



Analysis of Arabic Textbook Instruction from the Perspective of Bloom's Taxonomy: Implementation of the Merdeka Curriculum in Madrasah Aliyah

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Abstract

The Merdeka Curriculum emphasizes the development of higher-order thinking skills (HOTS) as part of the 21st-century competencies that students must possess. Therefore, assessment instruments in textbooks need to be designed to measure not only recall and comprehension but also the ability to analyze, evaluate, and create. The purpose of this study is to identify the distribution of cognitive levels in the first- and second-semester practice questions and to analyze the contribution of the Arabic textbook based on Bloom's taxonomy of cognitive levels. This study employs a qualitative approach using content analysis. The research subject consists of all practice test items for both semesters in the Arabic textbook for 10th-grade Madrasah Aliyah under the Merdeka Curriculum, published by PT Optima Intermedia. Data were collected through a documentary study and analyzed based on the six cognitive levels of the Revised Bloom's Taxonomy: C1 (remembering), C2 (understanding), C3 (applying), C4 (analyzing), C5 (evaluating), and C6 (creating). The results showed that all cognitive levels were present in the analyzed questions. The distribution of questions consisted of 27.14% in the LOTS category, 15.71% in the MOTS category, and 57.14% in the HOTS category. In the HOTS category, level C4 accounted for 15.71%, C5 for 31.43%, and C6 for 10.00%, with category C5 being the most dominant level. The results of the study show that all cognitive levels were found in the analyzed questions. The distribution of questions consisted of 27.14% LOTS, 15.71% MOTS, and 57.14% HOTS. Within the HOTS category, level C4 accounted for 15.71%, C5 for 31.43%, and C6 for 10.00%, with category C5 being the most dominant level. These findings indicate that the midterm practice questions are oriented toward the development of higher-order thinking skills and support the implementation of the Merdeka Curriculum, particularly in strengthening critical reasoning skills. However, the proportion of questions at the C6 level remains relatively low; therefore, the development of questions that better accommodate creative thinking is necessary to achieve a more balanced distribution of cognitive levels and to optimally support the development of students' competencies.

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INTRODUCTION

The curriculum is a fundamental component of the education system that serves as a guideline for the delivery of instruction to achieve established educational goals (Mahrus, 2021). As the primary instrument of education, the curriculum is continually refined to keep pace with advancements in science, technology, and societal needs (Santika et al., 2022). In Indonesia, curriculum changes are implemented to improve the quality of education and produce graduates who meet the demands of the times (Nizar et al., 2024). One of the latest policies is the implementation of the Merdeka Curriculum, which has been rolled out in phases since the 2021–2022 school year (Rifai et al., 2024); this curriculum is designed to foster flexible, student-centered learning focused on the development of essential competencies (Rosa et al., 2024). In addition to knowledge acquisition, the Merdeka Curriculum emphasizes the development of critical, creative, collaborative, and communicative thinking skills as 21st-century competencies (Lubis et al., 2023). Therefore, all components of learning including content, strategies, and assessment systems must support the achievement of these intended goals.

Textbooks, as one of the learning tools, play a strategic role in helping students understand the material while developing their cognitive abilities through various activities and exercises (Mawar et al., 2025). In Arabic language instruction at Madrasah Aliyah, textbooks are an essential component that supports learning success (Fadhilah & Mu'ammanah, 2023). Textbooks not only contain subject matter but also provide activities, exercises, and assessments to support students' achievement of competencies (Azhar et al., 2024). In practice, questions in textbooks are still dominated by the LOTS category (62.5%), while HOTS account for only 37.5%, thus measuring recall and comprehension skills more than higher-order thinking skills (Pangestuti et al., 2024). In another context, the Merdeka Curriculum emphasizes the development of Higher Order Thinking Skills (HOTS), which include the abilities to analyze, evaluate, and create (Anggraini et al., 2026). This imbalance in cognitive distribution particularly the scarcity of questions at levels C5 and C6 can hinder the development of students' critical and creative thinking skills (Nirmala et al., 2024).

