

## **CHAPTER 2**

### **LITERATURE REVIEW**

This chapter presents a discussion on theories and previous studies related with this study. They are the assessment in higher education, the types of assessments, method of assessment, theory of cognitive process, knowledge dimension, previous study and lastly, the theoretical framework.

#### **2.1 Assessment in Higher Education**

Assessment in higher education is used as tool to improve the quality of good education. Therefore, assessment is one of the important parts of teaching learning process. This statement is supported by Airasian & Russel in 2012 who said that assessment is still important in the classroom teaching. According to Boud & Falchikov (2007) assessment is *“a value-laden activity surrounded by debates about academic standards, preparing students for employment, measuring quality and providing incentives”*. Assessment is a process of collecting, synthesizing, and interpreting information to aid in decision making (Airasian, 2012).

In addition, Brown (2004) defines assessment in learning an ongoing process to observe students' proficiency by seeing students' activities in the class using target language. This statement also supported by Allen (2004) who said that assessment is ongoing process which is designed to monitor and improved students learning. While Wiggins (2005) pointed out that assessment is used in order to diagnose students' needs

to guide teachers in teaching, and also to enable teachers, students, and others (parents and administrator) determine whether they have achieved their goals.

To sum it up, assessment in higher education is the act of measuring and collecting information about teaching and learning progress from the beginning until the end, deciding the method, analyzing and reporting the result of the assessment in order to reflect students' progress which can help both of the teachers and students to monitor their progress and also to improve the quality of education itself.

## **2.2 Types of Assessment**

There are many kinds of assessment that are used in the teaching learning process. Types of assessment are divided into three categories. Types of assessment based on method (formal and informal), types of assessment based on time (formative and summative), and types of assessment based on purpose (AfL, AoL, AaL).

### **2.2.1 Formal Assessment and Informal Assessment**

Formal assessment is exercise or procedure specifically designed to tap into a storehouse of skills and knowledge (Brown, 2004, p. 5). In formal way, teachers assess students through assignments, quizzes, tests, performance, project, and surveys (Chappius, 2009, p. 5)

Informal assessment is a classroom task designed to elicit performance without recording result and making fixed judgments about a students' competence (Brown, 2004, p. 5). In informal way, teachers assess students

through questioning and dialogue, observing, and anecdotal note taking (Chappius, 2009, p. 5).

### **2.2.2 Formative and Summative Assessment**

Formative assessment refers to assessment that is specifically intended to provide feedback on performance to improve and accelerate learning (Sadler 1998:77 cited in (Chappius, 2009, p. 4)). This view is also supported by Boud (2000) which stated that formative assessment guide students how to learn and what the students to learn and it also gives the information to the students how well they are doing in the progress to achieve learning goals. Cruickshank (2006) defines formative refers to assessments which conducted during the course of instruction, and it is possible to provide feedback to influence the instructional and learning process. Meanwhile, formative assessment is used when the teacher give a student a comment or a suggestion, or a call attention to an error, that feedback is offered in order to improve the learner's ability (Brown, 2004, p. 6). In other words, formative assessment is an assessment given to students in the learning process in multiple times, and it is provides information to teachers about the students' needs and their knowledge about the materials.

Summative assessment aims to measure, or summarize, what a student has grasped, and typically occurs at the end of a course or unit of instruction (Brown, 2004, p. 6). This statement is supported by Cruickshank (2006)

summative assessment is the term used to describe assessment conducted after the instruction is completed. While Chappius (2009) defines summative assessment is assessment that provides evidence of students' achievement for the purpose of making judgments about students' competence or program effectiveness. In other words, the purpose of this assessment is to make adjustment about the students' proficiency and relate it with the curriculum outcomes. The result of this assessment will be informed to the parents of the students. Therefore, this assessment will occur at the end of a unit or chapter and it is used to measure the students' understanding.

