

CHAPTER II

REVIEW OF RELATED LITERATURE

2.1 Competency

Sometimes, people are confused about the differences between a competency and a learning objective. In short, learning objective can be defined as what the teachers want from the learners to know and competency can be defined as how the teachers can be certain they know it.

A competency is more than just knowledge and skills, it involves the ability to meet complex demand, by drawing on and mobilizing psychosocial resources (including skills and attitudes) in a particular context (Rychen & Salgani, 2001). Alternatively, European Parliament and of the Council (2006) defined competencies in a simple word as a combination of knowledge, skills and attitudes appropriate to the context. It is as standards that establish the level of knowledge, skills, and abilities required a basic skill for success in the workplace as well as potential measurement criteria for assessing competency attainment.

We can define competency is more extensive than the word skills and consults to a combination of cognitive, affective, psychomotor domain. Although cognitive domain features broadly in summative testing, on the contrary affective and psychomotor domain have an enormous contribution to more beneficial learning outcomes (Kuboja & Ngusa, 2015).

Here, each domain will be explained based on Kasilingam et al. (2014):

2.1.1 Cognitive Domain

A cognitive domain can be defined on how the students obtain process and use their knowledge. It belongs to the thinking domain, focuses on intellectual skills, and is familiar to educators. Also, it is the centre of the learning domain. The other domains (affective and psychomotor) involve at least some of the cognitive components.

2.1.2 Affective Domain

Affective domain focuses on attitude, motivation, willingness to participate, assess what is being learned, and merges them into real life.

2.1.3 Psychomotor Domain

Psychomotor domain emphasizes physical skills, such as accuracy, smoothness, speed, or force. The stages of the psychomotor domain have been described; those are action, coordination, formation, and production

2.2 Cognitive Domain and Taxonomies

Taxonomy is simply a word for a classification. All of the taxonomies are composed of the simplest levels to more complex. There has been a development of taxonomies and their domain. Nevertheless, the most important aspect is cognitive (Aswad, 2016). It will give more contribution in managing the affective and psychomotor aspect. The cognitive aspect does not only drive the main activity, but also control the feeling and the action. Without the cognitive aspect, the students will be difficult to think and understand the material. Moreover, they also cannot catch the moral value of the material or read the text.

Meanwhile, the cognitive skills predict academic performance (Finn et al., 2014). Means, if the schools have improved the academic performance they might

also improve the cognitive skills. Next, we can see the students' academic performance through achievement test both formative and summative test. As a teacher, we need to follow the students' cognitive development until the end of the course. To check it, the summative test will be held.

There are some different perspectives in cognitive taxonomies, those are:

2.2.1 Bloom Cognitive Taxonomy

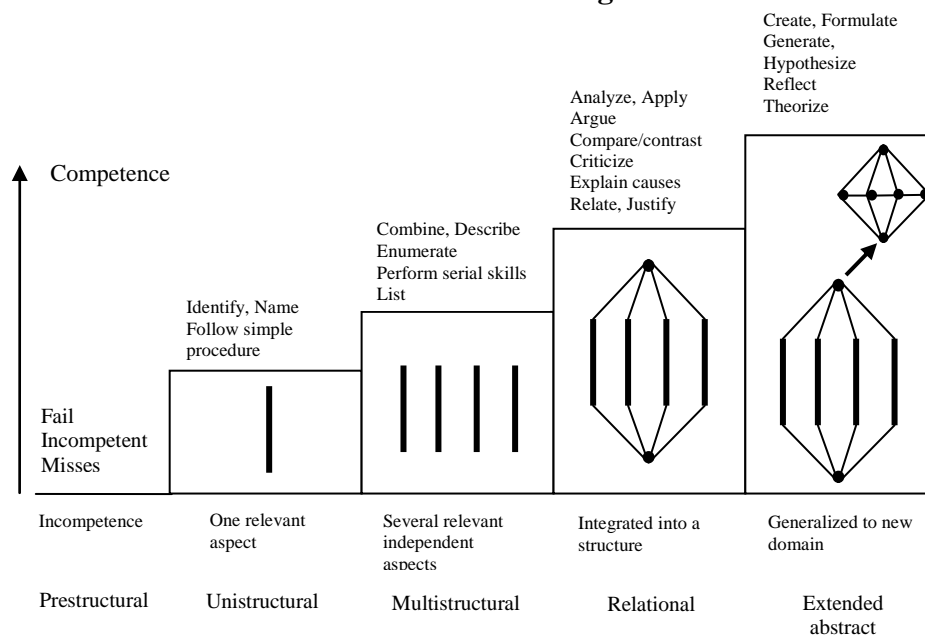
The original levels by Bloom et al. (1956) were ordered as follows:

Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. It consists of one dimension.

