

**PSYCHOLINGUISTICS STUDY ON LEXICAL STORAGE
AMONG DIFFERENT LANGUAGE PROFICIENCY LEVELS
(A CASE STUDY OF 3rd SEMESTER STUDENTS AT
FACULTY OF ANIMAL HUSBANDRY OF
UNIVERSITAS BRAWIJAYA)**

THESIS

**BY
IRMA DEWI
0911113105**



**STUDY PROGRAM OF ENGLISH
DEPARTMENT OF LANGUAGES AND LITERATURE
FACULTY OF CULTURAL STUDIES
UNIVERSITAS BRAWIJAYA**

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THESIS

**Presented to
Universitas Brawijaya
in partial fulfillment of the requirements
for the degree of *Sarjana Sastra***

**BY
IRMA DEWI
NIM 0911113105**

**STUDY PROGRAM OF ENGLISH
DEPARTMENT OF LANGUAGES AND LITERATURE
FACULTY OF CULTURAL STUDIES
UNIVERSITAS BRAWIJAYA**

2014

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Here with I,

Name : Irma Dewi
NIM : 0911113105
Address : Jl. Raya 237 Kesamben, Blitar

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NIM 0911113105



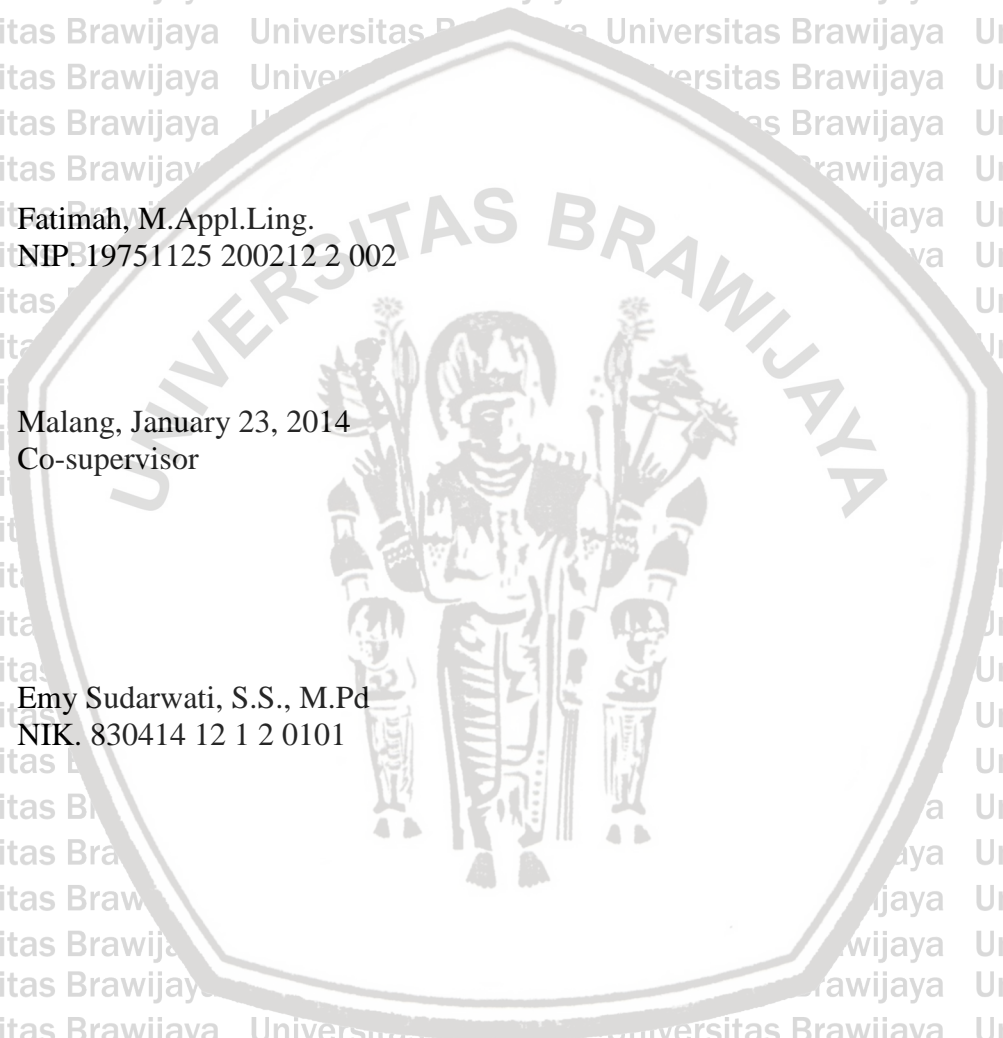
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Board of Supervisors

Malang, January 23, 2014
Supervisor

Fatimah, M.Appl.Ling.
NIP. 19751125 200212 2 002

Malang, January 23, 2014
Co-supervisor

Emy Sudarwati, S.S., M.Pd
NIK. 830414 12 1 2 0101



This is to certify that the *Sarjana* thesis of **Irma Dewi** has been approved by the Board of Examiners as one of the requirements for the degree of *Sarjana Sastra*

Fatimah, M.Appl.Ling., Chair
NIP. 19751125 200212 2 002

Yana Shanti Manipuspika, M.App.Ling., Member
NIK. 841105 12 1 2 0060

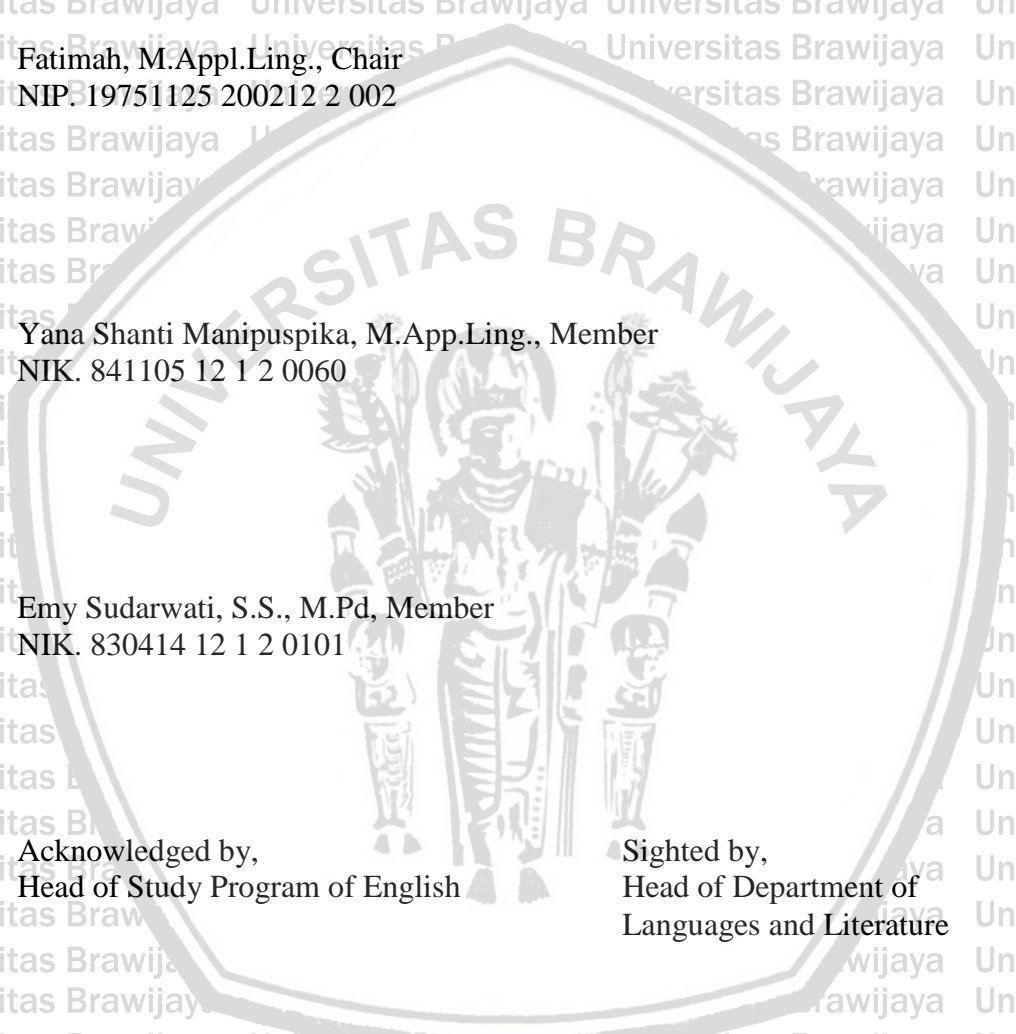
Emy Sudarwati, S.S., M.Pd, Member
NIK. 830414 12 1 2 0101

Acknowledged by,
Head of Study Program of English

Sighted by,
Head of Department of
Languages and Literature

Yusri Fajar, M.A.
NIP. 19770517 200312 1 001

Syariful Muttaqin, M.A.
NIP. 19751101 200312 1 001



ABSTRACT

Dewi, Irma. 2014. **Psycholinguistics Study on Lexical Storage among Different Language Proficiency Levels (A Case Study of 3rd Semester Students at Faculty of Animal Husbandry of Universitas Brawijaya)**. Study Program of English, Department of Languages and Literature, Faculty of Cultural Studies, Universitas Brawijaya. Supervisor: Fatimah; Co-supervisor: Emy Sudarwati

Keywords: psycholinguistics, lexical, lexical item, lexical storage, word association test.

We use language as the media to represent our ideas, feeling, and mind or thought. Psycholinguistics covers cognitive processes that make human brain possible to generate a grammatical and meaningful sentence. Inside the mental lexicon there is lexical storage that concerns how the words are stored and processed in our brain. There are two problems to be solved, namely: (1) What are the word association types from the responses produced by the third semester students at Faculty of Animal Husbandry? (2) Are there any differences in word association types among different language proficiency levels?

To conduct this research the writer used case study on qualitative research as the research design. The data of this study were the responses of the third semester students at Faculty of Animal Husbandry on Word Association Test. This study used Word Association Test as the instrument and Peppard's Word Association Type to analyze the data.

The writer held the test to 36 (thirty-six) participants in which there are, 17 (seventeen) participants from language proficiency level beginner (405-600), and 19 (nineteen) participants from language proficiency level under-beginner (<405). In total, the responses were 247 (two hundred and forty-seven) covering paradigmatics: coordination, hyponymy, and synonymy; syntagmatics: collocation, multi word, and encyclopedic; and other relations. Collocation and encyclopedic relation were the most types found in both groups. So, the writer concludes that there is no difference between the Beginner level students with Under-Beginner level students. They had a tendency to answer based on knowledge and experiences for the words and linked the prompt words with the word that had syntactic relation with the stimulus words.

The writer suggests the further researcher who wants to conduct other research in this topic; to propose lexical storage among different field students to be the next case study.

ABSTRAK

Dewi, Irma. 2014. **Studi Psikolinguistik tentang *Lexical Storage* pada Tingkat Kemampuan Berbahasa yang Berbeda (Study Kasus pada Mahasiswa Tingkat Tiga Fakultas Peternakan di Universitas Brawijaya)**. Program Studi Sastra Inggris, Jurusan Bahasa dan Sastra, Fakultas Ilmu Budaya, Universitas Brawijaya. Pembimbing: (I) Fatimah (II) Emy Sudarwati

Kata Kunci: psikolinguistik, leksis, *lexical item*, *lexical storage*, tes asosiasi kata.

Kita menggunakan bahasa sebagai media untuk mengekspresikan ide-ide, perasaan, dan pikiran. Psikolinguistik melingkupi proses kognitif yang membuat otak manusia dapat memproses kalimat. Dalam *mental lexicon* terdapat bagian yang disebut *lexical storage*, dimana bagian ini berfungsi untuk memproses kata-kata. Karena itu dalam studi ini penulis akan menjawab rumusan masalah dalam penelitian ini yaitu (1) jenis-jenis asosiasi kata apa saja yang dihasilkan dari respon mahasiswa semester tiga di Fakultas Peternakan? (2) apakah terdapat perbedaan antara tingkat kemampuan berbahasa yang berbeda?

