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HIGHER ORDER THINKING QUESTIONS IN ENGLISH TEST OF SENIOR HIGH SCHOOL

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Abstract*: The objectives of this research are to identify the composition of the cognitive levels of higher order thinking questions and the comparison between LOTS and HOTS questions contained in the final semester test. This is a qualitative study which employed documentation as its data collection technique. The data were sourced from the final semester test of English subject comprising 55 test items. The revised Bloom's taxonomy was used to analyzed the test items which covers remembering, understanding, applying, analyzing, evaluating and creating. The finding shows that the composition of Bloom's taxonomy of cognitive levels covered 11 items (20%) of remembering (C1), 35 items (63.1%) of understanding (C2), 3 (5.4 %) items of applying (C3), 2 items (3.4%) of analyzing (C4), 3 items (5.4 %) of evaluating (C5), and 1 (1.9%) of creating (C6). The comparison between LOTS and HOTS was 49 items (89%) of LOTS and 6 items (10.9%) of HOTS. It can be stated that the test was still be dominated by lower order thinking questions.*
Keywords: Final semester test, HOT**,** question**, r**evised Bloom's taxonomy.

Abstrak: Penelitian ini bertujuan untuk mengidentifikasi komposisi level kognitif pertanyaan *higher order thinking dan* perbandingan antara pertanyaan *LOTS* dan *HOTS* yang terdapat pada tes akhir semester. Jenis penelitian ini adalah kualitatif dengan menggunakan teknik dokumentasi dalam pengumpulan data. Data bersumber dari tes bahasa Inggris akhir semester yang terdiri dari 55 item soal. Taksonomi Bloom yang telah direvisi digunakan dalam menganalisis item soal yang mencakup *remembering, understanding, applying, analyzing, evaluating* dan *creating*. Temuan menunjukkan bahwa komposisi level kognitif terdiri dari 11 (20%) item soal *remembering*, 35 (63.1%) item soal *understanding*, 3 (5,4 %) item soal *applying*, dua (3,4%) item soal *analyzing*, 3(5.4 %) item soal *evaluating* dan 1 (1.9%) item soal *creating*. Perbandingan antara soal *LOTS* dan *HOTS* adalah 49 (89%) item soal *LOTS* dan 6 (10.9%) item soal *HOTS*. Dapat dikatakan bahwa tes akhir semester bahasa Inggris masih didominasi oleh pertanyaan lower order thinking.
Kata kunci: tes akhir semester, *HOT*, pertanyaan, taksonomi Bloom yang telah direvisi

INTRODUCTION

Concerning with the 2013 curriculum, teaching learning process in every subject is done to achieve the core competence which includes spiritual competence, social competence, knowledge and skills. Knowledge includes factual, conceptual, procedural and metacognitive are obtained through learning by applying scientific approach supported with various learning model such as inquiry-based learning, discovery learning, problem-based learning and project-based learning. Whereas, skills include thinking skills and creative, productive, critical, independent, collaborative and communicative action (*Permendikmud, 2016*).

Ideal assessment according to *Permendikbud No. 23 of 2016 (Permendikbud, 2016: 5-6)* is "to assess learning outcomes which is carried out in the form of tests, observations, assignments and other forms which are required". Assessment is used to measure the achievement of student competencies, improve the process learning, compile reports on the progress of daily learning outcomes, middle semester, final semester, end of year, and/or grade promotion. Assessment is carried out by government in the form of national examinations and other forms needed.

An assessment needs to be done to measure the extent of competencies which students have achieved in a learning process, authentic assessment as mandated by Permendikbud Number 23 Year 2016 comprises self-assessment, portfolio-based assessment, daily tests, midterm tests, final tests, competency level tests, quality tests competency level, national exams and school/ *madrasah* exams.

In order to be effective on test takers, Daryanto (2012: 177), he suggests four ways to assess test instruments: (1) honestly examining the questions that have been prepared; (2) conducting a question analysis; (3) checking validity and (4) checking reliability so that test questions become more effective to be tested on test takers. For the threshold level education, students are not only assessed their low-order thinking skills (LOTS), but also assessed their high-order thinking skills (HOTS) so they need to be included in every learning activity. Today, assessment becomes a difficult multidimensional challenge in the field of education.

