

Higher Order Thinking Skills Used By English Teachers in Designing Test Items at SMAN Argamakmur

Bilqisty Alghifari, Eki Saputra, Waslurachim Safitri, Yupika Maryansyah
Universitas Muhammadiyah Bengkulu
bilqistyalghifari@gmail.com

Abstract

Test items or questions play an important role as a tool to measure the students' ability in a process, like the process of education and learning. The objectives of this research are to find out the kinds of higher order thinking skill used by English teachers and to find out the dominant kinds of higher order thinking skill used by English teachers in designing test items at SMAN Argamakmur. This study used descriptive study which tries to portrait the use of Higher Order Thinking Skills in designing test items. This research used test items designed by English teachers in SMAN Argamakmur. The researcher asked permission to the teachers to copy the latest test items. The instruments of this research was observation checklist. In collecting the data, the researcher used the composition of higher order tinking skills. The data was collected based on the reading task on the test items designed by English teachers. There were two conclusions of this research; firts, the kinds of higher order thinking skill used by English teachers in designing test items at SMAN Argamakmur were analyzing, evaluating, and creating. Second, the dominant kind of higher order thinking skill used by English teachers in designing test items at SMAN Argamakmur was analyzing.

Keywords : **Higher Order Thinking Skills, Test Items**

A. Introduction

Higher level questions require complex skills in applying, analyzing, evaluating, or generating. Questions at a higher level of taxonomy are generally best suited to encourage students to think more deeply and critically, solve problems, encourage discussion, and challenge students to find information on their own. believe. Lower level problems are memorization, comprehension and lower level applications of taxonomy. Typically, lower-level questions are appropriate for assessing a student's preparation and understanding, diagnosing student strengths and weaknesses, and assessing and/or summarizing content. The more advanced students can understand, the more deeply they can develop critical thinking (Freatat & Samadi in (Aziz et al., 2017)).

HOTS is commonly used by teachers in designing question items of a test. Teachers as facilitator stimulate students to build their higher order thinking skill. According to Aziz et al. (2017), the teacher absolutely leads an important role in the development of HOTS to students. Moreover, (Widiawati et al., 2018) stated that the learning designed by the teachers will affect high or low thinking skill of the students. Therefore, teachers have an important role in the implementation of HOTS. As high order thinking skills are operating the cognitive skills which are needed in thinking processes happen in short-term memory, students are expecting relate every clues to the fact. Due to this, first things that teachers need to give to the students are: 1). Identify the questions or conclusion that will be made, 2). Identify the known facts, 3). Identify the relevant knowledge, and 4). Create the

final prediction. It can be assumed that student centre process will be achieved as they common with these.

However, in Indonesia, the application of HOTS to the learning progress still has some weaknesses (Ramadhana et al., 2018). First, teacher-centre is still dominant in learning process. Teacher as the conveyor of knowledge sometimes eliminate the students center practice. Second, the educational focus is memorizing. Third, the classic problem, more student achievement scoring systems are based on tests that are tested for low-level cognitive trends. Fourth, teachers are still lack of HOTS-based question knowledge. So that, high order questions (rich questions) need to be applied in students' test items. Of course, those are including the ability to conclude, hypothesize, analyze, apply, synthesize, evaluate, compare, imagine, and answer the questions. These skills need high logic thinking. On March, 16th 2022 the researcher did a preliminary study at SMAN 1 Argamakmur, the researcher asked the teacher about the application of HOTS in designing test items. The teacher answered that the English teachers at that school always use HOTS in designing test items. She said that HOTS is important to train the students' critical thinking. The objectives of this research are as follows:

1. To find out the kinds of higher order thinking skill used by English teachers in designing test items at SMAN Argamakmur.
2. To find out the dominant kinds of higher order thinking skill used by English teachers in designing test items at SMAN Argamakmur.

