59 tasks, followed by creating (18 tasks) and evaluating (15 tasks). Creating-level tasks were predominantly realized through project-based activities, which appeared

consistently across chapters but in limited numbers. Evaluative tasks, requiring students to justify opinions or assess ideas, were present but remained marginal within the overall task distributions.

Another notable finding is the heavy reliance on closed-ended task formats, particularly true or false, multiple-choice, and short-answer questions. These task types were consistently associated with LOTS and appeared extensively in every chapter. As a result, opportunities for students to engage in open-ended reasoning, interpretation, or critical judgment were relatively scarce. Taken together, these findings reveal that while the textbook includes isolated instances of HOTS-oriented activities, the overall task design remains predominantly focused on surface-level comprehension rather than sustained development of critical thinking skills. Most tasks conclude once an answer is chosen, offering no space for reflection, metacognitive evaluation, or reconsideration of ideas. This suggests that critical thinking is framed as an outcome to be identified rather than a process to be monitored and refined.

Viewed through Facione's critical-thinking framework, these task characteristics suggest limited opportunities for students to engage in critical-thinking processes, particularly explanation and self-regulation. The predominance of remembering and understanding tasks was largely reflected in activities requiring students to identify information, determine meanings, and comprehend textual content. Viewed through Facione's framework, these task characteristics may primarily provide opportunities for interpretation. However, because many of these tasks required students to retrieve or recognize predetermined information, such opportunities were often limited to understanding textual meaning rather than engaging in extended reasoning. The limited number of analyzing tasks suggests that opportunities to examine relationships among ideas, distinguish relevant information, or compare perspectives were not consistently embedded across the textbook. From Facione's perspective, such tasks may provide opportunities for analytical reasoning when students are required to examine the relationships among claims, ideas, or pieces of information.

The marginal representation of evaluative tasks may indicate limited opportunities for students to assess the credibility or strength of claims and arguments. Moreover, when tasks require students to justify their judgments, they may also provide opportunities for explanation. However, because such tasks appeared only sporadically, opportunities for sustained evaluative reasoning and evidence-based explanation were limited. The predominance of closed-ended formats also has implications for self-regulation. Most tasks were completed once students selected or supplied a predetermined answer, with limited prompts requiring them to monitor their reasoning, reconsider an interpretation, evaluate the adequacy of their response, or revise their conclusions. From Facione's perspective, this task structure suggests limited opportunities for students to engage in self-regulatory thinking.

However, the predominance of selected-response items such as True or False and multiple-choice questions largely eliminates the need for such cognitive articulation. Students are positioned as respondents who select predetermined answers rather than as thinkers who must construct, defend, or reflect upon their understanding.

Similarly, self-regulation, which involves monitoring one's own comprehension, evaluating the adequacy of one's reasoning, and revising interpretations when necessary, is rarely prompted. Most tasks conclude once an answer is chosen, offering no space for reflection, metacognitive evaluation, or reconsideration of ideas. This suggests that critical thinking is framed as an outcome to be identified rather than a process to be monitored and refined.

This condition has the potential to create long-term barriers in students' cognitive development. According to Bjork (2019) *desirable difficulties* theory, introducing greater challenges in learning tasks is essential for promoting long-term learning. When learners are repeatedly exposed to activities that emphasize recalling information and identifying explicitly stated details, their engagement with texts tends to remain at a surface level. As a result, opportunities to practice higher-order processes such as analysis, evaluation, and synthesis become limited. If such patterns persist, students may encounter difficulties in developing problem-solving abilities, particularly in connecting prior knowledge with new information to address unfamiliar or complex situations.

An example task found in Chapter V, Activity 7 asks, "What is the passage about?" in a multiple-choice format. This question primarily targets students' ability to identify the main idea of the text. According to Bloom's revised taxonomy, this task is categorized under the understanding level. This is because the task requires students to recognize explicitly stated information rather than analyze, evaluate, or construct their own arguments. Identifying the main idea is an essential foundational reading skill, but its repeated emphasis across chapters suggests a limited cognitive demand placed on learners.

Pedagogically, the frequent appearance of this task type across chapters may shape students into passive readers. Because students primarily focus on locating correct answers rather than engaging meaningfully with texts. When reading activities are predominantly limited to identifying main ideas or recalling factual details, students are less likely to develop questioning habits, infer implicit meanings, or critically respond to textual content.

