

CHAPTER 1

INTRODUCTION

This chapter intended to portray the background of the research, the research questions, purpose of this research, scope of the research, research significances, and clarification of related terms that involved in this research.

1.1 Research Background

Assessment is considered to be important in the education sector as it is being the crucial part in teaching and learning process as based on Tosuncuoglu (2018) assessment is beneficial for students to track their achievement in learning language while connect them to a way where they could know their strengths and weaknesses. In line with Royer et al. (1993) where they treat assessment as a cognitive-based system which has important aims such as product of learning that develops cognitive skill where in other words the goal of assessment is to track students' developmental status regarding with what they have obtained especially for assessing the cognitive domain. In that case, assessment is being a main pillar in gaining and collecting the information about the process of what the students learned as otherwise both teacher or even students would never know on the result or output of students after learned such material.

In recent era, assessing students' cognitive is being highlighted as one of the requirements for mankind to be prepared with the 21st century era is the development of mankind's cognitive where it was strengthened by Care et al (2018) where they stated that the intention of explicit focus on twenty-first century skills in education is that students

will develop the capacity to apply these skills to real life situations. The activity was animated by an alliance of global commercial organizations and occupied with by six nations in its research stage. Each framework moves toward the subject of what individuals need to work viably in the society, and takes an assortment of viewpoints from high-level to detailed, and from consideration of an immense range of human qualities to aptitudes or skills alone (Care et al., 2018).

In other words, the 21st century assessment and teaching in educational world is merely focused on the main core of 21st century skills so that the students would be prepared well to face the modern society, especially in the terms of working requirements and continue to survive. Perspective of students in 21st century era needs to take variety of perspective from high to detailed, from vast characteristics to individual competences as well. For that reason, they (Care et al., 2018) stated that framework to achieve 21st century skills for students is necessary as the issue has become global and research regarding that matter has been engaged by six countries as this 21st century skills are necessary due to the shifting in this globalization era, and as human beings, every person involved in educational settings should possess those skills to cope with the current digital era. At this rate, the 21st century skills test which one of the skills include the cognitive competences must also be developed and implemented in every assessment, or even in the teaching syllabuses.

What matters in measuring the cognitive is seen clearly that it requires a rubrics or main core. At this rate, Brookhart (2010) strengthen the development of cognitive measurement by implementing the taxonomy as she stated that taxonomy can help teachers bring to mind the wide range of important learning targets and thinking skills that teachers

want students to attain. For any content domain, some individuals may typically want students to know some facts and concepts and also to be able to think and reason with these facts and concepts in some way. Each time students solve new problems or do original thinking with their knowledge, they are transferring and transforming what they learned, and their understanding grows (Brookhart, 2010).

Regarding with taxonomy, Brookhart (2010) stated that Bloom's Taxonomy is known as the most implemented taxonomy in the United States and some countries, but she also involved other taxonomies as they are all useful for categorizing learning objectives and assessments according to level of complexity. It is also suggested that teachers' instruction and assessment should match with the intended learning target / goal in both content (what the student learns) and cognitive complexity (what the student is able to do with the learning) (Brookhart, 2010).

Further, it is stated by Brookhart (2010) that in Bloom's taxonomy, the cognitive performances are classified into six steps arranged from the simplest level into complex level that started from knowledge which is the easiest, comprehension, application, analysis, synthesis, and evaluation which is the hardest. Then Anderson and Krathwohl made a revision to Bloom's taxonomy which has changed into remember as the lowest, understand, apply, analyze, evaluate, and lastly create as the highest (Brookhart, 2010).

Other than taxonomy as the measurement basis in developing an assessment that assess students' achievement, Covacevich (2014) suggest that the assessor should plan and take a careful consideration in what assessment instrument that is being used. Strengthen by Anderson (2003) which suggested the considerations before assessing that claimed it is

crucial for the assessor to set a logical reasoning in the terms of why the assessment is being implemented, what information that the assessor required, when the information is required, and how the information is being collected. These considerations are seen as the important questions to assess in the decent time and in a decent way which suitable for the assessors' desire as to track students' understanding in class, it is suggested to have a careful selection and consideration to being know on what, why, who, when, where, and how to assess. As by that, the assessment will be meaningful and beneficial for the teachers, institution, students and their parents.