A number of studies indicate that the revised edition of Bloom's Taxonomy is widely used in educational research. (Maulana, 2022) study found that the distribution of cognitive competencies in Arabic language learning is not yet balanced between lower- and higher-order thinking skills. Meanwhile, (Ilmia et al., 2023; Thayyibah et al., 2025) examined the quality of Arabic textbooks in terms of suitability, presentation of material, and assessment. These various studies have made significant contributions to improving the quality of Arabic textbooks; however, they have not specifically examined the distribution of cognitive levels in practice questions based on Bloom's Taxonomy. In other words, previous research has focused more on the appropriateness of the textbooks and curriculum implementation than on an in-depth analysis of the cognitive quality of the questions contained within Arabic textbooks.

The stages of cognitive-level analysis of test items in this study utilize the Revised Bloom's Taxonomy developed by (Anderson & Krathwohl, 2023). This taxonomy describes a hierarchy of thinking skills that can be used to assess the quality of test items and learning activities (Anderson & Krathwohl, 2023). In learning evaluation, the Revised Bloom's Taxonomy is effectively used to identify whether a question falls into the category of Lower Order Thinking Skills (LOTS), Middle Order Thinking Skills (MOTS), or Higher Order Thinking Skills (HOTS) (Junus & Syam, 2020). Thus, this study can help bridge the knowledge gap by providing an overview of the cognitive quality in Arabic textbooks from the perspective of the revised edition of Bloom's Taxonomy at the high school level.

The purpose of this study is to identify the distribution of cognitive levels in the first- and second-semester practice questions and to analyze the contribution of Arabic textbooks based on the cognitive levels of Bloom's Taxonomy. The focus of this study is on the cognitive levels of practice questions in the Arabic textbook for 10th grade at Madrasah Aliyah, published by PT Optima Intermedia under the Merdeka Curriculum. This research is expected to enrich the study of Arabic language learning assessment and serve as a basis for consideration by teachers, textbook authors, and curriculum developers in improving the quality of questions in accordance with the Merdeka Curriculum.

METHODS

This study employs a qualitative approach using content analysis. The content analysis method is based on Krippendorff, (2022) theory, which explains that content analysis is a research technique for generating valid and replicable inferences from a document based on the context of its use (Anidar et al., 2026; Efendi et al., 2026; Engkizar et al., 2022, 2025; 2026; Htay et al., 2025; Jaafar et al., 2025; Oktavia et al., 2020; Saminu et al., 2025; Seminikhyna & Lutsenko, 2024). This approach was chosen because the study focuses on analyzing documents in the form of semester practice questions found in textbooks. The use of content analysis in educational research is considered appropriate because it allows researchers to systematically identify and interpret data based on predetermined categories. Engkizar et al., (2024); Gläser-Zikuda et al., (2020) state that "qualitative content analysis is a suitable and frequently applied method in empirical educational research," making this method relevant for assessing the cognitive quality of questions based on the Revised Bloom's Taxonomy.

The research subject consists of all the items in the semester practice exercises section of the Arabic Language textbook for 10th grade at Madrasah Aliyah under the Merdeka Curriculum, published by PT Optima Intermedia, which is used as a learning resource for 10th-grade students at Madrasah Aliyah. The unit of analysis for this study is each item found in the semester practice exercises section. Data collection was conducted through a documentary study by identifying, cataloging, and recording all the items that constitute the research subject. The research instrument consists of a classification sheet based on the Revised Bloom's Taxonomy, which encompasses six levels of cognitive processes: recall (C1), understanding (C2), application (C3), analysis (C4), evaluation (C5), and creation (C6). These categories were then grouped into Lower Order Thinking Skills (LOTS), Middle Order Thinking Skills (MOTS), and Higher Order Thinking Skills (HOTS).

Data analysis was conducted in three stages: data reduction, data classification, and drawing conclusions. Each test item was analyzed and classified based on cognitive level, and then its frequency and percentage were calculated using the following formula:

$$P = \frac{f}{N} \times 100\%$$

Notes:

P = percentage of the cognitive level of the item

f = number of items in a specific category

N = total number of items analyzed

The results of the analysis are then presented descriptively to provide an overview of the cognitive levels of the semester practice items in the Arabic textbook for 10th grade in the Madrasah Aliyah under the Merdeka Curriculum, as well as their alignment with the requirements of the Merdeka Curriculum.