Constructing a good test is not easy for a teacher because it must be comprehensive containing easy to difficult questions, having moderate difficulty index, ranging from lower order thinking to higher order thinking. However, many teachers do not understand this.

Bloom's Taxonomy of the cognitive domain is arranged from simple to complex which covers six levels of cognitive domain. It is divided into two parts, they are lower order thinking skill (LOTS) includes remembering, understanding, and applying, and higher order thinking skill (HOTS) includes analyzing, evaluating and creating. These skills become useful guide for identifying determining teaching objectives including and methods of assessment. The revised taxonomy has cognitive process categories, with increasing complexity.

Current assessment and test must include higher order thinking questions in order that the students will be able to think critically and have creative problem solving skill. However, how have assessment and test been constructed? How have higher-order thinking skills been included? These questions interest many researchers to conduct the research in this theme.

Thinking is defined as an activity of reason to process knowledge which is received through the five senses and is intended to seek a truth. Thinking is also a conscious use of the brain to look for causes, debate, consideration, estimatation, and reflection on a subject (Rusyna, 2014: 1). While Widana (2017: 3), he explaines that HOT questions are instruments of measuring higher levels of thinking skill, namely the ability to think, not just to remember (recalling), restate, or refer without processing (reciting). HOT questions in the context of assessment to measure ability to transfer one concept to another, to process and apply information, to look for links from various information, to solve problems using information, and to explore ideas and information critically.

Anderson et al. (2001), they included the revised Bloom's taxonomy which covers dimensions of learners' thinking process which includes ability to: remember, understand, apply, analyze, evaluate, and create. Further, Anderson et al. (2001), they argued that each indicator in revised Bloom's taxonomy as follows.

(1) Remembering

They explained that it is the process of remembering is taking the knowledge needed from long term memory. If the learning objectives are to grow the ability to retain subject matter the same as the material taught, then remembering is the right cognitive category.

(2) Understand

Anderson et al., (2001) explained that understanding is a process of constructing the meaning of messages learned which is conveyed through teaching process with various sources. When learners

are able to connect new knowledge and old knowledge or new knowledge combined with a cognitive framework which already exists, it indicates they understand.

(3) Apply

The cognitive process of applying involves the use of procedures certain to do practice questions or solve problems. It consists of two cognitive processes, namely task executing only in the form of practice questions and implementing for assignments in unfamiliar problem.

(4) Analyze

Analyzing involves the process of breaking down material into parts small and determine how the relationship between parts and structure as a whole. This category of analyzing process includes cognitive processes differentiate, organize, and attribute.

(5) Evaluate

Anderson et al., (2001), they defined evaluate as making a decision based on criteria and standard. The first includes quality, effectiveness, efficiency and consistency which is determined by learners. While the second, can be quantitative or qualitative. Evaluating includes the cognitive process of checking (which decisions are taken based on internal criteria) and criticizing (decisions taken based on external criteria).

(6) Creating

Anderson et al., (2001), they stated that creating involves the process of compiling the elements into a coherent or functional whole. Destinations are classified in the process of creating requires students to create new products with reorganize a number of elements or parts into a pattern or structure like never before. These processes involved in creating generally in line with the learning experience that has been had previous. The cognitive process is to formulate, plan, and produce.

Action Verbs in revised Bloom's Taxonomy

To guide teachers to set up the teaching objectives or conducting HOT analysis, action verbs in revised Bloom's taxonomy by Anderson & Krathwohl (2001) can be used. The six cognitive levels are followed by the various action verbs which can be used as indicator.

Remembering. The action verbs can be used in this category, namely: "choose, define, find, how, label, list, match, name, omit, recall, relate, select, show, spell, tell, what, when, where, which, who, why".

Understanding. The action verbs can be used in this category, namely: "classify, compare, contrast, demonstrate, explain, extend, illustrate, infer, interpret, outline, relate, rephrase, show, summarize, translate".

