

## **Higher Order Thinking Skills (HOTS) Analysis of English National Examination Questions From 2014 to 2019 in Senior High School**

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### **Abstract**

The aim of this research is to know the implementation of Higher Order Thinking Skills (HOTS) cognitive level to Senior High School English National Examination Question from 2014 to 2019. The researcher conducted a descriptive qualitative research. The subject of this study is one package of National Examination Question in academic year of 2014 to 2019. The data were collected through document analysis and were analyzed through descriptive qualitative. Based on the result of data analysis, it is showed that the reading question items of English National Examination Question of Senior High School from 2014 to 2019 consist of 210 reading question items. The 210 question items then were divided into 3 levels of thinking, which are 105 question items of the low category, 79 question items of the medium category, and 26 question items of the high category. Thus, it can be concluded that the English National Examination Question from 2014 to 2019 mostly consist *Low Order Thinking Skills (LOTS)* for the reading question items. From the result above, the writer hopes that this research will be useful for the teacher and the students to study about *Higher Order Thinking Skills (HOTS)*.

**Keywords:** *Higher Order Thinking Skills (HOTS), English National Examination Question, Senior High School.*

### **Introduction**

National Examination is an activity to measure graduate's competency achievement in a certain subject nationally based on Graduates Competence Standards. The Graduate Competency Standards are made based on Competence Standards and Basic Competencies in the Old Curriculum (KTSP) or called Core

Competencies and Basic Competencies in the 2013 Curriculum.

Although the National Examination is no longer used as a determinant of student graduation, the result of the National Examination is used to map the Quality of Education in all regions in Indonesia, so that the government can determine which areas should be given more guidance and assistance to improve the quality of education. Also, National Examination considered as one requirement to enter the next level of education as stated in Peraturan Pemerintah Number 19 of 2005 which was later revised with Peraturan Pemerintah Number 19 of 2005.

As an effort to improve the quality of education, especially in increasing the quality of the National Examination in the field of English subject, it is necessary to analyze the National Examination questions items. One of the researches on National Examination carried is based on *Higher Order Thinking Skills (HOTS)*.

The Directorate of High School Development (2015) explained that the new 2013 curriculum uses international standard assessment. This rule requires teachers to develop test based on the international standard. The tests involve higher-order thinking skills, contextual assessment, and PISA (Program for International Student Assessment).

In the learning process, some dimensions of knowledge must be mastered by students. Those are factual, conceptual, procedural, and metacognitive knowledge (Permendikbud: 2016). This dimension of knowledge demand high-level thinking skills that is often called *Higher Order Thinking Skills (HOTS)* involve analysis and synthesis (C4), evaluating (C5), and creating or creativity (C6) (Anderson & Krathwohl, 2015).

As stated by Lumbanraja (2017), Bloom's taxonomy were not distributed equally as the question items were more in the comprehension and application category (40%) and analysis category (8%). According to the study of Amelia, Susanto, and Arif (2015), the level of knowledge of Bloom's taxonomy which teachers made the math question about the set number material (13.3%) distributing at level C1 (knowledge), 46.7% at level C2 (comprehending), and 40% at C3 level (application). It was concluded that the teacher had not properly distributed all levels of knowledge on the test and the teacher have not incorporated *Higher Order Thinking Skills (HOTS)* (C4-C6).

The Directorate of High School Development in International Standard Preparation Guide (2015) stated that every question that fulfills the requirements of *HOTS* should have stimulus, measure critical and creative thinking skills. Questions can be claimed to have *HOTS* characteristics if it fulfills the three characteristics. The National Education Standards should try adjusting to the needs of international levels.

One of the education outcomes that students should master is to have high-level thinking skills since it will help students to solve problems in their everyday life. Based on the explanation above, the writer decided to take research related to *Higher Order Thinking Skills (HOTS) Analysis of English National Examination Question from 2014 to 2019 in Senior High School* and create the problem of formulation to achieve the target as follows: How do the *Higher Order Thinking Skills (HOTS)* cognitive levels applied to Senior High School English National Examination Question from 2014 to 2019?

