

Higher Order Thinking Skills in Teacher Developed Test at 10th Grade Students of Senior High School 1 Canduang

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Abstract :

Higher Order Thinking Skills is important to apply in learning, particularly in making questions test to students. The study aims to find out the distribution of Higher Order Thinking Skills based on Anderson and Krathwohl in the teacher developed test prepared for the 10th grade students of Senior High School 1 Canduang.

In this research used descriptive qualitative research. This research used content analysis method because the researcher identifies specified characteristics of the material in the test. The researcher used items test question and the analysis card as the data sources and the observation sheet of document analysis for collecting and analyzing the data to find out the result of the research.

Based on the result of the research the distribution of the higher order thinking level is lower than the lower order thinking level. As the focus of this research, the distribution of the higher order thinking skill looks like: the analyze skill obtains the highest distribution by obtaining 12 out of 70 item test questions (17.14%) while the evaluate skill is in the second place by obtaining 2 out of 70 questions (2.85%) and the create skill obtains null distribution. It shows that the distribution of the higher order thinking skill in item test questions from the teacher-developed tests is unequal. It does not treat the higher order thinking skill properly, particularly the create skill which does not exist in the item test questions. It only gives more emphasis on the analyze skill by obtaining the highest number among the three skills in higher order thinking level.

Keywords : *higher order thinking skills, and teacher developed test*

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Introduction

HOTS are a concept of the educational reform based on Blooms taxonomy. in Blooms taxonomy that have been revised by Anderson and Krathwohl state six levels of cognitive process; remember (C1), understand (C2) and apply (C3) called Lower Order Thinking Skills (LOTS). While analyze (C4), evaluate (C5), and create (C6) called Higher Order Thinking Skills (HOTS). LOTS are only need students to remember and understand a concept well. Baside that, HOTS enable students to analyze, evaluate and create a concept well. Accordingly, Higher Order Thinking Skills related to how students can transfer one concept to another, processing and applying information, looking the connection of the different information, using information for problem solving and examining the idea critically. It is important for students to have HOTS as a solution to increase their thinking ability to solve the problem faced. Teacher must be able to teach HOTS. More importantly, teacher must also be able to measure whether or not students already acquire HOTS. It can be faced from the test that used by the teacher in order to measure student learning outcome.

The development of HOTS question is not easy. It requires high logical power. In general, preparation of HOTS uses stimulus. Stimulus is the basis for making questions. In the context of HOTS, the stimulus presented should be contextual and interesting. The stimulus can be source from emerging global issues. Related to the ministry of education decides the characteristics of HOTS question, ther are; measuring the ability of high level thinking, contextual, ccreative, and using various form of questions. However this is also a challenge for teacher, the teacher should be able to get and test students through HOTS questions to measure students competence.

In improving students high level of thinking skills (HOTS), the teacher must facilitate the students to become a better thinker and problem solver that are by how to provide a problem that allows student to using high level thinking skills (HOTS). It means that the teacher should be able to developed the test in the form of problem solving, so that students are expect to interpret and study by the question presented.

Teacher developed test are normally prepared and administrated for testing classroom achievement of students, evaluating the method of teaching adopted by the teacher and other curricular programs of the school. Teacher developed test is one of the most valuable instrument in the hands of the teacher to solve their purpose. it is designed to solve the problem or requirements of the class for which it is prepared. It is prepared to measure the ooutcome and content of local curriculum. Test are constructed by teacher for their classroom consumption. Basically teacher developed test are used to evaluate the progress of students in school.

The 2013 curriculum requires an international standard assessment. This requires making test based on international standars such test may be related to HOTS, contextual assessment and PISA (Program for International Students Assessment). If it is seen tough, the teacher situation at schools the requirements do not work as it expected.

The Directorate of High School Development in the International Standard Preparation Guide explained that the most high school teacher only tended to measure lower order thinking skills. The teacher questions commonly measured recall skill, teacher focused on theories, not contextual knowledge of which did not fit to the 2013 curriculums requirements.

Based on the 2013 curriculum, the learning system is expected to help students thinking deeply and creatively toward a material. Therefore, it is required a tool that can improve the students ability in higher order thinking. The higher oerder thinking skills can assist students in improving logical and reasoning skills, analysis, evaluation, and create. This ability will certainly help students to solve problem everyday life. To conclude, the writer bealives that analyzing higher order thinking skills is important because it may improve the students critical thinking in answering the test. The writer was interested to analyze the distribution of higher order thinking skills of teacher developed test.

