

# **Cognitive Levels of English Test Items Constructed by EFL Teachers of Senior High Schools**

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## **ABSTRACT**

This study was primarily concerned with cognitive levels of English test items constructed by EFL Teachers of public senior high schools in Maumere city, Indonesia, in the academic year 2016/2017. Specifically, it concerned with multiple choices test items which deal with language skills of reading, speaking and writing. This research aimed to answer the problems of the cognitive levels, tendency, and portion of English test items on the basis of percentage of question levels. This research is a descriptive qualitative research. It described the phenomenon of constructing test item in senior high schools. Data resources were four-semester test items constructed by EFL teachers of 1state senior high school and Frater Catholic senior high school in Alok subdistrict, Saint Gabriel Catholic senior high school and PGRI private senior high school in Alok timur subdistrict of Maumere city of Sikka regency. The result of the research showed that more than half of the test items constructed by EFL teachers of the senior high school in Maumere city in the academic year 2016/2017 do not meet the requirement of cognitive level, tendency and portion of test items so they must be revised. In terms of cognitive levels, only a quarter of test items meet the requirement of six cognitive levels of questions. Then, in terms of tendency, more than half of test items tend to indicate the easy category. In terms of portion, more than half of test items also do not meet the requirement of distribution of English test items on the basis of percentage of questions levels.

## KEYWORDS

Cognitive levels, English Test items, Constructed, EFL Teachers

## INTRODUCTION

Education is defined as planned efforts to establish an educational process so that the students may actively develop his or her own potential, consciousness, personality, intelligence, behavior, and creativity. It makes the acquisition of knowledge, skill, and behavior better, efficient, effective, and appealing. Education includes an organized activity to educate students to acquire sufficient cognitive, affective, and psychomotor domains. The way to achieve the goals of education is an instruction. According to Budiana & Djuwari (2018); Hambandima, Feliks, & Bire, (2014), instruction is a formal means to influence a person's internal states, intellectual skills or values.

The model of instruction includes design, development, implementation, management, evaluation. "Evaluation is the process of delineating, obtaining, reporting, and applying descriptive and judgmental information about some object's merit, worth, probity, and significance, in order to guide decision making, support accountability, disseminate effective practices, and increase understanding of the involved phenomena" (Wirawan & Model, 2011). It means that evaluation covers steps of gathering and informing the determined decision toward a person or an activity to make it understood. With regard to information as component of evaluation, Bachman (1990) then argues that the information relevant to evaluation can be either qualitative (non-measurement) or quantitative (measurable).

Qualitative information can be obtained from observation in a wide variety of ways, including performance checklists and observation schedules, as well as from narrative accounts of class performance of student self-reports. Quantitative information can include measures such as class rank, teacher ratings and self-ratings as well as tests. Test which referred to this research is language testing. Language testing mainly required knowing the language ability of an individual. As stated by Allison (1999), that language testing involves the assessment of some or all aspects of the language ability of individuals in some context (not necessarily that of a language class) and for some set of purposes. Bull & McKenna (2003) said that types of learning which can be tested using objective tests are Bloom's taxonomy of educational objectives. In addition, they said that Bloom's taxonomy of educational objectives (Bloom, 1956) is a useful starting point for categorizing types of questions. In addition, International Assembly for Collegiate Business Education (IACBE, 2014) explained that the revised taxonomy includes the following new levels of cognitive learning (arranged from lower-order to higher-order levels of learning) namely remembering, understanding, applying, analyzing, evaluating and creating.

## FRAMEWORK

### **Bloom's Revised Taxonomy of Cognitive Domain**

Levels of cognitive learning refer to Bloom's taxonomy. International Assembly for Collegiate Business Education (IACBE, 2014) said that Bloom's framework provided one of the first systematic and easy to understand the classification of thinking and learning. Teachers easily understand student's different levels of cognition through classifications of cognitive questions. In addition, International Assembly for Collegiate Business Education (IACBE, 2014) said that the taxonomy naturally leads to classifications of lower- and higher-order learning. In this hierarchical framework, each level of learning is classified to both orders of thinking to help the teacher understand both orders of thinking of the students.

It is explained that the revised taxonomy includes the following new levels of cognitive learning (arranged from lower-order to higher-order levels of learning): First, remembering—retrieving, recognizing, and recalling relevant knowledge from long-term memory. Second, understanding—constructing meaning from oral, written, and graphic messages through interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining. Third, applying—using information in new ways; carrying out or using a procedure or process through executing or implementing. Fourth, analyzing—breaking material into constituent parts; determining how the parts relate to one another and an overall structure or purpose through differentiating, organizing, and attributing. Fifth, evaluating—making judgments based on criteria and standards through checking and critiquing; defending concepts and ideas. Sixth, creating—putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure through generating, planning, or producing.