There are some studies that conducted by the researchers related to this study. The research conducted by Syamsul Arif in 2017 entitled "*Higher Order Thinking Skills (HOTS) Analysis on Teacher's Question in the Final Examination of Bahasa dan Sastra Indonesia at Public High School SMA Negeri 7 Medan*". The study aims to analyze the three cognitive levels that include higher-order thinking skills. Based on the analysis of the research data in the Odd Semester Final term of Bahasa dan Sastra Indonesia Class X and XI 2017/2018 SMA Negeri 7 Medan has obtained the results is found 20% questions containing higher-order thinking skill in class X, while class XI does not find questions containing higher-order thinking skills. Another research is conducted by Siti Rohayati, in 2018 with the title "*Analisis Soal Higher Order Thinking Skills (HOTS) Dalam Soal Ujian Nasional Kimia Tahun Ajaran 2017/2018*". The purpose of their study is to find out the contribution of a question that has Higher Order Thinking Skills characteristics. The analysis in their research based on the stimuli, critical thinking and creative thinking characteristics. The stimuli in Chemical National Examination Question 2017/2018 were graphic, symbol, table, example, and piece of the case. The indicators of critical thinking in the whole question are giving a simple explanation, summarize, and build basic creativity, strategy, and clear explanation. The indicators of creative thinking are fluency, flexibility, originality, and elaboration. And the results show that 12 questions

have *HOTS* characteristics with 30% from the 40 questions. A research conducted by Desi Lestari Ningsih entitled "*Analisis Soal Tipe Higher Order Thinking Skills (HOTS) Dalam Soal Ujian Nasional (UN) Biologi Sekolah Menengah Atas (SMA) Tahun Ajaran 2016/2017*" in 2017. Her study aims to determine the Higher Order Thinking Skills (HOTS) characteristics. The result shows that almost all (92,5%) of the national examination is a HOTS type. The characteristics of each question show that almost all (97,3%) is compatible with the competency's indicator. Stimuli that used in half of the questions were pictures, and the small parts were diagram, table example, and the smallest part is a part of the case. The characteristic of critical thinking questions is 85%, and not the half is an indicator that focused on questions. The characteristics of problem-solving questions is only 22,5% that a small part is the identifications of a problem and identify to solve a problem based on the data and problem.

From those researches above, the similarity is that the present and the previous research use *Higher Order Thinking Skills (HOTS)* characteristics to analyze the data, and both of this research also uses descriptive qualitative research. And the difference is the subject of the research in the present research will be the English National Examination Question.

### **Research Methodology**

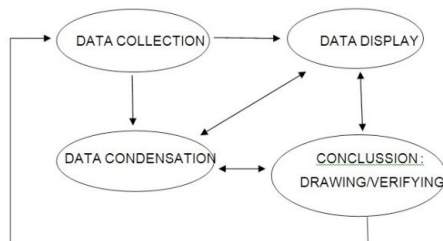
The writer used descriptive qualitative research method. It is called qualitative since the collected data were in the form of sentences. As Bogdan and Biklen said in Sugiyono (2014), the qualitative descriptive method is a method used to collect the data in the form of words of pictures rather than a number. The subject in this research is one package of English National Examination Question from 2014 to 2019. Also this research only focuses on the reading question items. And the object of this research is the three cognitive levels of *Higher Order Thinking Skills (HOTS)*. There are two instruments in this research, the main instrument, and the assistive instrument. The main instrument is the writer itself, and the assistive instrument is the keyword of Anderson's Taxonomy that show the cognitive levels.

Different method is used in qualitative research. The most common are interviews, focus group discussions, observational methods and document

analysis. An interview is useful to explore experiences, views, opinions, or beliefs on specific matters. There are different grades of structuring the interview: structured, semi-structured or open/in-depth, dependent on the characteristics of structuring the interview by the writer. In this research the writer used document analysis, because the writer will analyze a package of English National Examination Question in 2014 to 2019.

Data validation is a process that ensures the delivery of clean and clear data to the programs, applications, and services using it. It checks the integrity and validity of data that is being inputted to different software and its component. Data validation ensures that the data complies with the requirements and quality benchmarks. In this research, the writer used the triangulation technique. The data sources triangulation is data collection from various sources using the same method. Theoretical triangulation means the researcher compares the data finding with perspectives theory that is relevant. Here, the researcher is demanded to have an expert judgment to compare the finding of the research with a certain theory.

The writer used the Interactive Analytical Model by Miles and Huberman (2007) to gather and collect the information needed to complete this paper. In Interactive analysis model several steps that should be done, there are:



- 1) *Data Collection*,
- 2) Deleting unimportant data.
- 3) *Data Representation*, combine the information.
- 4) *Data Conclusion and Verification*.
- 5)

## **Results**

The finding of this research displays the application of *HOTS* cognitive levels of English National Examination Question from 2014 to 2019 in Senior High School.

