

**MENTAL LEXICON PRODUCED BY THE FIFTH SEMESTER
STUDENTS OF STIKES BINA SEHAT PPNI MOJOKERTO
(A CASE STUDY OF WORD ASSOCIATION TEST)**

THESIS

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DEPARTMENT OF LANGUAGES AND LITERATURE
FACULTY OF CULTURAL STUDIES
UNIVERSITAS BRAWIJAYA**

2015

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THESIS

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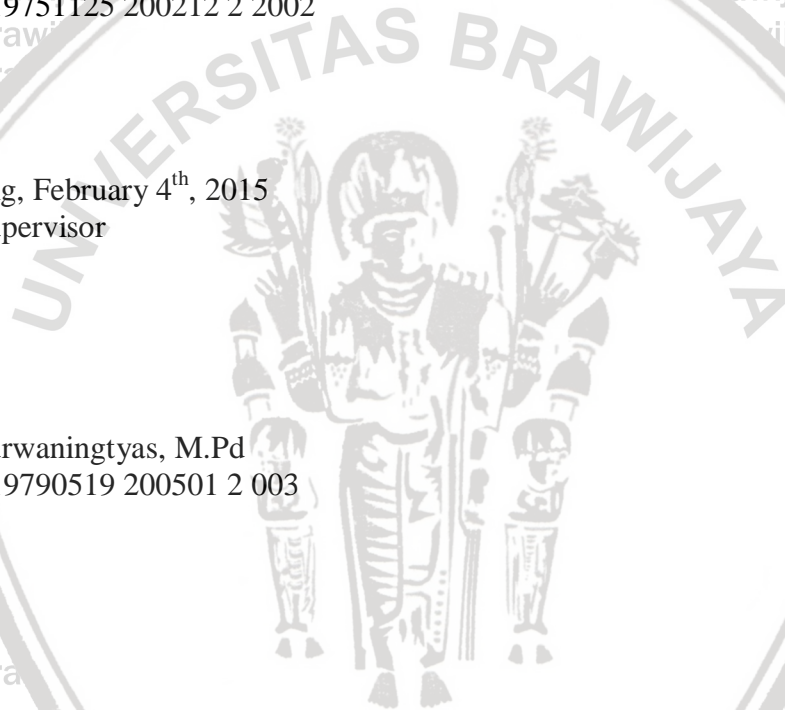
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The Researcher



ABSTRACT

Widayanti, Diah. 2015. **Mental Lexicon Produced by the Fifth Semester Students of *Stikes Bina Sehat PPNI Mojokerto***. Study Program of English, Department of Languages and Literature, Faculty of Cultural Studies, Universitas Brawijaya. Supervisor: Fatimah, Co-supervisor: Isti Purwaningtyas.

Keywords: Psycholinguistics, Mental Lexicon, Word Association Test, *Stikes Bina Sehat PPNI Mojokerto*.

Psycholinguistics has three areas, they are language production, language comprehension and language disorder. This research investigates more in language production using word association test. Word association test is a test to give response on a stimulus word. This research intends to investigate word association produced by the medical students. The researcher uses Peppard's theory (2007) to classify word association type. There are two aims in this research. The first is to find out the types of word association produced by the fifth semester students of *Stikes Bina Sehat PPNI Mojokerto* and the second is to find out to what extent their medical knowledge influences the participants in choosing the responses.

This research uses qualitative approach. The researcher uses word association test to collect the data. There are 8 stimulus words which trigger 448 responses from 56 participants. In analyzing the data, the researcher uses two steps. Firstly, the researcher classifies the data into three types of word association based on Peppard's theory. Secondly, the researcher analyses the data and gives explanation about each of the classification.

This research indicates syntagmatic response as the highest response which consists of 198 responses in encyclopedic knowledge, 106 responses in collocation and 58 responses in multi word item. The second type is found in paradigmatic response which consists of 4 hyponymy, 45 hypernymy, 31 synonymy and 6 coordination. Phonological and orthographical response are not found in this research. In some stimulus words, the participants produce responses that has relationship with medical knowledge. It proves that the participants are influenced by their medical knowledge and experience in choosing responses.

The researcher suggests Study Program of English to provide more references about psycholinguistics to enrich the related literature. Besides, the researcher also suggests for the next researchers, to apply word association test in other groups of participants or investigate more about how female and male produce response word in word association test.

ABSTRAK

Widayanti, Diah. 2015. **Mental Leksikon yang Dihasilkan oleh Mahasiswa semester 5 di Stikes Bina Sehat PPNI Mojokerto**. Program Studi Sastra Inggris, Jurusan Bahasa dan Sastra, Fakultas Ilmu Budaya, Universitas Brawijaya. Pembimbing 1: Fatimah, Pembimbing 2: Isti Purwaningtyas.

Kata Kunci: Psikolinguistik, Mental Leksikon, Tes Asosiasi Kata, Stikes Bina Sehat PPNI Mojokerto.

Psikolinguistik memiliki 3 area, 3 diantaranya adalah produksi bahasa, pemahaman bahasa dan ketidak sesuaian dalam berbahasa. Penelitian ini menggali lebih dalam tentang produksi bahasa dengan menggunakan tes asosiasi kata. Tes asosiasi kata adalah sebuah tes untuk memberikan respon untuk setiap kata stimulus. Penelitian ini bertujuan untuk meneliti asosiasi kata yang dihasilkan oleh mahasiswa kesehatan. Peneliti menggunakan teori Peppard (2007) untuk mengklasifikasikan tipe asosiasi kata. Ada dua tujuan dalam penelitian ini. Yang pertama adalah untuk menentukan tipe asosiasi kata. Yang kedua adalah untuk mengetahui seberapa jauh ilmu kesehatan yang dimiliki oleh partisipan berpengaruh dalam pemilihan respon.

Penelitian ini menggunakan metode kualitatif. Peneliti menggunakan kuisioner tes asosiasi kata untuk mengumpulkan data. Terdapat 8 kata stimulus yang menghasilkan 448 respon dari 56 partisipan. Dalam menganalisa data, peneliti menggunakan 2 langkah. Langkah pertama, peneliti mengklasifikasikan data kedalam tiga tipe asosiasi kata menurut teori Peppard. Langkah kedua, peneliti menganalisa data yang sudah diklasifikasikan dan memberikan penjelasan dari respon yang sudah diklasifikasikan.

Hasil dari penelitian ini menghasilkan *syntagmatic response* sebagai hasil tertinggi yang mana respon itu terdapat pada *encyclopedic knowledge* yang ditemukan sebanyak 198 respon, *multi word item* yang ditemukan dalam 106 respon dan *collocation* yang ditemukan dalam 58 respon. Tipe yang kedua adalah *paradigmatic response* yang terdiri dari *hyponymy* yang ditemukan 4 dalam respon, *hypernymy* ditemukan dalam 45 respon, *synonymy* ditemukan dalam 31 respon dan *coordination* ditemukan dalam 6 respon. Tidak ada respon yang muncul pada *phonological and orthographical response* yang merupakan tipe terakhir dari asosiasi kata. Pada beberapa kata stimulus, partisipan menghasilkan respon yang berhubungan dengan ilmu kesehatan. Hal itu membuktikan bahwa partisipan dipengaruhi oleh ilmu kesehatan dan pengalaman mereka dalam memilih respon.

Peneliti memberikan saran kepada Program Studi Sastra Inggris untuk menyediakan referensi yang lebih banyak lagi tentang psikolinguistik. Selain itu, penulis juga menyarankan kepada para peneliti selanjutnya yang tertarik untuk membuat penelitian yang serupa untuk meneliti pada partisipan yang berbeda dan juga mereka bisa menginvestigasi lebih dalam tentang bagaimana perempuan dan laki-laki menghasilkan respon pada tes asosiasi kata.

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CHAPTER I

INTRODUCTION

In this chapter, the researcher presents the background of the study, the problems of the study, the objectives of the study and definition of key terms.

1.1 Background of the Study

Mental lexicon is a concept in cognitive science and linguistics that refers to a language user's knowledge of words, the vocabulary and representation of knowledge about words in minds (Aithchison, 2002). According to Field (2004, p.10) lexical items are classified into three areas: lexical entries, lexical storage, and lexical access. Lexical entries are the information about lexical items which are stored in human's mind. Lexical storage is about how the words are stored together according to semantic and to formal criteria. Then, lexical access is about reaching a word when people need it.

There are a lot of psycholinguistics research dealing with lexical entries, lexical access and lexical storage. Lexical access is dealing with the experiment such as word recognition, language production, speech recognition and etc.

Someone who wants to conduct a research dealing with lexical access, he needs technology tools such as MRI (Magnetic Resonance Imaging) or Weaver++ because he needs to record the experiment to get data. There are also many experiments dealing with lexical storage, such as lexical decision task, words

association test, experiment of slip of the tongue and etc. The researcher decides to conduct the research dealing with lexical storage because it is simpler to investigate and easier to conduct such study composed to others due to limitation of instruments.

