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Cognitive Domain Levels In "English For Nusantara" Textbook : A Revised Bloom's Taxonomy Analysis

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Abstract - This qualitative descriptive study aims to assess the alignment between the cognitive domain of Revised Bloom's Taxonomy and the worksheets in the English textbook "English for Nusantara" published by Pusat Perbukuan used for the 7th grade of SMP students. The research focuses on analyzing 177 activities within the textbook, categorizing them based on their cognitive domain using a data analysis table. The results indicate that the activities are distributed as follows: 114 (64.4%) in the remembering category, 12 (6.8%) in understanding, 6 (3.4%) in applying, 16 (9.0%) in analyzing, 5 (2.8%) in evaluating, and 24 (13.6%) in creating. Among these activities, 45 (25.4%) fall under the higher-order thinking skills (HOTS) category, while 132 (74.6%) are classified as lower-order thinking skills (LOTS). The dominant activity type observed is remembering, which represents the lowest cognitive level in Revised Bloom's Taxonomy. Additionally, the distribution of LOTS and HOTS activities varies significantly across different chapters. These findings suggest that relying solely on the English textbook may not be sufficient for developing students' higher-order thinking skills (HOTS).

Keywords: *cognitive domain, revised Bloom's taxonomy, textbook*

1. INTRODUCTION

English language textbooks serve as essential instructional resources for English language learners, providing a structured framework for language acquisition and development. These textbooks play a pivotal role in classroom settings, guiding both teachers and students in their language learning journey. The selection and utilization of appropriate textbooks are crucial factors that significantly impact the effectiveness of English language instruction.

In this context, the role of English teachers becomes paramount in effectively utilizing textbooks to facilitate students' language learning. Teachers serve as facilitators who navigate and mediate the textbook content to suit the unique needs and abilities of their students. They act as the bridge between the textbook and the students, providing guidance, support, and meaningful interactions to enhance language learning outcomes.

Merdeka curriculum is the newest curriculum proposed by the Ministry of Education. Merdeka curriculum places emphasis on the concepts of freedom and creative thinking, aiming to nurture students' individual potential and abilities. By incorporating Merdeka curriculum, the objective is to facilitate students' comprehensive development through engaging in critical, high-quality, expressive, applicable, diverse, and progressive learning experiences (Rahayu et al., 2022). Hence, conducting an analysis of the task types employed in an English textbook holds significant importance.

The cognitive domain, as it pertains to educational objectives, finds its foundation in Bloom's Taxonomy. Developed by Benjamin S. Bloom, an influential psychologist, this taxonomy represents a hierarchical system that categorizes cognitive abilities across a spectrum of increasing complexity. Its purpose is clear: to guide educators in effectively achieving educational goals. The Revised Bloom's Taxonomy further refines this framework, providing a more nuanced and practical approach to curriculum development, instructional strategies, and assessment practices. By understanding and utilizing the principles of the Revised Bloom's Taxonomy, educators can enhance their teaching methods and promote meaningful learning experiences for students.

In the realm of cognitive development, Bloom (1956) introduced a classification system comprising six distinct categories: knowledge, comprehension, application, analysis, synthesis, and evaluation. Over time, there have been modifications to the terminology and language employed within Bloom's Taxonomy. In the 1990s, Bloom revised the taxonomy, replacing the original noun-based descriptors with verb-based ones. Anderson and Krathwohl (2001) further refined the language used in the cognitive domain of the Revised Bloom's Taxonomy. The revised taxonomy includes the following cognitive processes: remembering, understanding, applying, analyzing, evaluating, and creating. These processes are classified into two levels: Low Order Thinking Skills (LOTS) encompassing remembering, understanding, and applying, and High Order Thinking Skills (HOTS) comprising analyzing, evaluating, and creating.