### **Percentage of Levels of Questions**

Giani, Zulkardi, & Hiltrimartin (2015) said that to describe accurate test items, the test items should be constructed based on the teaching material, various levels of difficulty and apply the higher order of thinking which consists of analyzing, evaluating and creating. Therefore, in terms of difficulty levels, Sudjana, & Mishra, (2004) said that comparison of good test items for criteria of easy, moderate and difficult is 3:5:2. Thompson (2008) said that in practice, level of difficulty of test items will refer to hierarchy of cognitive Taxonomy Bloom. Then he said that easy category is developed through level of remembering and understanding, moderate category is applying and analysis levels while difficult category is evaluating and creating levels. Based on this comparison, he then said that percentage of levels of questions for each level of cognitive revised taxonomy Bloom is formulated as follows; 30% for remembering and understanding levels, 50% for applying and analyzing levels and 20% for evaluating and creating levels.

## OBJECTIVE OF THE STUDY

This study aimed to know the cognitive levels, tendency and portions of cognitive levels of English test items constructed by EFL teachers of Senior High Schools of Maumere City in the academic year 2016/2017 on the basis of percentage of question levels.

## RESEARCH METHOD

This research is descriptive-qualitative. It describe the phenomenon of constructing test items in senior high schools. It focused only on the cognitive questions of multiple choice test items. Levels of these cognitive questions were referred to Bloom's revised taxonomy of cognitive levels. Subsequently, it also described cognitive level, and tendency of English test items constructed by EFL teachers. In addition, it described whether the portion of English test items constructed by EFL teachers based on the percentage of levels of questions.

This research was conducted in Maumere City, Indonesia at four public senior high schools at Alok Subdistrict of 1state senior high school and Frater catholic senior high school and east Alok Subdistrict of Saint Gabriel catholic senior high school and PGRI private senior high school.

This research consisted of semester test items constructed by all EFL teachers of public senior high schools of Maumere City in the academic year 2016/2017 at Alok subdistrict namely 1state senior high school, 2 state senior high school, Frater catholic senior high school, Seminari Bunda Segala Bangsa senior high school, John Paul II catholic senior high school, and Alok timur Subdistrict namely PGRI private senior high school, saint Gabriel catholic senior high school, Muhamadya senior high school and Bhaktiyarsa catholic senior high school. The data resources were four semester test items constructed by all EFL teachers of the four schools. These four schools were chosen by a clustering random sampling because data resources were big clusters or areas and they were narrowed down to be more specific. Semester test items of 9 schools as data resources spread over 2 sub-districts. The researcher wanted semester test items of 4 schools to be the samples. The method or procedure to obtain the samples was as follow: first, total semester test items as data resources were 9, second, the total samples desired were 4. Third, logical basis of the cluster was 2 sub-districts. Fourth, data resources had  $9/2 = 4, 5$  schools in two sub-district. So semester test items of 4 schools of 9 schools were selected randomly. Therefore, the number of semester test items samples in 4 schools was the same with the number of samples desired.

The procedure of data collection used in this research was as the following; first, the researcher collected models of semester test items from the four schools. Those semester items consisted of one semester namely only uneven semester of academic year 2016/2017, meanwhile models of semester tests which meant by the researcher

were the available semester test items which referred to the language skills test items of reading, speaking and writing. Second, the researcher analyzed those semester test item to know the cognitive levels of questions applied in each of them. Third, the researcher computed the percentage of each level of questions of those semester test items. Finally, the researcher described cognitive level, and tendency of English test items and also portion of English test items on the basis of percentage of questions levels.

The collected data were analyzed by using techniques of qualitative data analysis namely data reduction, data display and drawing or conclusion. In data reduction, the researcher reduced models of semester item tests which were necessary used to be the sample. Those models of semester item tests were test items which constructed by EFL teacher as summative tests. Then they were reduced only on the language skill test items namely speaking reading, and writing. In data display, the researcher displayed those data by classifying data on the each category of each school. Data were analyzed by using questioning adapted upon revised Bloom’s Taxonomy – question starters (Anderson et al., 2001). In drawing a conclusion, the researcher based on the percentage of questions levels with the criteria: 30% for remembering and understanding levels, 50% for applying and analyzing levels and 20% for evaluating and creating levels.

