THE COMPARISON OF COGNITIVE LEVELS ON QUESTIONS USED FOR LEARNING AND EXAMINATIONS IN SMA NEGERI 5 KOTA BUKITTINGGI

THESIS

Submitted as Partial Fulfillment of the Requirements to Obtain Bachelor Degree (B.Ed) in English Language Education

Written by:

GEMA MILLENIA PANI
NIM. 17018105

Advisor:

Dr. HAMZAH, MA M.M
NIP. 196112211990031001

ENGLISH DEPARTMENT
FACULTY OF LANGUAGES AND ARTS
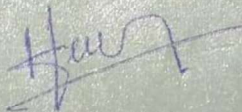**UNIVERSITAS NEGERI PADANG**
2022

HALAMAN PERSETUJUAN SKRIPSI

Judul	:	*The Comparison of Cognitive Levels on Questions Used for Learning and Examinations in SMA Negeri 5 Kota Bukittinggi*
Nama	:	Gema Millenia Pani
NIM	:	17018105/2017
Program Studi	:	Pendidikan Bahasa Inggris
Jurusan	:	Bahasa dan Sastra Inggris
Fakultas	:	Bahasa dan Seni

Padang, 24 Februari 2022

Disetujui oleh,

Pembimbing

Dr. Hamzah, MA. M.M
NIP. 196112211990031001

Mengetahui
Ketua Jurusan Bahasa dan Sastra Inggris

Desvalini Anwar, S.S., M.Hum., Ph.D.
NIP. 19710525 1998 02 2002

HALAMAN PENGESAHAN LULUS UJIAN SKRIPSI

Dinyatakan lulus setelah mempertahankan skripsi di hadapan Tim Penguji
Program Studi Pendidikan Bahasa Inggris
Jurusan Bahasa dan Sastra Inggris
Fakultas Bahasa dan Seni
Universitas Negeri Padang
dengan judul:

**"The Comparison of Cognitive Levels on Questions Used for Learning and
Examinations in SMA Negeri 5 Kota Bukittinggi"**

Nama	:	Gema Millenia Pani
NIM/TM	:	17018105/2017
Program Studi	:	Pendidikan Bahasa Inggris
Jurusan	:	Bahasa dan Sastra Inggris
Fakultas	:	Bahasa dan Seni

Padang, 24 Februari 2022

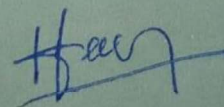**Tim Penguji,**   **Tanda Tangan**

1. Ketua   : Dra. An Fauzia Rozani Syafei, M.A

2. Sekretaris   : Dr. Ratmanida, M. Ed.

3. Anggota   : Dr. Hamzah M.A., M.M

SURAT PERNYATAAN TIDAK PLAGIAT

Saya yang bertanda tangan di bawah ini:

Nama	:	Gema Millenia Pani
NIM/TM	:	17018105/2017
Program Studi	:	Pendidikan Bahasa Inggris
Jurusan	:	Bahasa dan Sastra Inggris
Fakultas	:	Bahasa dan Seni

Dengan ini menyatakan bahwa Tugas Akhir saya dengan judul *The Comparison of Cognitive Levels on Questions Used for Learning and Examinations in SMA Negeri 5 Kota Bukittinggi* benar merupakan hasil karya saya dan bukan merupakan plagiat dari karya orang lain. Apabila suatu saat terbukti saya melakukan plagiat maka saya bersedia diproses dan menerima sanksi akademis maupun hukum sesuai dengan hukum dan ketentuan yang berlaku, baik di institusi Universitas Negeri Padang maupun masyarakat dan Negara.

Demikianlah pernyataan ini saya buat dengan penuh kesadaran dan rasa tanggung jawab sebagai anggota masyarakat ilmiah.