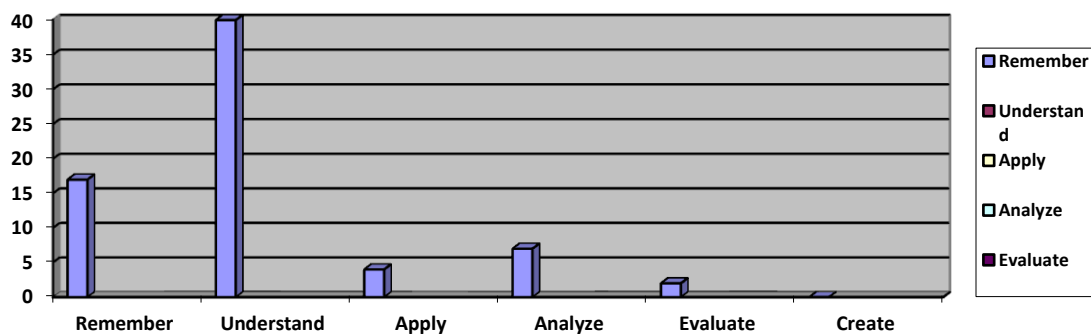
Method

In this study the writer used descriptive qualitative research, because the writer want to analyze of test made by the teacher. The informant of this study is a teacher who teaches at the tenth grade students of Senior High School 1 Canduang. The writer collects the test question that has been developed by the teacher. The test is final test. In this study the writer used documentation as an instrument and content analysis method to identifies specified characteristics of the material in the test. The writer used item test question, the analysis card as the data sources and the observation sheet of document analysis for collecting and analyzing the data to find out the result of the research.

Results

Base on the analysis of the teacher developed test in English subject at the 10th grader of senior high school 1 Canduang is obtained the result as follow:

Picture 1.
The Distribution of Higher Order Thinking Skills
In Teacher Developed Test



Based on the diagram above, it can be seen that the distribution of the Higher Order Thinking Skills is lower then Lower Order Thinking Skills. From total 70 items in the teacher made test, the analyze skills obtain 12 question while the evaluate skill obtain 2 question and there is no question belong to the create skill. In addition, to explain more about the distribution of the test types in the test will be explain in the analysis data bellow.

Table 1.

Gropping item test based on Anderson and Krathwohl

Number	HOTS	Item Test Question
1	Analyze	12 item
2	Evaluate	2 item
3	Create	0 item
Total		14 item

Table 2.

Gropping item test based on Anderson and Krathwohl

Number	HOTS	Number of Test Items
1	Analyze	27, 28,38, 50,54, 57, 58, 60, 64, 65, 68, 69
2	Evaluate	66, 67
3	Create	-
Total		14 item

The result of analysis is found the total distribution of the higher order thinking in the table above, it obtain 20% so it gets lower distribution than the lower order thinking level that obtain 80%. Then the ratio between the evaluate skill and analyze skill is not too far 1:4

Discussion

In this research, the researcher used documentation as the instrumentation. The documentation shaped of test items that have been develop by the teacher for the tenth grade students of Senior High School 1 Canduang. After the teacher made her test for the students, the researcher asked the test of the teacher. Then, after analyzed the data from teacher test it was indicate that it is important to know how good the test practices. The higher order thinking skill for the students because, as the tenth grade students who soon will be the colleges, it is better to train their critical thinking so that they could easily go along with the different atmosphere in the teaching and learning process at the university life which is more challenging. Therefore, the researcher wants to know the distribution of the higher order thinking level of the test that developed by the teacher.

After the researcher divides the six levels into the lower order thinking (remember, understand, apply) and the higher order thinking (analyze, evaluate, create), the results show that the higher order thinking obtains lower distribution than the lower order thinking skill. It is proven by the result of the data analysis, which shows that the higher order thinking level only obtains 12.86%, while the lower order thinking level obtains 87.14 %. From two kinds of the test, there are 70 questions in the test yet the higher order thinking level only gets 9 questions while the lower

order thinking level gets 61 questions. Thus, the researcher thinks that there is inequality number in the distribution of the higher order thinking questions in the teacher developed test.

In addition, the understanding skill obtains the highest distribution among the three skills in the lower order thinking level even among the six cognitive of the Anderson and Krathwohl taxonomy while the analyze skill obtains the highest distribution only among the three skills in the higher order thinking level. *It might happen because Mayer claims that the largest category of transfer-based educational objectives emphasized in school and colleges is understand.*

On fact, the few distribution of the higher order thinking questions might happen because the questions look much more complex than the lower order thinking level. Therefore, in view of that idea, the researcher thinks that the teacher might concern about the limitation of time in the classroom, because in answering the higher-level questions, the students might waste the times in the teaching and learning process. It could be better if the teacher is more concern about the distribution of the higher order thinking level by modifying and improving some questions into the evaluate skill and particularly the create skill. Further, as the first skill in higher order thinking level, the analyze skill obtains 7 questions out of 70 questions or 10%. It is the highest number among the three skills in higher order thinking level, although if it is compared to the other six domains, it is still considered to have small distribution. It might happen because *Brookhart points out that it is must to create such questions that ask the students to describe and figure out how one thing to others are related.* Thus, even though the questions that belong to the analyze skill are few compared to the others, but it is important to train students in analyzing some ideas and information. Additionally, there are only 1 type of final test which practice the analyze skill in the test. Moreover, the highest distribution of the analyze questions is available in the final test II. However, the example of the analyze question are limited only on the reasoning questions form like, "What moral value can we get from the story?" (*Item test 20, final test II*).