According to Bahar and Hansell (cited in Nekah et al., 2013 p. 386), word association test is the way to investigate cognitive structure and it has already used by several researchers. The researcher uses Peppard's theory for this research, because Peppard's theory is simple theory but it is complete theory. Peppard (2007) divides word association into three: Paradigmatic responses, Syntagmatics relations, Phonological and Orthographical Relation. Paradigmatic responses consist of co-ordination, hyponymy and hypernymy, synonymy. Coordination refers to the words on the same level of detail like rose and orchid. Hyponymy covers the hierarchical relationship of super ordination (hypernymy) and subordination (hyponymy). The example is flower is hypernym of rose, and rose is hyponym of flower. Synonymy can be described as two words can be used in all sentence contexts. The second is Syntagmatic relations. There are three items in syntagmatic relation. The first is collocation. Collocation defines as the tendency of some words to regularly co-occur together. These co-occurrences are not random and can be either lexical or grammatical. The second is Multi- word Items. Multi- word item refers to phrase or group of word that functions single lexical item (cited in Peppard., 2007 p. 10). The third is Encyclopedic Knowledge.

It refers to the response of the object that related to one's personal knowledge.

Phonological and orthographical relation is the types of word association that tend

to involve the relationship between phonetic and orthographic organize in the human mind.

In addition, the researcher conducts the study by using words association test in this research. The researcher decides word association test to be case study of this research because the researcher wants to explore more about what kind of word that comes firstly when someone hears a word. In this research, the researcher is interested in analyzing the students of *Stikes Bina Sehat PPNI Mojokerto* because study on lexical storage concerning medical students has not been explored more. Besides, the researcher chooses *Stikes Bina Sehat PPNI Mojokerto* because it is the only medical university in Mojokerto that has been accredited and it is the oldest medical university in Mojokerto. Furthermore, in this *Stikes*, there are only two majors, namely nurse and obstetrics. Thus, it is the reason why the researcher decides *Stikes Bina Sehat PPNI Mojokerto* in this research.

Moreover, the researcher tried to do a preliminary study for this research. Firstly the researcher applied the test for three students of *Stikes Bina Sehat PPNI Mojokerto*. The researcher gave the students of *Stikes Bina Sehat PPNI Mojokerto* with the stimulus word "merah (red)" and the response word that appeared such as "darah (blood)", "memar (bruise)", "bintik-bintik (spot)". Secondly, the researcher applied the test for three students of English literature. The researcher gave the same word but the response word was different, the words that appeared such as "mawar (rose)", "merona (blushed)" and "berani (blush)". From those responses, it was clearly that their background knowledge influences their word to

link to the other words. This preliminary research made the researcher interested in conducting this research. Based on the preliminary test, the researcher decides the fifth semester students to be the participants for this research. Furthermore, the researcher decides the fifth semester students of *Stikes Bina Sehat PPNI Mojokerto* to be participants for this research because the fifth semester students have studied in *Stikes* for about 2 years, so they will have more knowledge about medical that have kept in their mind than under the fifth semester students and the researcher is interested in seeing how the medical students give response in word association test, how their knowledge influence their words that they are produced.

Referring to the explanation above, the researcher wants to conduct the research concerning mental lexicon especially in word association test. She attempts to propose a research entitled "Mental Lexicon Produced by the Fifth Semester Students of *Stikes Bina Sehat PPNI Mojokerto* (A Case Study of Word Association Test)". The researcher hopes this research gives useful contribution for educational improvement especially for Faculty of Cultural Studies. She also hopes that it can be a reference for the next researcher in Study Program of English. Besides, the researcher hopes that the participants can widen their knowledge about psycholinguistics especially in mental lexicon, so they can know more the process how the word is produced.

1.2 Problems of the Study

Based on the background of the study, the researcher is interested in finding the answer to the following questions:

1. What types of word association are produced by the fifth semester students of *Stikes Bina Sehat PPNI Mojokerto*?
2. To what extent does the participants' knowledge about medical influence the responses that they produce?

1.3 Objectives of the Study

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

1. To find out the types of word association are produced by the fifth semester students of *Stikes Bina Sehat PPNI Mojokerto*.
2. To find out to what extent the participants' knowledge about medical influences them to produce responses.

1.4. Definition of Key Terms

Some key terms which are used in this research are the following:

Psycholinguistics : Psycholinguistics is the knowledge about the relationship between language and mind. (cited in Nekah., 2013 p. 383)

Mental Lexicon : A concept in cognitive science and linguistics that refers to a language user's knowledge of words, the vocabulary

and the representation of knowledge about words in mind.

(Aitchison, 2002)

Word Association Test : The word association test is the way to explore about

cognitive structure. It can be used as alternative way to

test vocabulary and the ability to related word with the

other word. (cited in Nekah et al., 2013, p. 386)

Stikes Bina Sehat PPNI Mojokerto: The medical university in Mojokerto that

has been accredited and the oldest medical university in

Mojokerto. (*Buku pedoman akademik Stikes Bina Sehat*

PPNI dan Akper Bina Sehat PPNI Mojokerto, p. ix)

The Fifth Semester Students of Stikes Bina Sehat PPNI Mojokerto: Students

who has studied for 2.5 years in *Stikes Bina Sehat PPNI*

Mojokerto.

CHAPTER II

REVIEW OF RELATED LITERATURE

In this chapter, the researcher presents the theoretical framework and the previous studies.

2.1 Theoretical Framework

There are some theories in this research. The researcher explains some theories from experts. Besides, the researcher also presents two previous studies that have different theories and method to get the data.

2.1.1 Psycholinguistics

Psycholinguistics covers some knowledge that has relation with brain and language. The area of linguistics that has relation to psycholinguistics is phonetics, phonology, morphology, syntax, semantics and pragmatics. According to Field (2004, p. ix), "psycholinguistics goes to the heart of we do with the language". It means that psycholinguistics is about how we produce our speech

and writing so the others can understand what we mean by using language.

Besides, according to Carrol (cited in Nekah et al., 2013 p. 383) Psycholinguistics is the knowledge about the relationship between language and mind. Carrol also states that psycholinguistics deals with how people produce their speech, comprehend a language and acquisition of language. Moreover, Darjowijodjo

(2003) states that psycholinguistics is a study about mental processes experienced when they communicate. The researcher concludes that psycholinguistics is a study about relationship between language and human mind to produce an utterance or sentence. Furthermore, in human mind, there is a part that is called mental lexicon or it is usually called as mental dictionary which has role to process a word to language to be a sentence. It means that psycholinguistics has relationship with mental lexicon.

2.1.2 Mental Lexicon

According Darjowijodjo (2003), mental lexicon is a place to save all the word we hear or read. Treisman (cited in Du et al., 2013 p.50) also states that mental lexicon is a place to save all the information and to process a word to language. According to him, in every speaker's mind there is a lexical representation which is a well organized system consisting of word's spelling, sound and meaning. Moreover, Richards et al (cited in Du et al., 2013 p.51). also give the definition about mental lexicon, they state that a mental system that contains all the information one knows about words which include pronunciation, patterns of grammar, and the meanings. According to Aitchison (cited in Du et al., 2013 p.51) mental lexicon is also called mental dictionary, referring to the representation of words and their meanings stored permanently in one's memory.

It is composed of two components: semantic-syntactic component is used to store word meaning and word class; phonetic-phonological component is used to store sound of a word. From those definitions, it can be said that mental lexicon is a

place to save all the information, it is a complete mental system because in this place pronunciation, grammar, meaning of the words are organized well.

2.1.3 Lexical Storage

According Field (2003, p.15), lexical storage is about how words are stored in our mind in relation to each other. On the other hand, in human mind, a word is stored in relation with other words. Moreover, Field (2004) also states that the notion of words is linked by a network of form and meaning. It means that when someone receives a new lexical item, he is not only mastering the form of the item but also he has connected it to the whole network of words.

2.1.4 The Influencing Factors of Lexical Storage

There are some factors that influence the lexical storage. Darjowidjojo (2003) states that there are some factors that influence the lexical storage. First, the frequency to use the words. The word will be easy to store and retrieve when the word is often used. Darjowidjojo gives an example words in daily conversation in bahasa Indonesia, the word “meninggal” or “mati” is often used than the word “mangkat” or “wafat” because the word “meninggal” or “mati” is a daily language. Second, word is stored by the semantics relation. Words will be grouped according the semantic relation, like jasmine, rose, orchid will be a group, because those are flower. Third, he divides the words into content words and function words. Content words can be added to the lexicon easily because it

can be adhered to minimal words constrain but for function words, it does not work. The last is the similar sound of the word. The similar sound of the word will be saved closely.

In addition, according to Merten, “there are some factors that influence the response in the word association test. It depends on age, personality variables, intelligence, self reflected thoughts and speech disorder as the variables” (cited in Permatasari, 2011 p.14). It can be said that every person will have different response to word association test, some factors will influence them.