### **2.2.3 Assessment for Learning, Assessment of Learning, and Assessment as Learning**

Assessment for learning includes all those activities undertaken by teachers, and by students in assessing themselves, which provides information to be used as feedback to modify the teaching and learning activities which they are engaged (Earl K. &, 2011). This view is aligned with that stated assessment for learning is designed to give teachers information to modify and differentiate teaching and learning activities (Earl L. M., 2006). When assessing students for learning, teachers use the classroom assessment process and get the information about students' achievement that it provides in order to advance, not only check on, students learning (Stiggins, 2002). The effect of assessment for learning as

it plays out in the classroom, is that students keep learning and remain confident that they can continue to learn at productive levels if they keep trying to learn.

Assessment of learning gives evidence of achievement for public reporting (Stiggins, 2002). Assessment of learning is used to confirm what students know and can do, to demonstrate whether they have achieved the curriculum outcomes, and occasionally to show how they are placed in relation to others (Earl L. M., 2006). Assessment of learning is an assessment that happens after learning is supposed to have occurred to determine if it did (Stiggins R. J., 2004, p. 31).

Assessment as learning concepts including students should be active participants in their own learning, anticipate receiving and utilizing constructive feedback and be able to identify their own learning gaps and solve their learning needs, with teacher assistance (Earl K. &, 2011, p. 13). In other words, students are able to reflect themselves about what they can do and what they cannot do. So, they have to think what strategies that they will use to support their learning process in order to use for the next steps of learning.

### **2.3 Method of Assessment**

There are many methods of assessment that can be found in language teaching and learning program. According to Stiggins (2004) there are four methods of assessments; selected response and short answer, extended written response, performance assessment, and personal communication.

### **1. Selected Response and Short Answer**

Selected response and short answer consist in which students should select and respond to the correct answer from the list provided. The example of selected response and short answer are multiple-choice, true/false question, matching, short answer, and fill in question. This kinds of assessment is also called as traditional assessment which only need short answer based on what they have learned.

### **2. Extended Written Response**

Extended written response requires students to write more than one sentences, not just select the appropriate sentence in a list. Compare pieces literature, solution to environmental problem, analyze artwork, solution to problems, scientific information, solves a mathematic problems and show and explain all work are the examples of extended written response. Teachers can use two types of scoring criteria. First, give points for specific information that are present. Second, teachers can use the form of rubric for scoring.

### **3. Performance Assessment**

Performance assessment is an assessment based on observation and judgment. The assessor look at the students' performance then make a judgment to its quality (Stiggins, 2004: 92). Teachers should pay attention to the students while the students' performing their task, because teachers should assess their whole performance. Stiggins (2004) argue that performance is not a good

choice for assessing knowledge target. This view is also supported by Brown (2004) who said that performance assessment needs a lot of time to do and therefore expensive.

#### **4. Personal Communication**

In personal communication, teachers assess students through interacting with them. Teachers can use any personal communication from students that communicates valuable information about students' achievement. Students can respond orally to questions about a range of topics that might include their prior knowledge, activities, and interests. This types of assessment, teachers can ask probe questions to determine student comprehension or command over specific aspects of the language. Stiggins (2004) added that this assessment is including in informal assessment rather than formal assessment.

#### **2.4 Theory of Cognitive Process**

Cognitive process dimension represents a continuum of increasing cognitive process from the lower order thinking skills to the higher order thinking skills. Cognitive psychologist have been designing models for decades in an effort to describe the dimension of thinking and the level of complexity of human thought. One of the more enduring and useful models for enhancing thinking was developed by Benjamin Bloom in 1950s. Bloom's taxonomy identifies six levels of complexity of human thought, with the three lower levels (knowledge, comprehension, and application) being more basic than the higher levels (analysis, synthesis, and evaluation). Those levels are arranged as a stairway in which learners are encouraged to achieve a higher

level of thinking. If a student has mastered a higher level, than he or she is considered to have mastered the levels below.