Applying. The action verbs can be used in this category, namely: "apply, build, choose, construct, develop, experiment with, identify, interview, make use of, model, organize, plan, select, solve, utilize".

Analyzing. The action verbs can be used in this category, namely: "analyze, assume, categorize, classify, compare, conclusion, contrast, discover, dissect, distinguish, divide, examine, function, inference, inspect, list, motive, relationships, simplify, survey, take part in, test for, theme".

Evaluating. The action verbs can be used in this category, namely: "agree, appraise, assess, award, choose, compare, conclude, criteria, criticize, decide, deduct, defend, determine, disprove, estimate, evaluate, explain, importance, influence, interpret, judge, justify, mark, measure, opinion, perceive, prioritize, prove, rate, recommend, rule on, select, support, value".

Creating. The action verbs can be used in this category, namely: "adapt, build, change, choose, combine, compile, compose, construct, create, delete, design, develop, discuss, elaborate, estimate, formulate, happen, imagine, improve, invent, make up, maximize, minimize, modify, original, originate, plan, predict, propose, solution, solve, suppose, test, theory".

Further, for constructing assessment, Brookhart (2010), he provides some basic principles which should be carried out by teachers, i.e.: (1) teacher should know exactly what he wants to assess; (2) teacher should design task or test items that require students to demostrate knowledge or skill; (3) teacher should decide what he will take as evidence which students have shown this knowledge or skill. Whereas, for assessing higher order thinking involves three additional principles, namely: (1) present something for students to think about, for example in the form of introductory texts, visuals, scenarios, resource materials or certain problems; (2) use novel materials – materials that are new to the students, and never been discussed in class; (3) distinguish between level of difficulty (easy – hard) and level of thinking (lower-order thinking – higher order thinking), and control each seperately.

Teachers need to understand about the taxonomy and some principles for constructing assessment in order they can develop a set of comprehensive test or assessment for both formative and summative. By applying high-order thinking skills in learning and assessment regularly, teachers will see the benefits the students gain in the future. Brookhart (2010), he asserted that the application of higher order thinking skills have a very positive effect in the learning process. He confirmed there are some benefits of higher order thinking skills such as increasing student achievement and student's motivation.

Using higher order thinking can actually make it easier for students to solve the problem by organizing their knowledge and experience, able to elaborate their statements or

opinions, and to complete non-faminiar tasks. Besides, students will be interested in thinking about specific things or details which make them motivate to learn.

The aims of this paper are to identify the composition of the cognitive level of higher order thinking questions and the comparison between LOTS and HOTS questions contained in the final semester test. As a matter of fact, other similar studies had been done by other earlier researchers, namely Ramadhana & Rozimela, (2018), Utami, Nurkamto, & Marmanto (2019), Putra & Abdullah (2019), Singh & Shaari (2019) for analysing HOTS in test items; Anggraini, Budiyono, & Pratiwi's (2019), Yuliati & Lestari's (2018) on examining students' ability in HOTS while Ramasamy et al., (2016), Retnawati, Djidu, Apino, & Anazifa, (2017) on investigating teacher's knowledge and perception on HOTS.

Ramadhana & Rozimela, (2018), he conducted a research which aimed to identify the test developed by senior high school teachers in Padang using higher order thinking criteria for mid-test and semester test. The result showed that 33% of HOT found in mid-test and only 17% found in semester test. Similar study done by Utami, Nurkamto, & Marmanto (2019) aimed to investigate higher order thinking skill test items in assessing students. Four sets of test had been used from 2016-2019. The finding showed that most questions were dominated by lower order thinking – more than 50% in each test with mostly in understanding. One category of HOTS found in the all test was analysing. Besides test item analysis, Putra & Abdullah (2019) analyzed an English national examination which aimed to identify the use of HOTS-based questions and particular skills appearing under HOTS categories. With the data of 210 reading questions taken from examination of 2013 up to 2018 they found that insufficient amout of higher order thinking skill questions in English national examination. There were 157 LOTS compared to 53 or 25.23% HOTS. The HOTS category found in the questions was analysing. In more specific skill of English, Singh & Shaari (2019), he conducted research in analysing HOTS in English reading comprehension tests with the aim to identify the use of HOTS items in selected English reading comprehension for Standard 6 students in Malaysia. 80 reading comprehension items were selected from final examination papers. The finding showed that out of 80 questions involved in the analysis, 64 questions were categorized as lower order thinking skill questions (80%) and only 16 items (20%) were categorized as belonging to higher-order thinking skill questions.