Table 1. Cognitive Indicators of the Revised Bloom's Taxonomy

Category	Cognitive Level	Indicators
LOTS	C1 Remembering	Identifying, mentioning, memorizing
LOTS	C2 Understanding	Explaining, translating, summarizing
MOTS	C3 Applying	Using, applying, implementing
HOTS	C4 Analyzing	Comparing, elaborating, organizing
HOTS	C5 Evaluating	Assessing, criticizing, deciding
HOTS	C6 Creating	Designing, composing, producing

RESULT AND DISCUSSION

Distribution of Cognitive Levels of Questions from the Perspective of Bloom's Revised Taxonomy (Distribution of Cognitive Levels of First-Semester Practice Questions)

In general, the assessment instrument shows a range of items from basic comprehension to high-level analysis. To provide a more comprehensive overview of the characteristics of the practice test instrument, the following presents a visual representation of this distribution of cognitive levels, along with an example of a question at cognitive level C6.

هـ. الْجُمْلَةُ الْمُنَاسِبَةُ لِإِمْلَاءِ الْقَرَاغِ فِي هَذَا الْجَوَارِ ...

أَحْمَدُ : يَا فَوْزَانَ، ____ ؟
 فَوْزَانَ : وُلِدْتُ فِي التَّارِيخِ الثَّالِثِ عَشَرَ مِنْ أَكْتُوبَرِ سَنَةِ أَلْفَيْنِ وَتِسْعَةِ، وَأَنْتَ ؟
 أَحْمَدُ : وُلِدْتُ فِي التَّارِيخِ الثَّلَاثِينَ مِنْ أَيْسُطُسَ سَنَةِ أَلْفَيْنِ وَسِتَّةِ.

أ. مَا اسْمُكَ ؟ ج. مَا مَكَانُ مِيلَادِكَ ؟
 ب. مَا عُنْوَانُ بَيْتِكَ ؟ د. مَا تَارِيخُ مِيلَادِكَ ؟ هـ. مَا رَقْمُ هَاتِفِكَ ؟

Fig 1. Example of a C6 Question in the Arabic Practice Material

This Arabic question falls under cognitive level C6 (Creating). In this question, a fill-in-the-blank dialogue between Ahmad and Fauzan is presented. The student's main task here is briefly described as the need to formulate a question that corresponds to Fauzan's answer in the dialogue. Since Fauzan's answer providing information about his date of birth is explicitly stated, the student must analyze the entire context of the conversation to determine what Ahmad actually asked earlier. Therefore, the cognitive process involved is creating a question. Through this process, students' abilities are tested to go beyond basic cognitive stages such as merely recalling vocabulary, understanding the meaning of a text, or applying grammatical rules. Instead, they are required to be able to produce, formulate, and construct a complete interrogative sentence. The interrogative sentence they create must be logical and, structurally, the most appropriate match to elicit the specific response already present in the dialogue text.

An in-depth analysis of the C6 sample question above reveals that students are expected to demonstrate higher-order thinking skills (HOTS) in completing this assessment. In addition, this assessment instrument also includes various other question types that represent the entire spectrum of Bloom's Taxonomy. Further details regarding the classification of question numbers, task descriptions, and the cognitive processes involved at each level are provided in the following table:

Table 2. Classification of the Cognitive Level Distribution of First-Semester Practice Questions

No	Question Description	Cognitive Process	Bloom's Level
1	Identifying the type of school based on the picture	Recognizing and understanding visual information	C1
2	Determining information on an identity card (place of birth, date of birth, etc.)	Finding information explicitly written	C2
3	Arranging words into a correct sentence	Using grammatical rules and sentence structure	C3
4	Selecting the picture that matches the prohibition in the text	Interpreting the meaning of the text and matching it with the picture	C4
5	Determining Husain's residence based on the dialogue content	Inferring explicit information from the dialogue	C5
6	Identifying/Correcting broken plurals in a paragraph	Understanding word meaning based on context	C6
Etc.			

Based on the data above, the first-semester practice test instruments explicitly cover all levels of Bloom's Taxonomy, which are divided into LOTS and HOTS categories. In the LOTS domain (C1–C3), these practice questions assess students' fundamental skills through visual recognition of school types (Question No. 2), retrieval of explicit information from identification cards (Question No. 1), and the application of grammar in constructing sentences (Question No. 8). Meanwhile, the HOTS domain (C4–C6) requires more complex reasoning, ranging from matching prohibition texts with images (Question No. 20), drawing logical conclusions from the content of a dialogue (Question No. 15), to the ability to correct the structure of the plural form "*jama' taksir*" based on the context of a paragraph (Question No. 23). Through this distribution, the assessment tool is proven to be designed in a tiered manner to measure students' abilities ranging from basic literacy to critical analysis.