2.2.2 SOLO Taxonomy

The SOLO taxonomy stands for Structure of Observed Learning Outcomes. It describes the level of increasing complexity in students' understanding of a subject (Atherton, 2013). It consists of five levels in which it ranges from incompetence to expertise. It uses to assist in writing, learning, assessment criteria, and categorize answers.

Picture 2.1 The SOLO Taxonomy with Sample Verbs Indicating Levels of Understanding



2.2.3 Revised Bloom Cognitive Taxonomy

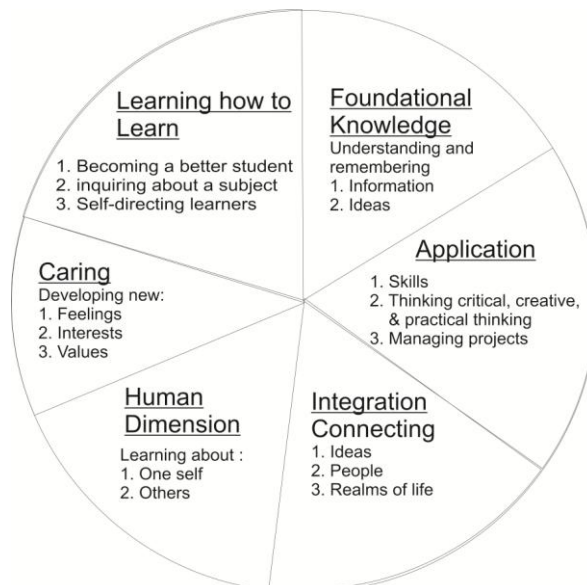
Anderson et al., (2001) had revised the Bloom Taxonomy. The Revised of Bloom Cognitive Taxonomy consists of two dimensions, namely: the cognitive process dimension (remember, understand, apply, analyze, evaluate, create) with sub-categories and the knowledge dimension (factual, conceptual, procedural and metacognitive).

2.2.4 Finks Taxonomy

Fink (2003) has proposed taxonomy of significant learning. It covers broader domains are the cognitive aspect and affective aspect. It consists of six major types of significant learning, with sub-categories. It identifies significant kinds of learning that may be applied in as learning goals for courses.

We can see the taxonomy below:

Picture 2.2 The Illustration of Finks Taxonomy



2.3 Cognitive Revised Bloom's Taxonomy

Anderson et al. (2001) revised the Bloom's Taxonomy. We can see the difference between the original and the revision on three categories below:

2.3.1 Change in Structures

The original Taxonomy Bloom is a one-dimensional form while the Revised Taxonomy Bloom is the two-dimensional form with the addition of the products of thinking. The new dimensions are the knowledge and the cognitive process.

We can see the dimensions of Revised Bloom Taxonomy below:

Table 2.1 The Revision of Cognitive Bloom Taxonomy

The knowledge dimension	The cognitive process dimension					
	Remember	Understand	Apply	Analyze	Evaluate	Create
Factual knowledge	List	Summarize	Classify	Order	Rank	Combine
Conceptual knowledge	Describe	Interpret	Experiment	Explain	Assess	Plan
Procedural knowledge	Tabulate	Predict	Calculate	Differentiate	Conclude	Compose
Metacognitive knowledge	Appropriate Use	Execute	Construct	Achieve	Action	Actualize