Penulis menggunakan studi kualitatif untuk mendeskripsikan fenomena yang dipelajari secara jelas dan sistematis. Studi deskripsi secara kontekstual digunakan karena studi ini bertujuan untuk menganalisis respon dari mahasiswa semester tiga di Fakultas Peternakan di Universitas Brawijaya. Studi ini menggunakan *Word Association Test* sebagai instrument serta *Peppard's Word Association Types* untuk menganalisis data.

Penulis mengadakan tes kepada 36 (tiga puluh enam) responden, diantaranya 17 (tujuh belas) responden yang berasal dari tingkatan pemula (405-600) dan 19 (sembilan belas) responden yang berasal dari tingkatan pemula kebawah (<405). Total dari semua respon adalah 247 (dua ratus empat puluh tujuh) kata, melingkupi paradigmatis: koordinasi, hiponim, sinonim; sintakmatik: kata sanding, multi kata, ensiklopedi serta jenis asosiasi kata baru. Kata sanding serta ensiklopedik merupakan jenis asosiasi yang paling banyak ditemukan pada kedua kelompok. Sehingga penulis mengambil kesimpulan bahwa tidak terdapat perbedaan antara kedua tingkatan berbahasa. Keduanya memiliki pola yang sama dalam merespon kata dan memiliki kecenderungan untuk menjawab dengan menggunakan kata-kata yang telah mereka ketahui melalui pengalaman-pengalaman sebelumnya.

Bagi para peneliti selanjutnya yang berminat untuk melakukan penelitian tentang topic ini, penulis menyarankan untuk melakukan penelitian tentang *lexical storage* pada jurusan ilmu yang berbeda sebagai topik selanjutnya.

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Malang, January 30, 2014

The writer

TABLE OF CONTENTS

TITLE PAGE	i
DECLARATION OF AUTHORSHIP	ii
SUPERVISORS' APPROVAL	iii
BOARD OF EXAMINERS' CERTIFICATE OF APPROVAL	iv
ABSTRACT	v
ABSTRAK	vi
ACKNOWLEDGEMENTS	vii
TABLE OF CONTENTS	viii
LIST OF TABLES	x
LIST OF APPENDICES	xi
CHAPTER I INTRODUCTION	
1.1 Background of the Study	1
1.2 Problems of the Study	5
1.3 Objectives of the Study	5
1.4 Definition of Key Terms	5
CHAPTER II REVIEW OF RELATED LITERATURE	
2.1 Psycholinguistics	7
2.1.1 Lexical Storage	8
2.1.1.1 Factors Affecting Lexical Storage	8
2.1.1.2 Lexical Storage of L2 Learners	9
2.2 Word Association Types	9
2.3 Word Association Test	12
2.3.1 Jung Word Association Test	13
2.3.2 Peppard Word Association Test	13
2.4 Language Proficiency	14
2.5 Previous Studies	16
CHAPTER III RESEARCH METHOD	
3.1 Research Design	18
3.2 Data Source	19
3.3 Data Collection	20
3.4 Data Analysis	22
CHAPTER IV FINDING AND DISCUSSION	
4.1 Finding	25
4.1.1 Analysis on the Type of TOEIC Beginner Level Students' Responses	26
4.1.2 Analysis on the Type of TOEIC Under-Beginner Level Students' Responses	33
4.1.3 Word Association Types between Beginner and Under-Beginner Language Proficiency Level	42
4.2 Discussion	44

CHAPTER V CONCLUSION AND SUGGESTION

5.1 Conclusion 48

5.2 Suggestion 50

REFERENCES 51

APPENDICES 54



LIST OF TABLES

3.1	Word Association Test Stimulus Words	21
3.2	Sample Table of Word Association Types	23
3.3	Sample Table of Word Association Test Total Responses	23
4.1	Word Association Types of Beginner Level Students' Responses	26
4.2	Word Association Types of Under-Beginner Level Students' Responses	33
4.3	Word Association Test Total Responses of Beginner Level	42
4.4	Word Association Test Total Responses of Under-Beginner Level	42



CHAPTER I

INTRODUCTION

This chapter presents background of the study, problems of the study, objectives of the study, and definition of key terms.

1.1 Background of the Study

Language is one of the most important things in the world. Our lives would be totally different without language. We use language as the bridge to communicate with other person and the communities. For very long time, language has already influenced all of our aspects of life, such as economics, politics, and so on. We also use language as the media to represent our ideas, feeling, and mind or thought.

Longacker (1973) states that psycholinguistics is the study of language acquisition and linguistics behavior, as well as the phonological mechanisms responsible for them. Psycholinguistics covers cognitive processes that make human brain possible to generate a grammatical and meaningful sentence out of vocabulary and grammatical structures, as well as the process that make us possible to understand utterances, words, text, etc. In general, psycholinguistics is “the study of the cognitive processes and representations underlying language use” (NICL, 2007).

A human has a mental dictionary that contains information about a word's meaning, pronunciation, syntactic characteristics that is called mental lexicon.

Mental lexicon is "a person's mental store of words, their meaning and associations" as Richards and Schmidt (2002, cited in Peppard 2007, p. 2) have stated. While inside the mental lexicon there is lexical storage that concerns how the words are stored and processed in our brain. McCarthy (cited in Peppard 2007, p. 2) gives the following examples: the mental lexicon is like a dictionary, a thesaurus, an encyclopedia, a library, a computer and a net. Field (2003, p. 15) states that "lexical storage is concern in how words are stored into our mind ...". As for example, when searching our lexicon for the word **apple**, the storage of associated items may appear as the representation of color, green for apple. Only words which carry meaning are stored in the lexicon. These words are stored associatively in the mind in relation to the other items. To know person's lexical storage, the previous researchers used Word Association Test (WAT) as the instrument.

Sinolpanikova (2003, cited in Istifci 2005, p. 360) states that word association test is the simple experimental technique to reveal the association mechanism. This test is done by the subject responding to a given word with the first word that comes to mind or with a predetermined type of word. Post (2007, p. 12) states that due to the low levels of participants in his experiment as the reasons is the grammatical and lexical choices is limited, Post wish that the Word Association questionnaire will have been more beneficial. It means that this test is still can be used to know and measure the knowledge of low level language

proficiency students. Peppard (2007, p. 5) states that word association test was initially used as psychological tool to study the subconscious mind, and more recently used by psycholinguists to explore the mental lexicon. This means that word association test has connection with our lexical proficiency. Meara (2005, cited in Crossley et al 2010, p. 562) states that lexical proficiency refers to vocabulary size, depth of vocabulary knowledge and the accessibility of core lexical items. Lexical proficiency has correlation with language proficiency, because language proficiency is the ability of an individual knowledge in an acquired language. In academic field, the language proficiency test such as Test of English as a Foreign Language (TOEFL), Test of English for International Communication (TOEIC), and International English Language Test System (IELTS) are used as a measurement to find out how deep some individual knowledge or ability in foreign language. Based on Interagency Language Roundtable (ILR), there are five language proficiency levels; elementary proficiency, limited working proficiency, professional working proficiency, full professional proficiency, and native or bilingual proficiency.

From the reasons above, the writer wants to conduct study to find out whether the different level of language proficiency also affect the differences between an individual in storing their lexicon. Because a human is an interesting and mysterious subject, where in this subject, especially in Psycholinguistics, there are many unanswered questions that many scientists want to find out. This study aims to find the differences among different language proficiency level, which for this research the writer uses TOEIC test. So, the writer chose Faculty of

Animal Husbandry 3rd semester students as the participants. As the TOEIC test for 3rd semester students was held a year ago, but the score can be used as the parameter of their ability in English. While the 5th, and 7th semester students' later TOEIC score will not be the same with their current ability, because their lexicon will be developing. The writer chose the participants from Faculty of Animal Husbandry students because many researches in Faculty of Cultural Studies about word association usually choose social or language field students as the participants. For example, Wardani (2010)'s participants were 2nd, 4th and 6th students of Study Program of English; Fidayanti (2013)'s participants were tourism students of Vocation Education Program; and Pratama (2013)'s participants were 4th semester students of Study Program of English. In addition, Faculty of Animal Husbandry students rarely use English in communication and use more *Bahasa Indonesia*. As the example, the lecturers use *Bahasa Indonesia* to explain their lesson and the textbooks the students use are written in *Bahasa Indonesia*.

As the significance of the study are; to future research, this research is expected to give benefit and to help enriching the data about word association test involving science students and guide to conduct this subject deeply for the next researcher. To teachers, this research is expected to help teachers to understand more about the students' ability and they can choose the suitable teaching methods that can increase the students' ability. For the students, this research can help them to know the science students' ability in language.

1.2 Problems of the Study

Referring to the previous background of the study, the problems of the study proposed in this study are:

1. What are the word association types from the responses produced by the third semester students at Faculty of Animal Husbandry?
2. Are there any differences in word association types among different language proficiency levels?

1.3 Objectives of the Study

Based on the problems of the study above, the objectives of the study are:

1. To investigate the word association types from the responses produced by the third semester students at Faculty of Animal Husbandry.
2. To know whether there are some differences in word association types among different language proficiency levels.

1.4 Definition of Key Terms

In this study, the writer uses some terms. To avoid some misunderstanding in interpreting and to keep this research being specific, the key terms are defined.

They are:

1. **Psycholinguistics** : study about language and psychology, which Concerning about the process and knowledge representation of a language (Cowles, 2011,

p. 10)

2. Lexical : dealing with words, or related to words

(Longman, 2005, p. 927)

3. Lexical Item : any word, abbreviation, partial word, or phrase

which can figure in a dictionary ... (Atkins and

Rundells, 2008, p. 163)

4. Lexical Storage : the way in which lexical items are organized in

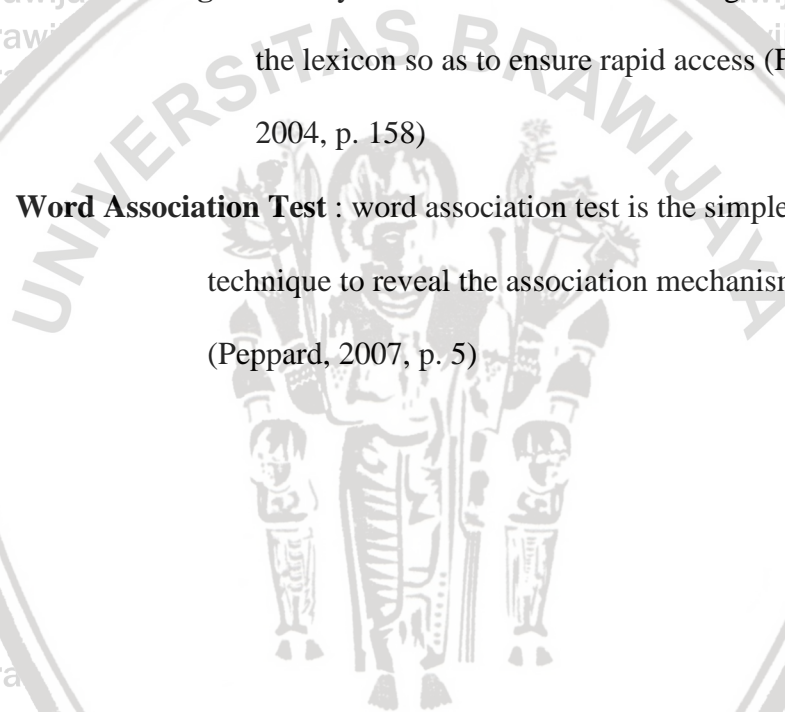
the lexicon so as to ensure rapid access (Field,

2004, p. 158)

5. Word Association Test : word association test is the simple experimental

technique to reveal the association mechanism

(Peppard, 2007, p. 5)



LIST OF APPENDICES

Appendix 1. Word Association Test Answer Sheet	54
Appendix 2. Beginner Level's TOEIC Score	55
Appendix 3. Under-Beginner Level's TOEIC Score	56
Appendix 4. Word Association Responses of Beginner Level	57
Appendix 5. Word Association Responses of Under-Beginner Level	59
Appendix 6. Berita Acara Bimbingan Skripsi	61



CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter consists of some theories related to the study, and previous studies.