An analysis of the 35 practice questions for the first semester in the Arabic Language textbook for 10th grade under the Merdeka Curriculum shows that all levels of cognitive processes in the Revised Bloom's Taxonomy have been accommodated. The distribution of cognitive levels for the questions can be seen in the table below.

Table 3. Distribution of Cognitive Levels for First-Semester Practice Questions

Cognitive Level	Frequency	Percentage
C1 (Remembering)	4	11.43%
C2 (Understanding)	7	20.00%
C3 (Applying)	5	14.29%
C4 (Analyzing)	4	11.43%
C5 (Evaluating)	10	28.57%
C6 (Creating)	5	14.29%
Total	35	100%

The results of the analysis show that the most dominant cognitive level in the first-semester exercises was C5 (evaluating), with 10 questions (28.57%). Meanwhile, the lowest cognitive levels were found in categories C1 (remembering) and C4

(analyzing), each with 4 questions (11.43%). These findings indicate that the first-semester practice questions were not only oriented toward mastery of basic knowledge but also provided students with ample opportunity to evaluate, make decisions, and justify their chosen answers. When grouped into the LOTS, MOTS, and HOTS categories, the distribution is as shown in the following table.

Table 4. Distribution of LOTS, MOTS, and HOTS for Semester 1

Category	Level	Frequency	Percentage
LOTS	C1–C2	11	31.43%
MOTS	C3	5	14.29%
HOTS	C4–C6	19	54.29%
Total		35	100%

The data shows that the Higher Order Thinking Skills (HOTS) category dominates with a percentage of 54.29%, while the LOTS category accounts for only 31.43%. The dominance of HOTS indicates that the first-semester practice questions have guided students toward higher-order thinking activities, particularly in the areas of analysis, evaluation, and creation.

Distribution of Cognitive Levels in Second-Semester Practice Questions

Overall, this assessment instrument not only measures basic recall but also emphasizes the ability to draw logical conclusions. To clarify how these information-processing characteristics are tested in the practice questions, the following is an example of a question at cognitive level C5:

٣. أَبِي طَيْبٍ فِي الْمُسْتَسْقَى. أَخِي الْكَبِيرُ مُحَاضِرٌ فِي الْجَامِعَةِ. وَأُخْتِي الْكَبِيرَةُ مُوَظَّفٌ فِي
الْبَنْكِ. وَأَنَا طَالِبٌ فِي الْمَدْرَسَةِ الثَّانَوِيَّةِ. أَمَّا أُمِّي فِي الْبَيْتِ مَعَ أُخْتِي الصَّغِيرَةِ.
فِي هَذِهِ الْفَقْرَةِ أَنَّ أُمِّي رَبَّةُ الْبَيْتِ.
(صَحِيحٌ / خَطَأٌ)

Fig 2. Example of a C5 Question in the Arabic Practice Material

In this question, students are asked to draw a conclusion from the presented passage. The primary cognitive process required is interpreting the meaning of the paragraph to arrive at the correct idea. More specifically, a short paragraph is presented that describes various activities and professions of family members. Within the text, there is an explicit sentence stating that the mother is at home with her younger sister (أُمِّي فِي الْبَيْتِ مَعَ أُخْتِي الصَّغِيرَةِ). Based on this premise, the question presents a concluding statement at the end of the paragraph stating that the mother is a homemaker (رَبَّةُ الْبَيْتِ). Students are then asked to evaluate and decide whether this conclusion is “True” (صحيح) or “False” (خطأ). This process requires students to do more than simply read the literal information; they must process and interpret implicit meanings and validate an idea based on the evidence provided in the paragraph a characteristic typical of higher-order thinking skills at the C5 level.