2.1.5 Word Association Test

According to Bahar and Hansell (cited in Nekah et al., 2013 p. 386), word association test is the way to investigate cognitive structure that has been used by several researchers. Besides, Wolter (cited in Nekah et al., 2013 p. 386) also states that a word association test as a means of assessing proficiency in a foreign language has always had something of an inherent appeal to it. For Kess (cited in Nekah et al., 2013 p. 386), he believes that word association system is like a spider web in which words in the mental network are related to other words. From both of the definitions, word association test can be used as alternative way to test vocabulary and the ability to related word with the other word. Word association test is a test to give response the stimulus words. The response word is a word that comes firstly in human mind.

Furthermore, in constructing word association test, some experts have different idea to decide how many word to be the stimulus word. Wolter (cited in

Lara 2010, p. 36) decides 48 words in conducting word association test. Schoonen and Verhallen (cited in Lara 2010, p. 36) decide 6 words in conducting word association test. They divide 6 words into two parts, three words have strong relationship with target word and three other is a looser relationship. Henriksen (cited in Lara 2010, p. 36) decides 10 words in conducting word association test.

McCharty decides 8 words in conducting word association test. In this research, the researcher uses McCharty's design in conducting word association test because McCharty (cited in Rahimi 2009, p. 10-11) has criteria in selecting stimulus word. First, the stimulus word at least consists of one grammar or function word for example pronoun or preposition. Second, one or two words takes from everyday environment. Third, the stimulus word is a relatively uncommon or low level word and the last is a mix of word classes like adjective, noun, verb and etc.

2.1.6 Word Association Types

There are some ideas of word association types. Kess (cited in Nekah., et al 2013 p. 387) divides word associations into three types:

1. Members of the same part of speech class. In this class the participant will have the same paradigmatic responses to response the stimulus word, like antonyms (black-white) or synonyms (light-skinny) and syntacmatic responses to response the stimulus word (dig/hole).

2. Members of the same taxonomy. In this part, the participant will give response to the stimulus word in other category like subordinate (dog/retriever) or superordinate (dog/animal).

3. Rhyming or clang responses (sister/blister, yellow/fellow).

Besides, according to Wolter (2001), there are three types of word association, they are paradigmatic association, syntagmatic association, and phonological or clangresponse.

1. Paradigmatic association is expected to be formed between words in the main point vocabulary. It consists of coordinates, superordinates, subordinates and synonyms. The examples of paradigmatic associations are vehicles-> car-motorcycle-bus, mad -> angry and etc.

2. Syntagmatic is sequential relationship with the prompt word and it does not come from the same word class. The words are slightly further out. For examples: ball-catch, run-fast, eat-rice and etc.

3. Phonological or clang response is the word does not have semantic relation but have the similar sound. For example: acquire-choir, phone-foam, batter-butter and etc.

According to Piggot (2006) states word association classifies into five types. They are

1. Syntagmatic-paradigmatic relation is related sequentially to the stimulus words (dog-> lazy-tail, cat -> feline-animal-pet).

2. Sense relation is the system of linguistics relationships which a lexical item contrasts with other lexical items. It was divided into semantic/lexical

fields (car, bicycle, motorcycle are vehicles), synonym (hit-strike),
 hyponym (flower: rose, orchid, jasmine), antonym (good-bad).

3. Encyclopedic relation is links between words that arise from the experience
 of the individual (disaster-fire).

4. Collocation is a relationship that is strong between words that frequently
 appear together (blonde-hair).

5. Clang association is phonological relation between words (hit-sit).

Moreover, Peppard (2007) divides word association test into three:

1. Paradigmatic responses consist of co-ordination, hyponymy and
 hypernymy, synonymy. Coordination refers to the words on the same level
 of detail like rose and orchid. Hyponymy covers the hierarchical
 relationship of super ordination (hypernymy) and subordination
 (hyponymy). The example is flower is hypernym of rose, and rose is
 hyponym of flower. Synonymy can be described as two words can be used
 in all sentence contexts. The example is good-kind.

2. The second is Syntagmatic relations. There are three items in syntagmatic
 relation. The first is collocation. Collocation defines as the tendency of
 some words to regularly co-occur together. These co-occurrence are not
 random and can be either lexical or grammatical. The examples are buckle
 up, auburn and etc. The second is Multi- word Items. Multi- word item
 refers to phrase or group of word that functions single lexical item
 (Couthard, cited in Peppard 2007, p. 10). Peppard said that multi word
 item can be stated as “extreme cases of fixed collocations”. Besides the

major types of multi-word items found in English listed by Alexander (1984), which he refers to as fixed expressions.

Table 2.1 Types of Multi Word Items by Alexander (cited in Peppard 2007, p. 9).

Types of fixed expressions	Examples
I Idioms	
(i) irreversible binomials/ compound idioms	spick and span; dead drunk; red tape.
(ii) full idioms	run up (a bill); tear off (rush away); to smell a rat; to rain cats and dogs; to be in the doghouse.
(iii) semi-idioms	beefy-looking; dead drunk; a fat salary; the meeting kicks off at nine.
II Proverbs	A watched pot never boils.
III Stock phrases	When all is said and done; a recipe for disaster; unaccustomed as I am to...; a vicious circle.
IV Catchphrases	That's another fine mess you got me into; What do you think of it so far?; Are you sitting comfortably? Then I'll begin.
V Allusions/ Quotations	You've never had it so good; We are not amused; The lady's not for taking.
VI Idiomatic similies	As sober as a judge; as old as the hills; as daft as a brush.
VII Discoursal expressions	
(i) social formulae/ clichés	How do you do?; Long time, no see; bottoms up!
(ii) connectives; structuring devices	Mark my words; Once upon a time; Finally; to conclude.
(iii) conversational gambits	We'll now take questions from the floor; Guess what!; I wondered if I could have a word.
(iv) stylistic formulae	Further to my letter of 11 th inst.; My lords, ladies and gentlemen.
(v) stereotypes	We're just good friends; I thought you'd never ask; It's not what you think!

The third is Encyclopedic Knowledge. It refers to the response of the object that related to one's personal knowledge.

3. Phonological and orthographical relations the types of word association that tend to involve the relationship between phonetic and orthographic organize in the human mind. For instance, know and knight.

In short, there are some types of word association. The researcher simplifies those types of word association test into Table 2.1 that can be seen below.

Table 2.2 Summary of Word Association Types.

<p>Kess (1992)</p> <ol style="list-style-type: none"> 1. Members of the same part of speech <ul style="list-style-type: none"> - paradigmatic responses (antonyms or synonyms) - syntactic responses 2. Members of the same taxonomy <ul style="list-style-type: none"> - Subordinate - superordinate. 3. Rhyming or clang responses 	<p>Wolter (2001)</p> <ol style="list-style-type: none"> 1. Paradigmatic <ul style="list-style-type: none"> - coordinates, - superordinates - subordinates - synonyms. 2. Syntagmatic 3. Phonological or clangresponse
<p>Piggot (2006)</p> <ol style="list-style-type: none"> 1. Syntagmatic-paradigmatic relation 2. Sense relation <ul style="list-style-type: none"> - semantic/lexical fields - synonym - hyponym - antonym 3. Encyclopedic relation 4. Collocation 5. Clang association 	<p>Peppard (2007)</p> <ol style="list-style-type: none"> 1. Paradigmatic responses <ul style="list-style-type: none"> - co-ordination - hyponymy - hypernymy - synonymy 2. Syntagmatic relations <ul style="list-style-type: none"> - Collocation multi-word Item - Encyclopedic Knowledge 3. Phonological and orthographical relations

This research uses the idea of Peppard's theory (2007), because it is more complete if it is compared with the other theories.

2.2 Previous Studies

The first previous study is "Playing With Words: A Study on Word Association Responses" by Iknur Istifci (2010). The researcher uses Kess' classification of word association with one modification. Kess divides word association into three types, they are member of the same part of speech

(syntagmatic and paradigmatic responses), member of taxonomy (subordinate and superordinate) and rhyming or clang responses. In this research, the writer uses the theory to analyze the data but she adds coordinate in member of taxonomy. The participant of the research is 50 students of Preparatory School of Anadolu University, 25 students are elementary level and 25 students are advanced level. In order to get the data, the researcher uses questionnaire. The researcher finds the differences responses words from the participants. They use a variety of responses which were more or less similar. The students in elementary level prefer to use simple words, but for the student in advanced level prefer to use complex and derived words.

The second previous study that the researcher found is Words in the Mind:

Exploring the relationship between word association and lexical development by Peter W. Roux (2013). The researcher uses Fitzpatrick's classification of association responses to analyze the data. In this research, the researcher uses interview method to get the data. Each participant is interviewed by examiner.

