

Cognitive Levels of Reading Questions and Instructions in Language Leader Coursebook 2

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Abstract

This research endeavors to analyze the cognitive levels of revised Bloom's Taxonomy used in Language Leader Coursebook 2 which is prescribed for second year English specialization students in Arts and Science universities and degree colleges in Myanmar. The objectives are to identify the levels of thinking skills in reading questions and instructions in Language Leader Coursebook 2 and to find out to which extent thinking levels of revised Bloom's Taxonomy cover in the analyzed textbook. Revised Bloom's Taxonomy by Anderson and Krathwohl (2001) was used as the working theory to analyze the cognitive levels of higher and lower order thinking skills. Findings indicated that the reading questions and instructions covered all of Bloom's cognitive levels but in an unequal distribution with remembering (33.8%), understanding (29.2%), applying (9.2%), analyzing (12.3%), evaluating (9.2%) and creating (6.1%). Therefore, it is clear from the findings that textbook writers should maintain a balance between the lower order and higher order questions in order to enable the students to think critically and analytically. This research also suggests pedagogical implications for language teachers, students and textbook writers.

Introduction

It is vital for learners to develop their reading comprehension skills because they cannot have a complete understanding of what they are reading without the help of necessary skills for reading. In order for the readers to acquire information from the text, they need to work on the text properly to bring about the meaning from it. Data are presented in a systematized way in a good written text and several techniques are used by writers to hand meaning over to the readers. Therefore, readers should be able to apply reading comprehension skills to help them elicit meaning from reading paragraphs. Reading passages in language course books provide the learners with new vocabulary and attempt to expand their reading comprehension skills by asking them to answer some questions after reading. (Alfaki, 2014 as cited in Ulum, 2016). As Febrina, Usman, Muslem (2019) state, in the teaching learning process, a teacher as a facilitator has a big portion to

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encourage students to operate their higher order thinking skills (HOTSs). Teachers are suggested to give some HOTS questions for students directly or they can choose some tasks or activities from textbooks which provide HOTS questions. It can be concluded that a textbook should present valuable supplies of tasks and activities for both teachers and students. Furthermore, a textbook should be able to assist a teacher in producing questions in HOTS level which develop students' thinking.

According to Raqqad & Ismail (2018), upgrading of cognitive levels of the students can pinpoint their success with the support of well-prepared questions based on Bloom Taxonomy of Cognitive Domain which has been used as a framework for textbook evaluation in various studies. With lower level questions in the text, students are likely to recall information to figure out the meaning from the text and to reach conclusions using the information from their memory or background knowledge. When it comes to higher level questions, students are expected to use their critical, analytical and creative thinking skills in the process of operating the information.

They can practice these higher level cognitive skills by doing reading comprehension exercises which include questions that come together with reading passages. Accordingly, it is of great importance to test the questions in the course books to see if they can really advance students' thinking abilities,

Regarding the importance of using textbook, Language Leader Coursebook 2, an English course book in Myanmar, was analyzed in this research. Language Leader Course books have been prescribed for all English specialization students in Arts and Science universities, degree colleges in Myanmar since 2019 where Global series were used before. In this research, Language Leader Coursebook 2, which is prescribed for all second year English specialization students, was used as material to evaluate the cognitive domain of the reading questions and instructions. The aim of the research is to analyze the cognitive levels of revised Bloom's Taxonomy used in Language Leader Coursebook 2. The objectives are

- To identify the levels of thinking skills in reading questions and instructions in Language Leader Coursebook 2
- To find out to which extent thinking levels of revised Bloom's Taxonomy cover in the analyzed textbook.

The Revised Bloom's Taxonomy by Anderson and Krathwohl (2001) is used as the working theory in carrying out this research. The findings of this research are hoped to give

helpful suggestions to English language teachers in choosing a suitable textbook which covers both lower and higher order thinking skills in the reading section.

Literature Review

Applying the critical thinking in reading activity is a very important aspect to develop the students' capability in catching the sense of the text. Critical reading is not the same as the other kinds of reading like skimming or scanning the text, but rather using the higher thinking skills. As Khorsand (2009) states, critical reading and critical thinking work together. Critical thinking allows us to monitor our understanding as we read. In other words, critical thinking depends on critical reading. Through the cognitive levels of reading questions, the students will be more critical and analytical in their thinking so they can solve the problems they face in their daily lives.