## RESULTS AND DISCUSSION

### **Istate senior high school (SMAN1 Maumere)**

SMAN1 Maumere is using 2013 curriculum. According to this curriculum, the assessment is focused only on the learning process. Consequently, the teachers did not carry out the semester test as a final assessment. It was found that they used summative test that was done at the end of the semester as a multiple choice test. In tenth grade of this school, there were three summative tests namely summative test 1, 2, and 3. They were used to measure student’s cognitive competency in all classes namely language, social and science classes. Then, the researcher reduced those summative tests only test 2 which involved 20 test items, because this test was more dominant indicating language skills test items. In this test items, there were 17 test items of 20 test items belong to speaking and reading skills.

### **Cognitive Levels of Test Items**

Table 1. Cognitive Levels of English Test Items

Level	Cognitive Levels					
	1	2	3	4	5	6
No of Question	3,5,7,14, 15,18	2, 6, 8, 9, 10, 11, 12, 16, 17, 20	1	13		19

From the table 4.1 above, there were 17 test items of 20 test items belong to speaking and reading skills in which reading skill test items involved only 9 test items while speaking skills involved only 8 test items. Thus, as a complete test items it was also described the rest 3 test items which indicated grammar component. Reading skill involved test items number 4, 5, 13, 14, 15, 16, 17, 18, 19 and speaking skill involved test items number 1, 2, 3, 6, 7, 8, 9, 10.

The 20 test items distributed from the lower levels to the higher levels. Lower levels involved remembering, understanding and applying. Higher levels involved only analyzing and creating levels in which there was no one test item of 20 test items indicated evaluating level. The total numbers of cognitive levels were represented as the following table 4.2.

Table 2. Total Numbers of Cognitive Levels of English Test Items

Level	Cognitive Levels						$\Sigma$
	1	2	3	4	5	6	
TOTAL	6	11	1	1	0	1	20

From the table above, the total numbers of remembering and understanding levels (easy level) were 17 test items, applying and analyzing levels (moderate level) were 2 test items meanwhile evaluating and creating levels (difficult levels) were 1 test item.

### Tendency/ Dominant types of questions

The tendency of cognitive levels belongs to the more dominant of certain types of questions in the test items. It was focused on the categories of easy, moderate, and difficult of the test items. The dominant cognitive levels of test items of this school were more distributed on the easy category as drawn by the following table 4.3

Table 3. Tendency/dominant types of question

Category	Tendency						$\Sigma$
	Easy		Moderate		Difficult		
%	30%	55%	5%	5%	0%	5%	100%

Table 3 above drew the more dominant of cognitive types of question which distributed in the test item of SMAN1 Maumere were on the easy category. They more distributed on the remembering and understanding levels as much as 85%. They were indicated as easy category. This category was more dominant than moderate and difficult categories. Applying and analyzing levels which referred moderate category were only 10% while evaluating and creating levels which referred to difficult levels were only 5%.

**Portion of Cognitive Levels of Test Items**

Table 4. Portion of Cognitive Levels

Category	Portion			Σ
	Easy	Moderate	Difficult	
TOTAL of %	85%	10%	5%	100%

Table 4 above portrayed that the portion of each cognitive level of test items constructed by EFL teachers of SMAN1 Maumere was not based on the percentage of level of question in terms of difficulty level. It was not based on this percentage in which the comparison of easy, moderate and difficult categories must be 30%: 50 %: 20 %. As drawn by the table 4.4 above, the portion of cognitive levels in which the comparison of easy, moderate and difficult categories was 85%: 10%: 5 %. The easy category got the biggest portion than the moderate and difficult categories.

**Cognitive Levels of Test Items**

Table 5. Total numbers of cognitive level

Level	Cognitive Levels						Σ
	1	2	3	4	5	6	
TOTAL	26	16	1	6	0	1	20

Table 5 above displayed the total numbers of each cognitive level. Remembering and understanding levels belong to easy level consisted of 42 test items. Applying and analyzing levels belong to moderate levels consisted of 7 test items while evaluating and creating levels belong to difficult levels consisted of 1 test item.

**Tendency/ Dominant types of questions**

The tendency of cognitive levels of semester test items of SMAK Frater Maumere was also on the easy category. It was portrayed by the following table

Table 5. Tendency/Dominant types of questions

Category	Tendency						Σ
	Easy	Moderate	Difficult				
%	52%	32%	2%	12%	0%	2%	100%

Table 5 above indicated the dominant cognitive levels which distributed in the test items of SMAK Frater Maumere. The easy category which distributed on the remembering and understanding levels were 84%. They were more dominant than moderate and difficult categories. Moderate category which involved applying and analyzing levels included only 14% while difficult category which involved evaluating and creating levels included only 2%.