The participants come from 9 native English speakers, 3 females and 6 males with an age range between 22 and 29. 9 Japanese English second language speakers, 5 females and 4 males with an age range between 25 and 51. The researcher states that the relevant associations are explored and the classification becomes clearer, the original scoring is supported by the associative exploration, however, uncertain response becomes a meaning, due to the introduction of the respondent's conceptual clarification. He also states that exploration of the associative link is crucial to the classification procedure. So he concludes that

even though different respondents may give a similar, or even exactly the same response, the eventual classification may change when the individual association is considered. It has serious implications for classification models, and may go some way in explaining the inconsistent and controversial findings that has been reported.

In this research, the researcher wants to find the type of word association test comes from the response word. The researcher uses Peppard's theory to analyze the study. The participant is taken from the fifth semester students of *Stikes Bina Sehat PPNI Mojokerto*. The participants consist of the students which are studying about nurse and obstetrics majors. The researcher uses questionnaire to get the data.

From the explanation above, there are some differences and similarity between the study and the previous study. Those studies want to investigate more in lexical storage. Besides, both the first previous study and this research have the same way to get the data. It is the similarity between the study and the previous studies. Those studies also have difference theories to analyze the data, have different participants and also have difference methods. Moreover, this research is worth conducting because the researcher seldom finds a research about word association test for medical students, so the researcher wants to explore more about word association test for medical students.

CHAPTER III

RESEARCH METHODS

In this chapter, the researcher presents the research design, data source, data collection, and data analysis.

3.1 Research Design

In this research the researcher used qualitative method. According to Subana and Sudrajat (2001), qualitative method is not a method to accept or reject the hypothesis, but it is a method to analyze a data from the observation. In the other hand, qualitative method is a set of research techniques which data are taken from a group of participants. In this research, the researcher analysed deeper about the type of word association test and to what extent the participants' knowledge about medical influences them to produce responses.

3.2 Data Source

According to the Creswell (1994, p. 148), there are some ways to collect data for qualitative method. The ways are observation, interview, document, audio or visual record. In this research, the participants of this research were nurse and midwifery students of *Stikes Bina Sehat PPNI Mojokerto* and the data were taken by distributing the questionnaire for the fifth semester students of *Stikes Bina*

Sehat PPNI Mojokerto. The data were the responses of stimulus words that were given by the fifth semester students of *Stikes Bina Sehat PPNI Mojokerto*.

Moreover, there were four classes of midwifery and three classes of nurse. Every class consists of 40 students. There were 160 midwifery students and 120 nurse students, it meant that there were 280 population.

Moreover, the researcher decided about 20% of the population that was be the sampling. This was based on Arikunto (2006, p. 130), who suggested that if the population number is ≤ 100 , all the population should be taken as the sampling, but if the population number is ≥ 100 the sampling size is 10-20% or 20-25% of the population. So 56 participants' response was the data for this research and the participants were taken randomly from those classes from midwifery and nurse classes. There were two criteria that must be fulfilled in selecting the participants. The first, the participants must be students of the fifth semester of *Stikes Bina Sehat PPNI Mojokerto*. The second, they must have the same age, about twenty years old due to typical age of students who study in the college on time. The researcher got the data about the age of the students from *Stikes Bina*

Sehat PPNI Mojokerto. Furthermore, the researcher only had a meeting to meet the students.

The data analyzed and investigated was types of word association and to what extent the participants' knowledge influences them to produce responses.

The responses of stimulus words were the data for this research. This study had limitation as it only focused on the lexical storage for the same age, sex differences were not taken to analyze for this research.

3.3 Data Collection

In this research, the researcher collected the data by giving word association test to the participants using word association test questionnaire to get the response words from the participants. The participants were given eight stimulus words which were adopted from McCarthy's design. The researcher chose the design because McCarthy's designed concerning with lexical storage in human mind and based on criteria in selecting stimulus words. The researcher decided eight words and then the researcher saw the frequency of the word in COCA. Frequency of the word in COCA was how often a word was found in journal, article, books, magazines and so on. The eight stimulus words concerned from the low and high frequency words. The low frequency words was presented with the number of frequency less than 10000 and for the high frequency words was presented with the number of frequency more than 10000. It was decided by the researcher after the researcher saw the frequency words from COCA.

There were many kinds of English corpus. They were COCA (Corpus of Contemporary American English), BOE (The Bank of English), COBUILD (Collins Birmingham University Language Database), BNC (British National Corpus), etc. The researcher used COCA rather than the others to find words for word association test because COCA provided 450 million words. COCA exists since 1990 up to now and it was updated once or twice a year (corpus.byu.edu/coca/), so the words were up to date.

Moreover, the researcher presented the eight stimulus words that were

used and the reason why the researcher chose the words was presented in the table below:

Table 3.1 Stimulus Words and the Reason

Stimulus Words	Frequency	Part of Speech	Reason
Merah (Red)	90831	Adj, N	A high frequency word. This word represents adjective and noun. The researcher believed that the word had various types of response. It can produce syntagmatic response and paradigmatic response.
Menolong (Help)	202334	V, N	A high frequency word. This word represents verb and noun. The word was familiar for everyone because it was a general word. So, it had many various types of response. It can produce responses in syntagmatic or paradigmatic.
Tua (Old)	206064	Adj, N	A high frequency word. This word represents adjective and noun. It is a general word. It can produce in every type of word association.
Mencintai (Love)	152435	V, N	A high frequency word. This word represents verb and adjective. The researcher interested in finding out which parts of speech that occurs in participants' mind. This word is also familiar for everyone.
Lampu (Lamp)	5330	N	A low frequency word. It is a common word, every people know the word. The researcher thinks that the word can trigger in syntagmatic response especially in encyclopedic knowledge.
Stetoskop (Stethoscope)	478	N	Very low frequency word but this word exists in the participants' everyday environment. It may have various responses from the participants because the participants know well about it. The word can trigger response in encyclopedic knowledge.
Dot (Nipple)	1125	N	A low frequency word. The word is well known by the participants. It can produce response in syntagmatic or paradigmatic response.
Ambulan (Ambulance)	4054	N	A low frequency word. The participants know well about this word. The researcher thinks that the word can trigger in syntagmatic response especially in encyclopedic knowledge.

Furthermore, there were two steps to collect the data:

1. Firstly, the researcher distributed a word association test questionnaire for each participant.
2. The second, the researcher showed the stimulus word and then the researcher asked the participants to write the stimulus word, the response of the stimulus words and the reason to choose the response, they were given a minute to write for each stimulus word. A minute was used to write stimulus word, response and reason in choosing the response.

The test was conducted on Tuesday, 02 December 2014 in *Stikes Bina Sehat PPNI Mojokerto* with 56 participants from nurse and midwifery students.

3.4 Data Analysis

After doing the data collection, the researcher analyzed the data. The researcher did three steps to analyze the data. They were organizing data, interpreting data and summarizing data.

1. Firstly, the researcher organized the data. The data were classified into the type of words association. The data were classified into the paradigmatic response (co-ordination, hyponymy and hypernymy, synonymy), syntagmatic relation (collocation, multi- word Items and encyclopaedic knowledge), phonological and orthographical relations. Moreover, the researcher used Table 3.2 below in organizing the data.

Table 3.2 Sample of Classificationn of the Responses

NO	STIMULUS	F	WORD ASSOCIATION TYPE							
			S				P			
			COLL	MWI	EK	HYPO	HYPR	SYN	COO	PR
1										
2										
3										
4										

Notes:

F : Frequency of Word

COLL: Collocation

S : Syntagmatic

MWI : Multi Word Item

P : Paradigmatic

EK : Encyclopedic Knowledge

PR : Phonological Relation

HYPO : Hyponymy

HYPR : Hypernymy

SYN : Synonym

COO : Coordination

2. Second, after classifying the data, the researcher interpreted the data. In this step, the researcher gave description about the result that the researcher found from the classification of the data and the reason that was given by the participants. In this step the researcher also interpreted to what extent medical knowledge influence the participants in choosing responses. The researcher grouped the stimulus words that had relationship with medical knowledge and then the researcher gave explanation.

For the last step, the researcher summarized the explanation in the last paragraph. From the summary, the researcher wrote the conclusion.

CHAPTER IV

FINDING AND DISCUSSION

In this chapter, the researcher presents the findings that answer the problems of the study. Besides, the researcher also presents the discussion about the findings related to the theories.

4.1 Finding

In finding, the problems of the study were answered. The first problem of the study was about word association types and the second problem of the study was about to what extent the participants' knowledge about medical influences them to produce responses. There were 56 participants for this research, so there were 448 responses that produced by the participants. To show the data, the researcher used the table to make it easier for the reader to know the classification of the participants' responses.