Padang, 29 Februari 2022

Diketahui oleh,

Ketua Jurusan Bahasa dan Sastra Inggris

Saya yang menyatakan,

Desvalini Anwar, S.S., M.Hum., Ph.D.
NIP. 19710525 1998 02 2002

Gema Millenia Pani
17018105/2017

ABSTRACT

Pani, Gema Millenia. 2022. The Comparison of Cognitive Levels on Questions Used for Learning and Examinations in SMA Negeri 5 Kota Bukittinggi

Although there have been many studies that analyzed the distribution of cognitive levels on questions used in learning and examinations, there are very few studies that compare both aspects mentioned. This study aims to find out the distribution of questions during both learning and examinations within cognitive levels in SMA Negeri 5 Kota Bukittinggi. Additionally, the findings of LOTS and HOTS questions proposed for learning and examinations in SMA Negeri 5 Kota Bukittinggi are analyzed and then compared. The analysis in this study is based on Revised Bloom's Taxonomy. The informants of the research are 3 English Teachers who teach in grade X, XI and XII. To answer all questions, a descriptive-comparative research is conducted to describe the result of the research. The results of the study show that there are significant imbalances in the distribution of different level of questions during learning and examinations. In most cases, the teachers across all grades are more inclined to propose LOTS-based questions than its HOTS counterpart in both learning process and examination. Specifically, this research found that remembering (C1) and understanding (C2) level of questions dominated the distribution of questions in SMA Negeri 5 Bukittinggi with the combined overall percentage of more than 50%. Despite this, there was a pattern of increase in the percentage of HOTS questions as the grade increases. Grade XII shows higher percentage of HOTS-based questions compared to the other grades in both assessments. However, the percentage of HOTS-based questions given in learning is found to be higher than LOTS questions.

Key words: cognitive levels, lower-order questions, higher-order questions

ABSTRAK

Pani, Gema Millenia. 2022. The Comparison of Cognitive Levels on Questions Used for Learning and Examinations in SMA Negeri 5 Kota Bukittinggi

Meskipun telah banyak penelitian yang menganalisis distribusi tingkat kognitif pada pertanyaan yang digunakan dalam pembelajaran dan ujian, sangat sedikit penelitian yang membandingkan kedua aspek tersebut. Penelitian ini bertujuan untuk mengetahui distribusi level kognitif pertanyaan yang digunakan baik selama pembelajaran maupun ujian di SMA Negeri 5 Kota Bukittinggi. Selain itu, pertanyaan LOTS dan HOTS yang diajukan untuk pembelajaran dan ujian di SMA Negeri 5 Kota Bukittinggi dianalisis dan kemudian dibandingkan. Analisis dalam penelitian ini didasarkan pada Revised Bloom's Taxonomy. Informan penelitian ini adalah 3 Guru Bahasa Inggris yang mengajar di kelas X, XI dan XII. Untuk menjawab semua pertanyaan, penelitian deskriptif-komparatif dilakukan untuk menggambarkan hasil penelitian. Hasil penelitian menunjukkan bahwa terdapat ketidakseimbangan yang signifikan dalam pembagian level pertanyaan yang berbeda selama pembelajaran dan ujian. Dalam kebanyakan kasus, guru di semua kelas lebih cenderung mengajukan pertanyaan berbasis LOTS daripada HOTS dalam proses pembelajaran dan ujian. Secara khusus, penelitian ini menemukan bahwa level mengingat (C1) dan pemahaman (C2) mendominasi distribusi pertanyaan di SMA Negeri 5 Bukittinggi dengan persentase keseluruhan gabungan lebih dari 50%. Meskipun demikian, terdapat pola peningkatan persentase soal HOTS seiring dengan kenaikan kelas. Kelas XII menunjukkan persentase yang lebih tinggi dari pertanyaan berbasis HOTS dibandingkan dengan nilai-nilai lain di kedua penilaian. Namun persentase pertanyaan berbasis HOTS yang diberikan dalam pembelajaran ternyata lebih tinggi dibandingkan soal LOTS.