### Portion of Test Items

Table 6. Portion of Test Item

Category	Portion				Σ
	Easy	Moderate	Difficult		
TOTAL of %	84%	14%	2%		100%

Table 6 indicated Portion of cognitive levels of English test items was more dominant on the easy category. As presented by this table, the easy category got the biggest portion as much as 84% while moderate and difficult category got only 14% and 2%. They must be based on the comparison of easy, moderate and difficult category namely 30%: 50%: 20%.

Saint Gabriel Catholic senior high school (SMAK Sint Gabriel)

SMAK Saint Gabriel Maumere is still using school based standard curriculum. Consequently, the teachers were still having semester test as a kind of a final assessment. In tenth grade of this school, there was only one semester test items which was used to measure student's cognitive competency. Thus, it was not reduced anymore. It consisted of 50 test items which belong to language skills test items namely reading and speaking skills. It was represented as the following:

### Cognitive Levels of Test Items

Table 7. Cognitive Levels of Test Items

Level	Cognitive Levels					
	1	2	3	4	5	6
No of Question	1, 2, 3, 4, 5, 7, 10, 11, 12, 13, 17, 18, 19, 20, 21, 22, 23, 26, 27, 30, 42, 44,	8, 15, 16, 24, 25, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 43, 45, 46, 47, 48, 49, 50		6,9,14,28,29,		

Table 7 above reflected the cognitive levels which spread in 50 semester test items. In this test items, there were 50 test items which belong only to reading and speaking test items. Reading test items involved 33 test items meanwhile speaking test items involved 17 test items. Reading belong to test items number 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 46, 47, 48, 49, 50 while speaking belong to test items number 8, 16, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45.

This test items covered both lower and higher levels. Lower levels covered only remembering, understanding in which applying levels didn't exist. Higher levels covered only analyzing levels. There was no one test item of 50 test items which indicated both evaluating and creating levels.

Table 8. Total Numbers of Cognitive Levels

Level	Cognitive Levels						Σ
	1	2	3	4	5	6	
TOTAL	22	23	0	5	0	0	50

Table 8 above indicated the total numbers of cognitive levels which distributed in the semester test items. Total numbers of remembering and understanding levels which belong to easy levels were 45 test items. Applying and analyzing levels which belong to moderate levels were 5 test items in which applying did not exist and analyzing consisted of 5 test items. Evaluating and creating which belong to difficult levels also did not exist in this test items.

**Tendency/ Dominant types of questions**

Table 9. Tendency/ Dominant types of questions

Category	Tendency						Σ
	Easy	Moderate	Difficult				
%	44%	46%	0%	10%	0%	0%	100%

Table 9 reflected that the dominant cognitive levels belong to the easy category. They were remembering and understanding levels. Both levels consisted 90%. They were more dominant than moderate and difficult categories. Moderate category which referred to applying and analyzing levels involved only 10% while difficult category which referred to evaluating and creating levels didn't exist in this test items or 0%.

## Portion of Test Items

Table 10. Portion of Test Item

Category	Portion			$\Sigma$
	Easy	Moderate	Difficult	
TOTAL of %	90%	10%	0%	100%

Table 10 indicated portion of cognitive levels of English test items of SMAK Sint Gabriel Maumere was more dominant on the easy category. As reflected by this table, the easy category got the biggest portion as much as 90% while moderate and difficult category got only 10% and 0%. They must be based on the comparison of easy, moderate and difficult category namely 30%: 50%: 20%.

## PGRI private senior high school (SMAS PGRI)

SMAS PGRI Maumere is using school based standard curriculum. Consequently, the teachers used semester test as a final assessment. This school had only one class of tenth grade. The students consisted of 16 students. Therefore, they had only one semester test items of this uneven semester. This semester test items included only 20 test items.

## Cognitive Levels of Test Item

Table 11. Cognitive Levels of Test Item

Level	Cognitive Levels					
	1	2	3	4	5	6
No of Question	3, 8, 9	2, 4, 6, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20	10	1, 5, 7		

Table 11 above presented cognitive levels which classified relied on an analysis of 20 test items above. In this test items, there were found 14 test items which portrayed reading and speaking test items in which reading skill included only 3 test items and speaking skill included 11 test items. Reading skill involved test items number 7, 8, 9 while speaking skill involved test items number 1, 2, 3, 4, 5, 6, 10, 11, 12, 19, 20.

Lower cognitive levels which found in this test items included remembering, understanding and applying levels. Higher cognitive levels which spread in this test items included only analyzing level. Evaluating and creating levels didn't exist in this test items.