Table 4.1. Classification of the Responses

NO	STIMULUS	F	WORD ASSOCIATION TYPE								
			S				P				PR
			COLL	MWI	EK	HYPO	HYPR	SYN	COO		
1	Merah (Red)	H	3	6	41	-	5	-	1	-	
2	Menolong (Help)	H	16	11	24	-	-	5	-	-	
3	Tua (Old)	H	15	2	23	-	6	8	2	-	
4	Mencintai (Love)	H	17	20	12	-	-	4	3	-	
5	Lampu (Lamp)	L	11	6	25	4	10	-	-	-	
6	Stetoskop (Stethoscope)	L	5	5	36	-	10	10	-	-	
7	Dot (Nipple)	L	35	9	8	-	4	-	-	-	

Continuation of Table 4.1

NO	STIMULUS	F	WORD ASSOCIATION TYPE								
			S				S				PR
			COLL	MWI	EK	HYPO	HYPR	SYN	COO		
8	Ambulan (Ambulance)	L	3	-	39	-	10	4	-		
TOTAL			105	59	198	4	45	31	6		

Notes:

F : Frequency of Word

COLL: Collocation

S : Syntagmatic

MWI : Multi Word Item

P : Paradigmatic

EK : Encyclopedic Knowledge

PR : Phonological Relation

HYPO : Hyponymy

HYPR : Hypernymy

SYN : Synonym

COO : Coordination

Moreover, the table clearly showed that the word association test provided information about how the participants made link between words they had learned. The result also showed that semantic association had big role in link word. For more detail responses for each stimulus word can be found in Appendix

3. The researcher explained the data in more detail in the following sections.

4.1.1 Word Association Types Found in the Fifth Semester of *Stikes Bina*

Sehat PPNI Mojokerto

Words were not stored independently in human's mental lexicon. It meant that there must be a connection between a word and others. From the test, it was

found that the responses given by the participants were various. In this research, the way to classify the type of word association was based on the response word, but when the researcher found unclear word, the researcher saw the participants' reason to help her classify the word.

Moreover, the finding of the research showed that not all types of responses appeared. There were three types of responses which two of them have sub-types. First type was a syntagmatic response which was divided into three sub-types, there were collocation, multi word items, and encyclopedic knowledge.

Second type was Paradigmatic response which was divided into hyponymy, hypernymy, synonymy and coordination. Phonological and orthographical response did not appear. For more detail about the number of word association types occur can be seen in Table 4.1. Besides, the researcher provided Figure 4.1 to make the comparison of word association types found in this research clearer.

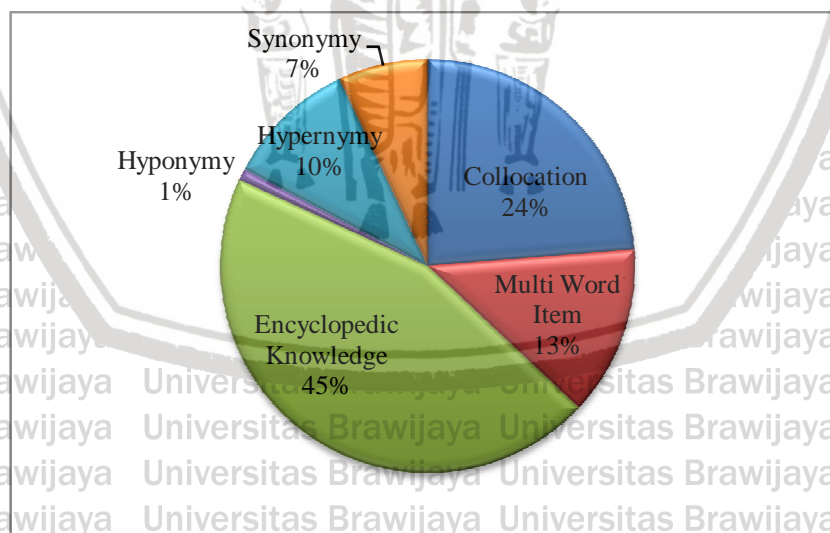


Figure 4.1 The Frequency of Word Association Types

From Figure 4.1, it can be seen that encyclopedic knowledge was the highest type of response that occur in this research. The second highest type of response was collocation and followed by multi word items, hyperrnymy, synonymy and the lowest type of response was hyponymy. It can be said that sytagmatic response had highest response, there was 80.7% from the responses found in this type. Encyclopedic knowledge had the highest number of response compared to the other types, there were 198 responses or 44.2% responses that were found in encyclopedic knowledge. For Paradigmatic response found 86 responses or 20.3% response, but in phonological and orthographical response did not find in this research. The responses were various between one participant with the other.

The first stimulus word was “*merah* (red)”, this stimulus word had the highest number responses in encyclopedic knowledge. “*Merah* (red)” was the general word with high frequency and all people known well about the word. The participants produced responses in sytagmatic and paradigmatic type. In every sytagmatic sub-type, they produced the responses. But in paradigmatic type, they only produced the responses in sub type hyperrnymy and co-ordination.

The researcher found 3 responses in collocation. The participants associated the stimulus word with “*lampu merah* (traffic light)”, “*jambu* (guava)” and “*merona* (blushing)”. “*Lampu merah* (traffic light)” consisted of *lampu* (lamp) and *merah* (red). It was classified into collocation because in Bahasa Indonesia it was usually used to mention one of the color of traffic light. The next was “*jambu* (guava)”. It was classified into collocation because in Bahasa

Indonesia, “*merah-jambu* (rosy)” was usually co-occurred together to mention a colour. The last was “*merona* (blushing)”. It was classified into collocation because “*merah-merona* (blushed)” was used together in Bahasa Indonesia to show when someone was shy so his face looked blushed. So, those responses were classified into collocation because those responses were co-occurred together with the stimulus word in Bahasa Indonesia, it was in line with the definition that was said by Peppard. The next sub type in syntagmatic type was multi word items. The responses found in multi word item were 2 responses, those responses were “*berani* (brave)” and “*pedas* (hot)”. Those responses were classified into multi word items because those words had classified into fixed expression. The response “*berani* (brave)” was classified into fixed expression because “*merah* (red)- *berani* (brave)” and “*merah* (red)-*pedas* (hot)” were compound idioms which were consisted by adjective and adjective.

The last sub type in syntagmatic response was encyclopedic knowledge.

To classify the responses into encyclopedic knowledge, the researcher read the participants’ reasons in choosing the response because the researcher found some responses that did not have relationship with the stimulus word. There were 41 responses classified into encyclopedic knowledge for this stimulus word. The responses were 25 responses “*darah* (blood)”, 1 response “*memar* (bruise)”, 1 response “*bintik-bintik* (spot)”, 4 responses “*bendera* (flag)”, 1 response “*bayi* (baby)”, 2 responses “*tas* (bag)”, 2 responses “*strawberi* (strawberry)”, 1 response “*kerudung* (veil)”, 1 response “*kaos* (t-shirt)”, 3 responses “*mawar* (rose)” and 1 response “*marah* (angry)”. For the responses *darah* (blood)”,

“*memar* (bruise)” and “*bintik-bintik* (spot)”, the responses were classified into encyclopedic knowledge because it was based on participants’ knowledge especially in medical knowledge. The other responses were “*bendera* (flag)”, “*bayi* (baby)”, “*tas* (bag)”, “*strawberi* (strawberry)”, “*kerudung* (veil)”, “*kaos* (t-shirt)”, and “*marah* (angry)”, those responses were classified into the encyclopedic knowledge because the researcher also read the participants’ reason so the researcher decided that it was classified into encyclopedic knowledge. For example the participants’ reason why the participant gave response “*kerudung* (veil)” because they saw that at the time, the researcher was wearing a red veil and for the response “*tas* (bag)” their reasons were because they had red bag and the other one said that she used red bag. So, to decide the responses classified into encyclopedic knowledge, the researcher read the participants’ reason.

In paradigmatic type, the researcher only found two responses appeared. The first response was found in sub type hypernymy. The responses classified into hypernymy were “*warna* (color)”. It was classified into hypernymy because “*warna* (color)” was super-ordinate of “*merah* (red)”. The second sub type was coordination. In coordination, the response was “*putih* (white)”. The response was classified into coordination because “*putih* (white)” had the same level with “*merah* (red)”, both of them were kinds of color.

The second stimulus word was “*menolong* (help)”. The stimulus word “*menolong* (help)” produced syntagmatic and paradigmatic responses. The highest responses produced in syntagmatic word association type for sub type encyclopedic knowledge. In encyclopedic knowledge, the participants associated

stimulus word with 3 responses “*kecelakaan* (accident)”, 1 response “*PMI* (Indonesian red cross)”, 3 responses “*melahirkan* (give birth)”, 1 response “*dermawan* (benignant)”, 2 responses “*relawan* (volunteer)”, 10 responses “*baik* (good)”, 1 response “*simpatik* (sympathetic)”, and 3 response “*sifat terpuji* (laudable)”. Those responses were classified into encyclopedic knowledge based on the participants’ reasons, most of the reason from those responses were the participants’ knowledge and experience. For example the responses “*kecelakaan* (accident)” and “*melahirkan* (give birth)”, the reasons from those words were almost the same, the participants chose the responses because they often helped someone who got an accident and someone who wanted to give birth children. For the responses “*dermawan* (benignant)”, “*relawan* (volunteer)”, “*baik* (good)”, “*simpatik* (sympathetic)”, and “*sifat terpuji* (laudable)”, all of those responses were the characteristics of someone that came from their heart, it was the participants’ reasons.