Kata Kunci: level kognitif, pertanyaan tingkat rendah, pertanyaan tingkat tinggi

ACKNOWLEDGEMENT

Praise be to Allah Subhanahu Wa Ta'ala for the blessing, love, health, mercy and opportunity so the writer could finish this thesis entitled "The Comparison of Cognitive Levels on Questions Used for Learning and Examinations in SMA Negeri 5 Kota Bukittinggi" as one of the requirements to obtain the Strata One (S1) degree in English Department, Faculty of Language and Arts, Universitas Negeri Padang.

In arranging this thesis, a lot of people have provided advice, motivation and support for the writer. This thesis would not finished properly without the help, support and motivation from them. The writer presents her sincere appreciation goes to:

1. Her parents and sister for their genuine love, support, and pray.
2. Dr. Hamzah, M.A., MM., as the advisor, for giving advice and contribution to the writer in finishing this thesis.
3. Dr. Ratmanida, M. Ed. And Dra. An Fauzia Rozani, M. A. as the examiners who have given input so this thesis can be finished better.
4. Dra. Yetti Zainil, MA., Ph. D. as the validator who have given contribution to validate the data so this thesis can be reliable.
5. Her thesis partner, Putri Styvani, for her support and commitment in succeeding this thesis.
6. Her beloved friends, Jaka, Cinto, Hani, Nika, and others for their support, encouragement, and pray.

Padang, February 2022

The Writer

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

CHAPTER I
INTRODUCTION

A. Background of the Research Problem

Questions are one of the fundamental tools to elevate students' thinking. According to Gattis, (2002), question serves important roles in guiding and extending students' learning. Therefore, it is really essential to guarantee the quality of the questions involved based on the standard given. In order to ensure the goals are clearly comprehended, a framework is needed to identify the quality of the questions used which then can be categorized in the cognitive levels of Revised Bloom's Taxonomy. There are two levels of thinking that can be found in the cognitive levels, Higher Order Thinking Skills (HOTS) and Lower Order Thinking Skills (LOTS).

In this era, Higher Order Thinking Skills (HOTS) is one of the important components for an individual to be able to solve new problems in the 21st century (Brookhart, n.d.; Moseley & Dkk, 2006; Thompson, 2008). Goodson & Rohani, (2012) defines a high-level thinking skills (HOTS) as a critical thinking skills, logical, reflective, metacognitive, and creative. These capabilities will be activated and developed when an individual encounter new circumstances, phenomenon, unfamiliar matters which requires problem solvings that never been done previously.

Moreover, Aschner (Gall, 1984), stated that asking questions is one of the ways to stimulate students' thinking. As the result, questions that are used for both learning and evaluation purposes, specifically examinations, should

reflect students' critical thinking. For this reason, there must be congruence between questions used in the learning process and in the examinations specifically in the English as a Foreign Language (EFL) subject.

In the process of learning, questions serve as the tool to parameterize the progress of students' understanding. Adler (1982) stated that teachers pose questions to students in order to engage them and elicit deeper-level thinking about the subject under discussion. It means that teacher's questions functioned in order to trigger students'creativity and critical thinking. In the process of learning, teacher plays an important role in succeeding the interaction by implementing several strategies. Questioning strategies can also be acquired as a way of proposing the HOTS concept in the learning process in spoken form alongside to the questions in worksheets in written form given by the teacher.

Questions in examinations used to inform about students' overall mastery of the subject systematically. Moreover, (Brown, 2015) stated that examinations is typically occurs at the end of a course or unit of instruction by comparing student knowledge or skills against standards or benchmarks (Brown, 2015). Conventionally, there are two examinations carried out namely midterm test and final examinations. It is clearly set that the purpose of examinations is not only to give students' learning performance result in numerical data, but also to be the guidance for the teachers and stakeholders in making the further decisions related to education policies and mechanisms

for one insitution or even in national scale. Therefore, it is fundamental to maintain the quality of the questions used based on the standard of education.