The presentation of these sample questions indicates that the assessment instruments for the second-semester practice questions are weighted toward critical thinking skills. Nevertheless, this entire assessment system systematically accommodates the full spectrum of cognitive levels in Bloom’s Taxonomy, from basic to advanced. Further details correlating question numbers, operational task descriptions, and cognitive level classifications can be found in table 5 below:

Table 5. Classification of the Cognitive Level Distribution of Second-Semester Practice Questions

No.	Question Description	Cognitive Process	Bloom’s Level
1	Determining the profession task of	Recalling information	C1

	"broadcaster"	about professions	
2	Interpreting hobbies in the picture	Explaining hobbies presented in the picture	C2
3	Completing a sentence with the correct verb related to Salman's activity in the library	Using contextual information to select the appropriate word	C3
4	Determining the grammatical function of the phrase (أَمَامَ الْفَصْلِ) in sentence structure	Analyzing the syntactic/grammatical function of words in a sentence	C4
5	Determining true-false statements based on the dialogue about Furqan's aspirations and predicting implicit information in the conversation text	Interpreting the dialogue to obtain the main idea	C5
6	Creating questions that correspond to answers in the dialogue	Constructing dialogue questions	C6
	Etc.		

Based on the table above, it is evident that the second-semester practice test instruments comprehensively cover all levels of Bloom's Taxonomy (C1–C6). In the LOTS domain (C1–C3), the assessment focuses on basic language proficiency, such as recalling profession-related information (Question No. 14), describing a hobby based on a visual image (Question No. 6), and using the correct verb to complete a sentence (Question No. 5). On the other hand, the HOTS domain (C4–C6) requires a much more complex thought process. Students are guided to analyze the syntactic or grammatical position of a phrase within a sentence structure (Question No. 18), evaluate the accuracy of information and interpret the main idea of a dialogue text (Question No. 33), and, at the highest level, to construct or formulate logical questions that align with the answers in the text (Question No. 15). Overall, these details confirm that the assessment is designed in a tiered and proportional manner, progressing from basic literacy skills to higher-order reasoning.

An analysis of the 35 practice test items for the second semester reveals a relatively even distribution of cognitive levels across each level of the Revised Bloom's Taxonomy. This distribution is presented in the following table.

Table 6. Distribution of Cognitive Levels in Second-Semester Practice Test Items

Cognitive Level	Frequency	Percentage
C1 (Remembering)	3	8.60%
C2 (Understanding)	5	14.29%
C3 (Applying)	6	17.14%
C4 (Analyzing)	7	20.00%
C5 (Evaluating)	12	34.30%
C6 (Creating)	2	5.70%
Total	35	100%

The analysis results show that the most dominant cognitive level in the second-semester exercises was C5 (evaluating), with 12 questions (34.30%). In contrast, category C6 (creating) had the lowest frequency, with 2 questions (5.70%). These findings indicate that the second-semester practice questions primarily required students to consider information, evaluate it, and determine answers based on their analysis. However, the demands for generating new ideas or products which represent creative abilities remained relatively limited. The grouping based on the LOTS, MOTS, and HOTS categories is presented in the following table.

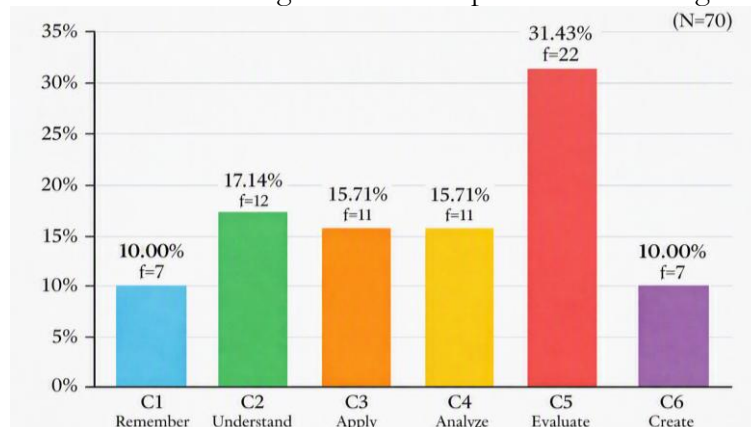
Table 7. Distribution of LOTS, MOTS, and HOTS in the Second Semester

Category	Level	Frequency	Percentage
LOTS	C1–C2	8	22.86%
MOTS	C3	6	17.14%
HOTS	C4–C6	21	60.00%
Total		35	100%

The table above shows that the HOTS category accounted for 60.00% of all the items analyzed. This percentage is higher than that of the first semester, indicating a trend toward increased demands for higher-order thinking in the second-semester practice items.