The second sub type of syntagmatic type was multi word item. The participants produced responses in multi word items. The responses were “*tenaga* (energy)”, “*membutuhkan* (need)”, “*kerelaan* (willingness)”, “*kesusahan* (difficulties)”, “*social* (social)”, “*kasihan* (compassion)”, “*rasa bakti* (devotion)”, “*bantuan* (assistance)” and “*gotong royong* (mutual assistance)”. Those responses were classified into multi word item because those responses had function single lexical item and classified into fixed expression. For example the word “*membutuhkan* (need)”, it had as a function single lexical item, if it was constructed into a phrase with the stimulus word “*menolong*”. For the fixed

expression, the example comes from the response “*bantuan* (assistance)”, the stimulus word was a verb and the response was a noun, so it was classified into compound idioms. The last sub type was collocation. For this stimulus word, it produced some responses in collocation. The responses were “*mama* (mother)”, “*orang miskin* (poor man)”, “*orang tua* (parents)”, “*manusia* (human)”, “*sahabat* (best friend)”, “*teman* (friend)”, “*pasien* (patient)” and “*orang sakit* (patient)”.

Those responses usually co-occurred together in Bahasa Indonesia. For example, “*menolong* (help)- *manusia* (human)”, it was usually used to say when someone helped the other.

In paradigmatic type, the researcher only found responses in sub type synonymy. The responses are “*membantu* (help)”. The response was classified into synonymy because the response had similar meaning with the stimulus word.

For phonological and orthographical type did not appear in this word. It can be said that the participants’ reason is influenced by their knowledge only occurs in encyclopedic word association type.

The third stimulus word was “*tua* (old)”. The stimulus word produced syntagmatic and paradigmatic responses. For syntagmatic type, the responses were found in collocation, multi word items and encyclopedic knowledge. For paradigmatic type, the responses were found in hypernymy, synonymy, and co-ordination.

In collocation, the responses were “*orang tua* (parents)”, “*kakek dan nenek* (grandmother and grandfather)”, and “*makhluk hidup* (living thing)”. The responses were classified into collocation because those words were often co-

occurred together in Bahasa Indonesia. For example the response “*kakek dan nenek* (grandmother and grandfather)”- “*tua* (old)”, it was often used together in Bahasa Indonesia. In multi word items, the responses words were “*dewasa* (adult)”, and “*ampun* (forgiveness)”. Those responses were classified into multi word item because it was classified into fixed expression. “*Tua* (old)-*dewasa* (adult)” was a compound idiom, because it was consisted of adjective and noun.

The next sub type was encyclopedic knowledge, the responses were “*keriput* (wrinkled)”, “*bungkuk* (bent)”, “*lemah* (weak)”, “*pikun* (senile)”, “*tongkat* (stick)”, “*rambut* (hair)”, “*mikir* (thinking)”, “*sakit* (sick)”, “*perawatan* (nursing)”, and “*penurunan fungsi* (disfunction)”. Those responses were classified into encyclopedic knowledge because it was based on participants’ reason which had relationship with their knowledge and their experience. For example, the responses “*sakit* (sick)” and “*penurunan fungsi* (disfunction)” appeared because it was influenced by their knowledge and experience. The participants said that they often saw and found the old people when they had practicum in hospital and most of the old people had function decrease. For the response “*perawatan* (nursing)”, the participant assumed that as a nurse candidate, he must take care of old people in hospital. For the response “*keriput* (wrinkled)” the participant had reason that someone who has been old will have wrinkled. For the response “*bungkuk* (bent)”, “*lemah* (weak)” and “*pikun* (senile)”, the participants chose those responses because the participant saw the old people were bent and senile.

In paradigmatic type for sub type hypernymy, the researcher only found two responses, they were “usia (age)” and “umur (age)”. Those responses were classified into hypernymy because those responses were superordinate of stimulus word “tua (old)”. For sub type synonymy, the response was “lansia (far advance in life)”, the response had the same meaning with the stimulus word so it was classified into synonymy. The last sub type was co-ordination, the response was “muda (young)”. The response had the same level with the stimulus word so it was classified into co-ordination.

The fourth stimulus word was “mencintai (love)”. It was a word with high frequency and everyone knew well about the word. The stimulus word triggered various responses. The responses were categorized into syntagmatic and paradigmatic response. In syntagmatic response, the highest responses appeared in collocation. The researcher found 20 responses in collocation for the stimulus word “mencintai (love)”. The responses were “orang tua (parents)”, “kekasih (soulmate)”, “keluarga (family)”, “anak (child)”, “saudara (sibling)”, “pacar (soulmate)”, and “ibu (mother)”. Those responses were classified into collocation, because in Bahasa Indonesia, those responses were often used together. For example, “mencintai (love)- anak (child)” the phrase was often used together, when parents wanted to express that they loved their children. Besides, “mencintai (love)- ibu (mother)” the phrase was also used to express that a child loved his mother so much.

The second sub-type for syntagmatic type was multi word item. In multi word item, the researcher found 17 responses. The responses were “suka (like)”,

“*jatuh cinta* (falling in love)”, “*anak muda* (teenager)”, “*hati* (heart)”, “*kebutuhan* (need)”, “*cinta* (love)”, “*rasa kasih* (love)”, “*jodoh* (mate)”, “*asmara* (amour)”, “*kasih sayang* (affection)”, and “*perasaan* (feeling)”. The responses were classified into multi word item because it had function lexical single item and the researcher found fixed expressions. Fixed expressions were found in responses “*cinta* (love)”, “*asmara* (amour)”, “*kasih sayang* (affection)”, and “*perasaan* (feeling)”, those responses include in compound idioms, for example “*mencintai* (love)- *perasaan* (feeling)” it was classified into compound idiom because it consisted of verb and noun. The last sub type for syntagmatic type was encyclopedic knowledge. the researcher only found 12 responses in this sub-type. The responses were “*sakit* (sick)”, “*sakit hati* (broken heart)”, “*berbunga-bunga* (flowery)”, “*indah* (beautiful)”, “*galau* (confusion)”, “*bahagia* (happy)”, “*putus* (break)”, “*tidak senang* (unhappy)”, and “*tulus* (sincere)”. For responses “*Bahagia* (happy)”, “*berbunga-bunga* (flowery)”, “*indah* (beautiful)”, “*putus* (break)”, “*galau* (confusion)”, “*tidak senang* (unhappy)” and “*tulus* (sincere)” the participants’ reason in choosing those responses were when they loved someone, they felt those responses and for the responses “*sakit hati* (broken heart)” and “*sakit* (sick)”, the participants’ reasons in choosing those responses were they felt disappointed when their love was not replied. Those participants’ reasons made the researcher decided those responses were classified into encyclopedic knowledge.

In paradigmatic type, the researcher found the responses appeared in synonymy and coordination. For synonymy, the responses were “*menyayangi*

(love)” and “*mengasihi* (love)”, those responses had the same meaning with the stimulus word, so it was classified into synonymy. For coordination, the response was “*membenci* (hate)”. The response was classified into coordination because it was the antonym of the stimulus word.

The fifth stimulus word was “*lampu* (lamp)”. There were various responses that were given by the participants. In this stimulus word, the researcher found syntagmatic and paradigmatic response. Syntagmatic response was found in all sub type. For collocation sub type, the responses were “*lampu jalan* (street lamp)”, “*hias* (decorative)”, “*taman* (park)”, “*aladin* (Alladin)”, “*mati* (off)”, and “*cahaya* (light)”. Those responses usually co-occurred together in Bahasa Indonesia. For example “*lampu* (lamp)-*mati* (blackout)”, in Bahasa Indonesia the phrase often used together to say when the connection of electricity was off.

The next sub type was multi word item. The responses were “*listrik* (electricity)”, “*putih* (white)” and “*menyala* (on)”. Those responses were classified into multi word item because those responses were fixed expression in idiom types. For example, “*lampu* (lamp)-*menyala* (on)”, it was classified into compound idiom because it was arranged of noun and adjective. The last sub type was encyclopedic knowledge. The responses were “*menghangatkan* (warming)”, “*terang* (bright)”, “*menerangi* (enlighten)”, “*gelap* (dark)”, “*panas* (hot)” and “*ruang operasi* (operating theatre)”. Those responses were classified into encyclopedic knowledge, because it can be seen from the participants’ reason. For the response “*menghangatkan* (warming)”, the participant said that lamp can make baby warm and the reason for the response “*ruang operasi* (operation

room)” was the participant found many lamps in operation room. For the responses “*terang* (light)” and “*menerangi* (enlighten)”, the participants’ said that lamp can make a place to be bright. For the response “*panas* (hot)”, the participant had reason that when the lamp was on for long time, the lamp will be hot. The last response was “*gelap* (dark)”, the participant’s reason was when the lamp was off a room will be dark.

