

An Analysis of Instructions Based on Revised Bloom's Taxonomy in the "Pathway To English" Textbook for Twelfth Grade Students

Rahayu Oktarini, Dedy Sofyan, Ira Maisarah

Universitas Bengkulu

Rahayuoktarini66@gmail.com, Dedisofyan@unib.ac.id, Iramaisarah@unib.ac.id

ABSTRACT

This study aims to determine the type of instruction based on the revised Bloom's taxonomy and to determine the proportion of instruction based on the cognitive domain of revised Bloom's taxonomy in the English textbook of "Pathway to English" for twelfth grade published by Erlangga in 2017. This research applied mixed method (qualitative and quantitative). Table checklist based on cognitive domain of Revised Bloom's taxonomy was the instrument of this research. For the validity of the data, the researcher used inter rater reliability, because there are only two raters, the results of rater 1 and 2 are calculated using Cohen's Kappa. The result of the value of Kappa is 0.910 means that > 0.75 so it can be conclude the result of analysis data is in excellent level of agreement. The result showed this book is more concerned with LOTS than HOTS with the percentage of HOTS 56.52% and LOTS 43.48%. The proportion between HOTS and LOTS is almost balanced. The most dominant level of thinking in this book is Understanding (C2). It can be said that it has not fully met the 2013 curriculum standards of the Ministry of Education and Culture. It is suggest for teachers who use this book to be innovative, creative, even teachers can adapt from other sources in giving instructions to develop students' critical thinking.

Keywords: Revised Bloom's Taxonomy, Instruction, Textbook

ABSTRAK

Penelitian ini bertujuan untuk mengetahui jenis instruksi berdasarkan taksonomi Bloom direvisi dan untuk mengetahui proporsi instruksi berdasarkan dimensi kognitif taksonomi bloom direvisi dalam buku teks bahasa Inggris "Pathway to English" untuk kelas dua belas yang diterbitkan oleh Erlangga pada tahun 2017. Metode campuran (kualitatif dan kuantitatif) digunakan dalam penelitian ini dan diklasifikasikan menggunakan analisis konten. Tabel checklist berdasarkan kognitif domain taksonomi Bloom digunakan sebagai instrumen dalam penelitian ini. Untuk keabsahan data peneliti menggunakan reliabilitas antar penilai, karena hanya ada dua penilai, maka hasil penilai 1 dan 2 dihitung menggunakan Cohen's Kappa. Hasil perhitungan nilai kappa adalah 0.910 yaitu besar dari >0.75 jadi dapat disimpulkan hasil analisis data di level excellent. Hasil penelitian menunjukkan bahwa buku ini lebih menekankan Low Order Thinking Skill (LOTS) daripada High Order Thinking Skill (HOTS) dengan persentase LOTS 56,52% dan HOTS 43,48%. Proporsi antara HOTS dan LOTS hampir seimbang. Level berpikir yang paling dominan dalam buku ini adalah Understanding (C2). Dapat dikatakan belum sepenuhnya memenuhi standar kurikulum 2013 Kementerian Pendidikan dan Kebudayaan. Disarankan bagi guru yang menggunakan buku ini untuk dapat lebih inovatif, kreatif bahkan guru bisa mengadaptasi dari sumber lain dalam memberikan instruksi untuk meningkatkan berpikir kritis siswa.

Kata kunci: Taksonomi Bloom Revisi, Instruksi, Buku Ajar

INTRODUCTION

Textbooks as a teacher's guide in the teaching and learning process, a teacher's guide to constructing some activities in the classroom. The quality of the textbook will determine the success of students in the learning process. Supported by Byrd's statement (as quoted in Nimasari, 2016) textbooks have a lot of influence on teaching and learning activities in the classroom. Therefore, textbooks are an important element in language classes. Brown (2001) argues that the most supportive material for ELT (English Language Teaching) comes through textbooks.

Textbooks have several elements, such as the design of the textbook, instructions, activities, and others. In addition, Ur (1996) mentions textbook content includes clear instruction, systematic coverage of syllabus, and adequate guidance for the teacher. It can be inferred that instruction is one of important elements of a textbook. Instructions in textbooks are important for students. Reigeluth and CarrChellman (2009) stated that instruction helps students learn, and helps students construct knowledge. With clear instructions can assist students in achieving learning objectives based on the applicable curriculum. It can be concluded that instruction and curriculum have a close relationship.