Chapter VIII contains the highest concentration of HOTS-oriented reading tasks because its opinion-based theme naturally invites students to analyze perspectives, evaluate ideas, and construct personal responses. Opinion-based themes naturally lend themselves to higher cognitive processes such as analyzing arguments, evaluating perspectives, and creating personal responses, which correspond to the upper levels of Bloom's Revised Taxonomy. For instance, a question such as *"What is your perception about beauty?"* requires students not only to comprehend the text but also to interpret its underlying message, assess social norms, and construct an individualized response.

However, the concentration of such tasks within a single chapter also reveals a limitation in how critical thinking is represented throughout the textbook. As a result, critical thinking appears to be treated as a context-specific skill, activated only when the topic explicitly calls for opinions or advice, rather than as a core competency embedded consistently across reading activities.

This finding reveals a discrepancy between the textbook's stated emphasis on critical thinking and the overall distribution of cognitive demands identified in this study. In practice, the book does not entirely violate this statement actually, as it does include several tasks that encourage students to think logically, engage in basic critical judgment, and demonstrate a degree of creativity. However, when viewed quantitatively, the proportion of tasks that genuinely foster critical thinking is overshadowed by the large number of *true or false* activities that appear consistently and abundantly in every chapter.

Furthermore, when viewed from another standpoint, this predominance of LOTS might be understood as an educational application of Vygotsky's Zone of Proximal Development (ZPD) (Vygotsky, 1978). Through planned coaching, learners advance from supported to independent performance. The LOTS-oriented design, therefore, may serve as cognitive scaffolding that

gradually prepares students for more complex reasoning which a point consistent with Alanazi et al. who argue that lower-order tasks function as cognitive bridges toward HOTS when properly sequenced (Alanazi et al., 2024). It also aligns with Widiastuti & Mbato (2025) that demonstrate lower-order thinking questions in EFL textbooks can serve as stepping stones toward higher-order thinking when they are meaningfully sequenced within the learning process.

From the researcher's standpoint, this distribution can be considered as a contextually justified design rather than a pedagogical imperfection. Before transitioning to HOTS, scaffolding through LOTS is crucial in areas where students still have difficulty with reading and understanding. This distribution may be particularly appropriate for educational contexts where students still require substantial support in foundational reading comprehension before engaging in more cognitively demanding tasks. Prioritizing HOTS is still crucial, though, since the textbook was not created just for one area. Because the textbook is intended for broad use across different educational contexts, its task design needs to provide sufficient opportunities for both foundational learning and higher-order cognitive engagement. Therefore, when used in more advanced circumstances where students are prepared for higher cognitive tasks, an imbalance between LOTS and HOTS may lessen the textbook's efficacy.

A considerable number of textbook analysis studies have reported similar findings. Particularly the consistent pattern that many EFL textbooks emphasize lower-order thinking tasks and provide limited opportunities for learners to practice higher-order cognitive skills. Waiting for textbooks to fully align with the goals of critical thinking development may take even longer, especially considering the slow pace of curricular translation into actual task design. Instead of allowing this gap to persist, the present study proposes a conceptual response based on the empirical patterns found in the analyzed materials. This response takes the form of the *Critical Thinking Textbook Integration Model (CTTIM)* concept, a proposed conceptual model developed from the empirical findings of this study and grounded in Bloom's Revised Taxonomy.

The CTTIM proposes that lower-order thinking tasks can serve as entry points for critical thinking when they are extended through reflective, open-ended, and reasoning-oriented prompts that increase their cognitive demands. To operationalize the Critical Thinking Textbook Integration Model (CTTIM), this study applies the model through four sequential stages: Identification, Cognitive mapping, Task Evaluation, and Enhancement.

The example can be drawn from the use of *wh- questions* in a reading comprehension activity. In its original form, the task asks students to answer a question for example, "*Why do students brawl?*" (Chapter IX), which clearly functions at the LOTS level because it requires only literal comprehension of information explicitly stated in the text. In the Identification stage, this task is classified at the LOTS, since students can retrieve the answer directly from the passage without engaging in higher-order reasoning. During the Cognitive Mapping stage, the task is mapped to its corresponding cognitive level in Bloom's Revised Taxonomy. In this example, the task is categorized as Understanding because students explain or paraphrase information explicitly presented in the text without engaging in higher-order reasoning. In the Task Evaluation stage, the activity is assessed as having very low open-endedness because it allows for only one correct response and offers no space for alternative perspectives, contextual reasoning, or value-based judgment. Consequently, Enhancement becomes necessary to extend the cognitive demand of the task.