The four studies above show the low percentage of higher order thinking skills contained not only in summative tests, in national examination, but also in specific English skill - reading comprehension items., even the type HOTS was just analysing (C4). What is the factor of occuring this trend? Is the cause from students' factor or teachers' factor? The question raised is how is the students' ability in answering HOTS questions.

Here are studies concerning with students' ability in HOTS which mostly done earlier. Fisrt, Anggraini, Budiyono, & Pratiwi's (2019) study which aimed to analyze the result of test HOTS of students in three school categories – high, medium and low level schools with the sample of 32 students in high category, 32 students in medium category and 32 students in low category. The result showed that the students in high school category had the highest result in HOTS problems; in middle and low school categories; students had the highest score on attibuting (on idicator at dimension C4), and students at three school levels were still had difficulty of making conclusion. Second is the study of Yuliati & Lestari's (2018) which aimed to explain the students' thinking skills in solving HOTS-oriented questions in instructional evaluation courses. The result showed that the level of thinking ability of students in answering HOTS need to improve as they were still not able to make questions that are HOTS oriented so they need a lot of practice.

Another possible factor for reason of the small portion of HOTS in test items is from teacher factor. How is the teacher knowledge about HOTS? Several studies had been done to investigate teacher's knowledge and perception of HOTS. First, the studies of teachers' knowledge about HOTS which were done by Ramasamy et al., (2016) and Retnawati, Djidu, Apino, & Anazifa, (2017). The first focused on discussing teachers' knowledge and interest in HOT involving 100 teachers from five primary and secondary schools. The finding showed that the levels of interest in HOTS for primary school teachers was higher than secondary school teachers. Another finding was the lack of references to be the major problems for teachers in implementing HOTS more effectively. While the second study aimed at describing teachers' knowledge about HOTS involving 27 mathematics teachers from state and private junior high schools across 7 provinces in Indonesia. The finding showed that teachers' knowledge about HOTS, their ability to improve students' HOTS, solving HOTS-based problems, and measuring students' HOTS are still low.

This paper in certain degree is different from other researchers in term of the particular test items which was used in final semester of English test in Senior High School in Kebumen. Further, it tries to present the composition of each cognitive level contained in the test which means presenting the whole cognitive levels, which include LOT and HOT questions and to compare the composition between the two levels. By doing so, readers which particularly addressed to teachers and teacher candidates will learn the content of HOTS in the test and the comparison between HOT and LOT questions. Finally, the writer will provide some implications in English teaching practice.

This study is expected to give contribution to knowledge, insight, experience, and valuable provision as prospective educators, especially in constructing questions with higher order thinking items or higher-level of thinking skills. The result might be used as information for teachers about the composition of LOT and HOT questions that can be used to improve the construction of better test items in the future.

METHOD

The type of this research is a qualitative. The technique of collecting the data was documentation. The source of the data was the final test of English subject of eleventh grade which was used in academic year of 2019/2020 at SMAN 1 Buluspesantren, Kebumen, Cental Java. The test contained 55 items, 50 items of multiple choice and five items of essay. The researchers analyzed the English test questions one by one based on the revised Bloom's taxonomy theory. The researchers classified the questions into two levels of cognitive skills i.e. HOTS and LOTS, then calculated the percentage which was based on the cognitive levels. The indicators guided the researcher in evaluating the questions. Each item was evaluated by the researchers by following the criteria proposed by Bloom's taxonomy and HOTS for formulating the principles of questions based on criteria or indicators. The criteria used are *Analyzing, Evaluating, and Creating*, The researchers counted all the evidence containing in the questions after filling in the criteria in the evaluation format. After that the data is analyzed by calculating the percentage of characteristics of the HOTS type items based on cognitive level. The revised Bloom's taxonomy action verbs were used to guide the researchers to determine the cognitive levels. The table below was used to do the analysis of the test items.