2.1 Psycholinguistics

Psycholinguistics is “the study of cognitive processes and representations underlying language uses” (NICI, 2007). Psycholinguistics or psychology of language is the study concerns in how our brain processes, comprehend, and product a language. In addition, according to Shannon (cited in Tracey and Morrow, 2006, p. 57) psycholinguistics is the study where our language system is connected with how human acquire, interpret, organize, store, retrieve, and employ an understanding.

Another definition proposed by Field (2004, p. ix) is “psycholinguistics provides insights into how we assemble our own speech and writing and how we understand that of others; into how we store and use vocabulary ...” In short, psycholinguistics is the cognitive study learns how human acquire, interpret, organize, store, and retrieve a language. Cowles (2011 p. 10) states in general that psycholinguistics is a study about language and psychology. The union of these two fields is principally concerned with the processing and knowledge representations that underlie the ability to use language. In conclusion,

psycholinguistics learns how human brain process and knowledge language or languages.

2.1.1 Lexical Storage

Lexical storage concerns about how words are stored in our mind in relation to another word (Field, 2003, p. 15). Discussing about lexical storage means that we discuss how our brain stored and organize words. Independently words are not stored in our mind; words are stored in human mind in connection with another word. Aitchison (1994 cited in Wardani, 2010, p. 9) assumes that words are linked in the form of cobweb where every words are attached to mark other words. It is called as network theories. In addition, Post (2007, p. 17) states that words are stored in relation to their syntagmatic and paradigmatic associations. This means that in both syntagmatic and paradigmatic association words are bond strong enough between words within fixed expression and the organization of mental lexicon.

2.1.1.1 Factors Affecting Lexical Storage

Gairns and Redman (1986, p. 88) propose that word frequency and recency of use are the variables that affect the lexical storage. It comes from the idea that items which occur most frequently are easily recognized and retrieved. In addition, Stemberger and McWhinney (cited in Katamba, 2004, p. 11) in their investigation the storage of words with inflectional morphemes, agree that factor like frequency are shown to influence the lexical storage.

Swinney (1979, p. 13) in his experiment about lexical ambiguities found the fact that two meanings are available upon immediate access but only that one meaning three syllables later suggests that a very rapid post access decision process is at work. So, there are three factors affecting lexical storage; word frequency, word recency, and word ambiguity.

2.1.1.2 Lexical Storage of L2 Learners

English is not the first language or mother tongue in Indonesia, in this case English is considered as the second language or L2. Second language or L2 itself have a meaning a language learned by a person after his or her native language, native language in this context is *Bahasa Indonesia*. A person's first language is not necessarily their dominant one, but there are notions dealing with the lexical storage in L2 learners stating that there is connection between L1 and L2' storage.

Singleton (2007, p. 8, cited in Wardani, 2010, p. 14) suggests that the relationship between L1 and L2 are categorized in terms of subordinative, compound, and coordinate categories. In addition, age and manner have influence the lexical storage in bilingualism (Navrasics, 2007, p. 18-20).

2.2 Word Association Types

Word association types are the features which show the way how the words are linked and stored in mind. Wolter (2001) divides the word association types into three as follows:

- 10
- 1) Paradigmatic responses are from the same word class as the prompt word (e.g. dog → animal, canine).
 - 2) Syntagmatic responses bear more of more collocation relationship to the prompt word (e.g. dog → bite, bark).
 - 3) Clang responses resemble the prompt word only phonologically, with no overtly clear semantic connection (e.g. dog → bog).

Peppard (2007, pp. 5-10) proposes that word association types are divided into three; paradigmatic, syntagmatic, and orthographic relations. Further, he defines and classifies those relations as follows:

1. Paradigmatic relation includes coordination, hypernymy and hyponymy, and synonymy.
 - a) Coordination (include antonymy) refer to the words of the same level of detail for example; dog and cat, husband and wife, live and dead.
 - b) Hyponymy covers the hierarchical relationship of superordidation (hypernymy) and subordination (hyponymy). The example is rose is hypernym of flower, while flower is hyponym of rose.
 - c) Synonymy is classified into strict synonym where they can be used interchangeably in all context and loose synonymy where there is relationship but not necessarily in all contexts.
2. Syntagmatic association is classified further into collocation, multi word item, and encyclopedic knowledge.

- a) Collocation is the tendency of some words to occur together. It can be lexical collocation which involves syntactic structure and grammatical

collocation that depends on syntactic relationship as in preposition buckle

up.

b) Multi word items refer to the phrases or group of words that function as one single lexical item such as once upon a time.

c) Encyclopedic knowledge is a kind of responses that are related to personal knowledge or experience.

3. Phonological and orthographic relations or sometimes is called as clang response. This response relation is based on phonetics and orthographic association as "k" in words knife and know.

Based on Lawson (2007, p. 6) there are three main categories of words association types, as namely clang association, syntagmatic association, and paradigmatic association.

1) Clang association is the response that has relation with phonological aspect. These have no semantic resemblance, and are rarely seen in the responses of adult. Example is monkey → money.

2) Syntagmatic association is the response that has a sequential chain relationship and tend to have different word classes. Example is **cheeky** monkey (adjective - noun), monkey **around** (verb - adverb), **wild** monkey (adjective - noun), and **swing** like a monkey (verb - noun).

3) Paradigmatic association is the response coming from the same grammatical class as the stimulus word. It is divided into five sub-categories; synonymy, ungraded antonymy, graded antonymy, hyponymy, and meronymy. For example:

- Monkey → **Animal**
- Monkey → **Primate**
- Monkey → **Chimpanzee**
- Monkey → **Elephant**
- Monkey (inf) → **Imp, terror**

4) Encyclopaedic response is response involving all our previous memories and experiences of a word, and will thus vary greatly from person to person.

In short, there are three types of word association; paradigmatic, syntagmatic, and clang or orthographic. Every type is associated with more complete aspect compared to other notions. Therefore, the writer follows Peppard (2007) word association types for this research, because Peppard's word association types describe the types more detail than the other theories.

2.3 Word Association Test

Field (2003, p. 60) defines word association test as one of the earliest experiments in language psychology where subject read or heard a word then said the first word which came into mind. In short, there are many ways to do a word association test. We can use a stimulus words do the test to know our lexical storage capability. The first test was introduced by Sir Francis Galton in the early 1884 which was focused on the nature of the response words and their relationship to the stimulus words. Jungian word association test by Jung (1910) provides a hundred stimulus words to the subject observed, and test investigates the response which indicates emotions of someone. While Peppard word association test by

Peppard (2007) uses eight stimulus words to the subject experiment. Further, the description of Jung's word association test and Peppard's word association test as follows:

2.3.1 Jung Word Association Test

In Jung word association test, he uses formula that has been constructed after many years. In this formula, he uses a hundred words that chosen and arranged in such a manner. In his experiment, he does not only write the subject responses but also counts the time. Jung divides the result into two types; normal reaction type and hysterical reaction type. The difference among those two types is for the hysterical reaction words has longer reaction time than the normal reaction type. The result found from this experiment are; first, the participant often unable to react quickly and smoothly to all stimulus words. Second, the participants are not content with the instruction she reacts with many words.

2.3.2 Peppard Word Association Test

In Peppard experiment, he uses fifty-one Japanese students, seven Japanese coworkers and managers, nine Native Speaker coworkers, four Native Speaker friends, and also four family members. Then the participants are divided into six groups. This experiment also uses eight stimulus words, such as under, book, bike, ouch, surf, cold, fast, and tsunami. Peppard uses the word 'quiz' rather than 'test' to discourage subjects from searching for the 'right' answer. The test consists of nine strips of paper stapled together to form a small booklet. The first strip

includes directions and the participants' name, then the remaining eight strips consists of a single prompt word.

The result of this experiment is the most classified responses were either paradigmatic or syntagmatic. In experiment found that phonological similarities play an important role at lower levels. Therefore, the writer uses Peppard's word association test as the instrument for this research, because of Peppard's word association test uses variety part of speech as the stimulus words.

2.4 Language Proficiency

Language proficiency or some people call it linguistics proficiency is the ability of an individual competence and performance in acquired language or languages. Language fluency also related in language proficiency, it use to know a high level language proficiency of an individual, especially the foreign language.

In Indonesia, the major foreign language use is English. The other minor foreign languages that usually use are Japanese, Mandarin, Arabic, French, German, and the newest is Korean language. Fluency consists a number of related but separable skills; reading, writing, listening, and grammar.

The Interagency Language Roundtable (ILR) scale consists of five levels of language proficiency:

1. Elementary proficiency.

A person in this level is described as follows; can ask and answer questions on very familiar topics, can understand simple questions and statements, has a speaking vocabulary which is inadequate.

2. Limited working proficiency.

A person in this level is describe as follows; is able to satisfy routine social demands and limited work requirements, can handle limited work requirements, has an accent, can usually handle elementary constructions quite accurately.

3. Professional working proficiency.

A person in this level is describe as follows; is able to speak language with sufficient structural accuracy, has comprehension which is quite complete for a normal rate speech, has broad vocabulary.

4. Full professional proficiency.

A person in this level is describe as follows; is able to use language fluently, can understand and participate in any conversations, make only quite rare and un-patterned error, can handle informal interpreting from and into language.

5. Native or bilingual proficiency.

A person in this level is describe as follows; has speaking proficiency equivalent to that of an educated native speaker, has complete fluency in language.

Educational Testing Services (ETS), especially in TOEIC tests measure all four English language skills; listening, reading, speaking, and writing skill. While TOEIC is divided into three levels: beginner level (405-600), intermediate level (605-780), and advanced level (785-990). So, to conduct this research the writer used TOEIC as a measurement of language proficiency, as TOEIC in the third semester students can show their ability in English.

2.5 Previous Studies

In this study, the writer uses two previous studies. The first previous study is from Ari Kusuma Wardani's thesis entitled "Lexical Storage Through Word Association Test in Male and Female Students of English Study Program of Universitas Brawijaya" in 2010. In her study, she found the types and the extent that indicate the lexical storage in male and female students of English Study Program.

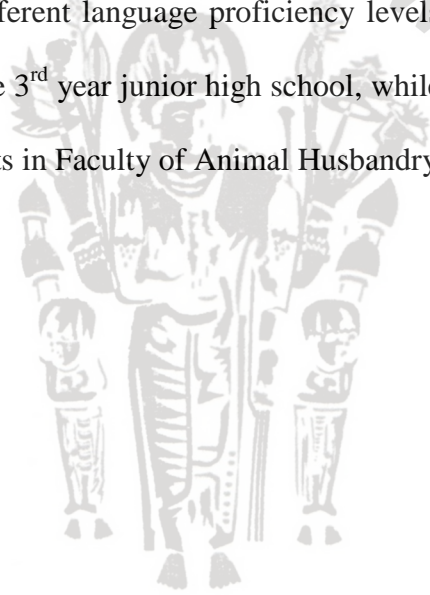
The differences between Wardani's study and the writer's study are; first, Wardani used TOEFL score as the parameter, while the writer used TOEIC score. Second, Wardani's study was looking for differences between gender (male and female), while the writer's study was looking for differences among different language proficiency level students. Third, Wardani's study used English Study Program students as the subject, while the writer uses Faculty of Animal Husbandry students.

Then the similarities between Wardani's study and the writer's study are; both studies use eight prompt words as the stimulus words. Second, they give the word association test verbally.