Through the Enhancement stage, the teacher may introduce an additional instruction such as, "Evaluate the character's decision from the standpoint of a different cultural background (e.g., a more collectivist or individualist community). Then propose an alternative course of action that you believe would be more appropriate and justify it using cultural reasoning." This contextual expansion shifts the task from basic comprehension toward *analysis*, *evaluation*, and *creative reasoning*. Students must assess the character's motives, compare cultural value systems, adopt a particular viewpoint, and generate a reasoned alternative solution. In doing so, the originally literal wh-question evolves into a more open-ended reasoning activity. This transformation demonstrates how, within the CTTIM framework, LOTS-based tasks can serve as cognitive scaffolds that develop into HOTS-oriented processes when enriched through contextualization and thoughtful task extension by the teacher.

Rather than replacing existing textbook materials, the CTTIM offers a practical framework for extending cognitively simple reading tasks into more demanding learning activities. By enriching existing LOTS-oriented questions with reasoning-oriented prompts, the model enables teachers to integrate higher-order thinking into everyday classroom practice while continuing to use the prescribed textbook.

4. Conclusion

Taken together, the findings indicate that lower-order thinking skills dominate the cognitive orientation of the textbook, while opportunities for higher-order thinking are limited and unevenly distributed across chapters. Higher-order thinking tasks appear primarily in project-based, essay, long-answer, and selected multiple-choice activities, but they do not form a coherent progression throughout the textbook. This pattern suggests that the textbook acknowledges critical thinking objectives but does not consistently operationalize them through its reading task design. At the same time, the predominance of LOTS may serve as foundational cognitive scaffolding that can support learners' progression toward higher-order thinking when accompanied by appropriate instructional support.

Building on these findings, this study provides a set of meaningful contributions for curriculum developers, textbook writers, teachers, and students. For textbook writers, teachers, and students, the findings offer practical implications for strengthening higher-order thinking in EFL reading instruction. Textbook writers can use the identified LOTS–HOTS distribution to redesign reading activities that progressively increase cognitive complexity. Teachers can enrich existing textbook activities with HOTS-oriented prompts and tasks to address underrepresented cognitive processes, while students may benefit from learning experiences that progressively develop analytical, evaluative, and creative thinking through reading activities.

This study is limited to the analysis of a single Indonesian senior high school English textbook and focuses exclusively on reading comprehension tasks. Therefore, the findings should not be generalized to all English textbooks used in Indonesia or to classroom implementation of the curriculum. Future research may examine multiple textbooks across grade levels and investigate how teachers implement and adapt textbook tasks in classroom practice.

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Attachment

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Researcher * Coder 2	85	100.0%	0	0.0%	85	100.0%

Researcher * Coder 2 Crosstabulation

			Coder 2						Total
			1	2	3	4	5	6	
Researcher	1	Count	36	3	1	2	0	0	42
		Expected Count	20.8	12.8	1.0	4.4	.5	2.5	42.0
		% within Researcher	85.7%	7.1%	2.4%	4.8%	0.0%	0.0%	100.0%
		% within Coder 2	85.7%	11.5%	50.0%	22.2%	0.0%	0.0%	49.4%
	2	Count	6	23	1	3	0	0	33
		Expected Count	16.3	10.1	.8	3.5	.4	1.9	33.0
		% within Researcher	18.2%	69.7%	3.0%	9.1%	0.0%	0.0%	100.0%
		% within Coder 2	14.3%	88.5%	50.0%	33.3%	0.0%	0.0%	38.8%
	4	Count	0	0	0	3	0	0	3
		Expected Count	1.5	.9	.1	.3	.0	.2	3.0
		% within Researcher	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%
		% within Coder 2	0.0%	0.0%	0.0%	33.3%	0.0%	0.0%	3.5%
	5	Count	0	0	0	0	1	0	1
		Expected Count	.5	.3	.0	.1	.0	.1	1.0
		% within Researcher	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
		% within Coder 2	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	1.2%
	6	Count	0	0	0	1	0	5	6
		Expected Count	3.0	1.8	.1	.6	.1	.4	6.0
		% within Researcher	0.0%	0.0%	0.0%	16.7%	0.0%	83.3%	100.0%
		% within Coder 2	0.0%	0.0%	0.0%	11.1%	0.0%	100.0%	7.1%
Total		Count	42	26	2	9	1	5	85
		Expected Count	42.0	26.0	2.0	9.0	1.0	5.0	85.0
		% within Researcher	49.4%	30.6%	2.4%	10.6%	1.2%	5.9%	100.0%
		% within Coder 2	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Measure of Agreement	Kappa	.682	.067	9.228	.000
N of Valid Cases		85			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Reflective journal – Research process

