LEVELS OF COGNITIVE DOMAIN OF TASKS IN ENGLISH TEXTBOOKS FOR SENIOR HIGH SCHOOL: A REVISED BLOOM'S TAXONOMY ANALYSES

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***Abstract.** This study is a descriptive qualitative which aims to know the appropriateness of the textbook's content with the cognitive dimension of Revised Bloom's Taxonomy and to know the dominant cognitive category of the Revised Bloom's Taxonomy in the textbook. This research was focused on analyzing the English Textbook, "Pathway to English", which is published by Erlangga. The data was analyzed through data analysis table to categorize the activity with defined as any one of the following: a question or instructional activity, based on cognitive dimension. The result showed that there are 271 activities in the textbook. The activities spread over 105 (38.7%) remembering, 76 (28%) understanding, 48 (17.7%) applying, 28 (10.3%) analyzing, 7 (2.6%) evaluating, and 7 (2.6%) creating. The total number of activities that included to HOTS are 42 activities or 15.5% and the activities that included to LOTS are 229 activities or 84.5%. The most dominant activity was remembering which the lowest dimension of cognitive level of Revised Bloom Taxonomy. Then, the number of LOTS and HOTS activities in each chapter are very different.* Hence, it is not enough if the teacher just only uses the English textbook as a teaching tool to improve students HOTS ability.

Key words: *cognitive domain, revised Bloom's taxonomy, task*

A. INTRODUCTION

A textbook is a book which is used by the teachers and students as a basis of teaching and learning activities in the classroom. A textbook includes the material

and activities with the aim of explaining it in an area of study. The textbook can be found now in print as well as in digital formats.

English teachers commonly use textbooks as the primary instructional material for the process of learning. Damayanti (2019) states that the English textbook contains several materials, instruction, and tasks to improve students' ability in English. They take several tasks out of textbooks in order to make it easier to construct activities for their students. English teachers must be able to select suitable textbooks that contain materials as needed by the students. The material and activities in the textbook can influence what happens in the classroom.

In curriculum 2013, the critical thinking is one of the most important points which must be implemented in the learning process. Critical thinking is the intellectual capacity to evaluate and rationally judge something. Therefore, it is important to analyze the types of tasks that used in an English textbook.

In educational objectives, cognitive domain makes a reference to Bloom Taxonomy. Bloom taxonomy is a concept in thought theory introduced by an American psychologist, Benjamin S Bloom. It is the hierarchical system that determines the capacity ranging from low to high level. The purpose of taxonomy is very clear, helping teachers achieve the objective of education. The Revised Bloom's Taxonomy is basically a more authentic method for curriculum preparation, instructional delivery and evaluation.

Bloom (1956) differentiated six categories in cognitive domain. They are *knowledge, comprehension, application, analysis, synthesis*, and *evaluation*. In 1990's, Bloom's Taxonomy had been revised, the terminology or the language used in the cognitive dimension of Revised Bloom's Taxonomy had been changed into verb from noun. The cognitive dimension includes r*emembering, understanding, applying, analyzing, evaluating,* and *creating (*Anderson &

Krathwohl, 2001). Then, it is divided into LOTS (Low Order Thinking Skill) for r*emembering, understanding, applying* and HOTS (Higher Order Thinking Skill) for *analyzing, evaluating,* and *creating*.

In short, the proportional distribution of HOTS and LOTS in a textbook is very important. Because the tasks in a textbook will affect the learning process which will also have an impact on learning outcomes in the future. This study was intended to know the appropriateness of the textbook's content with the cognitive dimension of Revised Bloom's Taxonomy (RBT) and to know the dominant cognitive category of the Revised Bloom's Taxonomy (RBT) in the textbook. Because textbook is very important as an instructional material to help teachers as a basis of teaching and learning in the classroom to reach the goals of curriculum.

There are several studies which have been conducted regarding on HOTS and LOTS in a textbook. They were first conducted by Janah (2020) entitled, "LOTS and HOTS Items Analysis Based on Bloom's Taxonomy Revision in Exercise of English Textbook Entitled Bahasa Inggris: When English Rings A Bell For Smp/ Mts Kelas Vii". Then, the second one was conducted by Ilma (2018) entitled "An Analysis of Reading Tasks in Bright Course Book for the Seventh Grade of Junior High School of curriculum 2013, Published by Erlangga in The Year of 2016". Then, conducted by Pratiwi (2015) who made research about Analysis of English Workbook *Can Do 2* for SMP/MTsN by Using Revised Bloom Taxonomy. Next, the reseach which was conducted by Yunita, et al (2020) entitled "An Analysis on Higher Order Thinking Skill (HOTS) in Compulsory English Textbook for the Twelfth Grade of Indonesian Senior High Schools". However in this research the researcher used the Revised Bloom's Taxonomy by Krathwhol and Anderson. This is the newest version from the original of Bloom's Taxonomy.