In essence, ensuring a balanced distribution of High Order Thinking Skills (HOTS) and Low Order Thinking Skills (LOTS) within a textbook is crucial as it directly impacts the learning process and future learning outcomes. This study specifically aims to examine the alignment between the textbook content and the cognitive domain of Revised Bloom's Taxonomy, as well as identify the dominant category within the taxonomy. Recognizing that textbooks serve as vital instructional materials in the classroom, providing teachers with a foundation for teaching and learning, it becomes imperative to thoroughly analyze the appropriateness of their content in relation to cognitive domains in order to effectively meet the curriculum goals.

Several studies have explored the presence of High Order Thinking Skills (HOTS) and Low Order Thinking Skills (LOTS) within textbooks. One such study conducted by Apriani (2019) titled "Evaluating the Higher Order Thinking Skills in Reading Exercises of EFL Textbook 'Pathway to English' for Tenth Grade of Senior High School Students" examined HOTS in reading exercises. Another study by Laila and Fitriyah (2022)titled "An Analysis of Reading Comprehension Questions in English Textbook Based on Revised Bloom's Taxonomy" analyzed the alignment of reading comprehension questions with Bloom's Taxonomy. Sari and Sakhiyya (2020) conducted research on the analysis of the English course book "Symphony 1" using Revised Bloom's Taxonomy. Additionally, Sukmawijaya et al. (2020)conducted a study titled "Analyzing Higher Order Thinking Skills on the Compulsory English Textbook for Tenth Graders of Indonesian Senior High Schools." However, in this research, the Revised Bloom's Taxonomy by Krathwohl and Anderson was utilized, representing the latest version derived from the original Bloom's Taxonomy.

Based on the explanation, it is crucial to ensure that the curriculum's objectives, such as fostering critical thinking and creativity, are effectively achieved. These cognitive abilities fall under the category of High Order Thinking Skills (HOTS) and are essential for students. Previous studies analyzing textbooks used in Junior High Schools revealed that the cognitive level of remembering predominantly featured in the textbooks. Consequently, this study aims to analyze the English for Nusantara textbook for 7th-grade students, which claims to incorporate the Merdeka curriculum and provide HOTS tasks. The choice of this particular textbook is driven by the researchers' interest in exploring and analyzing the tasks presented within the context of Junior High School education. Moreover, selecting the 7th-grade book is significant as it marks the beginning of students' English language development. Notably, no previous research has been conducted in this area, making it an area worth exploring. The researchers seek to investigate and analyze the tasks in the English for Nusantara textbook, published by Pusat Perbukuan, to identify the cognitive domain levels present and determine whether the dominant categories in the textbook are Low Order Thinking Skills (LOTS) or High Order Thinking Skills (HOTS).

2. METHOD

2.1 Research Design

For this research, the researchers chose for a qualitative research approach. Qualitative research helps us understand social or human issues by providing meaningful insights into people's experiences and perspectives within their personal life settings (Kyngäs et al., 2020). According to (Arikunto, 2019), qualitative research was a comprehensive image and depth understanding rather than a numerical evaluation of data. As a consequence, rather of employing statistical computations, the results of this inquiry were communicated in words. It used a descriptive analytical study to provide detailed descriptions and explanations of the data, followed by an analysis phase. Content analysis is the chosen methodological tool utilized by the researchers. Content analysis provides researchers with a systematic and structured approach to examine large amounts of textual or visual data.

2.2 Data Source

This study examined the tasks in the textbook of English for Nusantara for 7th grade by analyzing them through the cognitive domain levels of the Revised Bloom's Taxonomy.

2.3 Data Collection

The data utilized in this study consisted of the task documents obtained from the textbook of English for Nusantara for 7th grade, which is written by Ika Lestari Damayanti et al., published by *Pusat Perbukuan.* The textbook is implementing the Merdeka curriculum. The analysis covered the examination of several topics within each chapter of the book. The textbook consisted of five chapters, with an additional introductory Chapter 0 that provided as an introduction to basic English.