Distribution of Cognitive Levels Across All Questions

Overall, this study analyzed 70 questions, consisting of 35 questions from the first-semester exercises and 35 questions from the second-semester exercises. A summary of the distribution of cognitive levels is presented in the figure below.

**Fig 3. Distribution of Overall Cognitive Levels**

Based on the results shown in the figure, the most dominant cognitive level is C5 (evaluating), with a frequency of 22 items (31.43%). In contrast, cognitive levels C1 and C6 each accounted for only 10.00%. The dominance of the evaluation category indicates that the Madrasah Aliyah Arabic textbook for 10th grade under the Merdeka Curriculum has placed significant emphasis on developing students' critical thinking skills through activities that involve assessing, considering, and making decisions based on available information. When grouped by LOTS, MOTS, and HOTS categories, the following results were obtained.

Table 8. Overall Distribution of LOTS, MOTS, and HOTS

Category	Frequency	Percentage
LOTS (C1–C2)	19	27.14%
MOTS (C3)	11	15.71%
HOTS (C4–C6)	40	57.14%
Total	70	100%

Overall, the HOTS category dominated the distribution of questions with a percentage of 57.14%, followed by the LOTS category at 27.14% and the MOTS category at 15.71%. These findings indicate that the semester practice questions in the Madrasah Aliyah Arabic textbook for 10th grade under the Merdeka Curriculum have accommodated the requirements of the Merdeka Curriculum, which emphasizes the development of higher-order thinking skills. The dominance of the HOTS category indicates that students are not only required to memorize and understand the material but also to apply, analyze, evaluate, and create solutions based on their knowledge. Thus, from the perspective of the Revised Bloom's Taxonomy, the cognitive quality of the questions in this book can be categorized as quite good because they place a greater emphasis on higher-order thinking skills than on lower-

order thinking skills.

According to Melzer & D., (2019), the diversity of cognitive levels in the questions indicates an effort to develop students' thinking skills gradually, starting from basic skills to more complex thinking skills (Sholihah & Astuti, 2025). This is consistent with (Nafiati, 2021), who asserts that the use of various levels of cognitive processes in the revised edition of Bloom's Taxonomy enables the gradual development of students' thinking skills, from recall to creation. Cognitive processes in learning progress hierarchically from recall, through understanding, application, analysis, and evaluation, to creation. The higher the cognitive level required by a question, the more complex the thinking process students must engage in to arrive at the answer (Chang et al., 2024; Prakash & Litoriya, 2022). Therefore, the distribution of questions across each cognitive level can serve as an indicator to assess the extent to which an assessment instrument supports the development of students' thinking skills.

Salmons, (2023) argue that cognitive processes fall into six categories: remember, understand, apply, analyze, evaluate, and create; thus, learning assessment should ideally measure not only memorization but also increasingly complex thinking skills. The revised Bloom's Taxonomy also emphasizes the use of operational verbs to make learning objectives and assessments easier to measure systematically. A study by Pangestuti et al., (2024) found that questions in English textbooks still lean more toward LOTS, which reflects a more progressive trend because higher-order thinking levels receive a larger share a design that can be viewed as more balanced and responsive to the demands of 21st-century learning.

The dominance of the HOTS category indicates that practice questions do not stop at the mastery of literal information but have guided students toward activities involving interpretation, evaluation, and decision-making based on linguistic context. According to (Davidson & Liu, 2020), the characteristics of HOTS as identified in various studies are associated with the processes of analysis, evaluation, and creation. Research by Surono et al., (2022) explains that HOTS encompasses the three highest cognitive levels: analyzing, evaluating, and producing or creating. In the context of the Merdeka Curriculum, this trend is also relevant because assessment is geared toward evaluating students' critical thinking skills as they complete tasks and learning activities. Furthermore, Arabic workbooks serve not only as a tool for measuring mastery of the material but also as a pedagogical medium for developing students' critical reasoning, precision in understanding texts, and argumentative skills (Setiadi et al., 2024).