B. Research Methodology

This study used descriptive study which tries to potrait the use of Higher Order Thinking Skills in designing test items. This research used test items designed by English teachers in SMAN Argamakmur. The researcher asked permission to the teachers to copy the latest test items. The researcher collected three kinds of English tests from teacher 1 in SMAN 1 Argamakmur (test for X Bahasa Inggris Wajib, XI Bahasa Inggris Wajib, XI Bahasa Inggris Minat) for Final Semester Examination 2021/2022. Then four kinds of English test from teacher 2 who teaches English at SMAN 2 Argamakmur (test for X Bahasa Inggris Wajib, X Sastra Inggris, XI Bahasa Inggris Wajib, XI Sastra Inggris) for Final Semester Examination 2021/2022. In collecting the data, the researcher used the composition of higher order tinkng skills. The data was collected based on the reading task on the test items designed by English teachers. The researcher created the basic rules in rating. To keep the validity and reliability of the data, the researcher was helped by a co-researcher. The researcher and co-researcher gave mark (√) in the column if the questions fulfilled the composition of higher order thinking skills.

C. Findings and Discussion

Higher Order Thinking Skill Test Items used by English Teachers

The researcher used observation cheklist to analyze the higher order thinking skill of English test items used by teacher 1 in final examination at SMAN 1 Argamakmur. The analysis result was in the table below.

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Table 1 Kinds of Higher Order Thinking Skills used by Teacher 1

No	Test Items	Kinds of Higher Order Thinking Skills
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		Analyzing	Evaluating	Creating
	X Bahasa Inggris Wajib (30 Questions)			
1	Make this sentence to past tense into interrogative			√
2	Make this sentence to present perfect tense into interrogative			√
3	Why did they get a diarrhea?	√		
4	What we called paragraph to in the structure text?	√		
5	What is the social function of the text?		√	
6	How was the Bandung as sea of fires?	√		
7	What can we learned from the text?		√	
8	Make the sentence into past tense			√
9	Why does the song writer include "lamb" in the song lyrics?	√		
10	The writer suggests that in order to live in harmony, we should...		√	
	XI Bahasa Inggris Wajib (30 questions)			
11	What can possibbly prevent rivers and lakes from overflowing?		√	
12	How can we swallow the food easily?	√		
13	From the text about, we imply that	√		
14	Which one of the following statements is implied in this song?	√		
	XI Bahasa Inggris Minat (25 Questions)			
15	Complete the following dialogue with appropriate expression			√
16	Complete the following dialogue with appropriate expression			√
17	Put the phrases above in correct order			√
18	Put the phrases above in correct order			√
19	Put the phrases above in correct order			√
20	Why does the singers feel sorry?	√		
	TOTAL	8	4	8

The table showed that from 85 questions of English test items, there were only 20 questions included as higher order thinking questions. Rest of them are determined as lower order thinking, such as; remembering, understanding, and applying. There were only ten questions identified as higher order skills for X bahasa Inggris Wajib test. Then there were only four questions for XI Bahasa Inggris Wajib, and there were six questions for XI Bahasa Inggris Minat. Therefore, based on the table above there were found eight items as analyzing, four items as evaluating, and eight items as creating. To know the analysis of items test used by teacher 2, it can be seen below.

Table 2 Kinds of Higher Order Thinking Skills used by Teacher 2

No	Test Items	Kinds of Higher Order Thinking Skills		
		Analyzing	Evaluating	Creating
X Bahasa Inggris Wajib (30 Questions)				
1	How did the battle influence the national revolution at that time?	√		
2	Why do you think the date of the Battle of Surabaya is used as a momentum to commemorate our hero's contribution?	√		
3	Why did Picasso become so popular? because	√		
4	What can be inferred from the text?	√		
5	Change into indirect speech! Francis told me, "I am going to meet my penpal from Spain next two weeks"			√
6	Change into indirect speech! My brother said, "We have been staying here for three days"			√
7	Change into indirect speech! My mother told me, "Don't open the window now!"			√
8	Change into indirect speech! She asked me, "Why are you staring angrily at that man?"			√
9	Change into indirect speech! Indah asked, "What is your dream in the future?"			√
X Sastra Inggris (30 Questions)				
10	Read the sentence below and choose the best answer to fill the blank! Active : Someone is knocking at the door. Passive : The passive sentence is ...			√