Table 1. Worksheet analysis of HOTS in test items

No	Question	Action Verb Indicator	HOTS					
			C1	C2	C3	C4	C5	C6
1.	*The underlined expression expresses...* *a. Offering something* *b. Offering help* *c. Accepting an offer* *d. Declining an offer* e. *Refusing an offer*	*Explain – Understanding*		√				

C1 = Remembering C4 = Analysing
C2 = Understanding C5 = Evaluating
C3 = Applying C6 = Creating

$$K = \frac{Ki}{\text{number of questions}} X\,100\%$$

Description:
K : the percentage of indicator of each HOTS type.
Ki : the details about cognitive level analysis results
Source: modified from Ali (2013: 201)

Findings and discussion

The analysis has been conducted on the English final semester test which contained 55 questions. The analysis focused on identifying the composition of the cognitive level of higher order thinking skill contained in the questions and identifying the comparison of the cognitive level between higher order thinking skill and lower order thinking skill.

The composition of the cognitive level of higher order thinking skill questions

The finding from the first question is presented in the table below.

Table 2. The composition of cognitive level

Number of Item	Cognitive Level					
	C1	C2	C3	C4	C5	C6
55	11	35	3	2	3	1
100%	20%	63.1%	5.4%	3.4%	5.4%	1.9%

Based on the analysis of the data, it is found that there are 11 items (20%) of the level of remembering (C1), 35 items (63.1%) of level of understanding (C2), 3 (5.4 %) items of the level of applying (C3), 2 iteqms (3.4%) of the level of analyzing (C4), 3 items (5.4 %) of the level of evaluating (C5), and 1 (1.9%) of the level of creating (C6). Not all questions contain action verbs. There are some questions that do not contain action verbs or implicit actions. The researchers needed to understand what the question about, and what cognitive levels are included.

To make it clearer, the first finding is presented in the chart below.

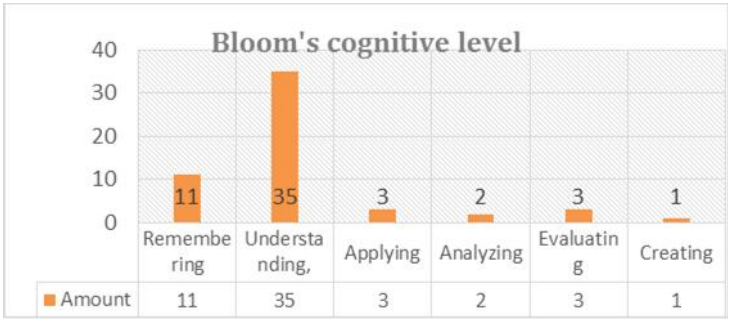

Figure 1.The c*omposition of cognitive level of higher order thinking skill questions*

Figure 1 shows that the questions were dominated by understanding level (C1) as it is the most, the second questions is remembering level, while the least question is creating. The description and examples of each level is presented below.

Remembering (C1)

At the cognitive level remembering (low-order thinking) aims to find out facts, concepts, names, events, years, lists, formulas, theories, and conclusions. At this level, students will meet questions which contain questions of repeating information has previously been stated in the reading material.

Example:

(Item 22) The text gives us information about ...

a. The ways to minimize global warming

b. The ways to increase global warming

c. The effect of global warming

d. The importance of consuming local groceries

e. The importance of knowing global warming

(Item 25) Why is formalin dangerous for human's body?

a. It is not food preservatives

b. It is a disinfectant for human beings

c. It is used to preserve biological specimens

d. It is 10% solution of formaldehyde in wate

e. It is controlled tightly form the goverment

To answer question 22 and 25, the students only need to remember the information stated in the previous texts.