Accordingly, it can say that the types of the analysis questions are not too varied. In fact, *actually the students need to improve their analytical skill by answering other kinds of analysis questions rather than reasoning types of questions, such as classifying, differentiating, and outlining.* Consequently, the types of analyze questions could be more varied with the types of questions which ask students to connect conclusions with supporting statements, distinguish relevant from different material, and determine how ideas are connected to one another.

As a whole, there are only 2 questions which are not the reasoning question like, "Which sentence show complement?" (*items test 29, final test I*) which is categorize information in text, students should find the relationship that many distinguish certain pieces of information from other and separate them in categories according to the relation in between and "what did 'lie' say that made the singer trust?" (*test item 28, final test II*) which asks the students to make a conclusion based on the context.

The analysis question could improve by adding the variation of them. For instance, it can add by asking a relation between one thing to another thing like "How is....related to...?" or a question to ask the difference between two things such as "What is the distinction between ... and ...?" Consequently, by adding those kinds of questions, the writer hopes that the types of questions can be more varied.

Then, the second category is the evaluate skill. There are only 2 questions out of 70 or 2.9%, which belong to the evaluate skill. It might happen because *it is one of the most critical thinking skill in the reading skill so it is such a challenging and difficult to answer or even to create.* However, *this kind of question can also modified by requiring literary criticism about thing and asking about the quality of the text based on the reader and asking them the reason.* Thus, the evaluate questions could be more varied and could train students to evaluate some ideas in different types of questions.

Further, the questions of the evaluate skill are only available in the Final Test II. There are 30 questions in the Final Test II and only obtain two question for evaluate skill. From those two questions of the evaluate skill, the variation of question types is monotonous which mostly ask reader's judgment about the aim of song, "what does the song mean" (*item 26, final test II*) and "what does the song talk about?" (*Item 27, final test II*)

In fact, those questions can be improved and modified to be like "*What was the most important moment in the story and why?*" Those questions also belong to the evaluation skill because they also ask about the reader's response towards the story in the reading text.

The most important thing that must be a concern for the teachers is the create skill which obtains null distribution. In fact, the create skill is necessary for students because it trains them to produce an original product of their own thinking and ideas. It is also can be seen that the variation of those higher order thinking questions are not too varied. The distribution of create skill is the lower from six level cognitive process dimension. It is because teacher question commonly measure understand skill and apply skill. It might happen because *Daiek and Anter claim that the synthesis questions or the create question had difficulty in answering. However, they add that the synthesis or create skill is important in college because the lecture will ask the students to think about discrete items of information in order to arrive at a deeper understanding.* Then, it could be better if the teachers and pays more attention to the distribution of the create skill in the test developed.

In addition, *the variation of the create questions could be increased by asking the students to create a scheme for classifying ideas or propose a plan for research.* The create questions could also be increased by adding such questions like, "*How would you write different ending?*" or "*How do you state a conclusion supported by these facts?*"

Finally, the writer think that in the higher order thinking level, the skill that is emphasized by the teacher is the analyze skill. It is proven by the highest distribution that is gotten by the analyze skill while the others two skills only get small number of distribution though it is also considered as the small distribution if it is compared to the other six cognitive domains of the revised edition from Bloom's taxonomy. Further, the ratio between the evaluate skill which is in the second place below the analyze skill is not too far. Therefore, the researcher thinks that the variation of the higher order thinking questions must improve so that the students could improve their higher order thinking skill properly.

Conclusion

Based on the data on the teacher developed test in English subject at the 10th grade students of senior high school 1 Canduang conclude that the higher order thinking level only obtains 14 out of 70 item test question (20%) while the lower order thinking level obtain 56 out of 70 item test question (80%). It can be conclude that the distribution of the higher order thinking level is lower than the lower order thinking level. As the focus of this research, the distribution of the higher order thinking skill looks like: the analyze skill obtain the highest distribution by obtaining 12 out of 20 item test question (17.14%) while the evaluate skill is in the second place by obtaining 2 out of 70 question (2.85%) and the create skill obtain null distribution. It shows that the distribution of the higher order thinking skill in item test questions from the teacher developed tests is unequal. It does not treat the higher order thinking skill properly, particularly the create skill which does not exist in the item test questions. It only gives more emphasis on the analyze skill by obtaining the highest number among the three skills in higher order thinking level.

There are some suggestion that might be useful for the teachers, students and everyone who read this study; the English teacher need to generate a more complete range of educational

objectives which involve cognitive process that go beyond the lower order thinking skill by improving some test which could train the students to have the higher order thinking skill. The teacher should also motivate the students to train their critical thinking or higher order thinking skill outside the school so that their higher order thinking skill could be better.

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