A good textbook should provide a useful resource for the teachers as a course designer and students as the one who is learning English (Gak, 2011). An appropriate textbook which contains HOTS questions has an important role in encouraging students' critical thinking. According to Assaly and Igarria (2014), a textbook is an essential source which provides the framework for activities to develop students' thinking, and contains activities; not only does it transmit knowledge and information, but it also promotes and encourages higher thinking processes.

In addition, a textbook can also be guidance for teachers and students in educational process especially in learning language. Hutchinson and Tores (1994) believe that textbook is an almost universal element of ELT teaching. Sheldon (1988) states that textbooks symbolize "the visible heart of any ELT program" and they offer significant advantages for both students and teachers.

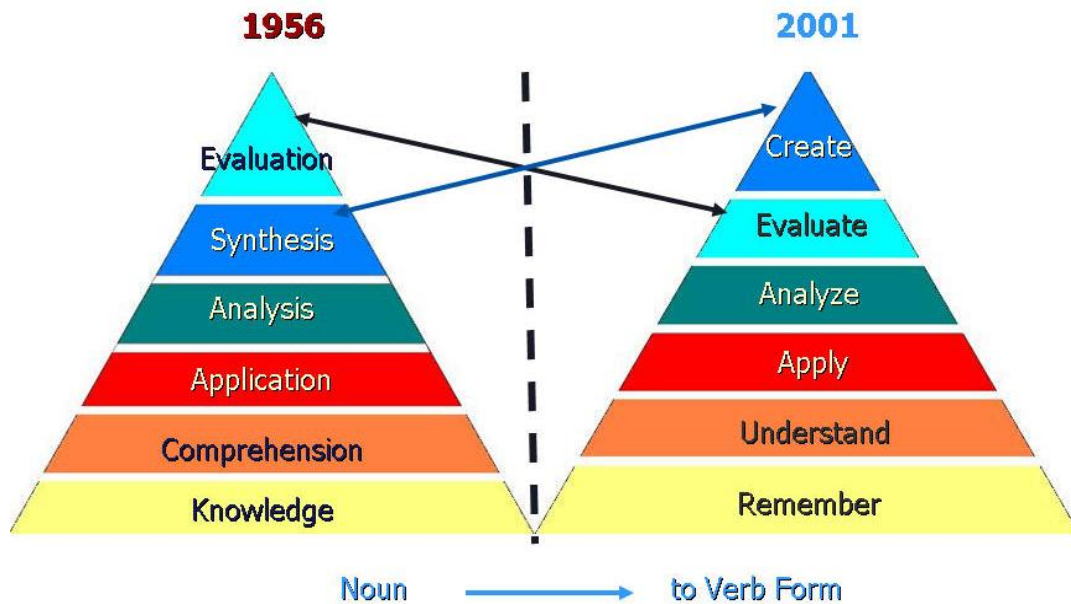
Bloom's taxonomy is commonly used as a tool to classify thinking process from remembering the knowledge to evaluating the knowledge. Revised Bloom's Taxonomy by Anderson and Krathwohl (2001) was used to analyze the cognitive levels of reading questions and instructions in Language Leader Coursebook 2. After analyzing data, the percentages and frequencies of each cognitive level are calculated.

Theoretical Background

The theoretical framework of the present research is the Revised Bloom's Taxonomy. The Original Bloom's Taxonomy is revised by Anderson and Krathwohl (2001), educational psychologists at the University of Chicago. There are six levels of cognitive domains in Original Bloom's Taxonomy. The six levels within the cognitive domains order

from simple to complex: Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation.

The new adoption also takes into consideration of Bloom's needs and gaps of the original taxonomy. In the Revised Bloom's Taxonomy, the subcategories of cognitive domains are transformed into verbs: Remember, Understand, Apply, Analyze, Evaluate, and Create. The types of thinking skills change from simple to more complex. There are two levels of thinking skills in Revised Bloom's Taxonomy by Anderson and Krathwohl. Lower level thinking skills include Remembering, Understanding and Applying and higher order thinking skills consist of Analyzing, Evaluating and Creating. The following figure shows Comparison of Bloom's Taxonomy and Anderson and Krathwohl's Taxonomy.