In paradigmatic response, the researcher found the response type in sub-type hypernymy and hyponymy. In hyponymy, the responses were “*Philips* (brand of a lamp)” and “*Osram* (brand of a lamp)”. Those responses were subordinate of the stimulus word. It was kind of lamp brand, so they were classified into hyponymy. In hypernymy, the response was “*alat penerang* (something that can make bright)”, it was super-ordinate of the stimulus word, so it was classified into hypernymy.

The sixth stimulus word was “*stetoskop* (stethoscope)”. In this stimulus word, there were various responses although it was a low frequency stimulus word. This stimulus word produced syntagmatic and paradigmatic response. In syntagmatic response, the responses were often found in encyclopedic knowledge than multi word item, it was also found in collocation. In multi word item the responses were “*pendengar* (listener)” and “*beli* (buy)”. Those responses were classified into multi word item because it had function single lexical item. It meant that when the stimulus word co-occurred together, it will create a new meaning. For example, “*stetoskop* (stethoscope)- *beli* (buy)”, it meant that need to buy stethoscope.

In encyclopedic knowledge, the responses were “*dunia kesehatan* (medical world)”, “*detak* (beat)”, “*mendengarkan jantung* (listen to heart beat)”, “*jantung* (heart)”, “*pemeriksaan* (check-up)”, “*kesehatan* (healthy)”, “*detak jantung* (heart beat)”, “*auskultasi* (listen)”, “*TTV* (important sign)”, “*rumah sakit* (hospital)”, “*perawat* (nurse)”, “*kedokteran* (medical)”, and “*tenaga kesehatan* (paramedic)”. For the responses “*dunia kesehatan* (medical world)” and “*rumah sakit* (hospital)”, the participants gave reasons that stethoscope was often found in medical world and hospital. For the responses “*detak* (beat)”, “*mendengarkan jantung* (listen to beat)”, “*jantung* (heart)”, “*pemeriksaan* (check-up)”, “*kesehatan* (healthy)”, “*detak jantung* (heart beat)”, “*auskultasi* (listen)”, “*TTV* (vital sign)”, “*perawat* (nurse)”, “*kedokteran* (medical)”, and “*tenaga kesehatan* (paramedic)”, the participants’ reasons were stethoscope was always used in medical department and it was usually used by doctor and nurse to check heart beat of the patient. Those reasons help the researcher to classify the responses into encyclopedic knowledge.

In paradigmatic response, the researcher only found the response type in sub type hypernymy and synonymy. The responses were “*alat medis* (medical equipment)”, “*alat periksa* (check-up equipment)”, “*alat bantu orang kesehatan* (medical equipment)” and “*alat ukur* (measurer)”. All of them were superordinate of the stimulus word, so it was classified into hypernymy. For synonymy, the response was “*alat mendengar detak jantung* (equipment to listen to heart beat)”. The response had the same meaning with the stimulus word.

The seventh stimulus word was “*dot* (nipple)”. It was a low frequency stimulus word. From this word, the researcher found responses type in syntagmatic response and paradigmatic response. In syntagmatic response, the response was found in sub type collocation, multi word item and encyclopedic knowledge. In paradigmatic response, the response was found in sub type hypernymy.

In collocation, the researcher found the highest responses, the researcher found 35 responses. The responses were “*bayi* (baby)”, “*tempat susu* (milk container)”, “*susu* (milk)”, and “*botol* (bottle)”. The highest response in collocation was “*bayi* (baby)” because it was found 30 responses. It meant that the response “*bayi* (baby)” was often used together in Bahasa Indonesia. In multi word item, the responses were “*minuman anak* (children drinks)”, “*gemesin* (funny)”, “*minum* (drink)”, “*menyusui* (breast feeding)”, and “*toko peralatan bayi* (baby shop)”. Those responses classified into multi word item because it was classified into fixed expression. In encyclopedic knowledge, the responses were “*kenyal* (elastic)”, “*empuk* (soft)”, and “*plastik* (plastic)”. For the responses “*kenyal* (elastic)” and “*empuk* (soft)”, the participants’ reasons were when it was touched, it was elastic and for the response “*plastik* (plastic)”, the participant’s reason was it was made in plastic. Those reasons based on their knowledge, so the researcher decided those responses were classified into encyclopedic knowledge.

In paradigmatic response, the researcher only found the responses in hypernymy.

The response was “*alat bantu minum bayi* (an equipment to help baby to drink)”, the response was super-ordinate of the stimulus word.

The last stimulus word was “*ambulan* (ambulance)”. In this stimulus word, the researcher found syntagmatic and paradigmatic response. In syntagmatic response, the responses were found in collocation and encyclopedic knowledge. The researcher did not find multi word item from this stimulus word. For collocation, the response was “*mobil cepat* (fast car)”. The responses also found in encyclopedic knowledge, the responses were “*mengantar pasien* (take a patient)”, “*gawat darurat* (emergency)”, “*cepat, sigap, siaga* (alert)”, “*jenazah* (corpse)”, “*pasien* (patient)”, “*rumah sakit* (hospital)”, “*rujuk* (refer)”, “*mengantar* (bring)”, “*kencang* (fast)”, “*kecelakaan* (accident)” and “*orang sakit* (patient)”, produced the main point of the participants’ reason were ambulance was a car in hospital to bring patient, corpse or an accident’s victim. For the responses “*suara* (voice)” and “*sirine* (siren)”, the participants’ reasons were the siren sound from the ambulance was very disturbing hearing. For the responses “*kencang* (fast)” and “*menerobos* (break through)”, the participants’ reasons were they often found ambulance run very fast and it was usually break through traffic light. From those reasons, the researcher classified the responses into encyclopedic knowledge.

In paradigmatic response, the researcher found the response in sub type word association in hypernymy, the responses are “*mobil* (car)”, “*kendaraan* (vehicle)” and “*alat transportasi* (transportation)”. Those responses were super ordinate of stimulus word. Besides, the researcher also found synonymy from this stimulus word. The response was “*mobil rumah sakit* (hospital car)”, it had the same meaning with the stimulus word.

4.1.2 The Influence on Medical Knowledge Influence on Participants' Responses

Here, the researcher presented to what extent the medical knowledge influence the participants in choosing the responses. The researcher classified the responses which had relationship with medical knowledge, it was used to analyze to what extent the participants' knowledge influence them in choosing the responses. Table 4.2 presented the responses related to relationship with medical knowledge.

Table 4.2 The Responses Related to Relationship with Medical Knowledge.

STIMULUS WORD	WORD ASSOCIATION TYPE		RESPONSES	TOTAL RESPONSES	TOTAL RESPONSES IN EACH TYPE
Merah (Red)	S	EK	Darah (blood)	25	28
			Memar (bruise)	1	
			Bintik-bintik (spot)	1	
			Bayi (baby)	1	
Menolong (Help)	S	COLL	Pasien (patient)	2	11
			Orang Sakit (patient)	2	
	EK	Kecelakaan (accident)	3		
		PMI (Indonesian cross red)	1		
		Melahirkan (give birth)	3		
Tua (Old)	S	EK	Sakit (sick)	4	6
			Perawatan (nursing)	1	
			Penurunan Fungsi (disfunction)	1	
Lampu (Lamp)	S	EK	Ruang Operasi (operating theatre)	1	1
Stetoskop (Stethoscope)	S	EK	Dunia Kesehatan (medical world)	1	33
			Mendengarkan Jantung (listen to heart beat)	2	
			Jantung (heart)	4	
			Pemeriksaan (check-up)	5	
			Keseahatan (healthy)	2	
			Detak Jantung (heart beat)	2	
			Auskultasi (listen)	3	
			TTV (vital sign)	1	
			Rumah Sakit (hospital)	1	
			Perawat (nurse)	1	

Continuation of Table 4.2

STIMULUS WORD	WORD ASSOCIATION TYPE		RESPONSES	TOTAL RESPONSES	TOTAL RESPONSES IN EACH TYPE
	P	HYPER	Kedokteran (medical)	1	25
			Tenaga Kesehatan (paramedic)	1	
			Alat medis (medical equipment)	7	
			Alat periksa (check up equipment)	1	
			Alat bantu orang kesehatan (medical equipment)	1	
		SYN	Alat mendengar detak jantung (equipment to listen to heart beat)	10	
Ambulan (Ambulance)	S	EK	Mengantar Pasien (take a patient)	3	
			Gawat darurat (emergency)	7	
		SYN	Jenazah (corpse)	3	
			Pasien (patient)	1	
			Rumah Sakit (hospital)	4	
			Rujuk (refer)	1	
			Kecelakaan (accident)	1	
			Orang sakit(patient)	1	
P	SYN	Mobil Rumah Sakit (hospital car)	4		

From Table 4.2, the researcher found some responses that had relationship with medical knowledge. The first stimulus word “*merah* (red)” produced 28 responses that had relationship with medical, it was a half of the participants.