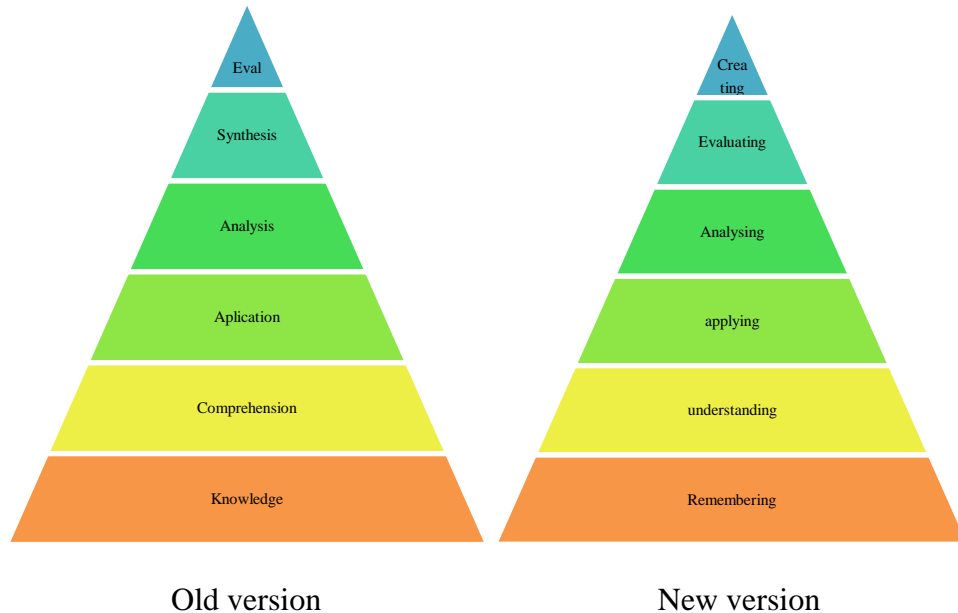
The left side is the knowledge dimension; it is composed of four levels; factual, conceptual, procedural and meta-cognitive. The cognitive process dimension across the top of the grid, it consists of six levels; remember, understand, apply, analyze, evaluate, and create in which each level also has sub-categories.

2.3.2 Change in Terminology

The six categories of Original Bloom's Taxonomy were changed from noun to verb.

We can see the difference below:

Picture 2.3 The Differences between Old Version and New Version of Bloom Taxonomy



The new terms are defined as:

1. Remembering: retrieving, recognizing, and recalling relevant knowledge from long-term memory. So, the meaning of remembering level is when the learner is able to recall, restate and remember learned information.
2. Understanding: constructing meaning from oral, written, and graphic messages through interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining. So, the meaning of understanding level is when the learner sizes the meaning of information by interpreting and translating what has been learned.
3. Applying: carrying out or using a procedure through executing, or implementing. So, the meaning of applying level is when the learner makes use of information in a new situation from the one in which it was learned.

4. Analyzing: breaking the material into constituent parts, determining how the parts relate to one another and to an overall structure or purpose through differentiating, organizing, and attributing. So, the meaning of analyzing level is when the learner breaks learned information into its parts to best understand that information in an attempt to identify evidence for a conclusion.
5. Evaluating: making judgements based on criteria and standards through checking and critiquing. So, the meaning of evaluating level is when the learner makes decisions based on in-depth reflection, criticism and assessment.
6. Creating: putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure through generating, planning, or producing. So, the meaning of creating level is when the learner creates new ideas and information using what has been previously learned.

2.3.3 Change in Emphasizes

The Revised Bloom's Taxonomy focuses on the usage. It is the most authentic tool for curriculum planning, instructional delivery, and assessment for a broader audience. The Original Taxonomy is applied in the early years of schooling, whereas the Revised is universal and easily applicable in elementary, secondary, tertiary levels. Likewise, it is also classified the thinking process Higher and lower thinking process is the classification in which can be seen in the type of question.

2.4 Evaluation

Evaluation is the procedure used to determine whether the subject meets preset criteria (Kizlik, 2012). Inherent in the idea of evaluation is the score. It consists five basic components (Jabbarifar, 2009), they are:

- a. Conveying the educational system purposes
- b. Identifying and gathering relevant information
- c. Having ideas are valuable and useful to the students in their lives and professions
- d. Analyzing and inferring information for the students
- e. Classroom management or classroom decision-making

According to Nur (2010) evaluation has two purposes:

a. General Purpose

Evaluation is designed to measure the students' achievement, support, repair, and recompiled a planned arrangement.

b. Specific Purpose

There are some views regarding the function of evaluation:

1. Psychology View

It gives some advantages to both of teachers and students. The students will know their capacity, whereas the teachers will know the result of the students' endeavour.

2. Educational View

Evaluation has a purpose to support the students' achievements. In summation, it is also used for diagnostic, appointment, selective, guidance and instructional function.

3. Administrative View

It aimed to present information, the data result, and illustration.

2.5 Test

A test is a device to reinforce learning and motivate the student or as a tool for assessing the students' performance in the language (Heaton, 1975). A good test of language should have more positive effect on learning and teaching and it should generally result in improved learning habits.