Many things need to be evaluated to get textbook components that are in accordance with the needs of students and in accordance with what is emphasized by the curriculum 2013. In line with Anasy (2016), who implies the elements of the textbook need to be evaluated, like design of textbook, training, textbook instructions, and teaching materials that affect and motivate the students in making use of capabilities contained within the textbook. Tomlinson (2003) said that instruction need to be evaluated in the textbook. Moreover, a good textbook have to contain clear instruction, systematic insurance of syllabus, and good enough guidance for the teacher (Ur, 1996). Clear instruction has an important function, due to the fact it can assist students to gain learning goals based on the relevant curriculum. (Tyler, 2013).

Minister of Education Regulation 2016 concerning graduate competence standard contains that the reference is Bloom's Taxonomy which was first introduced by Benjamin Bloom in 1956 and further developed by Anderson and Krathwohl in 2001. Revised Bloom's Taxonomy categorizes learning outcomes Cognitive process dimensions, it is arranged hierarchically starting from remembering (C1), understanding (C2), applying (C3), analyzing (C4), evaluating (C5), and creating (C6). The Ministry of Education emphasized more on HOTS (High Order Thinking Skill) than LOTS in the learning

process. The more HOTS content in a textbook, the greater probability of HOTS to be trained and taught to the students. But it doesn't mean that Low Order Thinking Skill is not important. Both LOTS and HOTS are necessary for students (Jannah, 2020).

Thus, there were two objectives of this research. First, to find out the types of instruction in the textbook "Pathway to English" of the twelfth grade students based on Revised Bloom's Taxonomy. Then, to find out the proportion of instruction in the textbook "Pathway to English" of the twelfth grade students based on Revised Bloom's taxonomy.

METHODOLOGY

This study was mixed method research. It was combined qualitative and quantitative. Creswell (2018) said that mixed method research provides a better understanding of the research problem, than using only one research method. The data of this research is the content of English Textbook "*Pathway to English*" Published by Erlangga in 2017 This is revised edition textbook. This textbook was designed for Senior High school (SMA/MA) grade XII and it claim that relevance with the 2013 curriculum. The textbook is written by Eudia Grace, Theresia Sudarwat and published by Erlangga in 2017.

An important tool in collecting research data is a research instrument. In this study, the researcher used table checklist based on cognitive domain of Bloom's taxonomy. This table makes it easier for researchers to analyze and categorize each instruction in the textbook. The table contains about the ,number, activities, page, instruction, and cognitive domain of Bloom's Taxonomy.

The steps to be taken in data analysis methods are (1) organization and recognition, (2) coding and reduction, and (3) interpreting and representing (Ary et al., 2010). First step taken by the researcher were to organize the data based on each chapter. Starting from chapter 1 to chapter 10. Then enter the data into a table so that it is ready for analysis. This table contains all instructions in serial order, activity, level, and page numbers. In the next stage, the researcher categorized all the instructions in the English textbook using research instrument based on cognitive domain in Bloom's Taxonomy. researcher categorize the instructions in each chapter into cognitive domain level based on Bloom's taxonomy. Coding category consists of 6 labels, namely: remembering, understanding, applying, analyzing, evaluating and creating. Then, calculate each categories in research tools and frequency of each level. Quantitative data analysis was used in this stage. Next, the writer uses descriptive statistics such as percentage (%) and frequency (F) as basic data analysis

technique. Researcher calculated by using this formula : $P = F/N \times 100\%$. Last, researcher must explore and give meaning to be able to make an explanation. Research results are interpreted and linked to related theories.

For validation the data, the researcher used inter-rater reliability towards the data. Inter-Rater Reliability (IRR) will provide an overview in the form of a score about the extent to which the level of agreement given by two raters. Because this research involves two experts or raters as assessors, so that in this study using the Cohen’s Kappa agreement coefficient.

Table 1. Interpretation of Cohen’s Kappa

Value of Kappa	Level of Agreement
<0.40	Bad
0.40-0.60	Fair
0.60-0.75	Good
>0.75	Excellent

FINDINGS AND DISCUSSION

Findings

Inter-rater reliability as a validation analysis in this research to measure the reliability and accuracy agreement. After calculated the result of researcher and rater, it showed value of measure of aggrement is 0.910. It is means that high agreement or excellent level.

Table 2. Result of Inter-Rater Reliability of Analysis Instructions Based on Bloom’s Taxonomy in English Textbook.

Symmetric Measures					
		Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Measure of Agreement	Kappa	.910	.021	30.344	.000
N of Valid Cases		230			

Types of Instructions Based on Bloom’s Taxonomy

It showed the analysis results from the English book entitled *Pathway to English* published by Erlangga published in 2017. In this study, the researcher collected 230 instructions in the textbook. All of the instructions are categorized based on the cognitive domain of Bloom’s taxonomy, namely: remembering, understanding, applying, analyzing, evaluating and creating.