Based on the explanation above, the cognitive levels which is categorized to HOTS in a textbook is very important to reach the goal of curriculum where the critical thinking is one of 21ˢᵗ century skill that must be had by students. The result of three previous studies, which analyzed the textbook in Junior High School, showed that the most dominant of cognitive level is remembering. Therefore, the researcher in this study was interested in conducting research on analyzing the textbook for Senior High School, by using Cognitive Process Dimension of Revised Bloom's Taxonomy (RBT). In this research, the textbook PATHWAY TO ENGLISH for 12ᵗʰ grade was chosen because this book has claimed using curriculum 2013 of Revision Edition. In other words, this book has provided HOTS tasks for students. Then, the researcher has chosen the book for 12ᵗʰ grade because it is the last grade in school level before the students continue their study to the higher level of education, it is university. Furthermore, it has not been found any research about it. The writer wanted to explore and analyze the tasks which are presented in the textbook of Senior High School, textbook PATHWAY TO ENGLISH for 12ᵗʰ grade, which is published by Erlangga in order to know to what levels of cognitive domain are found in the tasks in the English textbooks for Senior High School students and whether LOTS or HOTS categories is the most dominant in this textbook.

B. RESEARCH METHOD

In this research the researcher used qualitative research. It used descriptive analytical study which describe and elaborate the data followed by analyzing. Understanding can be got by the result of research which is caused by the iterative process of connecting data, concept, and evidence (Becker,2017). The researcher used content analysis as the tools. This means that this study analyzed the tasks in the textbook of PATHWAY TO ENGLISH for 12ᵗʰ grade, by using cognitive domain levels of Revised Bloom's Taxonomy.

The tasks was analyzed according to cognitive level of Revised Bloom's Taxonomy table in order to know which level they comprise: remembering (C1), understanding (C2), applying (C3), analyzing (C4), evaluating (C5), or creating (C6). It was found out the tasks which are categorized as LOTS (Low Order Thinking Skill) or HOTS (Higher Order Thinking Skill) and which category is the most dominant in this textbook.

The data which was used in this study is the document of tasks in the textbook of PATHWAY TO ENGLISH for 12th grade, which is written by Th.M. Sudarwati and Eudia Grace, published by Erlangga. The textbook is implementing the revision of curriculum 2013. There are some topics in each book which were analyzed. It consists of 7 chapters in this textbook.

In this research the researcher used data analysis table to categorize the activity according to the cognitive level of Revised Bloom's Taxonomy. The researcher analyzed the data by applying the technique addressed by Miles, Huberman, and Saldana (2014). The technique was named interactive mode. There were three streams of activities. They are data reduction, data display, and drawing conclusion or verification   .

Data reduction is the process for researcher to select, identify, classify, and code the important data which relates to the research. At this point, the data reduction was done by analyzing tasks (instructional items or questioning stems) by using Revised Bloom's taxonomy. Then, data display is the process of presenting data in the form of sentence, narrative, or table. In qualitative research, the data can be displayed in the form of table, pie chart, graphics, and other equivalent forms (Sugiyono:2008). In this research the researcher used table to display the data. After analyzing the data by doing data

reduction and displaying data then the researcher drew conclusion or withdrew verification.

The process of data analysis techniques was following some steps. The writer read the instructional item or questioning stems used in the textbook. Then, the writer grouped the instructional items/questioning stems according to cognitive level of Revised Bloom's Taxonomy in order to know which level they categorized: remembering (C1), understanding (C2), applying (C3), analyzing (C4), evaluating (C5), or creating (C6). It is based on *A Taxonomy for Learning, Teaching and Assessing: A Revision of Bloom's Taxonomy* written by Anderson,L.W. & Krathwohl, David R. (2001). The data was analyzed in each chapter. After that it was categorized in which cognitive level, it was determined as LOTS or HOTS. Then the writer counted the number of the instructional items/questioning stems included in each category. It was done in each chapter. Finally, the writer interpreted the result of data analysis.