In the matter of educational standard, Curriculum plays as a fundamental guidance in succeeding educational goals. As the national parameter, curriculum needs to be gradually reformed through times in order to fulfill the society needs. Through the Ministry of Education and Culture, the Indonesian Government has made improvements regarding to the assessment's standard on critical and analytical thinking. In micro scale, assessment conducted by teachers is expected to be able to improve students' critical thinking by which teachers should be able to construct both Lower-Order and Higher-Order questions equally in learning and examinations. To strengthen the previous statement, Lee, (2015) asserts that it is crucial for teachers to propose Lower-Order and Higher-Order questions on balance.

Based on the result of researcher observations when conducting practice teaching at Senior High School 5 Bukittinggi from August until December 2020, it is discovered that many questions in examinations were found below the standard of Higher Order Thinking Skills meanwhile teachers are expected to be able to arrange the instruments proportionally and systematically to measure Competency Achievement Indicators (IKK) so that students are encouraged to answer the analysis questions (Zuldafrial, 2009). In other case, some of the teachers already tried to involve HOTS questions in daily test but, there are significant imbalances in the distribution of the questions level. Meanwhile, in the learning process teachers mostly posed

questions dominantly in the level of LOTS. Hence, most of the students have difficulty in answering exam questions, which lead to the low score that students achieved.

Several studies have been carried out with regard to Higher Order Thinking Skills (HOTS) questions in learning and examinations. In relation of questions used for learning, there are several researches that have been conducted (K. Ahmad, 2018; Wiyaka, Prastikawati, Prabowo, & Adi, 2020; Zainil & Rosa, 2020; Zaiturrahmi, Kasim, & Zulfikar, 2017).

(K. Ahmad, 2018; Yulia, Budiharti, & Fenita, 2019; Fadilah, Zainil, & History, 2020) conducted a research on the implementation of teaching LOTS and HOTS in English teaching-learning process. They found out about the teachers' incapability to implement HOTS properly where LOTS-based questions dominated the classroom interaction. K. Ahmad, (2018) believed that some teachers have involved HOTS and LOTS-based questions equally balanced in their lesson plans, unfortunately the implementations did not run as expected. Moreover, Yulia et al., (2019) investigated that remembering is the most dominant level of questions found in the classroom interaction. They stated that low motivation in learning, teachers' difficulties in using HOTS-based questions, and material of the lesson became the core of the problem mentioned. In addition, Fadilah et al., (2020) also conducted a research which strengthen the previous results. They scrutinized that speaking performance has a deep relation with critical thinking and critical thinking skills can be

achieved through questioning in the classroom. It means the type of questions used in questioning is essential to be considered based on HOTS standard.

In regard of questions used for examinations, a study about the understanding and practice of teacher in assessing Higher Order Thinking Skillss (HOTS) had been conducted by Driana & Ernawati (2019). The result shows that teachers did not comprehend the concept of HOTS well. Moreover, Schulz & Fitzpatrick, (2016) point out that the teachers were not wellprepared to teach or assess HOTS in examinations. In addition, Marhaeni, Dantes, & Paramartha (2018) revealed the deficient competencies of teachers in developing valid and appropriate assessments based on the standard given. Pratiwi, Dewi, & Paramartha (2019) also conducted a study of how the eleventh-grade English teachers' questions reflects Higher Order Thinking Skillss (HOTS). The results strengthen the previous researches whereas the domination number of the HOTS-based items that the teachers made were limited to analysis in the form of multiple-choice and short-answer items.

Based on the phenomenon, the results of observation and previous studies that have been conducted, it can be concluded that HOTS in Indonesia's education system is still needed to be developed in regard of its implementation and the factors that influenced students' critical thinking. The previous researches mostly focus on HOTS-based questions analysis found in learning process through classroom interactions. In other case, HOTS-based questions analysis is scrutinized by some researchers in examinations namely National Examinations and Final Examinations but it is still limited. As the

results, the research regarding to this matter provides several gaps for further researchers to propose a HOTS-based model learning during the recent situation of pandemic, to investigate how students' stereotype influenced their academic performance in relation of their critical thinking, to investigate the comparison of HOTS-based questions used for both learning and examinations. Therefore, researcher attempted to conduct a research regarding to the last aspect of the gaps mentioned which is the comparison of HOTS-based questions used for learning and examinations to see the comparison of questions proposed. This research aims to analyze and find out of the distribution of Lower Order Thinking Skills and Higher Order Thinking Skills based-questions within learning and examinations in SMA Negeri 5 Kota Bukittinggi.