However, to know further about the current condition in the appliance of assessment instruments of cognitive competences, information regarding with the existing assessment instruments of cognitive competences are required. By that, this study took the findings from previous researchers either it is from common issues which are divided and compared each other to find the possibilities in developing a new product. As a start-up, this study involved information from previous studies such as in Dewi (2018) study she found that need analysis has already detected the need of practical assessment instruments rather than only relying on written assessment even though there is a need of C1 based instrument such as multiple choice. Different with Erna (2020) who tried to keep on the multiple choice that focused to employ the cognitive based instrument by increasing the difficulty in the distracter of multiple choice. While from Erwin & Muhsin (2020) they found that most of the assessment instruments in the level of bachelor program in South Sulawesi area still implement the written / traditional assessment with C1-C2 scale which did not employ the higher order thinking scale. Based on their findings, the study from Sumarni et al. (2018) which tried to develop cognitive based assessment instruments for

the senior high school level due to the lack of cognitive competences and critical thinking employed in the assessment instruments. The same with Agustina et al. (2020) findings which in the scale of junior high school, they also found that the HOT implementation have not been developed in the school area. While contrasting with Misykah & Adiansha (2018) study that claimed the HOT and cognitive competences is one of the requirements for students to be mastered in order to prepare them with the 21st Century lifestyle.

While in Abosalem (2016) and Heong et al. (2011) claimed that most assessment applied by the assessor is still majoring on the C1 stage / remembering where the students have to remember on what they have learned. This type of output is also claimed to be away from HOT Assessment which ranging on C4-C6 where it focuses on applying a knowledge in a real situation or even produce something by combining on what students have learned (Abosalem, 2016; Heong et al., 2011). Moreover, in a study done by Bell et al. (2010) which started in 2010 and most previous studies on the advanced years until present still claimed that the need of Alternative Assessment Instruments type that measures HOT cognitive domain and an assessment activity that focusing on a real life performance situation by practicing rather than using pen and paper / traditional assessment is highly required (Bell et al, 2010; Shenoy, 2014; Mohamed & Lebar, 2017; Ng et al, 2018; Toyoda, 2018; Sulaiman et al., 2019; Sheehan & Munro, 2019) at this case it is clear that most previous studies in the external side giving a clear suggestion where they hoped that future assessment instruments that aimed to assess students' cognitive level especially HOT will started to involve students to apply / use knowledge that they have learned in a realistic practical context rather than on the remembering stage.

By comparing and combining the previous research above, it can be seen that the development of cognitive competences in the senior high school area are still lacking. While looking through on the needs, it is seen that written assessment is hardly considered to be able to measure cognitive competences properly but still being the common instrument type in measuring students cognitive as previous studies above suggests the improvement of the assessment instruments which not rely on the written test including multiple choice or essay, but more into a performance-based assessment which aimed to assess student's cognitive competences.

Regarding with the differences upon the previous research, this research would like to develop the Assessment Instruments of Cognitive Competences which aimed for 11th grade English classes in 4 different senior high school. The differences between current study with the previous studies consisting of place which focused on senior high school, applied cognitive domain taxonomy in the senior high school, instruments and the participants. Thus, the information about the existing assessment instruments is required to be analyzed on what factors of assessment instruments that should be developed so that it will be in line with the need analysis and HOTS cognitive domain measurement as the basis of cognitive competences aspect in critical thinking and creative thinking.

Further, at the beginning, this study would like to implement the need analysis in order to know on what assessment instruments of cognitive competences that currently needed to be developed, matched the requirements, and beneficial for school to be implemented. By that some questions raised for this introduction to raise the need analysis will be based on what is wrong with the currently applied assessment instruments of cognitive competences in the senior high school level? Do they even exist and applied in

senior high school? What level of cognitive competences domain taxonomy that being used by the senior high schools in assessing senior high school students in English classes? To completely formulate these problems, this study then would like to purpose the research problems in the next subchapter in chapter 1.2.

Further, this research only aimed to produce a draft of the assessment instruments of cognitive competences which is away from the standardized test type. By that case, the result of this study is hopefully could be able to be validated by future researchers and being implemented in senior high schools in order to promote the implementation of cognitive competences in assessment instruments, so that the students will hopefully being assessed in their readiness in facing the 21st century era. Since this study is a non-beneficial study, some limitation in conducting this study is included. The first limitation is the settings of this study where this study will only focus on 4 senior high schools that were located in Bekasi and Bandung area. The second limitation is the participants where this study only aimed to took any available 11th grade English teachers from the selected 4 senior high schools that willingly to be participated as the participants of this study. The third limitation of this study is the cut of the DDR Product Development methodology where this research will be stopped on the development stage to develop the assessment instruments of cognitive competences that measure 11th grade senior high school students' HOT through their performance and not intended to implement the validation stage. These limitations are wrapped up upon the researcher's inability in time and budget during the conduction. By that further research that aimed to validate the findings of this study are required. Further it is also important to be noted that since this study only involved a small

area of research setting that focuses in only one region, it does not mean that the findings of this study portray the reflection of the selected research setting.