A comparison between the first and second semesters reveals an increase in cognitive demands, primarily because the percentage of HOTS questions in the second semester is higher than in the previous semester. This trend can be interpreted as a form of pedagogical progression aligned with the principle of gradual learning, whereby students are first strengthened through foundational understanding and then guided toward more complex reasoning. From the assessment perspective of (Azhar et al., 2024), patterns of higher-order thinking skills do not emerge suddenly but are built through repeated, contextual, and challenging learning experiences. According to the study by (Roza et al., 2025), the increase in the weight of HOTS in each semester should reflect continuity in the design of the assessment, while also indicating that the Arabic textbook provides more space for the development of students' inferential and evaluative skills.

According to Aziz et al., (2026), the "create" level is placed at the highest level because it requires students to compose, formulate, or produce new forms based on their existing knowledge. In language learning, this level holds significant importance because language proficiency is demonstrated not only through the ability to select the correct answer but also through the production of meaningful speech, questions,

dialogues, or writing. The limitations of C6 questions indicate that exercises still place greater emphasis on assessment skills than on the ability to independently produce language constructions. A study by Ch & Saha, (2023) of textbooks and exam questions showed that the evaluation and creation levels are often the least frequently appearing categories. Therefore, language production-based questions need to be strengthened so that students' creativity can develop more optimally.

The Contribution of Arabic Textbooks Based on Bloom's Taxonomy of Cognitive Levels

Based on the mapping of cognitive levels outlined earlier, the next stage focuses on the relevance of these findings to the current educational paradigm. Empirically, Arabic language learning assessment instruments not only serve as tools for measuring mastery of linguistic material but should also align with the fundamental principles of the Merdeka Curriculum, which emphasizes independent thinking, critical reasoning, and student creativity. To provide a more systematic overview of the pedagogical implications of the assessed assessment instruments, the contributions of Arabic textbooks based on Bloom's Taxonomy of cognitive levels are presented in the table below:

Table 9. Contributions of Arabic Language Textbooks

No	Aspect	Explanation
1	Encouraging critical thinking skills	The dominance of HOTS at 57.14% and C5 at 31.43% shows that the questions encourage students to evaluate information, provide reasoning, and make decisions. This strengthens Arabic language learning oriented toward critical thinking.
2	Creating innovative learning activities	The proportion of C6 at only 10.00% indicates the need for innovative learning through creative tasks, such as making dialogues, composing simple texts, or Arabic language projects. Teachers can develop activities that provide space for students' creative work.
3	Developing learning questions sustainably	The inclusion of all levels from C1 to C6 shows that the questions already have cognitive variety. However, the imbalance in C1 and C6 serves as a basis for sustainable development of questions to achieve a more balanced distribution.
4	Supporting more optimal learning evaluation	The increase of HOTS from 54.29% in semester 1 to 60.00% in semester 2 shows that evaluation has become more challenging. This supports teachers in measuring higher-order thinking skills more effectively.

The 57.14% dominance of HOTS questions particularly in the C5 (evaluating) category, which accounted for 31.43% indicates that the textbook has made a significant contribution to fostering students' critical thinking skills. The high proportion of questions at the evaluation level indicates that students are more frequently engaged in cognitive activities that require the ability to assess information, consider various answer alternatives, provide logical reasoning, and make decisions based on specific criteria. This finding aligns with the view of (Karuru et al., 2023), who state that "higher-order thinking skills include critical thinking, analytical thinking, and problem-solving abilities." Through these question characteristics, students do not merely act as recipients of information but also as active individuals who examine, connect, and evaluate the information they receive. A study by Van Damme et al., (2023) confirms that critical thinking is one of the essential skills that must be developed because it plays a role in students' success in both academic and professional settings. Thus, the inclusion of HOTS questions in textbooks supports the creation of learning experiences aligned with the requirements of the

Merdeka Curriculum, which emphasizes strengthening the dimension of critical reasoning.

In addition to fostering critical thinking skills, the textbook also contributes to creating innovative and creative learning experiences through the inclusion of questions in category C6 (creating). Although they account for only 10.00% of the total, questions at this level demonstrate an effort to accommodate the highest-order thinking skills in the Revised Bloom's Taxonomy. These questions encourage students to consider various possibilities, determine the most appropriate alternative solutions, and select answers based on more complex thought processes. Hong, (2024) explains that higher-order thinking skills are represented through the activities of analyzing, evaluating, and creating; thus, the presence of the C6 category serves as a key indicator in fostering student creativity. The inclusion of the C6 category provides a variety of cognitive processes that can enrich the learning experience, ensuring that learning focuses not only on mastering information but also on developing creativity and flexibility in thinking. In line with this, Tahir et al., (2023) state that the highest level in the Revised Bloom's Taxonomy requires students to engage in more complex thinking processes through activities such as analysis, validation of arguments, and the development of ideas.