Researcher	:	Asyrof Kholil
Title	:	Examining Critical Thinking Skills in Reading Tasks of an Indonesian Senior High School English Textbook

Chapter I

Date/Time	:	February 12. 2025
Stage	:	Writing the research background
Assumptions	:	I assumed that Indonesian high school English textbooks provide limited opportunities for developing critical thinking skills.
Challenges	:	It was difficult to balance my personal teaching experience with objective data from the literature.
Decision	:	I decided to support my assumption with empirical evidence from official reports and previous studies to make the background stronger.
Reflexive notes	:	I realized my tendency to immediately blame the textbooks, whereas empirical evidence is required.
Insight	:	A researcher must ensure that the background is not overly biased by personal opinions.
Next step	:	Search for literature that highlights the state of literacy in Indonesia.

Chapter II

Date/Time	:	March 5. 2025
Stage	:	Developing the theoretical framework (Bloom's Taxonomy and Facione's Model)
Assumptions	:	Bloom's Taxonomy alone would be sufficient to analyze the textbook.
Challenges	:	I found that many previous studies also employed Facione's model, which might make my analysis appear incomplete if I only relied on Bloom.
Decision	:	I decided to integrate Bloom's Taxonomy (for cognitive coding) with Facione's model (for interpreting critical thinking).
Reflexive notes	:	The choice of theoretical framework should not merely reflect personal preference but also align with current research trends.
Insight	:	Combining the two models can enhance the credibility of the analysis.
Next step	:	Design an analytical framework that connects Bloom and Facione.

Chapter III

Date/Time	:	April 17, 2025
Stage	:	Determining the sample and analysis technique
Assumptions	:	Including all chapters of the textbook might be too extensive and exhausting.
Challenges	:	540 unit analysis is big work.
Decision	:	I decided to do it slowly.
Reflexive notes	:	All chapters will make a better result and will be enough to represent reading task from the book
Insight	:	I have to do it carefully
Next step	:	Move forward to the next chapter

Chapter IV

Date/Time	:	September 11, 2025
Stage	:	Writing result & discussion
Assumptions	:	I initially assumed that analyzing qualitative data would be relatively easy, but this was a mistaken assumption, especially for someone who had never conducted qualitative research before.
Challenges	:	My first mistake was in unitizing. I misinterpreted the unit of analysis and had to re-unitize the entire population. After correcting this, I still ended up with ten chapters containing more than 50 units per chapter, which then became the sample of this study. I then had to process 540 samples, beginning with pilot coding around 85 unit then full coding. After that I asked my second coder who is a direct user of the textbook. than comparing and adjusting our coding results, I proceeded to code all units. This was extremely time-consuming and exhausting.
Decision	:	I decided not to force myself to finish the coding in a short time. I realized that overworking would only reduce the accuracy and reliability of my coding. Then the different result, I used discussion based agreement to gain full definition of code category, deciding question about main idea is the most significant number that exist in the pilot coding, at the end we agree that question like "what is the main idea?" is on understanding level.
Reflexive notes	:	I became aware that my initial assumption underestimated the complexity of qualitative analysis. The process required persistence, attention to detail, and collaboration. My missteps in unitizing reminded me that being meticulous in the early stages is crucial to avoid wasted effort later.
Insight	:	I learned that qualitative research demands patience and resilience. The process is not linear but iterative, requiring constant checking and adjustment. Working with a peer debriefer helped me reduce bias and maintain consistency. Most importantly, I understood that managing my energy is just as important as managing the data, because fatigue can compromise the quality of the analysis.
Next step	:	Continue coding systematically with adequate breaks to ensure accuracy. Document the coding process clearly as part of the audit trail to demonstrate transparency and trustworthiness.

Chapter V

Date/Time	:	October 10, 2025
Stage	:	Writing conclusion & discussion
Assumptions	:	I assumed that this part wouldn't that hard to do, since this is the last part.
Challenges	:	As someone who had never written a qualitative thesis before, I found it challenging to combine words into a coherent point and to structure paragraphs in a sustained manner.
Decision	:	I decided to read previous theses to use as models for how to write the conclusion, implications, and suggestions.
Reflexive notes	:	I realized that my initial assumption underestimated the complexity of writing Chapter V. The challenge was not only about language but also about synthesizing the findings into meaningful academic contributions.
Insight	:	I learned that the conclusion chapter requires critical thinking to connect results, discussion, and implications into a coherent whole.

Looking at previous theses was helpful, but I also needed to adapt them to fit the context of my own research.