C. FINDINGS AND DISCUSSION

Findings

In this textbook, there were 271 activities have been analyzed. The activities spread over 105 (38.7%) remembering, 76 (28%) understanding, 48 (17.7%) applying, 28 (10.3%) analyzing, 7 (2.6%) evaluating, and 7 (2.6%) creating. The results of the investigation were shown in the following table.

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

No	Chapter (Theme)	Cognitive Dimensions					
		C1	C2	C3	C4	C5	C6
1	Chapter 1: **I Can Assist You with That**	11	13	8	2	-	-
		32.3%	38.2%	23.5%	5.8%	-	-
2	Chapter 2: **I Hope I Might Be Granted An Interview**	13	13	7	5	4	-
		30.9%	30.9%	16.6%	11.9%	9.5%	-
3	Chapter 3: **A Picture Is Worth a Thousand Words**	16	4	7	3	2	4
		44.4%	11.1%	19.4%	8.3%	5.5%	11.1%
4	Chapter 4: **What's The News Today?**	22	13	13	8	-	1
		38.5%	22.8%	22.8%	14%	-	1.8%
5	Chapter 5: **Do the Following Instructions.**	14	17	10	-	1	1
		32.6%	39.5%	23.2%	-	2.3%	2.3%
6	Chapter 6: **Do the Following Instructions.**	20	12	3	1	-	1
		54.1%	32.4%	8.1%	2.7%	-	2.7%
7	Chapter 7: **Singing For A Better Life**	9	4	-	9	-	-
		40.9%	18,2%	-	40.9	-	-
	Total = 271	105	76	48	28	7	7
	Percentage = 100%	38.7%	28%	17.7%	10.3%	2.6%	2.6%

The tasks in the Pathway to English book were not distributed into complete cognitive levels in each chapter, as seen in Table 4.1. In each chapter of the Pathway to English textbook, there was a dominant dimension activity of the cognitive of the Revised Bloom Taxonomy.

This finding implies that the number of activities that call for the cognitive level of remembering was the highest aspect in this textbook with the percentage 38.7

%. The frequency of remembering is 105 of 271 activities. Then the second rank is understanding with the percentage 28% and the frequency is 76 of 271 activities. The third most frequency is applying with 48 activities or 17.7 %. The finding also shows that the lowest dimensions of cognitive level are evaluating and creating. It is only 2.6% which consists of 7 activities for each level.

Based on the explanation above, it concludes as the following table that shows the frequencies and percentage of the distribution of the cognitive dimension of Revised Bloom taxonomy in all chapters.

Table 2. Cognitive Dimension Distribution in the Pathway to English

No	Cognitive Dimension Level		Frequencies	Percentage
1	**Low Order Thinking**	Remembering	105	38.8%
2		Understanding	76	28%
3		Applying	48	17.7%
Total			**229**	**84.5%**
4	**High Order Thinking**	Analyzing	28	10.3%
5		Evaluating	7	2.6%
6		Creating	7	2.6%
Total			**42**	**15.5%**

It can be seen from the table that understanding, remembering, and applying are included to three low order thinking and the total number of activities that relate to low order thinking reach to 84.5% with the frequency 229 of 271 activities. Evaluating, creating, and analyzing that include the high order thinking are only having 15.5% or 42 activities out of to 271.

Discussion

According to the data analysis of the textbook Pathway to English, the most dominant cognitive dimension of the Revised Bloom Taxonomy in this textbook is remembering. It indicates that in this textbook, recalling previously taught material is the most dominant in teaching learning process. The analysis result table shows that 105 out of 271 activities are remembering. It appeared most frequently, 38.7 % activities.

The second position after remembering is understanding. It consists of 76 of 271 activities or 28% are included to understanding. It showed that there are 28 % activities supposed the student to interpret, summarize, paraphrase, classify and explain the material. It was discovered that 28% of the exercises required the student to comprehend the meaning of the information, translate it, and interpret it from one form to another. The student's material comprehension is at its most basic level at this point. This is the student's lowest level of material understanding.

In the textbook Pathway to English, there are 48 activities that included to applying. It signifies that 17.7% of the activities require students to use and apply their knowledge in familiar tasks, apply their knowledge in relevant contexts, and put theories into practice.