The second previous study is from Michael Post's assignment entitled "Word Association Responses, Lexical Development, and the Relationship Within the Mental Lexicon of Second Language Learners" in 2007. In Post's research, he found that the mental lexicon on human was highly organized in every features and degrees. The similarities between Post's research and this research are; first, both studies use L2 learners as the participant. Second, both studies use word

association test stimulus words we used variety part of speech consist of high or low frequency word. Third, as the word activity we use word 'quiz' than word 'test' as means of focusing the subjects on the task rather than focusing on their answers being right or wrong, as suggested by Wright (2001). Fourth, the word association test was given verbally.

There are two differences between Post's study and this present study. First, Post's study was looking for the relationship between mental lexicon and the L2 learners lexical development, while this study is looking for lexical storage differences among different language proficiency levels. Second, Post's subjects are 50 female Japanese 3rd year junior high school, while the subjects in this study are 3rd semester students in Faculty of Animal Husbandry.



CHAPTER III

RESEARCH METHOD

This chapter consists of the elements of methodology; research design, data source, data collection, and data analysis.

3.1 Research Design

Denzin and Lincoln (1994) state that qualitative research is multi-method in focus, involving an interpretive, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of or interpret phenomena in terms of the meanings people bring to them. In addition Ary et al (2010, p. 23) states “qualitative research is based on a different philosophical approach which sees the individual and his or her world as so interconnected that essentially the one has no existence without the other”. Thus, as researchers we can only understand human behavior by taking attention to the meaning that events have for the people involved. It means that we must not only look at what the people do, but also at what their feels and thinks.

There are many different types of qualitative research. Ary et al (2010, p. 29) divide it into eight types are based on the most widely used approaches; basic interpretative studies, case studies, document or content analysis, ethnography, grounded theory, historical studies, narrative inquiry, and phenomenological studies. A case studies described by Ary et al (2010, p. 23) is described as “a type

of ethnological research study that focuses on a single unit, such as one individual, one group, or one program". Case studies have been used widely by the education and psychology researchers. So, to conduct this research the writer used case study on qualitative research as the research design.

3.2 Data Source

The data of this study were the responses of the third semester students at Faculty of Animal Husbandry. The responses were taken from eight stimulus words that are based on Peppard's word association test, namely in, study, sonnet, fast, it, catfish, silly, and above. As the subject of this study, the writer took the participants based on their TOEIC score, and divided them into two groups based on the participants' TOEIC score, beginner level (405-600) and under beginner (<405).

Ary et al (2010, p. 148) state "a population is defined as all members of any well-defined class of people, events, or objects and a sample is a portion of a population". In addition Arikunto (2008, p. 116) states that if the subjects less than one hundred we should take all as the population sample, but if more than one hundred we can take 10%-15% or 20%-55% as the population sample. So, in this study the population was the third semester students at Faculty of Animal Husbandry, 371 students. While as the population sample the writer took 10% from all the third semester students as the population was more than one hundred, as suggested by Arikunto.

The total participants were 36 students out of 38 students as proposed before: 17 students were beginner level (405-600) and 19 students were under-beginner level (<405). This study attempts to reveal the mental lexicon of participants who came from science field and had different language proficiency levels in responding to their English vocabularies.

3.3 Data Collection

The procedure of data collections conducted by the writer systematically, in which it is presented as follows:

1. Selecting the participants.

The writer selected participant based on TOEIC level. Then the writer divided the participants into two groups based on their TOEIC score: beginner level (405-600) and under-beginner level (<405). After that, the writer took 10% from all the participants as the population sample. The total participants were 36 students out of 38 students as proposed before: 17 students were beginner level (405-600) and 19 students were under-beginner level (<405).

2. Choosing the stimulus words.

The writer chose eight stimulus words based on McCarthy's Vocabulary (1990, p. 152), as specified by following guide-lines:

- One grammatical or function word
- One or two items from the everyday Environment
- Uncommon or low frequency word

- A mix of word-classes

The writer took the word frequency based on The Corpus of Contemporary American English (COCA)'s word frequency. The writer used COCA because this corpus is used by almost ten thousands users and it takes the corpus from 1990-2012. The following table lists the prompt words and the reasons for choosing them.

Table 3.1 Word Association Test Stimulus Words (COCA, 2013)

Word	Part of Speech	Frequency	Reason choosing the prompt words
In	Preposition	8363800	A high frequency word than other preposition words.
Study	Verb	144755	A high frequency word. A common word, especially in academic field. The students should have mental link to this word.
Sonnet	Noun	598	A low frequency word. Uncommon word, synonymy with poet.
Fast	Adverb	151173	A high frequency word. A common word that have strong link than other words.
It	Pronoun	4455589	A high frequency word. A common word usually as the substitution for things.
Catfish	Noun	2171	A low frequency word. This kind of fish is very common in Indonesia, but rarely people know about the name in English.
Silly	Adjective	7614	A common word, but rarely uses. The word 'funny' is more frequently uses.
Above	Preposition	81128	This preposition is the rarest uses by the people than other preposition words.

3. Trying out the test.

The writer tried the stimulus words to students who have similar TOEIC score with the participants. This step was to know whether the result full fills the writer's expectation. In the try out, the writer asked the participants to write down the first word that came into their mind by using English. The writer found that the participants had difficulty to

find the meaning of their words in English and chose not to give any responses.

4. Carrying out the test.

The writer asked the participants to fill the Word Association Test. The writer asked the participants to write down the first lexical or word that appeared in their mind and give their reason for each response, after the participants listened each stimulus words. The writer held the test on December 20th 2013 at Faculty of Animal Husbandry. The writer distributed the answer sheet to the participants and asked them to write down their name. After that, the writer gave instruction to them for wrote down with the first word that came into their mind after heard the stimulus word. From the try out above, the writer decided not to require the participants to write the response in English, and asked them only to focus on their responses.

3.4 Data Analysis

After collecting the data, the writer analyzed the data obtained in order to get the answers of the problems of the study. The steps used in analyzing the data were as follows:

1. Coding the data.

The writer read and reread all the data. After that, the data given code based on the Peppard' word association types theory in Chapter II, such

as, **cr** → coordination, **h** → hyponymy, **s** → synonymy, **cl** → collocation, **mw** → multi word, **e** → encyclopedic, **c** → clang and **o** → other.

2. Organizing the data.

Once the data were sorted into categories, the writer grouped each responses based on their types. After that, the writer organized the data into table. This step was very helpful in visually seeing the data from the test result.

Table 3.2 Sample Table of Word Association Types

Stimulus Word	Word Association Types		Response		
			Word	F	P
	Paradigmatics	Coordination			
		Hyponymy			
		Synonymy			
	Syntagmatics	Collocation			
		Multi word			
		Encyclopedic			
Clang					
Other					

F: Frequency
P: Percentage

Table 3.3 Sample Table of Word Association Test Total Responses

Stimulus Word	Paradigmatics			Syntagmatics			C	O	Total
	Cr	H	S	Cl	MW	E			
In									
Study									
Fast									
Sonnet									
It									
Catfish									
Silly									
Above									
Total									

Cr : Coordination
H : Hyponymy
S : Synonymy
Cl : Collocation
MW : Multi Word
E : Encyclopedic

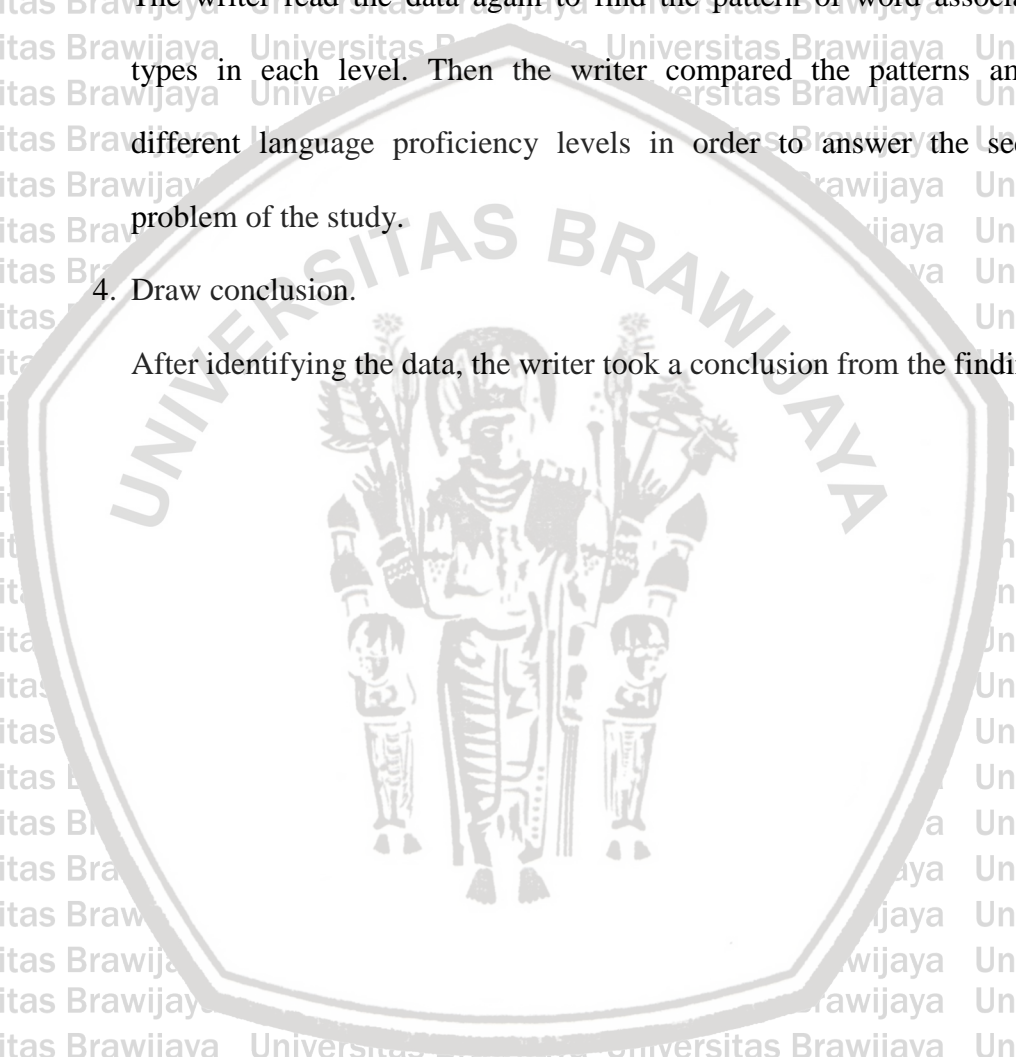
C : Clang
O : Other

3. Identifying the data.

The writer read the data again to find the pattern of word association types in each level. Then the writer compared the patterns among different language proficiency levels in order to answer the second problem of the study.

4. Draw conclusion.

After identifying the data, the writer took a conclusion from the finding.



CHAPTER IV

FINDING AND DISCUSSION

This chapter consists of finding and discussion. In finding, there are data description which explains the responses, and analysis of the participants' types of Word Association. The second section is discussion, in which the writer shows the interesting responses of the participants.

4.1 Finding

The total participants who came to the test were 36 students out of 38 students as proposed before. They were 17 (seventeen) students belonged to beginner level (405-600) and 19 (nineteen) students categorized as under-beginner level (<405). In total, the responses were 247 (two hundred and forty-seven) covering paradigmatics: coordination, hyponymy, and synonymy; syntagmatics: collocation, multi word, and encyclopedic; phonological relations or clang.

To answer the first problem of study, the writer provided the list of participants' responses in tables. In this section the writer used pseudo names for the participants to guarantee their confidentiality. In analyzing the writer divided into two groups: beginner level students' responses and under beginner level students' responses.

4.1.1 Analysis on the Word Association Types of Beginner Level Students'

Responses.

In analyzing the data, the writer started up with paradigmatics relation which was followed by the branches of it. Then syntagmatics relation was described afterwards. In this group, paradigmatics had the least responses and it was divided into some branches: one response was coordination, 2 (two) responses were hyponymy, and 3 (three) responses were synonymy. While syntagmatics was divided into some branches: 11 (eleven) responses were collocation and 30 (thirty) responses were encyclopedic relation.