Table 3. The Distribution of Instructions Based on Cognitive Domain of Bloom’s Taxonomy

No	Cognitive Domain of Bloom’s Taxonomy	Total of Instructions
1.	Remembering (C1)	39
2.	Understanding (C2)	53
3.	Applying (C3)	38
4.	Analyzing (C4)	30
5.	Evaluating (C5)	39
6.	Creating (C6)	31
TOTAL		230

Sample types of instructions based on bloom taxonomy will be shown in the table below:

Table 4. Samples of Instructions in textbook

No.	Instructions	Cognitive domain of Bloom’s taxonomy	Page
1.	Listen and repeat	Remembering (C1)	3
2.	Read the text. Then, complete the following mind map.	Understanding(C2)	114
3.	Perform the dialogue and record it with your cell phone.	Applying(C3)	13
4.	Analyze the language features of the text in activity 13, write the sentences in right column. See the examples.	Analyzing(C4)	116
5.	Decide whether each statement is true or false. If it is true, give the evidence. If it is false, make some corrections.	Evaluating(C5)	166
6.	Make a slogan based on the text you have just read. Use finite and non-finite clauses.	Creating(C6)	47

Table above showed some sample instructions. First instruction categorized into level Remembering (C1), this level of thinking recalls students' memories. "Listen and repeat", students are asked to listen, remember what was said, remember how it was pronounced, then repeat. Next is Understanding (C2) It is known that instruction at this level is when students are able to construct meaning or understand text, pictures, dialogues, conversations, and presentations. For applying, "perform the dialogue and record it with your cell phone". It is means asked to apply the material that has been given. After that is Analysis (C4). This level categorized into HOTS (Higher Order Thinking Skill). The students are asked to be able to analyze, organize, differentiate, or break down material into parts by knowing the reasons (cause and effect). Next is Evaluating (C5), when students need to require students to give a rational opinion based on their analysis of the situations in the text. Last is Creating (C6), for example students are asked to make a slogan based on the text. Surely, in creating slogans, students are required to think critically and creatively in order to produce interesting slogan.

The Proportion of Instruction in English Textbook Based on Bloom's Taxonomy

The result of percentage in instructions in the English textbook "Pathway to English" twelfth grade students published in 2017 are as follows:

Table 5. Frequencies and Percentage of Instruction in "Pathway to English Textbook" in the Classification Level of Thinking Based on Bloom's Taxonomy

Cognitive Level	Frequencies	Percentage	Classification Level of Thinking Based on Bloom's Taxonomy
Remembering (C1)	39	16,95%	LOTS (Low Order Thinking Skill)
Understanding (C2)	53	23,04%	
Applying (C3)	38	16,52%	
Analyzing (C4)	30	13,04%	HOTS (High Order Thinking Skill)
Evaluating (C5)	39	16,95%	
Creating (C6)	31	13,47%	
		130 (56,52%)	
		100 (43,48%)	

Total	230	100%	100%	
-------	-----	------	------	--

There are two classification of thinking process on Bloom's taxonomy, they are HOTS (High Order Thinking Skill) and LOTS (Low Order Thinking Skill). After analyzed all the instructions, the researcher found that author of English textbook "Pathway to English" emphasize on LOTS than HOTS. It can be seen at the table above, table indicate there are 130 instructions included in LOTS means that 56,52% with the highest frequency at the understanding level, which is 24,78%. It showed that the author of the *Pathway to English* textbook emphasizes students to use Low Order Thinking Skills. Then for the HOTS category only get a percentage of 43.48%, which is a number with 100 instructions. And the cognitive domain level with the lowest percentage is 12.60%, only 30 instructions.

DISCUSSION

From the result of analyzed English textbook in "Pathway to English Textbook SMA/MA Kelas XII Edisi Revisi 2017" it showed that the proportion of High Order Thinking Skill (HOTS) and Low Order Thinking Skill (LOTS) instructions written by the author in this book is almost the same. HOTS with a percentage of 56,52% and LOTS 43,48%. The 2013 curriculum explains that in the learning process students must be able to master 6 cognitive domains starting from the lowest to the highest level. Because to move from one level to another higher level, students must master one level below it. The instructions in the English textbook are spread almost evenly across in ten chapters with a total of 230 instructions.