He also proposed some advantages of conducting tests for the teacher:

- a. To enhance the teachers' effectiveness by making an adjustment in their teaching to facilitate their students for getting more benefit.
- b. To identify the students' difficulty in some areas and determine the best solution to overwhelm it.
- c. To find out which parts of the language program (syllabus, methods, materials) have been found difficult by the students.
- d. To provide an opportunity for the students to show their ability to perform a certain task: in the language.
- e. To show that details of the students' performance after doing the test.

2.5.1 Type of Test

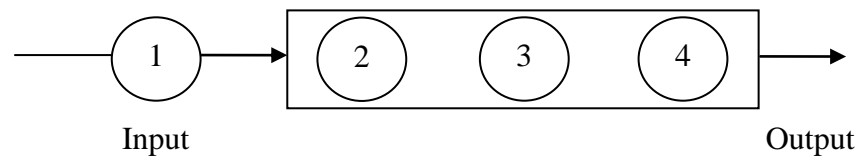
When people hear the word assessment and evaluation, they will think about test because it is one of an instrument for collecting the data. According to Arikunto (2015:47) there are three kinds of test in measuring students' ability:

2.5.1.1 Diagnostic Test

The diagnostic test is a test to know the strengths and the weaknesses of students, so the teacher can give the effective treatment. It is held four times at school.

We can see the time in doing a diagnostic test in the following picture:

Picture 2.4 The Time in Conducting Diagnostic Test



The first diagnostic test is also called entering behaviour test and prerequisite test. It is done toward the students' candidate as an input to know whether they have mastered the basic knowledge for studying new knowledge in school.

After the students are received in certain schools, the teacher will separate them into some classes based on some consideration. So, the second diagnostic test will hold. This test is additionally called placement test.

The third diagnostic test is done in the process of learning. It aims to identify what materials that the students do not understand and detect the reasons. From the result of the test, the teacher can give a treatment to them.

The fourth diagnostic test is held at the end of a lesson. It will help the teacher know the students' level in mastering the materials.

2.5.1.2 Formative Test

This test can be called as the fourth of diagnostic test and post-test, it is caused by this test is held at the end of a lesson. It aims to identify to what extent the students comprehend the materials that have been explained by the teacher at

the end of the lesson. The formative test gives many advantages for the students, the teachers, and the course itself for developing the student's motivation, repairing the process of teaching and learning. We can see the explanation below:

2.5.1.3 Summative Test

The summative test is given at the end of a unit of study, semester, or course (Forsythe, 2015). It should focus on the cognitive demands so the assessments are more effectively aligned with curricula that promote higher-order thinking, including problem solving and reasoning (Chudowsky & Pellegrino, 2003). For elementary school, junior high school, and senior high school will hold summative test at the end of the semester. It is usually called as UKK in our educational system.

The test items on the English summative test are designed to evaluate the learner's overall performance. Scanlan (2012) said that the summative test is aimed at helping the teacher in making decision for grading or determining readiness for progression

In addition, summative test will give some advantages (Leong, 2014):

1. Give motivational feedback to advise students for attaining higher scores in tests/examinations,
2. Provide feedback according to what the whole class needs to know concerning how to respond to test questions,
3. Emphasize the importance of grades and scores.

The summative test tends to be broad in scope and measure students' performance against a set of course learning objectives. When students see their performance on a summative assessment, they know to what degree they have met

the learning objectives for the unit or the course. If they scored below average, they see where their knowledge gaps are and can take corrective action to solidify their knowledge. This can only occur if students are given specific feedback on their performance on summative tests measured against clearly defined learning objectives.

Additionally, summative test allows teachers to observe the general student performance and provide an indication as to whether or not a class has met all of the learning objectives adequately (Qu & Zhang, 2013). If an entire class of students fails to meet a specific learning objective, the teacher can revisit the way in which the objective was taught to ensure that future students are more effectively presented materials to meet the given learning objective.

2.5.2 Type of Test Item

Reznich & Yelon (2012) classified the type of test item into two general types:

2.5.2.1 Subjective Test

A subjective test is a test wherein its scoring requires a judgement and an evaluation of the scorer. The students are given freedom to answer the questions in their own words. The subjective tests are commonly used in the classroom, as follows:

1. Completion

A completion item is a form of short answer questions in which the examinees have to respond incomplete statement by supplying a keyword or phrase. This contains of two parts, the cue and the blank.

2. Essay

The essay item is the most complex of supply type item. It calls for an extended response from the examinees. The examinees are free to express, select, relate, and present ideas in their own words to answer.