Table 4.1 Word Association Types of Beginner Level Students' Responses

Stimulus Word	Word Association Types		Response (s)		
			Word (s)	F	P
In	Paradigmatics	Coordination	-	-	-
		Hyponymy	-	-	-
		Synonymy	-	-	-
	Syntagmatics	Collocation	Laci, the room, ruangan, room, kotak, room, ruangan, home, kelas, kelas, room, the room, hotel	13	76.5%
		Multi word	-	-	-
		Encyclopedic	Oper, meja, pusat pembelajaran	3	17.6%
		Clang	-	-	-
Other	-	-	-		
Study	Paradigmatics	Coordination	-	-	-
		Hyponymy	-	-	-
		Synonymy	-	-	-
	Syntagmatics	Collocation	Pintar, mahir, buku, hard, sekolah, skripsi, English, PKL, university, laporan, Inggris, hard, abstrak, ujian, UAS, unggas, UAS	17	100%
		Multi word	-	-	-
		Encyclopedic	-	-	-
		Clang	-	-	-
Other	-	-	-		

Table continued...

Stimulus Word	Word Association Types		Response (s)		
			Word (s)	F	P
Fast	Paradigmatics	Coordination	-	-	-
		Hyponymy	-	-	-
		Synonymy	-	-	-
	Syntagmatics	Collocation	Lari, motor, mobil, lari, foot, film	6	35.3%
		Multi word	Furious	1	5.9%
		Encyclopedic	-	-	-
	Clang	-	-	-	-
Other	Bunga, bunga, keramik, bunga, bunga, bunga, flower, bunga, keramik, flower	10	58.8%		
Sonnet	Paradigmatics	Coordination	-	-	-
		Hyponymy	-	-	-
		Synonymy	Puisi	1	5.9%
	Syntagmatics	Collocation	Romantis	1	5.9%
		Multi word	-	-	-
		Encyclopedic	Sonnet 2 band, band dangdut, dangdut, band, band, dangdut, sonnet to band, sonnet to band, band, dangdut, band, band	12	70.6%
	Clang	-	-	-	-
	Teman, cantik, anak bawah	3	17.6%		
It	Paradigmatics	Coordination	-	-	-
		Hyponymy	-	-	-
		Synonymy	-	-	-
	Syntagmatics	Collocation	Benda	1	5.9%
		Multi word	-	-	-
		Encyclopedic	-	-	-
	Clang	-	-	-	-
Other	Makan, piring, kenyang, nasi, minum, pakanternak, soto, rice, terong, nasi, nasi, lapar, lapar, laper	14	82.4%		
Catfish	Paradigmatics	Coordination	-	-	-
		Hyponymy	Ikan, jenisikan, jenisikan, jenisikan	4	23.6%
		Synonymy	-	-	-
	Syntagmatics	Collocation	Fried, akuarium, pecel	3	17.6%
		Multi word	-	-	-
		Encyclopedic	Lele, Henny	2	11.8%
	Clang	-	-	-	-
Other	Ikan-kucing, iwakasin, bunga, besar, kucingikan, kucing-ikan	6	35.3%		

Table continued...

Stimulus Word	Word Association Types		Response (s)		
			Word (s)	F	P
Silly	Paradigmatics	Coordination	-	-	-
		Hyponymy	-	-	-
		Synonymy	Bodoh, bodoh, bodoh, idiot, bodoh	5	29.4%
	Syntagmatics	Collocation	Mabuk, ganggu	2	11.9%
		Multi word	-	-	-
		Encyclopedic	Silly band (accessory), aku, response	3	17.6%
	Clang	-	-	-	-
Other	Spicy, nama orang, pedes, pedes, Lombok	5	29.4%		
Above	Paradigmatics	Coordination	In front of, bawah	2	11.8%
		Hyponymy	-	-	-
		Synonymy	-	-	-
	Syntagmatics	Collocation	Langit, awan, awan, langit, matahari, lampu, kelas	7	41.2%
		Multi word	-	-	-
		Encyclopedic	Pertanyaan, baju, pegunungan, spidol, nothing, film	6	35.3%
	Clang	-	-	-	-
	Other	-	-	-	-

F : Frequency

P : Percentage

Coordination response had 2 (two) responses which was answered by “in front of” and *bawah*. The responses of “in front of” and *bawah* were included into coordination, because the words had same level with the prompt word “above”.

The response word and the stimulus word had the same level, because both words were included in the same categories of part of speech namely preposition words.

In terms of hyponymy response, “catfish” was found out that the participant answered by using the word *ikan* and *jenis ikan*. The responses of *ikan* and *jenis ikan* were included into hyponymy responses because the words had hierarchical relationship with the prompt word *catfish*. As the catfish is the hypernym of fish and one kind of fish.

The last is synonymy response. The participant answered the word *sonnet-puisi* and *silly-bodoh* and *idiot*. Both responses were included into synonymy response, because the meaning of word *puisi* in English is Poem and poem is the synonym of sonnet. While the prompt word *silly* had a meaning funny or sometimes the word was used to call a person who acted like a crazy person. So, based on the participants' reason, the word *bodoh* and *idiot* were chosen as the response to the prompt word "silly". The writer included the word *bodoh* and *idiot* as the synonymy responses type.

Next, the writer analyzed the syntagmatics relation. In this group the syntagmatics relation had the highest responses and was divided into some branches: 50 (fifty) responses were collocation, 1 (one) response was multi word and 26 (twenty-six) responses were encyclopedic responses.

In collocation, prompt words got 50 (fifty) responses. In detail, the word "in" got 13 (thirteen) responses, the word "study" got 17 (seventeen) responses, the word "fast" got 6 (six) responses, the word "sonnet" got 1 (one) response, the word "it" got 1 (one) response, the word "catfish" got 3 (three) responses, the word "silly" got 2 (two) responses and the word "above" got 7 (seven) responses.

For the prompt word "in" the responses were *laci*, "the room", *ruangan*, "room", *kotak*, "room", *ruangan*, "home", *kelas*, *kelas*, "room", "the room", and "hotel" as the participant thought about places or things that can save something inside it. The word "study" had 17 (seventeen) responses: *pintar*, *mahir*, *buku*, "hard", *sekolah*, *skripsi*, "English", *PKL*, "university", *laporan*, *abstrak*, *ujian*, *unggas*, and *UAS*.

As the participant response with the words that had a close relationship with the

prompt word. There were many words used as the response, which indicate that they had strong linked with the prompt word. The word “fast” had 6 (six) responses: *lari*, *motor*, *mobil*, *lari*, and *foot*. The participant also connected the prompt word with things and activity that had relation with the word “fast”. While for the prompt word “sonnet” and “catfish”, each word had 1 (one) response: “sonnet”-*romantis* and “catfish”-*fried*. The participant knew the meaning of each prompt word, it help them to connect the words with the word that had relation with the word “sonnet” and “catfish”. The last is for stimulus word “above” which had 7 (seven) responses, such as: *langit*, *awan*, *awan*, *langit*, and *matahari*. In choosing the responses words, the participants had a tendency to make some words to occur together. It can be lexical collocation which involves syntactic structure and grammatical collocation that depends on syntactic relationships as in preposition buckle up.

Encyclopedic response is the third most frequently used word association type responses performed by the participants. There were 26 (twenty-six) responses for this category. Commonly, the responses which belonged to encyclopedic knowledge relation were derived from preposition and noun stimulus words. The responses were related to personal knowledge or experience from the participants.

For word “in” have 3 (three) responses: *oper*, *meja*, and *pusat pembelajaran*. Because the writer conducted the test in one of Faculty of Animal Husbandry’s classrooms, so it could influence the participants in choosing their lexical responses. The word “sonnet” has 12 (twelve) responses, such as: *sonnet 2*

band, band dangdut, dangdut, band, and band. The responses indicated that the participants had the same knowledge about the prompt word sonnet. They linked the word with one of *dangdut* bands which one of the members is Ridho Roma.

These responses words also indicated that many of the participants linked the word sonnet with something that they had already known, even though they did not know the real meaning for sonnet. Catfish had 2 (two) responses like: *Henny*

and *lele*. The participant who linked the prompt word with *Henny*, the participant's friend name, indicated that she knew the meaning of "catfish" and connected the word with her friend favorite food. The stimulus word "silly" has 3

(three) responses: *silly band (accessory), aku, and response*. The participants linked the response words with their knowledge. One of them, who answered *silly band*, did not know the meaning of prompt word. While the other two

participants, they know the meaning and linked it with their current or previous experience. So, the responses belonged to encyclopedic relation. While the word "above" has 6 (eight) responses: *pertanyaan, baju, pegunungan, spidol, nothing,*

and *film*. The participants linked the prompt word with their current and previous experiences. For example the word *pertanyaan*, the participants linked the word with word "above", because of her experienced that the word "above" always

mention in the instruction at question sheet.

Next, the writer analyzed the other relation. There are 38 (thirty-eight) responses for this category. The mostly used word was for the prompt word "it".

In detail, the word "fast" got 10 (ten) responses, the word "sonnet" got 3 (three) responses, the word "it" got 14 (fourteen) responses, the word "catfish" got 6 (six)

responses, and the word silly got 5 (five) responses. This response relation is based on phonetics and orthographic association. Response for the word “fast”: *bunga, bunga, keramik, and bunga*. The participant heard the word *vas* [ˈvas] for “fast” [ˈfast]. Because the participants were miss-heard, they responses with the word that had connection with *vas* rather than the word “fast”. The word “sonnet”: *teman* and *cantik*. The participants linked the word with the participants’ friend name. From the interviewed, the writer knew that the participants’ friend had similarities based on the sound. For word “it”: *makan, piring, kenyang, nasi, minum, and pakan ternak*. The participants mistook the word “it” [ˈit] with “eat” [ˈēt]. So, they linked the response word with the words that had connection with word “eat”. The participant responses for prompt word “catfish”: *ikan-kucing, iwak asin, bunga, and besar*. The responses had different association between the real meaning and the mental lexicon of the participant. The participants linked the word “catfish” with *ikan-kucing*, indicate that as the participants’ knowledge the stimulus word as two word did not as one word. Then the participant who response with word *iwak asin*, as the participant’s knowledge in Indonesia the culture was we gave *iwak asin* as cat’s food. While the participant who answered with *bunga*, the writer found that the participant linked the stimulus word with one of Indonesian’s flower. Last, the participant who answered with word *besar*, the writer found that the participant linked the word with an animal. So, the writer included it into new relation. Then for the word “silly”, the participant responded with word “spicy”. The participant linked the prompt word with the response word because the participant heard “chili” [ˈchi-lē] for “silly” [ˈsi-lē].

4.1.2 The Analysis on the Word Association Types of Under-Beginner Level

Students' Responses.

In analyzing the data, the writer started up with paradigmatics relation followed by the branches of it. Then, syntagmatics relation will be described afterwards. In this group, paradigmatics had the least responses and was divided into some branches: three responses were coordination, one response was hyponymy, and three responses were synonymy. While syntagmatics was divided into some branches: 44 (forty-four) responses were collocation, 3 (three) responses were multi word and 31 (thirty-one) responses were encyclopedic relation.

Table 4.2 Word Association Word Types of Under-Beginner Level Students' Responses

Stimulus Word	Word Association Types		Response (s)		
			Word (s)	F	P
In	Paradigmatics	Coordination	Luar, on, on	3	15.8%
		Hyponymy	-	-	-
		Synonymy	Didalam	1	5.3%
	Syntagmatics	Collocation	Sempit, classroom, hospital, the classroom, kelas, room, home, hole, room, the university, kelas	11	57.9%
		Multi word	Love	1	5.3%
		Encyclopedic	Film, tenang	2	10.5%
Clang			-	-	
Other			-	-	

Table continued...