This book is dominated by cognitive domain level understanding (C2), it is 53 of 230 instructions. This happened because this book offers a lot of text, discourse, information presented in the form of diagrams or tables, etc. So that in this case students are asked to understand the text, construct their knowledge based on what they have read, and even asked them to demonstrate understanding and interpret. Researcher also found in this textbook contains more LOTS than HOTS. This might happen because the author textbook know that in a classroom teaching situation, the teacher does not have enough time to provide a lot of HOTS instruction. When offering HOTS, it will take quite a lot of time in the learning process. While English learning process in school is very limited. It could be the background of the author's goal to reproduce more LOTS than HOTS in this book.

This research has similar result to Zaiturrahmi et al. (2017) in the textbook *Bahasa Inggris SMA/MA/SMK/MAK Kelas 1*. Then Anasy (2016) in textbook *Pathway to English for the 11th Grade*. Also Febriyani et al. (2020) in textbook *Bahasa Inggris SMA/MA/SMK/MAK Kelas XII Edisi Revisi 2018* it can be concluded that the textbook emphasizes more on Higher Order Thinking Skill (HOTS) than Lower order Thinking Skill (LOTS). This happen maybe because the author textbook know that in a classroom teaching situation, the teacher does not have enough time to provide a lot of HOTS instruction. it is supported by the statement (Airasian & Russel, 2008) they are familiar with the LOTS, that is why LOTS easy to found in textbook. Also the students easier to do LOTS instruction or exercise than HOTS. It is also easiest to make by teacher. Limitation of time make it difficult for teachers to apply many HOTS. Besides that it may also take years to change the concept of education to be more emphasizing on HOTS. Education stakeholders need a long adaptation, an adjustment process to students, and students also need an adjustment process so that they are accustomed to following higher-order thinking processes.

The standard for the percentage of Bloom's taxonomy offered by Anderson are HOTS 60% and 40% for LOTS. The results of this study indicate that this book does not meet the percentage standard of Anderson. This book only covers 43.48% HOTS and 56.52% LOTS. This may be due to differences in curriculum standards and the concept of learning in Indonesia. The readiness of teachers and students and even time constraints can be a contributing factor.

In accordance with the standards of the Ministry of Education that in the learning process the government expects students to face more HOTS than LOTS. Since the results of this study emphasize LOTS, it means that this book also does not fully met government standards. It was said in Febriyani (2020), it was not enough to just use this one textbook because it emphasized LOTS more. It means the teacher must find additional books to meet the needs of the variations of HOTS instructions that will be given to students in learning or teachers can also innovate and be creative with the instructions in the developed textbooks so that later the results will emphasize HOTS more.

Look at the results of previous studies, the proportions offered in the books they analyzed such as Zaiturrahmi (2017) 87.22% LOTS, 12,78% (HOTS). Anasy (2016) the result is LOTS 90,4% and HOTS 9,6%. While this research showed LOTS 56,52% and HOTS 43,48%. It showed that this book has a much better proportion of HOTS. Although it has not emphasized on HOTS, but the proportions offered do not have a large difference. The percentage figure is almost similar. It happened maybe because the book analyzed by

Zaiturrahmi for tenth grade book, so the grade level was lower than the book the researcher analyzed. Then the textbook analyzed by Anasy (2016) for eleventh grade book with the same publisher, the big difference in results could be due to different grade levels and the year of publication of the analyzed book. Anasy analyzed books before 2016 while this book the latest published in 2017. It is possible that book still needs a lot of improvement.

From ten chapters in textbook, chapter 3 does not have an analyze (C4), it may be because the author made the topic "What is corruption?", the author emphasizes students to better understand readings about corruption. They are presented with information on corruption figures in Indonesia, understand the chart, and then interpret it. Analyze (C4) is in the HOTS category, so the demand for HOTS in this chapter is low. For chapter VI, there is no Remembering (C1), it might happen because in this chapter In this book there is no listening activity, while the C1 level in this book is mostly obtained from listening activities. Then chapter X, in here no one Create (C6), it is probably because the author brought up the topic "Sing for the World", this chapter much listening activities which is emphasize LOTS than HOTS. The purpose of this chapter to express the message of songs and appreciate, no more create the song.

From the result of the analysis of instructions in English textbook entitled "Pathway to English SMA/MA Kelas XII" Published by Erlangga in 2017, it was found that the most dominant cognitive dimension was understanding (C2). This indicates that the author of the book emphasizes the thought process of constructing knowledge, understanding written and spoken, interpreting etc.