11	Why do the people represent the color of yellow ?	√		
12	Why are the people symbolized as windows ?	√		
	XI Bahasa Inggris Wajib (30 Questions)			
13	Which statement is true based on the explanation text above?		√	
14	Read the sentence below and choose the best answer to fill the blank ! Active : Someone is knocking at the door. Passive : The passive sentence is			√
15	What will you do before you start writing your poem ?	√		
16	What do you think about the statement above?	√		
	XI Sastra Inggris (30 Questions)			
17	How is the rhyme scheme of the first verse?	√		
18	"When I was one. When I was two "This line belongs to....	√		
19	Why did the boy get off from the donkey?	√		
20	Complete the following dialogue by choose the correct answer bellow!			√
21	Complete the following dialogue by choose the correct answer bellow!			√
22	How can we know the message of the song?		√	
23	Which part of the song is repeated two or more times in song?	√		
24	Which statement is true based on the explanation text above?		√	
	TOTAL	12	3	9

Regarding to Table 2, there were only 24 questions included as higher order thinking questions from total 120 questions. Rest of them are determined as lower order thinking. There were only nine questions identified as higher order skills for X bahasa Inggris Wajib test. Then there were only three questions for X Sastra Inggris, four questions for XI Bahasa Inggris Wajib, and there were eight questions for XI Sastra Inggris. Based on the table above it was found twelve items as analyzing, three items as evaluating, and nine items as

creating. To see the kinds of higher order thinking skills of test items designed by English teachers, see following table.

Table 3
Total of Higher Order Thinking Skills of Test Items

No	Higher Order	Frequency	Percentage
1	Analyzing	20	45%
2	Evaluating	7	16%
3	Creating	17	39%
	Total	44	100%

Regarding to table 4.6, there were totally 44 Higher Order Thinking questions used by English teachers at SMAN Argamakmur for final examination in academic year 2021/2022. The higher order questions are divided into three kinds; analyzing, evaluating, and analyzing. There were 20 (45%) questions identified as analyzing, there were 7 (16%) identified as evaluating, and 17 (39%) identified as creating. Mostly the teachers at SMAN 1 Argamakmur used analyzing as higher order thinking questions in designing English test items with percentage 45%.

Discussion

The aims of this research were to find out the kinds of higher order thinking skill used by English teachers and to find out the dominant kinds of higher order thinking skill used by English teachers in designing test items at SMAN Argamakmur. The findings of this research were appropriate to the researchers' assumption and hypothesis related to the aims of this research.

There were two finding of this research. First, the kinds of higher order thinking skill used by English teachers In designing test items at SMAN Argamakmur were analyzing, evaluating, and creating. The questions were more complex than remembering or understanding questions. This finding was supported by (Khotimah, 2019) who stated that HOTS is a cognitive ability that is higher than remembering or recalling information. When students only memorize a lesson and utter it without giving any idea, it means that students don't do the process of thinking but only memorizing. Moreover, the cognitive ability of knowing, understanding, and applying are classified into Lower Order Thinking Skill (LOTS), while analyzing, evaluating and creating are Higher Order Thinking Skill (HOTS).

Second finding of this research showed that the dominant kind of higher order thinking skill used by English teachers in designing test items at SMAN Argamakmur was analyzing. Based on the interview result, teacher 1 said that analyzing is more easy than other higher order thinking skill, it was appropriate to the students' ability in answering the questions and also the limited time of doing test becomes anothe factor why analyzing is dominantly used in English test item. Moreover, teacher 2 said that to measure the students' understanding about the material given by the teachers, analyzing is appropriate HOTS skill for the students since the evaluating and creating did not imply the students' ability directly.