Stimulus Word	Word Association Types		Response (s)		
			Word (s)	F	P
Study	Paradigmatics	Coordination	-	-	-
		Hyponymy	-	-	-
		Synonymy	-	-	-
	Syntagmatics	Collocation	Hard, school, class, rajin, school	5	26.3%
		Multi word	-	-	-
		Encyclopedic	Lazy, English, pusing, english, pusing, budrek, bosan, botak, lama, malas, Inggris, Fapet-UB	12	63.2%
	Clang	-	-	-	-
Other	-	-	-	-	
Fast	Paradigmatics	Coordination	Lambat, lambat	2	10.5%
		Hyponymy	-	-	-
		Synonymy	-	-	-
	Syntagmatics	Collocation	Rossi, mobil, motor, balapan, laricepat	5	21.1%
		Multi word	-	-	-
		Encyclopedic	Film, hemat	2	10.5%
	Clang	-	-	-	-
Other	-	Karet, bunga, flower, beautiful, bunga, bunga, bunga, flower	8	42.1%	
Sonnet	Paradigmatics	Coordination	-	-	-
		Hyponymy	-	-	-
		Synonymy	-	-	-
	Syntagmatics	Collocation	Romantis	1	5.3%
		Multi word	-	-	-
		Encyclopedic	Musik, dangdut, Roma Irama, sonata-dangdut, dangdut, Roma Irama	6	31.6%
	Clang	-	-	-	-
Other	-	Facial, meat, makanan	3	15.8%	
It	Paradigmatics	Coordination	-	-	-
		Hyponymy	-	-	-
		Synonymy	-	-	-
	Syntagmatics	Collocation	Awalan, kata depan	2	10.5%
		Multi word	Is cat, is	2	10.5%
		Encyclopedic	Mereka	1	5.3%
	Clang	-	-	-	-
Other	-	Ice cream, minum, nasi, kenyang, makan, rice, nasi, lapar, bread	9	47.4%	

Table continued...

Stimulus Word	Word Association Types		Response (s)		
			Word (s)	F	P
Cattfish	Paradigmatics	Coordination	-	-	-
		Hyponymy	Ikan	1	5.3%
		Synonymy	-	-	-
	Syntagmatics	Collocation	Kumis, lembek, hitam, dimasak, pecel	5	21.1%
		Multi word	-	-	-
		Encyclopedic	Pusing	1	5.3%
	Clang	-	-	-	-
Other	-	Bermusuhan, in the room, meow, musuh, hiu, kucing	6	31.6%	
Silly	Paradigmatics	Coordination	-	-	-
		Hyponymy	-	-	-
		Synonymy	Gila, konyol, konyol	3	15.8%
	Syntagmatics	Collocation	Ketawa, 3 idiots, badut	3	15.8%
		Multi word	-	-	-
		Encyclopedic	Cewek, Ibnu, Ahmad	3	15.8%
	Clang	-	-	-	-
Other	-	Sisik, buluekorkucing, hot, pedas, pedas, romatis	6	31.6%	
Above	Paradigmatics	Coordination	Bawah, bawah	2	10.5%
		Hyponymy	-	-	-
		Synonymy	-	-	-
	Syntagmatics	Collocation	Star, atap, langit, awan, awan, genteng, langit, sky, Tuhan, the table, meja, mati	12	63.2%
		Multi word	-	-	-
		Encyclopedic	Film, piring, screen	3	15.8%
	Clang	-	-	-	-
Other	-	-	-	-	

F: Frequency

P: Percentage

Coordination response had six responses. The participant answered 3 (three) responses for the word “in”, 2 (two) responses for word “fast”, and 1 (one) response for word “above”. The words responses for “in” such as *luar* and “on”, while the response for prompt word “fast” is *lambat*, and the response for prompt word “above” is *bawah*. The relationship between the prompt words and the

responses are in-*luar* (antonym), in-on (had the same part of speech, preposition words) and above-*bawah* (antonym), while the relationship between fast and *lambat* is antonym. So, all the responses belong to coordination. As coordination (include antonymy) refers to the words of the same level with the prompt word.

Then for hyponymy response, the participant answered with 1 (one) response for the prompt word “catfish”. Hyponymy covers the hierarchical relationship between the prompt word and the response word. The response word is *catfish-ikan*. *Ikan* had connection with the word catfish, because catfish is hypernym of fish.

The last is synonymy response: “in” and “silly”. The participant, who answered *didalam* linked the word with their knowledge from the meaning of “in”. The word “silly” had responses with *konyol* and *gila*. The response was included into synonymy response because between the prompt word and the response words had the same meaning. The relationship between the prompt word and the response words is loose synonymy because there is relationship but it not necessarily in all contexts.

Next, the writer analyzed the syntagmatics relation. In this group the syntagmatics relation had the highest responses and was divided into some branches: 44 (forty-four) responses were collocation, 3 (three) responses were multi word and 31 (thirty-one) responses were encyclopedic response.

In collocation the participants answered all of the prompt words. The details of the prompt words' responses were in got 11 (eleven) responses, study got 5 (five) responses, fast got 5 (five) responses, sonnet got 1 (one) response, it got 2

(two) responses, catfish got 5 (five) responses, silly got 3 (three) responses, and above got 12 (twelve) responses.

For the prompt word “in” the responses were *sempit*, “classroom”, “hospital”, “the classroom”, *kelas*, “room”, “home”, “hole”, and “the university”.

That was because the participant linked the prompt word with the characteristics of places. The responses from the word “study” were “hard”, “school”, “class”,

and *rajin*. The participants linked the prompt word with the words that had connection with the word “study”. The word “fast” had responses like: *Rossi*,

mobil, *hemat*, and *motor*. The participants linked the prompt words by answered with word that had connection and the thing that usually used word “fast” to

describe it. While for the prompt word “sonnet”, it had 1 response, sonnet-*romantis*. The participant knew the meaning of sonnet and she linked the word

with word that had strong relation with word “sonnet”. The word it had 2 responses: *awalan* and *kata depan*, as the participant knowledge that the word “it”

usually write down in the beginning of a sentence. The word “catfish” had 5 responses, namely *kumis*, *lembek*, *hitam*, *pecel* and *dimasak*. The participants had

a tendency to use their knowledge to response the word “catfish” and it also indicated that they knew the meaning of the prompt word. Then the word “silly”

had 3 responses: *ketawa*, “3 idiots”, and *badut*. The participant linked the prompt word with the thing or activity that had close relation with the word “silly”. The

last is for stimulus word “above” which had 12 responses, such as: “star”, *atap*, *langit*, *awan*, *awan*, *genteng*, *langit*, “sky”, and *Tuhan*. In choosing the responses

words, the participants had a tendency to bring some words to occur together. It

can be lexical collocation involving syntactic structure and grammatical collocation depending on syntactic relationships as in preposition buckle up.

Multi word responses had three responses, both from the prompt words "in" and "it". For the word "in" the response was "love". The participant linked the word in with love when making a sentence. The reason was because the participant connected the prompt word with the simplest way of making a sentence. Another possible reason was because the participant had linked the word with his or her previous knowledge. However, it was included into multi word as the reason from the participant was not because of her or his experience. The word "it" had two responses, which are "is cat" and "is". Both words are linked with the word which was placed at the beginning of the sentence or sentences. It also had relation as the word is a pronoun so it was always in the beginning of a sentence and it would be followed by *to be* such as is, are, was, or were.

The next is encyclopedic relation that had most responses from all stimulus words. The word "in" had 2 (two) responses, the word "study" had 12 (twelve) responses, the word "fast" had 2 (two) responses, the word "sonnet" had 6 (six) responses, the word "it" had 1 (one) response, the word "catfish" had 1 (one) responses, the word "silly" had 3 (three) responses, and the prompt word "above" had 3 (three) responses. The encyclopedic had total of 31 (thirty-one) responses.

The word "in" responses consisted of *film*, and *tenang*. The participants linked the prompt word with those three responses based on their experience. The participant answered *film* linked with her previous experienced that was watching

movie. So, when she heard this word, her mental lexicon linked it with the nearest activity that effect her lexical. While the participants who responses with *tenang*, she connected her answer based on her feeling when she was inside a place.

The word "study" had the highest responses than other stimulus words. There were 12 (twelve) responses for this word, such as lazy, English, *pusing*, *PKL*, *budrek*, *bosan*, *botak*, *lama*, *malas*, and *Fapet-UB*. The participant who answered *PKL* linked the word with her experience in her boarding house. For the participants who had answered *pusing*, *budek*, or *bosan*, indicated that they were experienced many activities that were included in their activity for long time study or something they should do. The participants who answered English as the responses said that their mental lexicon had linked with the activity they currently did. Because when they took this test, they remembered English subject.

The stimulus word "fast" had two words as the responses namely *balapan*, and *lari cepat*. The participants who answered *balapan* as the response said that this word was the word which had "fast" relation as the car and the participant linked the car with *balapan* as many tournament of car race like "Formula-1". While the word *lari cepat* was given because the participant had previous experienced.

The word "sonnet" had six responses, consisting of the word *musik*, *Roma Irama*, *sonata-dangdut*, *sonet to band*, and *dangdut*. Most of the participants answered by using the similar words. It indicated that all the participants had the same knowledge and experience about the word sonnet. They did not have

knowledge about the meaning of word sonnet, but it did not stop them to link the word with the other word that they knew as related word.

The word "it" had three responses namely *mereka*. The knowledge of the participants about the word "it" was based on her knowledge and experience. As the participants only got common English as the subject, their knowledge was only limited. She linked the word "it" with her knowledge as the prompt word used to refer to a group of people.

The word "catfish" had one response, *pusing*. The participant answered by using the word *pusing*, indicated she had experienced got a bad effect after ate catfish.

The word "silly" had three responses such *cewek*, *Ibnu*, and *Ahmad*. When the participant answered *cewek*, she had knowledge with one of her friend's name which is the same with the prompt word. While the word *Ibnu*, and *Ahmad* indicated that the participants knew about the meaning of this word. But, they linked between the prompt word and the response word from their previous and current experiences.

The word "above" had three responses such as *film*, *piring*, and "screen". For words film and screen, the participant linked the word with the prompt word because of her current experience. The participant gave the reason for choosing the words from her experience after watching movie last night. Then the word "screen", the participant linked the word with her previous experienced.

The last is the other relation. The total response of this type is 32 (thirty-two) responses. The details are fast (8 responses), sonnet (3 responses), it (9

responses), catfish (6 responses), and silly (6 responses). This response relation is based on the participants' hearing.

The word "fast" had responses: *karet*, "flower", "beautiful", and *bunga*.

The participants had a tendency to misunderstand the prompt word "fast [ɸ'fastɸ]" with heard it as word *vas* [ɸ'vasɸ]. The word "sonnet" had some responses such as:

"facial", "meat", and *makanan*. The participants who answered "facial" mistook the word "sonnet" with her friend's name. So, she linked the word with her previous activity. While the participants who answered "meat" and *makanan*,

they mistook the word "sonnet" with one of Indonesian product "So Nice". The

word "it" had the most responses, namely "ice cream", *minum*, *nasi*, *kenyang*, *makan*, rice, *nasi*, and *lapar*. The participant mistook the prompt word "it [ɸ'itɸ]"

with "eat [ɸ'ētɸ]". Then, the word "catfish" had responses: *bermusuhan*, "in the room", *meow*, *musuh*, *hiu*, and *kucing*. The participants mistook the word

"catfish" as two word "cat" and "fish". It also indicated that the participants did not have knowledge of the real meaning from the word "catfish". The last was

word "silly": *sisik*, *bulu ekor kucing*, "hot", and *pedas*. The participants had tendency to responses with word that did not had connection with the prompt

word "silly". While the participants who answered with "hot" and *pedas*, they mistook the word "silly [ɸ'si-lēɸ]" with word "chili [ɸ'chi-lēɸ]". The similarities of

phonetics and sound influenced the responses of the most prompt words too.

4.1.3 Word Association Types between Beginner and Under-Beginner Language Proficiency Level

After analyzing the data to answer the first problem of the study, the writer found a pattern on those two groups, Beginner level and Under-Beginner level.

The writer found the similarity and difference in both groups. To answer the second problem of the study, the writer provides the finding pattern from both groups.