Understanding (C2)

The English final semester test questions of XI grade were dominated by questions containing the level of understanding, where students are required to understand the relationship between factors, concepts, data, causation, and conclusion. In some of the questions above, the students are challenged to answer questions with compound and complex sentences, and they are required to understand what actually is wanted from the problem, such as understanding the relationship between factors, between concepts, between data, causation, and conclusion.

Example:

(Item 1) Mr. Bean: "Hello, Miss Smith, <u>Would you like a cup af coffee?</u> Im just making some."

Miss Smith: "Oh, yes please, that would be lovely".

Mr.Bean: How you take it?

Miss Smith: With milk and sugar please.

Mr Bean : Here you are.

Miss Smith: Thank you

The underlined expression expresses...

a. Offering something

b. Offering help

c. Accepting an offer

d. Declining an offer

e. Refusing an offer

(Item 2) Dan: Good morning Jane, do you want an ice cream? Jane: Oh, Great! _____ , I'd love one.

Dany: Chocolate or strawberry? Jane: Chocolate, please.

The suitable expression to complete the dialogue is ...

a. Yes please

b. No thanks

c. Don't brother

d. Never mind

e. Not for me

(Item 12) Andy : Shall I carry your luggage to your apartment? Bobby : Yes, please!

The underline word has similar meaning with ...

a. Borrow

b. Bring

c. Drop

d. Dodg

e. Leave

In question 1, students must conclude the sentence in underline contains what expression. In number 2, students must provide the correct response to respond to the previous sentence. In number 3, students must understand the words in italics and know the similar meaning.

Applying (C3)

The cognitive process of applying involves the use of certain procedures to work on the exercise problem or solve the problem. This category consists of two cognitive processes, namely executing for tasks that are only in the form of exercise questions and implementing for tasks that are unfamiliar problems. applying new understandings such as choosing, demonstrating, portraying, using, illustrating, interpreting, scheduling, sketching, solving problems, and writing.

Example:

(Item 50) A more developed model of this car --- in the showroom soon.

a. Is going to show

b. Will be shown

c. Was shown

d. Has been shown

e. Had shown

In question 50, student has to apply the correct tense from the given context.

Analyzing (C4)

Analyzing involves the process of breaking down material into parts small and determine how the relationship between parts and structure as a whole. This category of analyzing process includes cognitive processes differentiate, organize, and attribute (Anderson et al., 2001).

Example:

(Item 20) What is the generic structure of the text?

a. Arguments- Recommendation- Thesis

b. Thesis-Argument- Recommendation

c. Thesis-Argument- Reiteration

d. Thesis-Supporting Points-Contrasting Points-Reiteration

e. Reiteration- Arguments-Thesis

In question number 20, the student has to analyze the content of the text in each paragraph to determine the generic structure of the text given.

Evaluating (C5)

Evaluating is defined as making a decision based on criteria and standards. These are such quality, effectiveness, efficiency, and consistency. Each of criteria is determined by students. The standards used can be quantitative or qualitative. The evaluating category includes cognitive processes checking (decisions taken based on internal criteria) and criticizing (decisions taken based on external criteria). In C5, student is required to declare good or bad of particular phenomenon or object by stating, giving arguments, giving an assessment and evaluation.

Example:

(Item 7) Alex: what do you think about the film ?

Bram: I think....

Complete the dialogue above ...

a. I like it

b. Thank you

c. I can't hear you

d. You forget it

e. Let's go

(Item 52) Leo:what do you think of this T-shirt?

Mac : I think it's great!

The underline sentence expresses ...

In item 7 the students have to give evaluation about the film and convey it through giving

opinion. In problem 52, students are given questions to evaluate a thing (T-shirt) which convey it in the italic sentence.

Creating (C6)

Creating involves the process of arranging elements into a coherent or functional whole. The goal is classified in the process of creating. It requires students to make new products by reorganizing a number of elements or parts change into a pattern or structure which never exist before. The cognitive processes involved in creating are generally in line with previous learning experiences.