This research finding was supported bby theory from Mayer cited (Syahdanis et al., 2021) who stated the more specific cognitive process is analyzing. Analyzing involves breaking material into its constituent parts and determining how the parts are related to each other and to an overall

structure. The process of analyzing involves skill to differentiate between the specific part and general concept. General concept must be comprehended before separating and relating the parts. There are 3 subcategories included into this category they are; (1) Differentiating, Separating relevant or important parts of a structure; (2) Organizing, Identifying the elements of situation or communication and recognize how the elements build a coherent structure; (3) Attributing, Establishing point of view, opinions, values, or objectives behind the communication.

Furthermore, creating followed as another dominant higher order thinking used by the teachers. Creating is the highest level among the other previous cognitive level. The process of creating usually requires high creativity and relating with the other five cognitive process. Creating means putting elements together to a form and the whole form is coherent and functional (Anderson and Krathwohl cited in (Aziz et al., 2017)). It can be also defined as making an original product. It means reorganized some elements into a particular pattern or structure that never exists before and requires creativities and in line with the previous learning experiences. Mayer in (Aziz et al., 2017) divided this part into 3 sub-categories; (1) Generating, Describing problems and making choice or hypothesis which fulfil particular criteria or standard; (2) Planning, Practicing several steps to create real solution of problems or arranging systematic and suitable problem-solving method based on criteria of the problems itself; (3) Producing, Executing plans which fulfil certain specification to solve problems.

And the last one is evaluating. According to Krathwohl in (Fauziyah, 2021), evaluating involves making judgement based on criteria and standard. The standard can be qualitative or quantitative. Evaluating also cover; (1) Checking, Process of testing inconsistency or internal mistake in operation or product; (2) Criticizing, Evaluating product or process based on external criteria or standard.

Moreover, this finding also confrimed some result from previous studies. First, a study by by Nguyen (2019), she investigated that using Bloom's revised taxonomy to design in class reading questions for intermediate students in the context of Vietnam. The results from the questionnaire survey conducted 100 instructors of English in Vietnam about the teaching question design for intermediate solicited three noticing issues. First, the design purpose to develop students reading skills. Second, the designed questions are largely of recalling and understanding the information (the lower level of cognitive domain) and leave the higher level of cognitive domain (applying, analysing, evaluating and creating). The last, most of the instructors have yet recognized a basis to complement the assignment.

Second, Lan and Chern (2018) did a study entitled "Using Revised Blooms' Taxonomy to analyze Reading Comprehension Questions on the SAET and DRET". The results showed that for both tests, 4 major levels in Revised blooms' Taxonomy (remember, understand, apply, and analyze) along with 8 sub level and 3 types of knowledge (factual, conceptual, and procedural) along 3 subtypes were identified with a total of 5 major question types and 9 subtypes of questions. The lower levels were found on Remember Factual Knowledge and Understand Factual Knowledge items. The higher levels were found on Apply and Analyze items.

Third, a study by (Mispani et al., 2021) entitled "Higher Order Thinking Skills (HOTS) and Lower Order Thinking Skills (LOTS) on UM-PTKIN Questions on Islamic Religious Education Materials". The results of this study indicate that the items for the UMPTKIN PAI material are in the HOTS category and low order thinking skills (LOTS). The material for Akidah Akhlak became the largest contributor and Al-Quran Hadith as the least contributor to the HOTS category questions. The Islamic Religious Education Study Program (PAI) is a study program that is in great demand and its graduates are highly anticipated to be able to show an understanding of Islam to answer various social, political, and religious challenges in Indonesia.

D. Conclusion

Based on the result, there were two conclusions of this research: First, the kinds of higher order thinking skill used by English teachers in designing test items at SMAN Argamakmur were analyzing, evaluating, and creating. Second, The dominant kind of higher order thinking skill used by English teachers in designing test items at SMAN Argamakmur was analyzing. The English teachers or the stakeholder may use the findings as considerations in designing English test items for senior high school students since the result of this research showed that mostly the teachers used larger number of lower thinking questions rather than higher order questions for English examination. The idea of revised Bloom's Taxonomy may help them in developing higher order thinking questions due to the less number of evaluating and creating questions used by English teachers in SMAN Argamakmur for English test rather than analyzing questions. For further researchers, this research can be used as guideline to analyze the component of cognitive domain in other English test for university level students.

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