1.2 Research Questions

Based on the background above, this research intended to formulate the main question as follows:

“How are the assessment instruments of cognitive competences for 11th grade English classes of senior high school?”

Thus, the sub-questions for this study are:

1. To what extent do the existing assessment instruments for 11th grade English classes of senior high school employ the cognitive competences?
2. How is the development process of the assessment instruments of cognitive competences for 11th grade English classes of senior high school?
3. How is the developed assessment instruments of cognitive competences for 11th grade English classes of senior high school?

1.3 Purpose of the Study

Based on the research questions above, the main aim of this research is to develop the assessment instruments of cognitive competences for 11th grade English classes of senior high school. While the sub-aims of this study are:

1. To find out the existing assessment instruments for 11th grade English classes of senior high school employ and accommodate the cognitive competences.
2. To describe the development process of the assessment instruments of cognitive competences for 11th grade English classes of senior high school.

3. To describe the developed assessment instruments for 11th grade English classes of senior high school.

1.4 Scope of the Study

This study involved the scope under a research that develop assessment instruments which measures 11th grade senior high school students' Cognitive Competences and HOTS through practical / performance due to the previous researchers in the background claimed that cognitive competences and higher order thinking (HOTS) were not measured / assessed properly as there is a lack of higher order thinking cognitive domain in the assessment since most of assessment instruments either in external and internal in measuring students' cognitive competences are still being implemented traditionally but not practically by using pencil and paper, and due to the 21st century education requirement where cognitive skills in students development is highly recommended to increase students survivability. By that since practical / performance-based assessment is believed to be able to measure students' cognitive competences and HOTS, this indicates that the result of this study which aimed to develop assessment instruments that measures the 11th grade senior high school students' HOTS through their performance has a potential to be implemented and get along with Bloom's Taxonomy Cognitive Domain ranged from C4-C6 as the HOTS indicator.

1.5 Research Significances

The result of this research study is theoretically expected to develop the existing assessment instruments of cognitive competences for 11th grade English classes of senior high school. Besides, this research study is also expected to give additional information about the development of a assessment instruments of cognitive competences for 11th grade

English classes of senior high school students which can be used as beneficial aid in teaching learning and assessing process.

While practically, the result of study is expected to give beneficial information for the institutional, future researchers, and especially English teachers to be able to implement the assessment instruments of cognitive competences to assess students' cognitive competences in the 11th grade English classes of senior high school. Furthermore, this study is also expected to be a useful reference for another future researcher which developable into a wider area.

1.6 Clarification of Related Terms

The following clarification of terms related in this study is involved in order to avoid misunderstanding:

1. Cognitive Domain refer to the Revised Bloom's Taxonomy cognitive domain which ranging from C1 to C6. But specifically, this research is aimed to focus on the Higher Order Thinking that refers to the last three levels of Revised Bloom's Taxonomy Cognitive Domain that include the C4 / Analysis, C5 / Evaluation, and C6 / Creation which used in this research in measuring the cognitive domain level that the existing assessment instruments has.
2. Cognitive Competences refer to the major skill of cognitive in the 21st century skill including the Critical Thinking and Creative Thinking where Critical Thinking aimed students to use their logical and reasoning to solve problem, create decision, and analyze and judge critically the material given to reflect on what they have learned and apply their knowledge in a real-life context. Meanwhile Creative Thinking aimed students to conduct

plan then actualize it, train students to be confident in taking risks, highly tolerable but stand critical on new ideas, and being an open minded individual. It also can be indicated that there are some specific similarities between both Critical Thinking and Creative Thinking with Bloom's Cognitive Domain ranging from Analysis (C4), Evaluation (C5), and Creation (C6) where each has the same goal but being advanced for the sake of 21st century skills.

3. Assessment Instruments refers to the Indonesian Ministry of Education regulations in assessing the students where the teachers are independently plan the assessment instruments by their own consideration and the curriculum standard (Kemendikbud, 2016). The assessment instruments mostly in the form of written test rather than other type such as non-test where students have to write to answer the given question as the representation of their ability. The written test instruments consist of multiple choice, essay, short answered question, yes or no question, matching, and describing / analyzing. Other than written test, spoken test is also recommended in assessing students' knowledge as it enhance students' skill in appointing their opinion where the students can directly answer the given question as the answer can be in the form of spoken words, phrases, sentences, or even full dialogue.