Then, there are 10.3% activities included to analyzing level. They are 28 of 271 activities included in this level of cognitive dimension. In chapter 5 it is not found an activity included to analyzing dimension.

According to Anderson and Krathwohl (2001) the three highest levels in the cognitive levels of Revised Bloom's Taxonomy are included in high order thinking skill (HOTS). They are analyzing, evaluating, and creating. Then the

three lowest levels in the cognitive levels of Revised Bloom's Taxonomy are included to low order thinking skill (LOTS)

Cognitive dimensions that are not frequently found are evaluating and creating with 7 activities for each level. They are the lowest number of cognitive aspects in the textbook Pathway to English with the percentage 2.6 % in each. Although these levels implemented in this book, the amount of them is not sufficient. The small quantity of each of the three aspects, analyzing, evaluating, and creating, demonstrates the uneven distribution of activity across all cognitive components. Each unit has a different set of them.

This result was in line with Pratiwi (2015) from State Islamic University Jakarta who analyzed English workbook for SMP/MTs by using Revised Bloom's Taxonomy. She found on her research that the workbook placed emphasis on the lower thinking processes; remembering, understanding, and applying, with the percentage 95.3 %. There are only 4.7 % activities dealing with the high order thinking. Also, 'Ilma (2018) in the textbook entitled Bright for 7 grade which found that the lower thinking skill is more dominant than the higher order thinking skill.

On the opposite Febriyani, et all (2020) which found different in the percentage of HOTS in Compulsory English Textbook for the Twelfth Grade of Indonesian Senior High Schools. She found the C6 (creating) was the highest level of cognitive in HOTS domain but in other previous studies the lowest of cognitive level of HOTS was C6 (creating).

From this study and previous study showed that the lowest three levels of cognitive domains of Revised Bloom's Taxonomy are the most dominant appear in the textbook. On the other hand, it is categorized as LOTS or low order

thinking skill. Besides, the three highest levels of cognitive domains of Revised Bloom's Taxonomy, which belong to HOTS category are very few.

The result of this study implies that the author of Pathway to English placed emphasis on the lower thinking process with the most total number is remembering aspect. This number is contradicting with the high order thinking. There are so few high orders thinking in this textbook Pathway to English.

Bloom's revised taxonomy cognitive activity in the Pathway to English textbook was found in different percentages in each chapter, the average occurrence of lower order thinking cognitive level activities is quite adequate, while higher order thinking cognitive level activities are considered very less.

D. CONCLUSION AND SUGGESTION

Conclusion

Textbook plays an important role in teaching learning process. It greatly influences the learning outcome of students. This study attempted to discover the appropriateness of Pathway to English with the cognitive dimension of Revised Bloom Taxonomy and the dominant level of the cognitive of revised bloom taxonomy. The activities that were defined as chapters for analysis were instructional verbs and questioning stem. They are collected, listed, and analyzed according to cognitive dimensions of Revised Bloom's Taxonomy.

Based on the data analysis, the conclusion of this study is the textbook does not provide enough activities to facilitate students' higher order thinking skill. It can be seen from the result of this study which the total number of activities that included to higher order thinking skill (HOTS) are 42 of 271 activities or 15.5%. On the other hand, the activities that included to low order thinking skill (LOTS) are 229 of 271 activities or 84.5%. The most dominant activity is remembering

which the lowest dimension of cognitive level of Revised Bloom Taxonomy. Furthermore, the number of LOTS and HOTS activities in each chapter very different.

According to the result above, the textbook is necessary to increase the spread of cognitive levels, especially activities that can facilitate the development of students' higher order thinking skill.

Suggestion

1. For the school, It is preferable for the school to pay greater attention to the content compatibility of the textbook's cognitive levels. It is necessary to be selective while selecting a textbook that will help students develop their skills.

2. Through this research, teachers can identify which cognitive dimensions are appropriate for their students and which cognitive dimensions should be developed with related activities. Teachers must alter previous activities to make up for the missing component. Furthermore, teachers should be able to develop activities that can improve students' skill.

3. For the students, it will lead to them learning by rote in a more direct manner. They have learned to apply their knowledge in their daily lives, not only by remembering the teachings, but also by creating something new that will benefit a large number of others.

4. Textbook's authors, it will be necessary for the authors to create or design an activity trough to the textbook which can facilitate students to develop their thinking skill.

5. It also encourages for the readers not to be accustom to superficial learning and thinking, but it can concern with the more complex thinking to develop immediately their ability.

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