B. Identification of the Problem

Higher Order Thinking Skills is a major issue in education world since the revolution of the system into 2013 Curriculum. In fact, there are numerous studies have been conducted regarding to this topic. There were several researches which scrutinized the distribution of hots-based questions in classroom interactions, how HOTS-based items in National Examinations is still limited according to the standard of education, and how teachers' competence in constructing HOTS-based questions is still deficient. Unfortunately, there has not been found in regard of the comparison of LOTS and HOTS-based questions proposed for learning and examinations which gives researcher an open space to conduct a study through this perspective.

Moreover, the effect of students' stereotype related to HOTS towards students' academic performance achievement is still problematic and not yet found under any discussion. Lastly, HOTS-based model learning during Covid-19 can be developed for further researchers in relation with the current situation in Indonesia.

C. Limitation of the Problem

Based on the identification of the problem above, the researcher will only focus on the first matter which is the comparison of LOTS and HOTS questions proposed for learning and examinations. First, the distribution of questions used for learning within cognitive levels is needed to be investigated to find out the percentages of LOTS and HOTS-based questions proposed from classroom interactions and all assessments involved. Then, in the case of questions used in examinations, the distribution of LOTS and HOTS-based questions is needed to be scrutinized in order to identify the composition of the cognitive levels in higher-order thinking skills test items, other than that to elaborate the compatibility of LOTS and HOTS-based test items in mid-term and final examinations. Meyer (2009) stated that all information obtained during and after the course is essential for teacher in creating more effective evaluation techniques. Therefore, the distribution of Higher Order Thinking Skills based-questions for both purposes is needed to be investigated.

D. Formulation of Research Problem

The problem is formulated as follows: "How is the comparison of cognitive levels on questions used for learning and examinations in SMA Negeri 5 Kota Bukittinggi?"

E. Research Questions

The research questions in this study are as follows:

1. How does the distribution of questions for learning within cognitive levels in SMA Negeri 5 Kota Bukittinggi?

2. How does the distribution of questions for examinations within cognitive levels in SMA Negeri 5 Kota Bukittinggi?

3. How does the comparison of LOTS and HOTS questions proposed for learning and examinations in SMA Negeri 5 Kota Bukittinggi?

F. Purpose of Research

This study aims:

1. To find out distribution of questions for learning within cognitive levels in SMA Negeri 5 Kota Bukittinggi

2. To find out distribution of questions for examinations within cognitive levels in SMA Negeri 5 Kota Bukittinggi

3. To find out the comparison of LOTS and HOTS questions proposed for learning and examinations in SMA Negeri 5 Kota Bukittinggi

G. Significance of Research

This study has significance theoretically and practically for stakeholders. Theoretically, this research is expected to be an assistive source for the next researchers who want to conduct a more comprehensive study related to this topic. Practically, for teachers and educators, this research is significant as the guidance in making policy for the better improvement in education.

H. Definition of Key Terms

1. Question

Question can be defined as sentence or phrase in the form of interrogative expression even instruction which often used to test knowledge.

2. Lower Order Thinking Skills (LOTS)

LOTS is defined as thinking skill level among the three basic levels of ability in the cognitive dimension (remembering, understanding, applying).

3. Higher Order Thinking Skills (HOTS)

HOTS is defined as thinking skill level among the three top levels of ability in the cognitive dimension (analyzing, evaluating, creating), and 3 levels of knowledge dimension (conceptual, procedural, metacognitive).