In this study, the researcher employed a data analysis table to classify the activities based on their cognitive level using the Revised Bloom's Taxonomy. The tasks were analyzed to determine the cognitive level they corresponded to, using the framework provided by the Revised Bloom's Taxonomy table: remembering (C1), understanding (C2), applying (C3), analyzing (C4), evaluating (C5), or creating (C6). The primary objective of this analysis was to identify whether the tasks fell into the category of Low Order Thinking Skills (LOTS) or Higher Order Thinking Skills (HOTS), and to determine which category predominated within the textbook

The researcher utilized the interactive mode technique proposed by Miles, Huberman, and Saldana (2014) to analyze the data. This technique involves three key streams of activities: data condensation, data display, and drawing or verifying conclusions (Miles et al., 2014). Through these activities, the researcher engaged in a systematic process of analyzing and interpreting the data.

Data condensation involves the procedure of choosing, narrowing down, simplifying, abstracting, or transforming the data present in field notes, interview transcripts, documents, and other empirical materials during the write-up process (Miles et al., 2014). At this point, the data reduction was done by analyzing tasks (instructional items or questioning stems) by using Revised Bloom’s taxonomy. In this particular study, data condensation was performed by analyzing tasks, specifically instructional items or questioning stems, using the Revised Bloom's taxonomy. Next, data display involves presenting the data in various formats such as sentences, narratives, or tables. The purpose

is to systematically transform seemingly disorganized raw data into a coherent conceptual framework (Mezmir, 2020). In this study, the researcher utilized tables as a means to present the data. Following the analysis, which involved data condensation and data display, the researcher proceeded to draw conclusions or verify findings

2.4 Data Analysis

The data analysis process in this study involved several steps. Firstly, the researcher carefully examined the instructional items or questioning stems employed in the textbook. Next, the items/stems were grouped based on their cognitive level according to the Revised Bloom's Taxonomy. This categorization aimed to determine whether the items fell under the levels of remembering (C1), understanding (C2), applying (C3), analyzing (C4), evaluating (C5), or creating (C6). The cognitive levels are based on *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives* (Anderson & Krathwohl, 2001). In each chapter, the data were analyzed, followed by categorization based on its cognitive level as either Low Order Thinking Skills (LOTS) or Higher Order Thinking Skills (HOTS). The writer then matched the number of instructional items/questioning stems within each category, conducting this process for each chapter. Ultimately, the writers interpreted the results of the data analysis.

3. RESULTS AND DISCUSSION

Result

The writers were able to find 177 activities to be analyzed. The activities distributed into 114 (64.4%) remembering, 12 (6.8%) understanding, 6 (3.4%) applying, 16 (9%) analyzing, 5 (2.8%) evaluating, and 24 (13.6%) creating. The findings of the study were presented in Table 1.

Table 1. Frequencies of and Percentages of Activities in Six Levels of the Cognitive Dimensions

No	Chapter (Theme)	Cognitive Dimensions						
		C1	C2	C3	C4	C5	C6	**Total**
1	Chapter 0: **The**	10						**10**
	Beginning	100%	-	-	-	-	-	
2	Chapter 1: **About Me**	21	2	2	1	1	3	**30**
		70,0%	6,7%	6,7%	3,3%	3,3%	10,0%	
3	Chapter 2: **Culinary**	17	3	1	6	1	5	**33**
	and Me	51,5%	9,1%	3,0%	18,2%	3,0%	15,2%	
4	Chapter 3: **Home**	22	3	2	6	1	2	**36**
	Sweet Home	61,1%	8,3%	5,6%	16,7%	2,8%	5,6%	

5	Chapter 4: **My School Activities**	27 64,3%	2 4,8%	-	3 7,1%	1 2,4%	9 21,4%	**42**
6	Chapter 5: **This is My School**	17 65,4%	2 7,7%	1 3,8%	-	1 3,8%	5 19,2%	**26**
	Total = 177	**114**	**12**	**6**	**16**	**5**	**24**	
	Percentage = 100%	64,4%	6,8%	3,4%	9,0%	2,8%	13,6%	

The distribution of tasks across different cognitive levels within each chapter of the English for Nusantara textbook was not even, as depicted in Table 1. Instead, a dominant cognitive dimension activity from the Revised Bloom's Taxonomy was noticeable in each chapter.