According to Anderson and Krathwohl (2001), there are two dimensions in the new taxonomy: Knowledge dimension and Cognitive process dimension. Knowledge dimension is in accordance with the background information from the previous time. It has four kinds of knowledge: Factual Knowledge, Conceptual Knowledge, Procedural Knowledge, and Metacognitive Knowledge. The new taxonomy is appropriate to study the educational learning outcomes and to evaluate the critical thinking skills.

Cognitive Process Dimension

In their Cognitive Process Dimension, Anderson and Krathwohl (2001) describes six levels of thinking skills revising Bloom's Taxonomy as new types.

(1) Remembering: Retrieving, recalling knowledge to a previous time.

- (2) **Understanding:** Constructing meaning from written or graphic messages through interpreting, discussing, summarizing, and explaining.
- (3) **Applying:** Carrying out or using a procedure through executing or implementing.
- (4) **Analyzing:** Breaking material or concepts into parts, determining how the parts relate to one another or how they interrelate, or how the parts relate to an overall structure or purpose.
- (5) **Evaluating:** Making judgments based on criteria and standards through checking and critiquing.
- (6) **Creating:** Putting elements together to form a coherent or functional whole; recognizing elements into a new pattern or structure through generating, planning, or producing.

These six categories represent a range of thinking complexity increasing from lower to higher order thinking skills. The following are the sample question words for cognitive process dimension in Revised Bloom's Taxonomy.

Action Verbs of Revised Bloom's Taxonomy (2001)

Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
Choose	Abstract	Apply	Advertise	Agree	Adapt
Define	Calculate	Build	Analyze	Appraise	Build
Describe	Categorize	Carry out	Appraise	Argue	Change
Find	Clarify	Choose	Assume	Assess	Choose
How	Classify	Complete	Attribute	Award	Combine
Identify	Compare	Construct	Categorize	Check	Compile
Label	Conclude	Demonstrate	Coherence	Choose	Compose
List	Construct	Develop	Compare	Compare	Construct
Locate	Contrast	Dramatize	Conclusion	Conclude	Create
Match	Define	Examine	Contrast	Coordinate	Design
Name	Demonstrate	Execute	Deconstruct	Criteria	Develop
Omit	Describe	Experiment- with	Differentiate	Criticize	Devise
Recall	Discuss	Identify	Discover	Critique	Discuss
Recognize	Distinguish	Implement	Discriminate	Debate	Elaborate
Relate	Exemplify	Interview	Dissect	Decide	Estimate
Reproduce	Explain	Make use of	Distinguish	Deduct	Formulate
Retrieving	Extend		Divide	Defend	Generate

Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
Select	Extrapolate	Model	Examine	Detect	Happen
Show	Generalize	Organize	Find	Determine	Hypothesize
Spell	Illustrate	Plan	Focus	Disprove	Imagine
Tell	Infer	Practice	Function	Dispute	Improve
What	Instantiate	Select	Identify	Editorialize	Invent
When	Interpolate	Solve	Inference	Estimate	Make up
Where	Interpret	Use	Inspect	Evaluate	Maximize
Which	Locate	Utilize	Integrate	Explain	Minimize
Who	Map		Investigate	Importance	Modify
Why	Match		List	Influence	Original
Write	Outline		Motive	Interpret	Originate
	Paraphrase		Organize	Judge	Plan
	Predict		Outline	Justify	Predict
	Relate		Parse	Mark	Produce
	Rephrase		Relationships	Measure	Propose
	Report		Select	Monitor	Solution
	Represent		Separate	Opinion	Solve
	Restate		Sequence	Perceive	Suppose
	Show		Simplify	Prioritize	Test
	Subsume		Structure	Prove	Theory
	Translate		Survey	Rate	
			Theme	Rule on	
				Select	
				Support	
				Test	
				Value	

(Source: Anderson, L.W., & Krathwohl, D.R. (2001). *A taxonomy for learning, teaching, and assessing*, Abridged Edition. Boston, MA: Allyn and Bacon.)

Related researches

The research, *A Descriptive Content Analysis of the Extent of Bloom's Taxonomy in the Reading Comprehension Questions of the Course Book Q: Skills for Success 4 Reading and Writing* was done by Ömer Gökhan Ulum (2016) to find out which cognitive levels of Bloom's taxonomy are covered in reading comprehension questions of the course book, which was analyzed through descriptive content analysis method. Findings indicated that the course book showed a lack of higher level cognitive skills. So the researcher suggested that Bloom's taxonomy should be referred to in reading sections when writing the course books.