## **1. The Application of HOTS Cognitive Levels of English National Examination Question from 2014 to 2019 in Senior High School**

The data were analyzed using three cognitive levels based on *HOTS* characteristics. It could be used to identify and describe which thinking skills category are applied in the 2014 to 2019 English National Examination Question.

### **a) The Result of HOTS Analysis in English National Examination Question in 2014**

Based on the analysis of 2014<sup>th</sup> national examination, it is found out that 46% questions containing *Low Order Thinking Skills (LOTS)*, 46% questions containing *Medium Order Thinking Skills (MOTS)*, and 8% questions containing *High Order Thinking Skills (HOTS)*.

### **b) The Result of HOTS Analysis in English National Examination Question in 2015**

Based on the result of analysis of 2015<sup>th</sup> national examination question items, it is found out that 48% questions containing *Low Order Thinking Skills (LOTS)*, 26% questions containing *Medium Order Thinking Skills (MOTS)*, and 26% questions containing *High Order Thinking Skills (HOTS)*.

### **c) The Result of HOTS Analysis in English National Examination Question in 2016**

Based on the result of analysis of 2016<sup>th</sup> national examination question items, it is found out that 68% questions containing *Low Order Thinking Skills (LOTS)*, 23% questions containing *Medium Order Thinking Skills (MOTS)*, and 9% questions containing *High Order Thinking Skills (HOTS)*.

### **d) The Result of HOTS Analysis in English National Examination Question in 2017**

Based on the result of analysis of 2017<sup>th</sup> national examination question items, it is found out that 57% questions containing *Low Order Thinking Skills (LOTS)*, 37% questions containing *Medium Order Thinking Skills (MOTS)*, and 6% questions containing *High Order Thinking Skills (HOTS)*.

### **e) The Result of HOTS Analysis in English National Examination Question in 2018**

Based on the result of 2018<sup>th</sup> national examination question items, it is found out that 48% questions containing *Low Order Thinking Skills (LOTS)*, 46%

questions containing *Medium Order Thinking Skills (MOTS)*, and 6% questions containing *High Order Thinking Skills (HOTS)*.

**f) The Result of HOTS Analysis in English National Examination Question in 2019**

Based on the result of analysis of 2019<sup>th</sup> national examination question items, it is found out that 31% questions containing *Low Order Thinking Skills (LOTS)*, 49% questions containing *Medium Order Thinking Skills (MOTS)*, and 20% questions containing *High Order Thinking Skills (HOTS)*.

**Table 1. The Percentage of Cognitive Levels Category in English National Examination**

Year	LOTS	MOTS	HOTS
2014	46%	46%	8%
2015	48%	26%	26%
2016	68%	23%	9%
2017	57%	37%	6%
2018	48%	46%	6%
2019	31%	49%	20%

Based on the analysis result, the differences seem not too significant. The percentage value of each cognitive level seen from year to year is stable. As it can be seen that the question is mostly use *Low Order Thinking Skills (LOTS)*. Year by year, the *Low Order Thinking Skills (LOTS)* have a fairly stable percentage value, as in does not increase and decrease too much. The same thing is applied to the *Medium Order Thinking Skills (MOTS)*, the percentage have a stable value year by year. But in the year of 2014 to 2015, the percentage of the *High Order Thinking Skills (HOTS)* have a significant increase from 8% to 26%, but in 2016 the percentage decreased sharply to 9%, it decreased too from 2016 to 2017 becomes 6% and it have a stable value in 2018. In 2019, the percentage increased again to 20%.

**Discussions**

**1. Application of HOTS Cognitive Levels of English National Examination Question from 2014 to 2019 in Senior High School**

Sudjana (2016) stated that the composition between the categories of a low, medium, and high has a ratio of 3: 4: 3. It is contrast with the findings in the

analysis result of the English National Examination Question of Senior High School from 2014 to 2019 which is has a ratio of 4: 3: 3. There are 210 reading question items, which are consists of 105 question items at a low category, 79 question items at a medium category, and 26 question items at a high category. Therefor, it is mean that the question items in the English National Examination Question of Senior High School in the academic year of 2014 to 2019 do not fit the composition ratio between each category that already stated by Sudjana. Because the low category question items have the highest value, which is not in accordance with the composition of the problem category ratio which states that the highest value is in medium category.

### **Conclusion**

The result showed that the English National Examination Question of Senior High School from 2014 to 2019, there are 210 reading question items. Which are consists of 105 question items at the low category, 79 question items at the medium category, and 26 question items at the high category. Thus, it can be concluded that the English National Examination Question from 2014 to 2019 mostly use *Low Order Thinking Skills (LOTS)* in the reading question items.

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