Table 12. Total numbers of cognitive levels

Level	Cognitive Levels						Σ
	1	2	3	4	5	6	
TOTAL	3	13	1	3	0	0	20

Table 12 above portrayed the total number of each cognitive level which distributed in 20 semester test items. The total number of remembering and understanding level (easy level) included 16 test items, applying and analyzing levels (moderate level) included 4 test items while evaluating and creating levels (difficult level) included 0 test item

**Tendency/ Dominant types of questions**

Table 13. Tendency/ Dominant types of questions

Category	Tendency						Σ
	Easy	Moderate		Difficult			
%	15%	65%	5%	15%	0%	0%	100%

Table 14 reflected that the more dominant cognitive levels of English test items of SMAS PGRI Maumere were also on the lower levels. They referred to easy category in which represented by remembering and understanding levels. Both levels consisted of 16 test items of 20 test items or 80%. They were more dominant than moderate and difficult categories. Moderate category which referred to applying and analyzing levels involved only 4 test items of 20 test items or 20% while difficult category which referred to evaluating and creating levels didn't exist in this 20 test items or 0%.

**Portion of Test Items**

Table 15. Portion of Test Items

Category	Portion				Σ
	Easy	Moderate		Difficult	
TOTAL of %	80%	20%		0%	100%

Table 15 above showed that the portion of cognitive level of English test items of SMAS PGRI Maumere was also dominant on the easy category. The EFL teachers tend to construct the easy test items than moderate and difficult test items. Those test items had a comparison of each category of easy, moderate and difficult as much as 80%: 20%: 0 %.

### Summary of findings

This section recapitulates the findings results of the four schools in relation to the three problems of this research namely the categories, tendency, and proportions of cognitive levels of English test items. Those test items were constructed by EFL teachers of the four schools namely SMAN1 Maumere, SMAK Frater Maumere, SMAK St. Gabriel Maumere and SMAS PGRI Maumere in the academic year 2016/2017.

Table 15. Categories of Cognitive Levels

Levels	Categories of Cognitive Levels						Total Test items
	1	2	3	4	5	6	
Categories	Easy		Moderate		Difficult		
SMAN 1	6	11	1	1	0	1	20
SMAK Frater	26	16	1	6	0	1	50
SMAK St. Gabriel	22	23	0	5	0	0	50
SMAS PGRI	3	13	1	3	0	0	20
Total	57	63	3	15	0	2	140
%	40,71%	45%	2,14%	10,71%	0%	1,43%	100%

The following table can be used for both tendency and portion of cognitive levels of English test items constructed by EFL teachers of the four schools.

Table 16. Tendency and Portion of Cognitive Levels

Schools	Tendency & Portion			Total
	Easy	Moderate	Difficult	
SMAN1 Maumere	85%	10%	4,76%	100%
SMAK Frater Maumere	84%	14%	2%	100%
SMAK St Gabriel Maumere	90%	10%	0%	100%
SMAS PGRI Maumere	80%	20%	0%	100%
Average	84,71%	13,5%	1,75%	100%

### Discussion

In this section, the data findings were analyzed and interpreted in accordance with the problems of cognitive levels. These problems of cognitive levels were primary concerned with three aspects as the following; categories, tendency and portion of cognitive levels of the test items constructed by EFL teachers of Maumere city.

The data of findings were analyzed and interpreted through theoretical foundations of cognitive levels proposed by revised Bloom taxonomy (2001) which promoted by

Anderson et al. (2001) and percentage of comparison of difficulty levels proposed by Giani, Zulkardi, & Hiltrimartin (2015).

### **Categories of Cognitive Levels of Test Items**

The categories of cognitive levels of test items refer to the orders of questions of test items which are categorized into easy, moderate and difficult to measure students' levels of learning. Thus, Anderson et al. (2001) declared six levels of cognitive process; remembering, understanding, applying, analyzing, evaluating and creating. These whole six levels were further categorized based on the difficulty levels as stated by Giani, Zulkardi, & Hiltrimartin (2015) that, in practice, levels of difficulty of test items will refer to hierarchy of cognitive Taxonomy Bloom. Easy category is developed through level of remembering and understanding, moderate category is applying and analysis levels while difficult category is evaluating and creating levels..

Table 16 above reflected that, categories of cognitive levels were distributed to the 140 test items in which schools which had 20 test items were SMAN1 and SMAS PGRI meanwhile schools which had 50 test items were SMAK Frater and SMAS PGRI. These four schools' test items were taken from the semester and summative test items.