The research *Analyzing the Reading Questions of AP12 Textbook according to Bloom's Taxonomy* was done by Yahya Matrouk Al Raqqad and Hanita Hanim Ismail (2018) to investigate the thinking levels of reading comprehension in the textbook according to Bloom's Taxonomy of the Cognitive Domain. The findings showed that the reading comprehension questions covered all of Bloom's Taxonomy cognitive levels, including 79 lower level questions and 35 higher level questions. It can be concluded that the textbook authors should give emphasis on including all-level questions in the textbook.

Febrina, Bustami Usman and Asnawi Muslem (2019) conducted a research entitled *Analysis of Reading Comprehension Questions by Using Revised Bloom's Taxonomy on Higher Order Thinking Skill (HOTS)*. This research was focused on investigating the higher levels of Bloom's cognitive domain used in the textbook entitled *Bahasa Inggris SMA/MA/SMK/MAK grade 11th* semester 1, namely analyzing, evaluating and creating level. Reading comprehension questions were examined through the descriptive qualitative method and content analysis to explore the extent of the emphasis on Higher Order thinking the reading comprehension questions covered. It was found out that questions of higher order thinking are the most principal in the textbook (33.4 % lower level questions and 66.8 higher level questions). Findings point out the fact that higher level cognitive questions are focused more than lower level skills.

Research Methodology

The data were collected from Language Leader Coursebook 2. Revised Bloom's Taxonomy by Anderson and Krathwohl (2001) was used as the theoretical framework to analyze the reading questions and instructions in the textbook. This research used a checklist to analyze the six cognitive levels of reading questions and instructions in the textbook.

Findings and Discussion

Cognitive Dimension Level		Frequency	Percentage
HOTS	Remembering	22	33.8%
	Understanding	19	29.2%
	Applying	6	9.2%
LOTS	Analyzing	8	12.3%
	Evaluating	6	9.2%
	Creating	4	6.1%
Total		65	100%

These findings indicate that Language Leader Coursebook 2 writers placed the emphasis more on the lower thinking skills than higher order thinking skills (HOTS) level. The table above shows that this English Textbook consists of high frequency of LOTS questions. 47 out of 65 reading questions and instructions were classified as LOTS level. The highest level applied was Remembering level (33.8%), followed by Understanding level (29.26%). Only 18 questions cover higher order thinking skills, in percentage, analyzing (12.3%), evaluating (9.2%) and creating (6.1%) respectively. Therefore, it can be concluded that only 27.6% of the questions and instructions reflect higher order thinking. This result indicates that the textbook provides a low rate of questions which develop students' higher thinking skills and promotes the students' ability to think more critically and analytically based on their own opinion. As Language Leader Coursebook 2 does not include enough higher order thinking skills in reading questions and instructions, it is recommended that textbook designers should modify the reading exercises to include higher order thinking skills such as predicting, contextualizing, interpreting, inference making and evaluating.

Conclusion

This research aims to analyze the levels of thinking skills in reading questions and instructions in Language Leader Coursebook 2 and to find out to which extent thinking levels of revised Bloom's Taxonomy cover in the analyzed textbook. Revised Bloom's Taxonomy by Anderson and Krathwohl (2001) was used as the theoretical framework to analyze the cognitive levels of higher and lower order thinking skills. Findings of the research indicated that the reading questions and instructions covered all of Bloom's cognitive levels but in an unequal distribution. Accordingly, it can be assumed that the main goals of reading sections in Language Leader Coursebook 2 are to improve lower order cognitive skills.

Since higher order cognitive skills in reading exercises are not well covered in Language Leader Coursebook 2, teachers should prepare more exercises that cover higher order thinking skills. Moreover, teachers should be given workshops on developing and enhancing students' thinking skills. Therefore, it is clear from the findings that textbook writers should keep a balance between the lower order and higher order questions in order to enable the students to think critically and analytically.

Although it is true that developing critical reading skills may be time-consuming and difficult for EFL students, it is necessary for the students to think and operate at higher cognitive levels which can be accomplished with practice. Teachers who teach Language Leader Coursebook 2 are recommended to generate higher cognitive level reading questions through the Bloom's Taxonomy, not just relying solely on the textbook. The findings of the research may help both teachers and textbook writers evaluate questions in the textbook, design multilevel questions and develop higher level thinking process of the students.

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