Anderson and Krathwohl (2001) then revised Bloom's taxonomy to fit the more outcome-focused education objectives, including switching the names of the levels from nouns to active verbs, and reversing the order of the highest two levels. The lowest-order level *Knowledge* became *Remembering*, in which the students are asked to recall or remember information. *Comprehension*, became *Understanding*, in which student would explain or describe concepts. *Application* become *Applying*, or using the information in some new way, such as choosing, writing, or interpreting. *Analysis* was revised became *Analyzing*, requiring the students to differentiate between different components or relationships, demonstrating the ability to compare and contrast. The two highest, most complex level of *Synthesis* and *Evaluation* were revised and were renamed Evaluating and Creating (Anderson & Krathwohl, 2001).

Table 2.1 Revised Bloom's Taxonomy by Anderson & Krathwohl, 2001

Level of Thinking	Cognitive Process	Key Verbs
Remember	Retrieve or recall relevant knowledge from long-term memory.	Choose; define; describe; recognize.



Understand	Construct meaning from instructional messages, including oral, written, and graphic communication.	Classify; categorized; compare; explain.
Apply	Make use of information in a context different from the one in which it was learned.	Use; implement; carry out.
Analyze	To analyze is to break material into its constituent parts and determine how the parts relate to one another and to an overall structure or purpose.	Analyze; determine; attribute; distinguish.
Evaluate	Make judgments based on criteria and standards. The criteria most often used are quality, effectiveness, efficiency, and consistency.	Evaluate; criticize; judge.
Create	Create new ideas and information using what was been previously learned.	Built; compose; construct; develop.

### 2.5 Previous Study

A number of studies have been conducted in exploring students' level of thinking in learning. A research conducted by Fitzpatrick (2015) analyzed the

alignment of learning outcomes and assessment in Therapeutics course to foster higher order thinking. This study was aimed at determining whether national educational outcomes, course objectives, and classroom assessments for 2 therapeutics courses were aligned for curricular content and cognitive process, and if they included higher-order thinking. This study used document analysis and students focus group, and it also used Anderson and Krathwohl's taxonomy to define higher-order thinking. The result showed that only 33.8% of the assessment tasks in pharmacy school required higher-order thinking and 66.3% of the assessment required lower-order thinking.

Moreover, a content analysis study conducted by (Igbaria, 2013) analyzed the study units in the textbook Horizons for 9<sup>th</sup> grade students studying English in heterogeneous classes. This study was aimed at examining the variety in the cognitive level represented by the WH-questions in the textbook according to Bloom's taxonomy, the extent to which the WH-questions in the textbook emphasize high-level thinking, and whether the textbook aided students in developing cognitive skills. The result showed that 244 questions emphasized lower level thinking skills, while only 137 questions emphasized high order thinking skills. The questions in the Horizons textbook place a great deal of emphasis upon comprehension, which is one of the lower order thinking.

## 2.6 Theoretical Framework

Assessment is one of the important things in teaching learning process. Assessment is used in order to diagnose students' needs to guide teachers in teaching, and also to enable teachers, students, and others (parents and administrator) determine whether they have achieve their goals. Assessment can be formal or informal based on method, formative or summative based on time, and also assessment for learning/assessment of learning/assessment as learning based on purpose. Assessment related to the cognitive process of the students. Teachers should conduct a good assessment which required students to use higher-order thinking in order to improve the quality of their graduates. In the same way Derek Rowntree stated that 'if we wish to discover the truth about an educational system, we must first look to its assessment procedures' (Rowntree, 1987, p.1 cited in Gibbs, 2004). To measure the cognitive process, there is the revised Bloom's Taxonomy by Anderson and Krathwohl in 2001. They stated that there are six level of thinking and divided the level into two categories; lower-order thinking (remember, understand, apply) and higher-order thinking (analyze, evaluate, and create).

Table 2.2 Theoretical Framework of the Study

Types of Assessment	Cognitive Process Dimension
<ul style="list-style-type: none"> <li>• Formal vs. Informal</li> <li>• Summative vs. Formative</li> <li>• Assessment for learning, assessment of learning, and assessment as learning</li> </ul>	<ul style="list-style-type: none"> <li>• Remember</li> <li>• Understand</li> <li>• Apply</li> <li>• Analyze</li> <li>• Evaluate</li> <li>• Create</li> </ul>