The total of the categories of cognitive levels proved that, the teachers more concentrated the test items on the remembering and understanding levels (easy category). As a result of this, both categories namely moderate category (applying and analyzing levels) and difficult category (evaluating and creating levels) didn't have enough portions of cognitive levels.

Furthermore, the test items constructed by EFL teachers of the four schools did not cover the whole six levels. Theoretically, those six levels should be included in the test items construction. In fact, teachers of each school tend to neglect each cognitive level. They neglected 1, 2, until 3 levels of cognitive questions. English teachers of SMAN1 and SMAK Frater neglected evaluating level in constructing their test items while English teachers of SMAS PGRI Maumere neglected evaluating and creating levels. In the same way, there were three levels namely applying, evaluating and creating which neglected by EFL teachers of SMAK St. Gabriel Maumere in constructing the semester test items.

From the recapitulation of the four schools, each cognitive level of the test items had the portion of 40, 71% for remembering level, 45% for understanding level, 12,4% for applying level and 10.71% for analyzing, Evaluating and creating level included the smallest proportion as much as 0% and 1, 43%. This phenomenon was reflected by the following chart 4.1

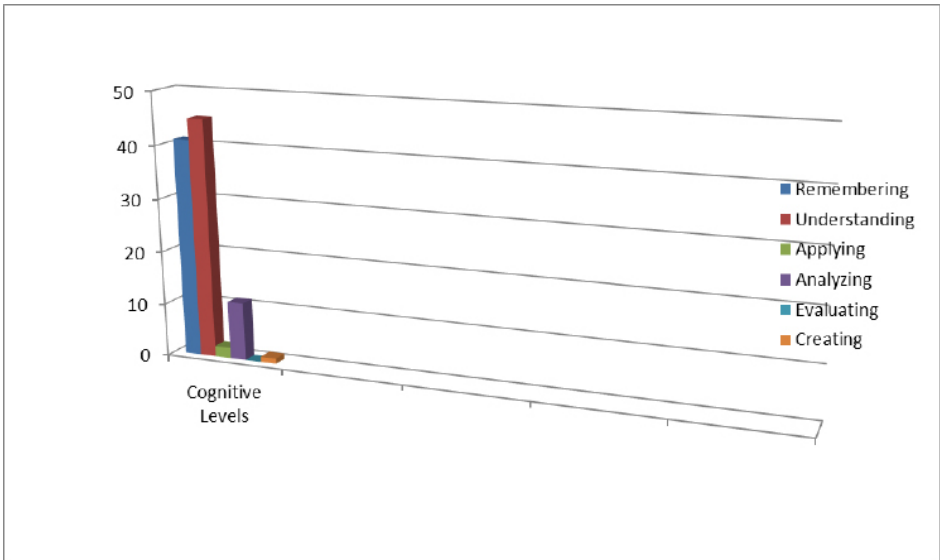


Chart 1. Categories of Cognitive levels

From the chart 1 above, the teacher more constructed the test items on the easy category of remembering and understanding levels. It was clearly displayed previously by the table 4.9 above that the total number of easy items of remembering and understanding were 120 test items of 140 test items. It consisted of 85, 71 %.

The moderate category which included applying and analyzing didn't reach the proportion of 50%. The total number of this category of applying and analyzing levels was 18 test items. It was only 12, 85 %. Moreover, there was a school of the four schools namely SMAK St. Gabriel didn't construct the test items which covered the applying levels.

The total number of difficult category was in the lowest proportion as shown by the chart 4.1 above. Evaluating and creating levels which indicated difficult category consisted of 2 test items of 140 test items. It implies that mostly the teacher didn't construct the test items which covered both levels. It was proved by the table 4.9 above that EFL teachers of the four schools didn't construct 1 test item which covered evaluating level. They just constructed 2 test items which covered creating level.

### **Tendency of Cognitive Levels**

The tendency of cognitive levels referred to the more dominant cognitive levels which distributed in the test items. Sudjana & Mishra (2004) said that comparison of good test items for criteria of easy, moderate and difficult is 3:5:2. On the basis of this theoretical comparison, the more dominant of cognitive levels of the test items was moderate category. Therefore, as an experimental foundation above this theory, the table

4.10 above clearly presented the tendency of cognitive levels of test items constructed by EFL teachers of Maumere city.

From that table, there was a contrastive tendency. Tendency or more dominant of cognitive levels which constructed by EFL teachers were on the easy category. The test items were exactly focused on the remembering and understanding levels as much as 85% for SMAN1 Maumere, 84% for SMAK Frater Maumere, 90% for SMAK St. Gabriel Maumere and 80% for SMAS PGRI Maumere.