CONCLUSION AND SUGGESTIONS

Conclusion

After analyzing the book, the researcher found that there were 230 instructions in the book "Pathway to English SMA/MA KELAS XII" published by Erlangga in 2017. All the types of instructions in the textbook were scattered into all chapters from chapter 1 to chapter 10. These types of instructions were based on cognitive domain bloom taxonomy, there were remembering, understanding, applying, analyzing, evaluating and creating.

Then the researcher found that this English textbook emphasizes LOTS (Low Order Thinking Skill) more than HOTS (High Order Thinking Skill), the percentage of LOTS is 56.52% while HOTS is 43.48% with the cognitive domain dominated at the level of understanding (C2) as much as 23.04%, followed by remembering (C1) and evaluating (C5) 16,95%, applying (C3) at the 16.52%, then creating (C5) 13.47%, last analyzing (C4)

13.04%. The researcher concludes that author of English textbook emphasize students on constructing knowledge, understanding text and oral, and interpreting. This shown that the English textbooks that have been analyzed have not followed the 2013 curriculum mindset to emphasize HOTS more than LOTS.

Suggestions

The researcher will give some suggestions. The suggestions presented as follows:

1. English Teachers

The English textbook “Pathway to English SMA/MA Kelas XII” Published by Erlangga 2017 showed that this book emphasizes LOTS more than HOTS. Therefore, teachers as student’s facilitators must be more innovative and creative in the learning process especially in providing instructions for students to follow the 2013 curriculum standards. Teachers can also add or adapt from other sources so that more instructions containing HOTS will appear, thereby increasing students' critical thinking processes.

2. Textbook authors

Since the results of the analysis in the textbook were found, the authors of the book are expected to pay more attention to the proportion of HOTS and LOTS offered in the book, to support the 2013 curriculum by providing instructions that stimulate students to think critically, critical thinking that is more emphasized than just calling long-term memory of students and understand the text. The proportions obtained from this research can also be used as an illustration for the author to modify the instructions in the textbook to be revised.

3. Future researcher

This research is limited to instructions and only analyzed one book, for further researchers may be able to analyze other parts or other element contained in the textbook, such as questions in the textbook, design, exercise, theme, etc. Future researchers can also analyze books with other publishers or books with the latest published year.

REFERENCES

Airasian, Peter W., & Michael., K. (2008). *Classroom Assessment: Concepts and Applications 6th Ed.* Boston: McGraw-Hill. .

- Anasy, Z. (2016). HOTS (Higher Order Thinking Skills) in Reading Exercise. *TARBIYA: Journal of Education in Muslim Society*,3(1), 51-63.
<http://dx.doi.org/10.15408/tjems.v3i1.3886>
- Anderson, O.W., & Krathwohl, D.R. (2001). *A taxonomy learning, Teaching, and Assessing: A Revision of bloom's Taxonomy Educational objectives*. New York: Addison Wesley Logman.
- Ary, D., Jacobs, L. C., & Sorensen, C. (2010). *Introduction to Research in Education (Eight Edition)*. USA: Wadsworth
- Brown, H. D. (2001). *Teaching by Principle and Interactive Approach to language pedagogy*. New York: Longman Inc.
- Creswell, J. W. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Sage, Los Angeles.
- Febriyani, R.A., Yunita. W, Damayanti.I. (2020). An Analysis on Higher Order Thinking Skill (HOTS) in Compulsory English Textbook for the Twelfth Grade of Indonesian Senior High Schools. *Journal of English Education and Teaching*, 4 (2), 170-183.
- Kementerian Pendidikan dan Kebudayaan (2016). *Peraturan Menteri Pendidikan dan Kebudayaan Republik Indonesia Nomor 22 Tahun 2016 Tentang Standar Proses Pendidikan Dasar dan Menengah*. Jakarta: Kementerian Pendidikan dan Kebudayaan.
- Maharani, S., Syafei, A.F., Fatimah, S., (2018). An Analysis Of The Instructions in Bahasa Inggris Textbook for Grade 10th Students Published by The Indonesian Ministry of Education and Culture. *E-Journal of English Language and Literature*, 7(3), 520-530
- Reigeluth, C. M & Carr-Chellman, A.A (2009). *Instructional-Design Theories*

Tyler, R.W. (2013). *Basic Principles Of Curriculum And Instruction*. The University of Chicago Press: Chicago.

Ur, P. (1996). *A course in Language Teaching: Practice and Theory*. Cambridge University Press: Cambridge.

Zaiturrahmi, Kasim. U., & Zulfikar, T. (2017). Analysis of Instructional Questions in an English Textbook for Senior High Schools. *English Education Journal*, 8(4), 536-552.