The findings indicate that the cognitive level with the highest representation in the English for Nusantara textbook is remembering, accounting for 64.4% of the activities. This corresponds to a frequency of 114 out of 177 activities. Creating ranks second, comprising 13.6% of the activities, with a frequency of 24 out of 177. Analyzing follows with 16 activities, representing 9% of the total. Understanding ranks fourth with 12 activities, accounting for 6.8%. Applying holds the fifth position with 6 activities, representing 3.4%. Notably, the lowest frequency is observed in the evaluating dimension, consisting of only 2.8%, or 5 activities.

Based on the explanation mentioned above, Table 2. summarizes the frequencies and percentages of the distribution of cognitive dimensions from the Revised Bloom's Taxonomy across all chapters.

Table 2. Cognitive Dimensions Distribution in the English for Nusantara

No	Cognitive Dimension Level		Frequencies	Percentage
1	**Low Order Thinking**	Remembering	114	64,4%
2		Understanding	12	6,8%
3		Applying	6	3,4%
	Total		**132**	**74,6%**
4	**High Order Thinking**	Analyzing	16	9,0%
5		Evaluating	5	2,8%
6		Creating	24	13,6%
	Total		**45**	**25,4%**

The table reveals that understanding, remembering, and applying are classified as low order thinking skills, covering a total of 74.6% of the activities with a frequency of 132 out of 177. On the other hand, evaluating, creating, and analyzing, which involve high order thinking skills, account for only 25.4% or 45 activities out of the total 177.

Discussion

Based on the data analysis conducted on the textbook "English for Nusantara," the prevailing cognitive dimension from the Revised Bloom's Taxonomy in this particular textbook is remembering. This finding suggests that the teaching and learning process in this textbook primarily focuses on the recall of previously taught material. The analysis results table indicates that out of the total 177 activities, 114 activities are categorized as remembering, representing the highest frequency at 64.4%.

The analysis also reveals an important finding regarding the second rank in the cognitive dimension, which is creating. Creating activities accounted for 13.6% of the total activities, with a frequency of 24 out of 177. This shows that within the textbook English for Nusantara, there is a significant emphasis on tasks that involve higher-order thinking skills associated with generating and producing new ideas, concepts, or products. The presence of such creating activities suggests an intention to foster students' creativity and encourage them to apply their knowledge and skills in innovative ways.

The analysis further indicates that the third most frequent cognitive dimension in the textbook English for Nusantara is analyzing. With a total of 16 activities, analyzing represents 9% of the overall activities. This suggests that the textbook places importance on tasks that require students to break down information, examine its components, and identify patterns or relationships. By engaging in analyzing activities, students are encouraged to develop critical thinking skills and gain a deeper understanding of the subject matter.

Ranking fourth in the cognitive dimension is understanding, accounting for 12 activities or 6.8% of the total. This implies that the textbook emphasizes tasks that aim to promote comprehension and interpretation of information. Through these understanding activities, students are encouraged to grasp the meaning, context, and significance of the content being studied, enabling them to build a solid foundation of knowledge.

The fifth rank in the cognitive dimension is applying, covering 6 activities or 3.4%. This indicates that the textbook incorporates tasks that require students to apply their acquired knowledge and skills to real-world or practical scenarios. By engaging in applying activities, students are encouraged to transfer their learning and utilize it in different contexts, promoting the development of their problem-solving abilities.

Lastly, the lowest frequency is observed in the evaluating dimension, with only 2.8% or 5 activities. This suggests that the textbook provides relatively fewer tasks that involve evaluating or making judgments about the quality, value, or effectiveness of something. However, it is important

to note that despite the lower frequency, the inclusion of evaluating activities can be instrumental in promoting critical thinking and developing students' abilities to assess information and make informed decisions.