Table 4.3 Word Association Test Total Responses of Beginner Level

Stimulus Word	Paradigmatics			Syntagmatics			C	O	Total
	Cr	H	S	Cl	MW	E			
In	-	-	-	13	-	3	-	-	16
Study	-	-	-	17	-	-	-	-	17
Fast	-	-	-	6	1	-	-	10	17
Sonnet	-	-	1	1	-	12	-	3	17
It	-	-	-	1	-	-	-	14	15
Catfish	-	4	-	3	-	2	-	6	15
Silly	-	-	5	2	-	3	-	5	15
Above	2	-	-	7	-	6	-	-	15
Total	2	4	6	50	1	26	-	38	127

Table 4.4 Word Association Test Total Responses of Under-Beginner Level

Stimulus Word	Paradigmatics			Syntagmatics			C	O	Total
	Cr	H	S	Cl	MW	E			
In	3	-	1	11	1	2	-	-	18
Study	-	-	-	5	-	12	-	-	17
Fast	2	-	-	5	-	2	-	8	17
Sonnet	-	-	-	1	-	6	-	3	10
It	-	-	-	2	2	1	-	9	14
Catfish	-	1	-	5	-	1	-	6	13
Silly	-	-	3	3	-	3	-	6	15
Above	1	-	-	12	-	3	-	-	16
Total	6	1	4	44	3	29	-	32	120

- Cr : Coordination
- H : Hyponymy
- S : Synonymy
- Cl : Collocation
- MW : Multi word
- E : Encyclopedic

C : Clang
O : Other

From the finding, the writer found that the Beginner level participants' responses were mostly in syntagmatics relation. The mostly type found in this group is collocation responses and encyclopedic responses. These two types influenced most of the participants' responses. For the other types, there were a few responses words that were included in paradigmatics relation. For multi word response, there was no participant in this group who linked the prompt words into this type.

Then for the Under-Beginner level, the writer found that in this group the participants had more varieties in responses to the prompt words. The response of this group involved all types. However, the participants in this group had a tendency to response based on syntactic relation. Collocation and encyclopedic had the most responses rather than the other types of response.

So, the writer concluded that there was no difference between the Beginner level students with Under-Beginner level students. Both of the groups had the same pattern to response the stimulus words. They had a tendency to answer based on knowledge and experiences they have for the words. In addition, the participants mostly linked the prompt words with the word that had syntactic relation with the stimulus words.

The writer also found out that the participants had tendency to use *Bahasa Indonesia* rather English. As the stimulus words used English, but the participants' mental lexicon linked the word with *Bahasa Indonesia*. It shows that

both groups had a limited English vocabulary. But, the limited of English vocabulary did not limit their variety of words chosen to respond for the prompt words.

The writer found that the participants whose answers were in English had a tendency to misspell the words. For example, actually they wanted to write “meat” but they misspelled the word by writing “meat”. Then the other participants who answered using English, they responded with simple and common words. For example, “above” - “star”, “study” - “classroom”.

4.2 Discussion

The Word Association Types produced by the participants were based on the theory of Peppard’s (2007) Word Association Types. The data showed that the participants’ responses mostly belonged to syntagmatics and other relations. In this section, the writer provided the list of types of the Mental Lexicon for each language proficiency levels in detail.

In terms of Word Association types for the beginner level, the writer found out that the types of responses were mostly collocation relation. There were about 50 (fifty) responses taken from all of the stimulus words. Encyclopedic got 26 (twenty-six) responses in all of the stimulus words, and other relation got 38 (thirty-eight) responses. Commonly, the responses which belonged to collocation were derived from verb and preposition stimulus words such as “study” and “in”.

The next responses were coordination which got 2 (two) responses. There were 4 (four) hyponymy responses and there were 6 (six) synonymy responses.

In another group of the under-beginner level proficiency, the writer found out that the type of responses were mostly collocation relation, which were about 44 (forty-four) responses taken from all of the stimulus words. The mostly used responses which belonged to collocation relation were derived from preposition and verb stimulus words. The other responses were coordination which got 6 (six) responses. Hyponymy got 1 (one) response, synonymy got 3 (three) responses, multi word got 3 (three) responses, encyclopedic got 31 (thirty) responses, and other got 32 (thirty-two) responses.

The writer found that both groups, beginner and under-beginner, had tendency to miss-hear stimulus words namely “fast”, “it” and “silly”. The responses from the three stimulus words above did not included in any types of Peppard’s Word Association Types. So, the writer included the responses into other types outside the types that Peppard proposed. The participants had tendency to miss-heard word “fast” with *vas*; “it” with “eat”; and “silly” with “chili”.

The participants’ responses in the Beginner level were mostly syntactical lexicon. The participants’ most responses were in the two branches of syntagmatics relation, collocation responses and encyclopedic responses. They mostly linked between the prompt words and the responses words with the tendency of the words occur together. It also involved syntactic structure and grammatical depending on syntactic relation.

The participants’ responses in Under-Beginner level group were mostly syntactical lexicon too. The three highest types used by the participants in this

group are collocation, encyclopedic and phonological responses. From the finding, the writer found that the participants in Under-Beginner level mostly used their knowledge and experience to link the stimulus words with the responses words. They mostly linked between the prompt words and the responses words with the tendency of the words occur together too. It also involved syntactic structure and grammatical that depends on syntactic relation.

The different among both groups was the participants of beginner level had tendency to response almost all prompt words. While the participants of under-beginner level had tendency to not respond the un-common word such as “sonnet” and “catfish”. They also had tendency to response with the similar words as the other participants in this group.

In this study, the writer used two previous studies. The first previous study was from Post. In his finding, Post found the word association type that the participants’ responses mostly from collocation relation. As the most responses in collocation relation was from verb prompt word.

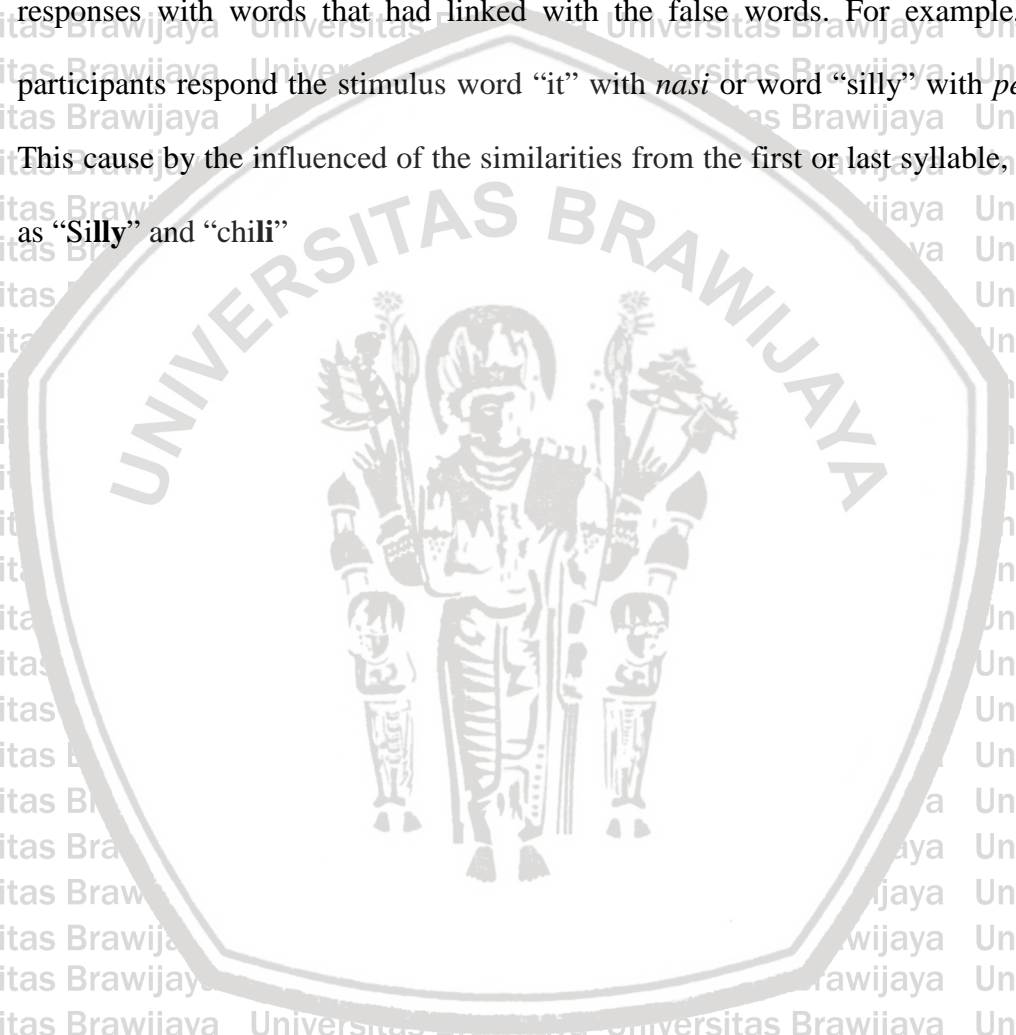
The second previous study, the writer used Wardani’s thesis. In Wardani’s finding, she found the male students’ responses mostly from encyclopedic relation. The other types found in this subject were collocation and hyponymy.

While the female students’ responses dominated most by encyclopedic and hyponymy. In this study, the writer found that the most types found in the participants’ responses were collocation, encyclopedic and other relations.

While in this study, the writer found collocation and encyclopedic relation were types that mostly found in the 3rd semester students at Faculty of Animal

Husbandry” responses. The writer also found other relations that were not included in Peppard’s Word Association Types. This relation is based on the participants miss-heard of the stimulus words which had similarities in sound, such as “it” and “eat”. From the caused above, the participant had tendency to responses with words that had linked with the false words. For example, the participants respond the stimulus word “it” with *nasi* or word “silly” with *pedas*.

This cause by the influenced of the similarities from the first or last syllable, such as “Silly” and “chili”



CHAPTER V

CONCLUSION AND SUGGESTION

This chapter includes the conclusion from the finding of 3rd semester students' responses type and suggestion of this case study.

5.1 Conclusion

Mental lexicon produced by the third semester students at Faculty of Animal Husbandry among different language proficiency levels were various. It was interesting to see how each student from different language proficiency levels stored their association uses English and *Bahasa Indonesia's* vocabulary. This research had shown the mental lexicon and their lexical storage as well as word association among different language proficiency levels. Here was the summary of finding according to the result of this study:

1. The participants' most responses were in the two branches of syntagmatics relation, collocation responses and encyclopedic responses. From this finding, the writer concluded that for Beginner level students, they mostly linked between the prompt words and the responses words with the tendency of the words occur together. It also involved syntactic structure and grammatical depending on syntactic relation.

2. From the finding, the writer found that the participants in Under-Beginner level mostly used their knowledge and experience to link the stimulus words with the responses words. From this finding, the writer also concluded that for Under-Beginner level students, they mostly linked between the prompt words and the responses words with the tendency of the words occur together too. It also involved syntactic structure and grammatical that depends on syntactic relation.

3. There are relations that were not included in Peppard's Word Association Types found in both of groups, beginner and under-beginner level. The responses of this type were influenced by the similarities sound of the first or last syllable from the stimulus words namely "fast", "it" and "silly" and word for word translation.

4. Either beginner or under beginner level participants responses the stimulus words mostly with *Bahasa Indonesia*.

Based on the summaries above, this study had digged out that in the different language proficiency level, especially the lower level, students store their English vocabulary with the same pattern. The writer could conclude that most of the responses of Beginner level students and Under-Beginner level students had a tendency of using some words that occur together which involve syntactic structure and grammatical collocation. In addition, they also had tendency to link the word with the word from their previous memories and experiences, whether or not they know the meaning from the word.

5.2 Suggestion

In writing this study, the writer would be very pleased to present the result for the educational purpose.

1. Faculty of Cultural Studies

The writer is a student in the faculty and she wants to provide richer information related to mental lexicon and lexical storage for the Faculty. In the future, the writer hopes that there will be more references about Psycholinguistics, mental lexicon or lexical storage.

