

Investigating The Cognitive Level of English Test Developed by English Teacher

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Abstract: This study deals with investigating the English test randomly in senior high school. There are five randomly questions of English test of 10th grade in 2021/2022 academic year. Documentation is the main instrument of this study. The result of this study shows that the percentage of cognitive levels of English test of 10th grade in 2021/2022 academic year that there are 60% of remembering (C1), 40% understanding (C2), meanwhile applying (C3), analyzing (C4), evaluating (C5) and creating (C6) are 0%. In addition, the results obtained percentage of LOTS, MOTS, and HOTS of English test question as follow there are 60% of questions that are categorized as LOTS, 40% of questions are categorized into MOTS, and 0% of questions are categorized into HOTS. Therefore, the quality of the English randomly is categorized remembering (C1) or LOTS level.

Keywords: Cognitive Level, English Test.

Introduction

The English language has become one of the important subjects that must be acquired in most education schools in Indonesia, especially at the Senior High School level. However, English language becomes one of subjects that must be tested in national tests beside Mathematics, Science and Bahasa. In the process of learning English to know whether the students understand or not about the material that the teacher has explained before, the teacher should give an evaluation at the end of the learning process. The results of the process of teaching and learning activities will require assessment (Archer, 2017). It is an important part of the teaching-learning process because it provides input to teachers and students about the learning process and student outcomes. By conducting an assessment, teachers can obtain valuable information related to the effectiveness of the learning process (Mehta & Mokhasi, 2014). In addition, through the assessment the teacher can assess whether or not the learning objectives have been achieved and determine student achievement.

Therefore, assessment is very important in seeing the success of learning and seeing the abilities achieved by students after participating in the learning process.

In this assessment process, information is needed to know student achievement (Yumelking, 2019). In addition, there are some approaches that are necessary to assess the students' achievement or to collect the learning outcomes of students (Ali & Ruit, 2015). Teachers have to carry out the students' results (Subia et al., 2020). In other words, assessment is a comprehensive process that is carried out continuously to collect student performance information to determine student achievement in the learning process (Mohammedid & Omar, 2020). Furthermore, Anderson et al (2001) classify thinking levels into three, namely low-order thinking skills (LOTS) which includes the dimensions of thinking processes; remembering and understanding, intermediate-level thinking skills (MOTS) which include the dimensions of thinking processes; apply, and higher order thinking skills (HOTS) include the dimensions of

thinking processes; analyze, evaluate, and create (Hartini et al., 2021). This cognitive level gradually increases from a simple level to a complex level of thinking. Therefore, an assessment must be able to measure students' skills ranging from low-level thinking to higher-order thinking (Styvani, 2022).

In the implementation of the test, there is a school that uses the 2013 Curriculum and holds an exam test at the end of the semester with multiple choice questions. Unfortunately, some teachers are less concerned about constructing a good assessment. Consequently, there are still many tests that only assess the lower levels of thinking and the questions have not been tested so the quality is not known and it is feared. Considering the problem above, there is a need for studies and trials at the end of the test to know the percentage of cognitive level of the questions. The research that will be conducted by researchers uses Taxonomy Bloom which was revised by Anderson et al.,(2001) to determine the type of questions designed by English teachers and to gain the percentage of HOST questions and into classical measurement theory 5 on a multiple choice test which includes an index of difficulty level, inequality index, and distractor effectiveness.

Materials and Methods

Research Design

The researcher uses a descriptive qualitative method. Therefore, in this study, the researcher randomly analyzed English test questions designed by an English teacher in senior high school based on Taxonomy Bloom which was revised by Krathwol and Anderson (2001). The analysis aims to know the type of questions designed by English teachers and to gain the percentage of HOST questions. The researcher investigates the cognitive level of English test questions.

In addition, the data sources from the randomly selected English test questions in senior high school. Then, data from this study is five random English test questions consisting of 10th grades in the academic year 2021/2022. Therefore, the data collection technique in this study is to use the documentation. The documentation in this study is

that the researcher collects all the data which are randomly English test questions from the English teachers at 10th grade in high school.