3. Short Answer

The short answer is easy to construct and it consists of short question. It requires the examinees to provide the correct answer with a short phrase or a word.

4. Production

A production question requires the examiners to produce a specific written product such as a plan, analysis or paragraph, according to criteria included or referred to in the question.

5. Procedure: Criterion Check-lists

Procedures, also referred to as psychomotor skills are the best-tested using criterion check-lists. A criterion checklist states, both:

- a. The steps in a procedure that must be included in an acceptable performance
- b. The quality or degree of excellence with which the steps must be performed

2.5.2.2 Objective Test

An objective test item has a single predictable answer. The objective test items are commonly used in classroom testing: true-false, matching, and multiple choices.

1. True-false

The question is essentially a statement, it is called a proposition. The students will judge whether the statement is true or false.

2. Multiple Choice

Multiple-choice question is one of the most useful test items. It consists of a stem. Each of it contains a problem, a list of suggested responds. The incorrect responses are called distracters.

3. Matching

A matching item question requires the test taker to match an item in one column with an item from a second column. Commonly, a blank space next to the items is called the “questions” and the choices to fill the blank space are called the “answers”.

On the other hand, Arikunto (2015:177) has the same opinion in dividing the type of test items but different sub-categories. There are two generals of test items, those are subjective test and objective test. The objective test consists of an essay, while objective test consists of true-false, multiple-choice, matching, and completion test.

2.6 The Procedures of Designing Item Test

As a teacher, we should know the principal and on how to generate test because it is not easy to do. The principal and the procedures of constructing test will be presented below; it is adapted from Suharmanto (2012) and Tenjo (2012).

The principal of constructing test:

1. Valid (measurable): the questions should represent the competence.
2. Reliable: the questions should be consistent.
3. Fair
 - ✚ Honest: the level of difficulty should suitably with the students' ability, has clear answer and a rubric.

- ✚ Balance: questions simulate the use of the test content as specified in the objective that is taught to the students, the time allocation should be considered well, the test item should be arranged from the lower-level to higher-level of cognition.
 - ✚ Organized well: has a clear instruction, and a good layout, all questions are easy to be read.
4. Transparent: the materials, the instruction, and the rubric should be clear.
 5. Authentic

The procedures of designing test are:

1. Determining the goal of the test
2. Seeing the Standard Competence/Basic Competence and Indicator
3. Determining the amount of the item
4. Deciding the total of indicators that will be used in constructing the test item
5. Paying attention of passing standard
6. Determining the material
7. Constructing the draft. It contains school name, basic competence or standard competence, subject, indicator of question, the type of test item, question number
8. Constructing the test item
9. Checking the principal of constructing test
10. Validating the test
11. Rearranging the test
12. Creating the rubric

2.7 Previous Study

The previous studies will be presented, those focus on Bloom's Taxonomy and English item tests.

First, Freaht & Smadi (2014) analyzed the thinking levels on 5Ws and H questions of reading comprehension test at secondary and University level in Jordan. Two secondary textbooks and one university textbook were analyzed based on Bloom's Taxonomy in the form of percentages and frequencies particularly on cognitive aspects. The findings were; the most dominant questions included in low-level questions, the higher level of thinking questions did not exist on university textbook. In contrast, it existed in reading material of secondary textbooks.

Second, Riazi & Mosalanejad (2010) investigated the types of learning objectives represented in three Iranian Senior High School textbooks and one pre-university English textbook using Bloom's taxonomy of learning objectives. The exercises and tasks of the textbooks were classified in the form of percentages. The results showed the dominant aspect is lower-order cognitive skills. In contrast, the university English textbook consisted of some degrees of higher-order learning objectives.

Third, Razmjoo & Madani (2013) examined the reflection of the revised Bloom's Taxonomy levels on University Entrance Exam (UEE) items. The finding was the highest level of thinking is "creating" existed in the test.

Fourth, Setiawati (2015) analyzed the cognitive and psychomotor domain in the students' book entitles "When English Rings a Bell" for grade VIII Junior High School. The research design was descriptive qualitative content analysis,

each the action verb on material analyzed based on Anderson and Simpson theory. There were two findings. The first was in terms of materials' relevancy in the textbook with the cognitive domain, there were 29 materials (78.37 %) were relevant, 4 materials (10.81 %) were partly relevant, and 4 materials (10.81 %) were irrelevant. The second is in terms of materials' relevancy in the textbook with the psychomotor domain, there were 15 materials (38.46 %) were relevant, 14 materials (35.59 %) were partly relevant, and 10 materials (25.64 %) were irrelevant.