To compare to moderate and difficult categories, the moderate category was only 10% for SMAN1, 14% for SMAK Frater, 10% for SMAK St Gabriel and 20% for SMAS PGRI while difficult category was 5% for SMAN1, 2% for SMAK Frater and 0% for SMAK St Gabriel and SMAS PGRI.

In addition, as stated by the table 4.9 above, the total number of cognitive levels more concentrated on the remembering and understanding levels (easy category). From 141 test items, there were 120 test items which indicated both remembering and understanding levels (easy category). The rest 27 test items were distributed to the other categories namely moderate and difficult.

The recapitulation of the four schools stated that the EFL teachers of Maumere city tend to construct English test items on the easy category exactly on the remembering and understanding levels as much as 84,74%. The moderate category was only 13,5%. The difficult category had the smallest proportion as much as 1,75%. This phenomenon was represented by the following chart 4.2

#### Chart 2 Tendency

From the chart 4.2 above, tendency of cognitive levels didn't base on the comparison of difficulty levels which tend to concentrate on the moderate category as much as 50%. The dominant category focused on the easy category more than 30% which did not correspond to the requirement of comparison. The moderate category was lacking in proportion. It was only 13, 5% which means that 36, 5 % of that proportion were distributed to the categories.

Theoretically, the easy category must get only 30%. On the contrary, it got the overloaded proportion of 50, 74%. The overloaded proportion must be distributed to another category in the new test items construction such as moderate and difficult categories, to reach the requirement of comparison. This phenomenon showed that the teachers do still not know the tendency of test items construction.

#### **Portion of Cognitive Levels**

Portion of cognitive levels of English test items refer to the percentage of each cognitive level in terms of difficulty levels. Giani, Zulkardi, & Hiltrimartin (2015) said that percentage of levels of questions for each level of cognitive revised taxonomy Bloom is formulated as follows; 30% for remembering and understanding levels, 50% for applying and analyzing levels and 20% for evaluating and creating levels.

The comparison of portion of easy, moderate and difficult categories of test items of SMAN1 Maumere was 85%: 10 %: 5% while SMAK Frater Maumere was 84%: 14%: 2%, SMAK St. Gabriel Maumere was 90%: 10%: 0% while SMAS PGRI Maumere was 80%: 20%: 0%.

In short, as displayed by the table 4.10 above, the average of portions of the recapitulation of the four schools was 84, 75 % for easy category, 13.5% for moderate category and 1, 75% for difficult category. That proportion of cognitive levels did not correspond to the requirement of comparison which was stated above. It did not have a good comparison for the difficulty levels.

Moreover, the easy category which was theoretically only 30% had an overloaded portion as much as 55, 75 % as displayed by the table 4.10 above. This overloaded proportion almost reached twofold of requirement of percentage of easy category as much as 30%. As depicted by the previous chart 4.2, the portion of easy category had the highest level than both moderate and difficult categories. Theoretically, the highest levels must be concentrated on the moderate category then followed respectively by easy and difficult categories. It implies that the overloaded portion should be distributed to the both moderate and difficult categories in the new test items construction.

Otherwise, the moderate category had a contrastive phenomenon. This category which was theoretically for 50% had the lack of portion. As represented by the table 4.10 above, the moderate category was only 13, 5% and had the lack of portion as much as 36, 5%. This lack of portion was too large. Therefore, as depicted by the chart 4.2 above, the moderate category was not concentrated as the highest level than both easy and difficult categories respectively. In fact, it was included as the second highest level. Thus, the lack of 36,5% of the portion should be fulfilled in the new test items construction by overloaded portion of the easy category, to meet the requirement of comparison of moderate category namely 50%.

Similar to the moderate category, the difficult category had also the same contrastive phenomenon. This difficult category which theoretically must have 20% of the portion, had the lack of 18, 25%. As stated clearly by the table 4.10 above, the difficult category had only 1, 75%. The lack of this portion had tenfold to reach the comparison standard of the difficult category namely 20%. Thus, this lack of portion should be fulfilled by the overloaded portion of easy category.

From the findings of categories of cognitive levels above, first of all, the researcher sump up that English test items which constructed by EFL teachers of Maumere city in the academic year 2016/2017 did not cover the whole six levels. They neglected levels of applying, evaluating and creating. This finding was supported by a study conducted by Giani, Zulkardi, & Hiltrimartin (2015) from State Sriwijaya University under the title "Analysis the Cognitive Level of Questions in Math Text Book Grade VII Based Taxonomy Bloom". This study aimed to describe the cognitive level of problems in mathematics textbooks of grade VII chapter system of linear variable equations based Bloom Taxonomy. A result from this study is the percentage of questions for each

cognitive level is; C1 (3.23%), C2 (30.97%), C3 (61.93%), C4 (3.87%), C5 (0 %), C6 (0%).