While the cognitive levels are indeed present in this book, their representation is limited. Remembering activities hold a dominant position throughout the book, overshadowing the other cognitive levels. The High Order Thinking Skills, including analyzing, evaluating, and creating, comprise only 25.4% of the total activities, indicating an uneven distribution across the cognitive components. It is worth noting that each unit within the book presents a distinct combination of these cognitive levels.

According to Sari and Shakiyya's research on the course book *Symphony 1* (2020), remembering activities also dominated the tasks which covered 39% of the total. Remembering activities were found to have a significant dominance, accounting for 39% of the total tasks analyzed. The research indicated that 63% of the book consisted of activities classified as Low Order Thinking Skills. Additionally, similar findings were observed in the analyses conducted by Rustiyani, Sofyan, and Syafryadin (2021) on the Pathway to English textbook, where Low Order Thinking activities were found to dominate the book.

The findings from this and previous researches consistently highlight the prevalence of Low Order Thinking Skills (LOTS) activities within the analyzed books. This pattern suggests a common trend across different textbooks, indicating a tendency to prioritize activities that focus on recalling and understanding information rather than engaging in higher-order cognitive processes.

The findings of this study indicate that the author of the English for Nusantara textbook predominantly focused on lower-order thinking processes, particularly emphasizing the remembering aspect. The analysis highlights a significant disparity between the representation of lower-order and higher-order thinking in the English for Nusantara textbook.

The examination of Bloom's revised taxonomy cognitive activities in the English for Nusantara textbook revealed varying percentages across different chapters. The analysis indicated a sufficient occurrence of activities aligned with lower-order thinking cognitive levels. However, the presence of activities corresponding to higher-order thinking cognitive levels was found to be significantly limited.

4. CONCLUSION

The textbook plays a crucial role in the teaching and learning process, significantly influencing students' academic achievements. This study aimed to assess the alignment between the English for Nusantara textbook and the cognitive dimension of the Revised Bloom's Taxonomy, as well as determine the dominant level of cognitive skills addressed in the textbook. The analysis focused on the instructional verbs and inquiry stems used in each chapter, which were collected, categorized, and examined according to the cognitive dimensions of the Revised Bloom's Taxonomy.

The results of the analysis revealed that the textbook inadequately incorporated activities to promote higher order thinking skills (HOTS) among students. Out of the total 177 activities, only 45

activities, or 25.4%, were found to integrate HOTS. In contrast, low order thinking skill (LOTS) activities accounted for 132 activities, or 74%. The most prevalent cognitive level observed was remembering, which represents the lowest dimension of the Revised Bloom's Taxonomy. Furthermore, there was significant variation in the distribution of LOTS and HOTS activities across different chapters.

These findings underscore the need for textbooks to provide a more balanced distribution of cognitive levels, particularly by including exercises that foster the development of higher order thinking skills. By enhancing the incorporation of HOTS activities, textbooks can better support students' cognitive growth and encourage critical thinking abilities. There are some suggestions after analyzing this study in which will be beneficial for the future studies :

1. Regarding schools, it is advisable to prioritize the compatibility of the textbook's content with the cognitive levels. When selecting a textbook to support students' skill development, careful consideration is essential.

2. Teachers can utilize the findings of this research to determine the appropriate cognitive dimensions for their students and identify areas where additional focus is needed. Modifying existing exercises can help address any gaps. Moreover, teachers should provide activities that encourage students to enhance their skills.

3. This will foster a more meaningful and practical learning experience for students. They will not only memorize lessons but also apply their knowledge in real-life situations, thereby creating something new that benefits others.

4. Textbook authors should be encouraged to design exercises that specifically target the development of students' thinking skills, ensuring their active engagement in the learning process.

5. The study also emphasizes the importance of avoiding superficial learning and thinking, instead encouraging individuals to engage in more complex thinking to expand their intellectual capacity rapidly..

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