All cognitive levels of the Revised Bloom's Taxonomy, ranging from C1 to C6, indicate that the textbook provides a sufficiently diverse range of questions. This diversity allows students' abilities to be assessed progressively, from lower-order thinking to higher-order thinking. This finding aligns with (Hong, 2024), who states that the Revised Bloom's Taxonomy consists of six categories of cognitive processes: remembering, understanding, applying, analyzing, evaluating, and creating. By incorporating all these categories, the presented questions are able to measure various aspects of students' thinking skills more comprehensively. On the other hand, the distribution of questions, which is not yet fully balanced particularly in categories C1 and C6 provides important information for teachers and instructional material developers to evaluate the quality of the questions used. Maity et al., (2024) also emphasize that the quality and characteristics of questions can vary across cognitive levels; therefore, a proportional distribution must be considered in the development of assessment instruments. Therefore, the results of this analysis can serve as a basis for refining and developing questions in the next period to ensure a more balanced distribution of cognitive levels. Thus, the diversity of cognitive levels found in the textbook not only serves as an assessment tool but also contributes as a reference for the ongoing development of learning questions.

Furthermore, the textbook also contributes to supporting more optimal learning assessment. This is evident from the increase in the proportion of HOTS questions from 54.29% in the first semester to 60.00% in the second semester. This increase indicates that the learning assessments given to students are increasingly focused on measuring higher-order thinking skills. Through HOTS questions, teachers can gain a more comprehensive picture of students' mastery of the material, reasoning abilities, and skills in solving problems that require complex thinking processes. Mahendra, (2023) found that students who were assessed using HOTS-based evaluations demonstrated better development of higher-order thinking skills compared to those assessed using evaluations focused solely on lower-order thinking skills.

Van Damme et al., (2023) emphasize that the assessment of critical thinking skills is an essential component of quality educational practice because it provides deeper insights into students' abilities. Thus, assessment results not only demonstrate students' ability to recall and understand material but also reveal their ability to apply, analyze, and critically evaluate information. This finding is also in line with the objectives of the Merdeka Curriculum, which aims to develop students' ability to

effectively apply their knowledge and skills in various real-life situations (Faradella et al., 2024). Therefore, increasing the proportion of Higher-Order Thinking Skills (HOTS) questions in textbooks contributes to supporting more optimal learning assessments that align with 21st-century competency requirements.

CONCLUSION

Based on the research findings, it can be concluded that the semester practice questions in the Arabic textbook for 10th-grade Madrasah Aliyah under the Merdeka Curriculum have accommodated all cognitive levels of the Revised Bloom's Taxonomy, ranging from C1 (remembering) to C6 (creating). The distribution of questions shows a dominance of the HOTS category at 57.14%, consisting of C4 at 15.71%, C5 at 31.43%, and C6 at 10.00%, while the LOTS category accounts for 27.14% and MOTS for 15.71%. These findings indicate that the assessment orientation in the textbook has shifted from merely measuring recall and comprehension skills toward the development of higher-order thinking skills. The predominance of the C5 (evaluating) category suggests that most questions require students to evaluate, provide logical reasoning, and make decisions based on the available information. The findings above indicate that textbooks have supported the implementation of the Merdeka Curriculum, which emphasizes the development of critical and creative thinking competencies as part of the Pancasila Student Profile. The high proportion of HOTS questions contributes to fostering critical thinking skills, creating more innovative learning experiences, providing a variety of sustained cognitive processes, and supporting more optimal learning assessments. Nevertheless, the distribution of questions at the HOTS level is not yet fully balanced. The proportion of Category C6 (creating) questions, which is only 10.00%, indicates that students' opportunities to develop creative skills remain relatively lower compared to their evaluative skills. Therefore, future textbook development should prioritize increasing the number of questions that foster creative skills so that all dimensions of higher-order thinking skills can develop more proportionally.

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