Both these studies have the same phenomenon in which two cognitive levels such as evaluating and creating neglected by the test makers. Besides that, both studies have the similar portion of the evaluating level in which there was not test items which indicated this level or 0%.

After that, from the findings of tendency above, the researcher summarized that the tendency or the more dominant of test items constructed by EFL teachers of Maumere city in the academic year 2016/2017 was on the easy category. This study was supported by two previous studies. First study conducted by John C. Ewing, The Pennsylvania State University and M. Susie Whittington, The Ohio State University under the title “Types and Cognitive Levels of Questions Asked by Professors during College of Agriculture Class Sessions” (Ewing & Whittington, 2007) . The purpose of this study was to identify the types and cognitive levels of questions used by selected professors in college of agriculture class sessions. The result of the study showed that creating and evaluating level questions were asked least often. Shortly, professors in this study primarily questioned students at the remembering level of cognition. Professors asked evaluating level questions occasionally. Creating level questions were rarely used.

Second study was conducted by Taylorann Kalin Clark of Iowa State University under the title “Analyzing agricultural education student teachers’ critical thinking skills through blogs in an online community of practice” (Clark, 2015). The purpose of this study was to explore the critical thinking demonstrated within student teacher blog posts as student teachers discussed and reflected in an online community of practice during their students’ teaching experiences. The result of the research showed that, overall, student teacher blog posts were at the lower-order levels of critical thinking.

Three studies above have the same phenomena in which the cognitive levels of question were more concentrated on the lower level (remembering, understanding, applying levels) or easy category (remembering, understanding levels). These three studies do not meet the requirement of tendency of cognitive levels in which the more dominant of cognitive levels of question should be more concentrated on the moderate category or higher level.

Finally, in summary, the portion of English test items constructed by the EFL teachers of Maumere city in the academic year 2016/2017 do not meet the requirement of portion of comparison of difficulty levels. This study was supported by a study was conducted by Giani, Zulkardi, & Hiltrimartin (2015) from State Sriwijaya University under the title “Analysis the Cognitive Level of Questions in Math Text Book Grade VII Based Taxonomy Bloom.” This study aimed to describe the cognitive level of problems in mathematics textbooks of grade VII chapter system of linear variable equations based Bloom Taxonomy. A result from this study is the percentage of questions for each cognitive level is; C1 (3.23%), C2 (30.97%), C3 (61.93%), C4 (3.87%), C5 (0 %), C6 (0%). This result do not meet the proportion of questions that supports achievement of

basic competencies, namely 30% for C1 and C2, 50% C3 and C4, and 30% for C5 and C6. Both of these studies have the same phenomena in which the portion of cognitive levels constructed by test makers do not meet the requirement of portion in terms of difficulty levels namely 30% : 50% : 20% for easy, moderate and difficult category respectively.

## **CONCLUSIONS**

On the basis of the findings, it can be concluded that more than half of the test items constructed by EFL teachers of senior high school in Maumere city in the academic year 2016/2017 do not meet the requirement of categories, tendency and portion of cognitive levels of test items so they must be revised. In terms of categories of cognitive levels, only a quarter of test items meet the requirement of six cognitive levels of questions or three categories of difficult levels. Then, in terms of tendency, more than half of test items tend to concentrate to the easy category. In terms of portion, more than half of test items also do not meet the requirement of portion of English test items on the basis of portion of questions for each level.

## **RECOMMENDATIONS**

Referring to the result of this research, thus, the researcher suggested the EFL teachers of senior high school of Maumere city in the academic year 2016/2017 to pay more attention in constructing English test items specifically for categories, tendency and proportion of cognitive levels of test items. In terms of categories of cognitive levels, they must use six cognitive levels namely remembering and understanding (easy category), applying and analyzing (moderate category) and evaluating and creating (difficult category). In terms of tendency, they must tend to construct the test items on the moderate category namely applying and analyzing levels as much as fifty percents. Then in terms of portion, they must base on the percentage of questions levels in terms of comparison of portion of easy moderate and difficult categories as much as 30%: 50%: 20%. In addition, on the basis of the answers of these research problems, thus the researcher suggested the school administrator and the regional education institution to solve the problems of constructing test items encountered by EFL teachers of senior high schools in Maumere city by giving workshops dealing with cognitive levels of test items construction.

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