Example:

(Item 51) a. Make a conversation by using expressing sugesstion and its responses.

b. Make a dialogue by using expression offering and the responses.

The cognitive process is to formulate, plan, and produce. C6 is included in higher order thinking, where student is required to be critical and create something. Example in question 5, students are given the command to make a conversation and dialogue with a theme which has been set.

The comparison of the cognitive level of higher order thinking skill contained in the test

After analysing the data – from 55 test items by classifying the cognitive levels based on the revised Bloom's taxonomy it was found that there 49 items (89%) of LOT questions compared to 6 questions (10.9%) of HOT. It can be said that the majority of test items were in lower-order thinking skill. The comparison of LOTS and HOTS is presented in the figure below.

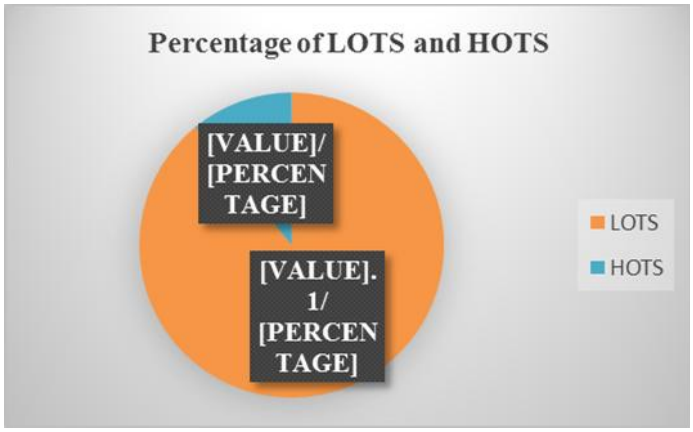

Figure 2: The percentage of LOTS and HOTS

The large portion showed in figure 2 indicates the lower-order thinking questions, while the small portion describes the higher-order thinking questions. The comparison is not proporsional.

The first question in this study sought to identify the composition of the cognitive level of higher-order thinking skill contained in the final semester test of English subject. The finding shows that the test was dominated by understanding with 35 items (C2) of lower-order thinking skill with the percentage of more than 50%; 11 items of remembering and 3 items of applying. While, there was very little percentage in HOTS with the distribution 2 items of analyzing (C4), 3 items of evaluating (C5) and only 1 item of creating. The present findings seem to be in line with the earlier research which found the small percentage of HOTS in the mid-test, final test, national examination or even in specific English skill such reading comprehension test.

The second objective of the study was to identify the comparison between LOTS and HOTS contained in the test. The finding shows that there is unproporsional percentage between the two skills. As it is 89% for LOTS and 10.9% for HOTS. This result supports the findings of other earlier studies, however, the percentage of HOTS is slightly lower than the studies (Putra & Abdullah, 2019, Ramadhana & Rozimela, 2018, Singh & Shaari, 2019 and Utami, Nurkamto, & Marmanto, 2019).

CONCLUSION

This study has shown that the composition of cognitive levels based on the revised Bloom's taxonomy contained in the final semester test in 55 test items covered 11 items of remembering (C1), 35 items of uderstanding (C2), 3 items of applying, 2 items of analyzing, 3 items of evaluating and only 1 item of creating. The cognitive level was dominated by uderstanding (C2). The comparison between LOT questions and HOT questions are not comparable because LOT questions are far more in numbers than HOT questions.

The implication of the finding suggests that teachers need to expand the scope of cognitive processes in the questions tested to students. They can broaden their knowledge about HOTS provided by Anderson et al., (2001) and knowledge about assessing HOTS presented by Brookhart (2010). With better knowledge, teachers will be able to construct better test items by including more HOTS to prepare students with more critical and creative problem solving. As the 2013 curriculum requirements, the questions should cover up to the level of creation. A wide variety of questions can also give a clearer picture of the students' abilities. Various questions are also very helpful in stimulating students to improve their skills so that they can answer all questions well.