2. Further researcher

This paper, hopefully, is able to give more information and reference for other researchers and students who are pursuing S-1 degree in the Study Program of English at Faculty of Cultural Studies, or those who are interested in conducting study in Psycholinguistics, particularly in using Word Association Test (WAT). The writer can give suggestion for further researcher to conduct other topics; perhaps, she or he would propose Lexical Storage among different field students to be the next case study.

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UNIVERSITAS BRAWIJAYA

APPENDICES



Appendix 1. Word Association Test Answer Sheet

WORD ASSOCIATION QUIZ

Name : _____

Sex : M / F

Please write down the first word that you think of after listening each of the following stimulus words and comment on how or why you choose your responses:

1. Response _____ :
Reason : _____

2. Response _____ :
Reason : _____

3. Response _____ :
Reason : _____

4. Response _____ :
Reason : _____

5. Response _____ :
Reason : _____

6. Response _____ :
Reason : _____

7. Response _____ :
Reason : _____

8. Response _____ :
Reason : _____

Appendix 2. Beginner Level's TOEIC Score

No	Participant	TOEIC Score
1	A-01	465
2	A-02	435
3	A-03	510
4	A-04	535
5	A-05	525
6	A-06	460
7	A-07	410
8	A-08	425
9	A-09	475
10	A-10	420
11	A-11	475
12	A-12	415
13	A-13	460
14	A-14	415
15	A-15	425
16	A-16	410
17	A-17	425

Appendix 3. Under-Beginner Level's TOEIC Score

No	Participant	TOEIC Score
1	B-01	375
2	B-02	300
3	B-03	260
4	B-04	300
5	B-05	250
6	B-06	265
7	B-07	280
8	B-08	310
9	B-09	245
10	B-10	250
11	B-11	265
12	B-12	275
13	B-13	260
14	B-14	355
15	B-15	280
16	B-16	245
17	B-17	310
18	B-18	275
19	B-19	260

Appendix 4. Word Association Responses of Beginner Level

Subject	Stimulus Words							
	In	Study	Fast	Sonnet	It	Catfish	Silly	Above
A-01	Hotel (cl)	Sekolah (cl)	Bunga (c)	Sonnet 2 band (e)	Makan (o)	Jenis ikan (h)	Silly band (e)	-
A-02	Laci (cl)	Skripsi (cl)	Bunga (o)	Band dangdut (e)	Piring (o)	Ikan-kucing (o)	Aku (e)	Pertanyaan (e)
A-03	Room (cl)	Pintar (cl)	Lari (cl)	Dangdut (e)	Kenyang (o)	Iwak asin (o)	Bodoh (s)	Lampu (cl)
A-04	Kotak (cl)	Mahir (cl)	Motor (cl)	Teman (c)	Benda (cl)	Bunga (c)	Mabuk (cl)	Baju (e)
A-05	Room (cl)	English (cl)	Furious (mw)	Band (e)	Nasi (o)	Ikan (h)	-	Langit (cl)
A-06	-	PKL (cl)	Keramik (o)	Band (e)	Minum (o)	Jenis ikan (h)	-	Awan (cl)
A-07	Ruangan (cl)	Buku (cl)	Mobil (cl)	Romantis (cl)	-	Fried (cl)	Spicy (c)	In front of (cr)
A-08	Oper (e)	University (cl)	Film (cl)	Cantik (o)	-	Besar (o)	Ganggu (cl)	Kelas (cl)
A-09	Pusat pembelajaran (e)	Laporan (cl)	Bunga (o)	Puisi (s)	Pakan ternak (o)	Lele (e)	Bodoh (s)	Pegunungan (e)
A-10	Home (cl)	Inggris (cl)	Bunga (o)	Dangdut (e)	Soto (o)	Kucing-ikan (o)	Nama orang (o)	Spidol (e)

Subject	Stimulus Words							
	In	Study	Fast	Sonnet	It	Catfish	Silly	Above
A-11	The room (cl)	Hard (cl)	Foot (cl)	Sonnet to band (e)	Rice (o)	Akuarium (cl)	Response (e)	Nothing (e)
A-12	Meja (e)	Abstrak (cl)	Lari (cl)	Anak bawah (o)	Terong (o)	Henny (e)	Pedes (o)	Film (e)
A-13	Kelas (cl)	Ujian (cl)	Bunga (c)	Sonnet to band (e)	Nasi (o)	Pecel (cl)	Pedes (o)	Bawah (cr)
A-14	Ruangan (cl)	Hard (cl)	Flower (o)	Band (e)	Nasi (o)	Jenis ikan (h)	Bodoh (s)	-
A-15	Kelas (cl)	UAS (cl)	Bunga (o)	Dangdut (e)	Lapar (o)	Kucing-ikan (o)	Lombok (o)	Awan (cl)
A-16	Room (cl)	Unggas (cl)	Keramik (o)	Band (e)	Lapar (o)	-	Idiot (s)	Langit (cl)
A-17	The room (cl)	UAS (cl)	Flower (o)	Band (e)	Laper (o)	-	Bodoh (s)	Matahari (cl)

Appendix 5. Word Association Responses of Under-Beginner Level

Subject	Stimulus Words							
	In	Study	Fast	Sonnet	It	Catfish	Silly	Above
B-01	Hospital (cl)	Lazy (cl)	Balapan (cl)	Musik (e)	Ice cream (c)	Bermusuhan (o)	Sisik (o)	Star (cl)
B-02	The classroom (cl)	English (cl)	Lari cepat (cl)	-	Is cat (mw)	In the room (o)	Bulu ekor kucing (c)	The table (cl)
B-03	Kelas (cl)	Pusing (cl)	Rossi (cl)	Dangdut (e)	Minum (o)	-	Hot (o)	Atap (cl)
B-04	Room (cl)	English (cl)	Mobil (cl)	Roma Irama (e)	Nasi (o)	-	Pedas (o)	Langit (cl)
B-05	Luar (cr)	Pusing (cl)	Lambat (cr)	Sonata- dangdut (e)	Kenyang (o)	Meow (c)	Pedas (o)	Piring (e)
B-06	-	Budrek (cl)	Lambat (cr)	-	Mereka (e)	Pusing (e)	Romantis (o)	Awan (cl)
B-07	On (cr)	Bosan (cl)	Karet (o)	Facial (o)	Awalan (cl)	Kumis (cl)	Cewek (e)	Screen (e)
B-08	Love (mw)	Botak (e)	Bunga (o)	-	Kata depan (cl)	Lembek (cl)	Ketawa (cl)	Mati (cl)
B-09	Sempit (cl)	Lama (e)	Hemat (e)	Romantis (cl)	-	Hitam (cl)	Gila (s)	Awan (cl)
B-10	On (cr)	Malas (cl)	Film (e)	Dangdut (e)	Is (mw)	-	-	Genteng (cl)
B-11	Film (e)	Hard (cl)	Motor (cl)	Roma Irama (e)	-	Musuh (o)	Badut (cl)	Bawah (cr)
B-12	Home (cl)	School (cl)	Flower (c)	-	Makan (o)	Ikan (h)	Ibnu (e)	Langit (cl)

Subject	Stimulus Words							
	In	Study	Fast	Sonnet	It	Catfish	Silly	Above
B-13	Hole (cl)	Class (cl)	Beautiful (o)	Meat (o)	Rice (o)	-	Ahmad (e)	Sky (cl)
B-14	Room (cl)	Inggris (cl)	-	Makanan (o)	Nasi (o)	Hiu (o)	3 idiots (cl)	Tuhan (cl)
B-15	Tenang (e)	Rajin (cl)	Bunga (o)	-	Lapar (c)	Kucing (c)	-	Nyaman (e)
B-16	The university (cl)	Fapet-UB (cl)	Bunga (o)	-	Bread (o)	Dimasak (cl)	Konyol (s)	Meja (cl)
B-17	Classroom (cl)	School (cl)	-	-	-	Pecel (cl)	-	-
B-18	Didalam (s)	-	Flower (o)	-	-	-	Konyol (s)	-
B-19	Kelas (cl)	-	Bunga (o)	-	-	-	-	Bawah (cr)

Appendix 6. Berita Acara Bimbingan Skripsi

BERITA ACARA BIMBINGAN SKRIPSI

1. Nama : Irma Dewi
2. NIM : 0911113105
3. Program Studi : Sastra Inggris
4. Topik Skripsi : Psycholinguistics
5. Judul Skripsi : Psycholinguistics Study on Lexical Storage Among Different Language Proficiency Level (A Case Study of 3rd Semester Students at Faculty of Animal Husbandry of Universitas Brawijaya)
6. Tanggal Mengajukan : 1 Oktober 2013
7. Tanggal Selesai Revisi: 30 Januari 2014
8. Nama Pembimbing : I. Fatimah, M.Appl.Ling.
II. Emy Sudarwati, S.S., M.Pd
9. Keterangan Konsultasi

No	Tanggal	Materi	Pembimbing	Paraf
1	1 Oktober 2013	Pengajuan judul skripsi	Pembimbing I	
2	1 Oktober 2013	Pengajuan judul skripsi	Pembimbing II	
3	1 Oktober 2013	Konsultasi judul	Pembimbing I	
4	2 Oktober 2013	Konsultasi proposal & revisi judul	Pembimbing I	
5	16 Oktober 2013	Revisi Bab I, II, III	Pembimbing I	
6	23 Oktober 2013	Revisi Bab I, II, III	Pembimbing I	
7	30 Oktober 2013	Revisi Bab I, II, III	Pembimbing I	
8	6 November 2013	Revisi Bab I, II, III	Pembimbing I	
9	15 November 2013	Konsultasi Bab I, II, III	Pembimbing II	
10	21 November 2013	Revisi Bab I, II, III	Pembimbing I	
11	25 November 2013	Revisi Bab I, II, III	Pembimbing I	
12	26 November 2013	Revisi Bab I, II, III & ganti judul	Pembimbing I	

Lanjutan...

No	Tanggal	Materi	Pembimbing	Paraf
13	27 November 2013	ACC Seminar Proposal	Pembimbing I	
14	27 November 2013	ACC Seminar Proposal	Pembimbing II	
15	5 Desember 2013	Seminar Proposal	Pembimbing I	
16	5 Desember 2013	Seminar Proposal	Pembimbing II	
17	3 Januari 2014	Konsultasi Bab IV, V	Pembimbing I	
18	3 Januari 2014	Konsultasi Bab I, II, III, IV, V	Pembimbing II	
19	6 Januari 2014	Revisi Bab IV, V	Pembimbing I	
20	8 Januari 2014	Revisi Bab I, II, III, IV, V	Pembimbing II	
21	9 Januari 2014	Revisi Bab IV, V	Pembimbing I	
22	10 Januari 2014	Revisi Bab I, II, III, IV, V	Pembimbing II	
23	15 Januari 2014	Revisi Bab IV, V	Pembimbing I	
24	16 Januari 2014	ACC Seminar Hasil	Pembimbing I	
25	16 Januari 2014	ACC Seminar Hasil	Pembimbing II	
26	22 Januari 2014	Seminar Hasil	Pembimbing I	
27	22 Januari 2014	Seminar Hasil	Pembimbing II	
28	24 Januari 2014	Revisi Bab IV	Pembimbing I	
29	27 Januari 2014	Revisi Bab I, II, III, IV, V	Pembimbing I	
30	28 Januari 2014	ACC Ujian Akhir Skripsi	Pembimbing I	

10. Telah dievaluasi dan diuji dengan nilai:



Malang, 30 Januari 2014

Dosen Pembimbing I,

Dosen Pembimbing II,

Fatimah, M.Appl.Ling.

Emy Sudarwati, S.S., M.Pd

NIP. 19751125 200212 2 002

NIK. 830414 12 1 2 0101

Mengetahui,
Ketua Jurusan Bahasa dan Sastra

Syariful Muttaqin, M.A.

NIP. 19751101 200312 1 001