Data Analysis

The researcher eliminates unnecessary data which does not meet the category of questions that can be analyzed. Then the researcher categorizes each question into criteria of six cognitive levels based on Bloom's Taxonomy revised, the level consisting of understanding (C1), remembering (C2), applying (C3), analyzing (C4), evaluating (C5) and creating (C6). The researcher analyzes each question which has been categorized into level C1, C2, C3, C4, C5 and C6. Then, researcher calculates the percentage of HOTS questions using the following formula:

P = percentage of English exam questions

N_1 = number of questions in each cognitive domain

$\sum n$ = the total number of English exam questions

Arikunto (2008, as cited in Dharmawati, 2018)

$$P = \frac{N_1}{\sum n} \times 100\%$$

Results and Discussion

The Result of Cognitive Level of English Tes

Based on five English questions for the 2021/2022 academic year, researchers investigated the items at the cognitive level and classified the percentages at the taxonomic level. The following is a classification table of cognitive level.

Table 1. Classification of Cognitive Level

No	Test Item	Indicators	Cognitive Level
1	Who are involved in the dialogue?	Recalling the spesific in the text.	C1
5	What are they talking about?	Recalling the spesific in the text.	C1
6	What is the descripti on of the girl?	Recalling the spesific in the text.	C1
9	I don't bring ___ pen, please lend ___ me.	Writing the best possible answer to fill into the sentence.	C2
15	Please, put the food on the table, ___ is special food.	Writing the best possible answer to fill into the sentence.	C2

This table shows the percentage of cognitive levels of the English test of 10th grade in the 2021/2022 academic year. It can be seen that there are 60% of remembering (C1), 40% understanding (C2), meanwhile applying (C3), analyzing (C4), evaluating (C5) and creating (C6) are 0%. In addition, the following is a percentage table of cognitive level.

Table 2. Percentage of Cognitive Level

No	Cognitive Level	Number Of Question	Total	%
1	Remembering (C1)	3	30	60%
2	Understanding (C2)	2	20	40%
3	Applying (C3)	0	0	0
4	Analyzing (C4)	0	0	0
5	Evaluating (C5)	0	0	0
6	Creating (C6)	0	0	0

This table shows the percentage of cognitive levels of the English test of 10th grade in the 2021/2022 academic year. It can be seen that there are 60% of remembering (C1), 40% understanding (C2), meanwhile applying (C3), analyzing (C4), evaluating (C5) and creating (C6) are 0%.

Discussion

This study is aimed to find out the type of cognitive level of the English test. Based on the result of the analysis, it found that 60% of five questions randomly are categorized into LOTS and 40% are categorized into MOTS. (Muhayimana et al., 2022) says that the proportion of good questions should have the ratio level of difficulty 30:40:30 meaning 30 for low level, 40 for medium level and 30 for high level. Therefore this standard is interpreted into thought process level so that the

proportion of cognitive level should have been contained in the English test where LOTS is 30%, MOTS is 40% and HOTS is 30%. Furthermore, (Cheng et al., 2021) emphasizes that the cognitive level of students is not driven at one level but must be balanced between remembering, understanding, applying, analyzing, evaluating and creating. However, from the results it was found that the questions were not balanced between LOTS, MOTS and HOTS cognitive levels. (Hamdu et al., 2020) emphasize that the cognitive type of critical thinking is important in the type of test used because it is very influential on students to solve problems in the learning process. Besides, the composition of the exam questions should be balanced, as has been explained that the exam questions must cover all cognitive levels. In fact, the finding above shows that the distributions of LOTS, MOTS, and HOTS haven't met that standard. So according to the statement above, it can be said that the random English test in senior high school has not been categorized in the good questions because good questions should be able to assess different levels of thinking. A well-designed assessment and in accordance with the level of thinking ability can improve a student's thinking power, especially critical thinking (Styvani, 2022). Thus, from the results of the explanation above, it can be concluded that the teacher must improve the quality of the question, in this case the use of the cognitive level in the English test, especially HOTS.

Conclusions

This study attempts to investigate the cognitive level of randomized English test questions designed by an English teacher in senior high school. The data analysis used in this research is qualitative analysis where the research results are described descriptively. The data used is a random English test at 10th grade senior high schools for the 2021/2022 academic year. Analysis result show that among the five questions at random there are 3 questions (60%) belonging to remembering level, 2 (40%) including understanding level, and 0% including application level (C3), analyzing level (C4), evaluation level (C5) and creating level (C6).

Also from the above results obtained percentage of LOTS, MOTS, and HOTS of English exam questions. As follows there are 60% of questions that are categorized as LOTS, 40% of questions are categorized into MOTS, and 0% of questions are categorized into HOTS. Therefore, it can be concluded that randomized English tests in secondary schools were dominated by the lower class thinking questions.

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