REFERENCES

Ali, Muhammad. (2013). *Penelitian Kependidikan Prosedur dan Strategi*. Bandung: Bumi Angkasa**.**

Anderson, L. W., Krathwohl, D. R., Airasian, P. W., Cruikshank, K. A., Pintrich, P. R., Raths, J., & Wittrock, M. C. (2001). *A Taxonomy for Learning, Teaching, and Assessing* (Abridged E). London: Addison Wesley Longman. Inc.

Anggraini, N. P., Budiyono, & Pratiwi, H. (2019). Analysis of higher order thinking skills students at junior high school in Analysis of higher order thinking skills students at junior high school in Surakarta. In *IOP Conf. Series: Journal of Phisics: Conf. Series 1211 (2019) 012077*. IOP Publishing. https://doi.org/10.1088/1742-6596/1211/1/012077.

Brookhart, S. M. (2010). *Assess Higher-Order Thinking Skills in Your Classroom*. Alexandria: ASCD.

Daryanto.(2012).*Evaluasi Pendidikan.* Jakarta: PT.Rikena Cipta.

Kemendikbud. (2016). Peraturan Menteri Pendidikan Dan Kebudayaan Republik Indonesia. Nomor 21 Tahun 2016 Tentang Standar Isi Pendidikan Dasar Dan Menengah. Indonesia.

Kemendikbud. (2016). Peraturan Menteri Pendidikan Dan Kebudayaan Republik Indonesia. Nomor 23 Tahun 2016 Tentang Standar Penilaian Pendidikan. Indonesia.

Putra, T. K., & Abdullah, D. F. (2019). Higher-Order Thinking Skill (HOTS) Questions in English National Examination in Indonesia, *11*(1), 145–160. http://ejournal.iain-tulungagung.ac.id/index.php/ls/article/view/1805.

Ramadhana, N. A., & Rozimela, Y. (2018). High Order Thinking Skill-based Questions in The Items Developed by Senior High School Teacherss of Padang. *Journal of English Language Teaching*, *7*(4), 720–731. *http://ejournal.unp.ac.id/index.php/jelt/article/view/101757.*

Ramasamy, S., Rahman, F. A., Ismail, H., Kalthom, U., Manaf, A., & Said, R. R. (2016). Teachers ' Levels of Knowledge and Interest on Higher Order Thinking Skills (HOTS) According to the Field Taught and Category of Schools. *Journal of Modern Education Review, ISSN 2155-2155-7993,USA*, *6*(9), 612–621. https://doi.org/10.15341/jmer(2155-7993)/09.06.2016/005.

Retnawati, H., Djidu, H., Apino, E., & Anazifa, R. D. (2017). Theachers' Knowledge about Higher-Order Thinking Skills and its Learning Strategy. *Problems of Education in the 21st Century*, *76*(2), 1–16. *http://www.scientiasocialis.lt/pec/node/1121*.

Rusyna, K. (2014). *KeterampilanBerpikir: PedomanPraktis Para Peneliti Keterampilan Berpikir*. Yogyakarta: PenerbitOmbak.

Singh, R. K. V., & Shaari, A. H. (2019). The analysis of Higher-Order Thinking skills in English reading comprehension tests in Malaysia The analysis of Higher-Order Thinking skills in English reading comprehension tests in Malaysia. *Geografia Online Malaysian Journal of Society and Space 15 Issue 1*, (February). https://doi.org/10.17576/geo-2019-1501-02

Utami, F. D., Nurkamto, J., & Marmanto, S. (2019). Higher-Order Thinking Skills on Test Items Designed by English Teachers : A Content Analysis, 756–765. https://dergipark.org.tr/tr/download/article-file/824198.

Widana, I . (2017). *Modul Penyusunan Soal Higher Order Thinking Skills (HOTS)*. Direktorat Pembinaan SMA Ditjen Pendidikan Dasar dan Menengah. Jakarta.

Yuliati, S. R., & Lestari, I. (2018). Higher-Order Thinking Skill (HOTS) Analysis of Students in Solving HOTS Question in Higher Education. *Perspektif*, *32*(2), 181–188. *http://journal.unj.ac.id/unj/index.php/pip/article/view/9219*.