Fifth, Lan & Chern (2010) examined a study to investigate the cognitive process levels and knowledge types measured on the English reading comprehension tests of college entrance examinations administered from 2002 to 2006 in Taiwan. They analyzed the Schoolastic Achievement English Test (SAET) and Department Required English Test (DRET). There were 140 comprehension items (i.e., 77 items in the SAETs and 63 items in the DRETs). The result of this research showed that both tests (SAET and DRET) consisted of four levels (remember, understand, apply, and analyze) along with eight sub-levels, and three types of knowledge (factual, conceptual, and procedural) along with three sub-types were identified, with a total of five major question types and nine sub-types of questions. The majority levels in both tests are remember factual knowledge and understand factual knowledge.

These studies have similarities and differences. The differences can be seen through the focuses of the previous studies, are 5Ws and H questions of reading comprehension questions at the secondary and university textbook, types of learning objectives represented in senior high school textbooks and university

textbook, University Entrance Exam (UEE) items, and the relevancy of textbook with cognitive and psychomotor at VIII Junior High School. On the other hand, the similarities are the research design is content analysis, and all the previous studies are analyzed based on Cognitive Taxonomy except the last studies.

Next, there are some previous studies about the procedures of English test are designed. Sims (2015) conducted a study entitled, “a valid and reliable English proficiency exam: a model from a University Language Program in Taiwan”. He presented the steps a university in Taiwan in creating an English proficiency exam in the Test of English as a Foreign Language (TOEFL). The result showed that there were five steps:

- (1) Determining the purpose of the test,
- (2) Designing test specifications,
- (3) Constructing test items,
- (4) Evaluating and revising test items,
- (5) Specifying scoring procedures.

Then, Rahmi (2012) examined a study entitled, “an investigation of EFL teachers’ testing practice: a case study of two teachers from Senior High school and Vocational school”. The result showed that there nine steps of designing an English test:

1. Choose the reason a conduct of a test or assessment,
2. Determine the material for test by looking syllabus, lesson plan or see the material from the textbook,
3. Testing four skills in separated test or integrated way,
4. Determine the types of testing for the four skills,

5. Communicative competence in teachers' test,
6. Test administration in a semester,
7. Give a feedback after the test,
8. Give washback effect and its influence to students,
9. Principles of language testing and assessment and the application in test construction.

In this study, the researcher chooses Junior High School because there is no researcher, which focuses on English summative test in the previous study. Therefore, the discussion will be different from the previous study.

2.8 Summary

Competency is a combination from three domains of learning: cognitive, affective, psychomotor domain. The important domain is cognitive because it gives more contribution in managing the affective and psychomotor aspect. It does not only drive the activity of the main but also controls the feeling (affective) and the action (psychomotor). Without the cognitive aspect, the students will be difficult in thinking and understand the material on the subject. Besides, they also cannot catch the moral value of the material or read the text.

Cognitive Bloom's Taxonomy has been accepted since the 1950s as a valuable tool for classifying skills in education. It provides a useful structure to decide and categorize test questions. Thus, the categorization helps the students use the appropriate strategies in answering each test item.

The Bloom's taxonomy is as a reference for teaching and learning process, especially as a guide for producing exam questions. The teacher and test designer adapt the cognitive levels in writing the test. They should not write only tests to

assess low levels of knowledge, comprehension, and application, but also to measure high levels and to use them in the lesson plans and tests.

A test is a tool for assessing the students' cognitive aspect of the language. There are some types of test: diagnostic test, achievement test (formative test, mid test, and summative test), proficiency test, and placement test. These consist of two general types of test item, namely subjective and objective test.

Hence, the English summative test is designed to measure the students' cognitive abilities at the end including the students' ability in English. Therefore, the type of test that is suitable is a summative test.

Many studies were conducted to check whether the item test covers all Cognitive Bloom Taxonomy or not, and the level of thinking skills on questions. Mostly the result is the test items cannot cover all the levels of cognitive skills, and they belong to the lower level of thinking.

By analyzing whether the item test on English summative test includes all the six levels of cognitive aspect of revised Taxonomy Bloom and the classification of questions based the level of thinking hopefully the students can find the appropriate strategies in answering the type of questions.

This study aims to describe the classification of test item based on the levels of Revised of Cognitive Bloom's Taxonomy on English summative test at grade eight of MTsN Gresik and how it is constructed based on Revised Bloom's Taxonomy.