Although the stimulus word did not have relationship with medical knowledge, but it produced highest responses that had relationship with medical knowledge. It meant that the participants were influenced by medical knowledge in choosing responses. Those responses were “*darah* (blood)”, “*memar* (bruise)”, “*bayi* (baby)” and “*bintik-bintik* (spot)”.

The second stimulus word was “*menolong* (help)”, in this stimulus word the researcher found 11 responses that had relationship with medical knowledge.

Again, the researcher found the responses that were influenced by the medical knowledge whereas the stimulus word did not have relationship with the stimulus word. The next stimulus word was “*tua* (old)”. The researcher only found 6 responses that had relationship with medical knowledge. For the fourth stimulus

word, the researcher did not find responses that had relationship with medical knowledge. In the fifth stimulus word “*lampu* (lamp)”, the researcher only found a response that had relationship with the medical knowledge. The sixth stimulus

word “*stetoskop* (stethoscope)”, the researcher found 42 responses that had relationship with medical knowledge. it meant that the participants were influenced by the medical knowledge in choosing responses. As we know, “*stetoskop* (stethoscope)” was a tool that was usually used in medical world.

Besides, in this stimulus word, the participants were also influenced by the factor that stated by Darjowidjojo (2003), he stated that the frequency to use the words will be easy to store and retrieve when the word is often used. It occurred in

stimulus word “*stetoskop* (stethoscope)”, the word “*mendengarkan* (listen)” was often used than the word “*auskultasi* (listen)”. As we know, as medical students

the word “*auskultasi* (listen)” was familiar for them but it was seldom used by everyone. From the data, the word “*mendengarkan* (listen)” often appeared than the word “*auskultasi* (listen)” whereas the participants were medical students. It

proved that the frequency to use the words influences the participants to store and retrieve the word. The last stimulus word was “*ambulan* (ambulance)”. There

were 25 responses that had relationship with medical knowledge. As we know, “*ambulan* (ambulance)” was something that had close relationship with medical knowledge, but it did not produce high responses that had relationship with medical word.

From the eight stimulus words, it can be concluded that medical knowledge influence the participants in choosing the responses although the stimulus word has relationship with medical knowledge or not. It can be proved from the stimulus word that did not have relationship with medical knowledge but had high responses that had relationship with medical knowledge. It can be found in stimulus word “*merah* (red)”, like the researcher had explained above. In this stimulus word, the researcher found some responses that appeared because the participants influence by their medical knowledge although the stimulus word did not have connection with medical world or medical knowledge, but in this stimulus word produced many responses that had connection with medical knowledge. In contrary, the stimulus word that had relationship with the medical knowledge produced few responses that had relationship with the stimulus word.

It can be found in stimulus word “*ambulan* (ambulance)”, the researcher only found 25 responses that had relationship with medical knowledge. It was not a half from the participants. Those proofs can prove that medical knowledge or medical world influenced the participants to respond the stimulus word although the stimulus word did not have relationship with medical.

4.2 Discussion

Dealing with types of word association, the findings of this research supports Peppard's theory (2007) which stated that the majority of word association literature focuses on the two main organizing principles of language: syntagmatic and paradigmatic relations. Syntagmatic associations were those that would be related by a phrase or syntactic structure and paradigmatic associations involve the other words that could replace the target word. For orthographical and phonological responses were far less common and usually given by low-level language learners, it was stated by Peppard. In this research, the researcher did not find the phonological and orthographical type because the participants of this research were the advanced language learners in Bahasa Indonesia, besides their grade was in college so they had many vocabularies in their mind.

The highest type of word association was found in syntagmatic type which was consisted of encyclopedic knowledge, multi word item and collocation. Encyclopedic knowledge was the highest response that was found in this research. It was similar with Peppard's argument that the most popular types was encyclopedic knowledge. In this research, encyclopedic knowledge was found in 198 responses and the second position of the word association type that was found was collocation with 106 responses. The last in syntagmatic type was multi word item which reaches 58 responses. In contrary, in paradigmatic type, the researcher only found 81 responses divided into for sub types, they were 4 responses in hyponymy, 45 responses in hypernymy, 26 responses in synonymy and 6 responses in coordination. The fact that the participants in this research provided

syntagmatics responses as the most popular type indicated that the participants relied more on the association which ease them to memorize words in syntactical structure.

An interesting phenomenon was that there was a response having no relationship to the stimulus word. The researcher found an interesting response in stimulus word “*tua* (old)”. The participant gave response to this stimulus word with “*ampun* (forgiveness)” and the reason in choosing the response was he did not want to be old. The response and the stimulus word did not have relationship.

As we know that the stimulus word “*tua* (old)” had high frequency and everyone knew well but the participant produced response that was not directly connected with the stimulus word.

Furthermore, by employing high and low frequency words and some words that had close relationship with medical knowledge as stimulus, the researcher noticed the differences of word responses. In this research, low frequency stimulus word had limited various responses compared with the high frequency stimulus word. For example the stimulus word “*dot* (nipple)” only triggered participants to produce 14 kinds of word. It is contrasted with the stimulus word “*mencintai* (love)” that had high frequency stimulus word and it generated 30 kinds of word. However, the participants were not confused with the low frequency word because most of the low frequency stimulus word has close relationship with medical knowledge. Some participants provided medical term in choosing response, like *auskultasi* (listen) and *TTV* (vital sign) that appeared from the stimulus word “*stetoskop* (stethoscope)”. Additionally, most the participants

was influenced by their medical knowledge and medical world in choosing the responses because it can be seen from the stimulus words which did not have relationship with medical knowledge is also found responses that has connection with their medical knowledge.

Additionally, the researcher compares the current result to the previous studies with various results. The first previous study entitled "Playing With Words: A Study on word Association Responses" by Iknur Istifci (2010). From this research, it can be seen that the students in elementary and advanced levels used a variety of responses which were more or less similar. The most frequent and significant responses was subordinates produced 110 responses in elementary group and 124 responses in advanced group. The lowest frequent responses were Rhyming or clang responses that produced 4 responses in elementary group. It was contrasted with this research. In this research, subordinate was classified into paradigmatic type in hyponymy sub type. There were only 4 responses in hyponymy but in the previous study, it was the highest response was found. Besides, in previous study was still found clang response or in this research called as phonological and orthographical response but it was only found elementary group or it can be said this type found in low level language learner. For this current research, the researcher did not found phonological and orthographical response in this research.

The last previous study entitled "Words in the Mind: Exploring the Relationship Between Word Association and Lexical Development" by Peter W. Roux (2013). In the conventional classification, the result was obtained for

Japanese participants: syntagmatic: 36.1%; paradigmatic: 13.2%; clang: 0.7%. For native speakers: syntagmatic: 37.5%; paradigmatic: 10.4%; clang: 2.1%. The result generally, it was seen that the most classification were spread out in syntagmatic: 73.6%; paradigmatic: 23.6%; clang: 2.8%. For the result, the highest response appeared in syntagmatic response. In line with the previous study, this research produced the highest number of responses in syntagmatic type. There were 198 responses in syntagmatic type, it was more than 1/3 responses found in syntagmatic type. In contrary, the previous study was found 2.8% responses in clang type, but in this research, clang or orthographical and phonological type was not found because as it was explained earlier that the participants of this current research had advanced level in Bahasa Indonesia.

From those result, it can be seen that the responses were produced by the participants were various. The first previous study had different result from this study but the second previous study had the same highest number that the participants produced. This study did not produce clang or orthographical and phonological type because the stimulus words and the responses use the participants' first language. Therefore, the participants absolutely had advanced level in Bahasa Indonesia and they had many vocabularies in this language that they had saved in their mind. It was different from the previous studies whose stimulus words and the responses were in the participants' second language.

CHAPTER V

CONCLUSION AND SUGGESTION

In this chapter, the writer presents the conclusion dealing with the result of the research discussed in the previous chapter. This part also contributes to give suggestion that can be used to gain better insight of this topic for the next researcher

5.1 Conclusion

Word association test is a test to give response the stimulus words. The response word is a word that comes firstly in human mind. Word association test can be used as alternative way to test vocabulary and the ability to related word with the other word. The result of the test can give valuable information about how they know certain words and how those words are organized in their mental lexicon. The aims of this research are to find out word association produced by the fifth semester students of Stikes Bina Sehat PPNI Mojokerto and to find out to what extent their medical knowledge influence them in choosing the response.

Based on the analysis in the previous chapter, the researcher summarizes that not all of word association type appears from those responses. Peppard (2007) classifies word association type into three types. They are syntagmatic response, paradigmatic response and phonological and orthographical response. The researcher found the highest responses in syntagmatic type. The researcher also

found the responses in paradigmatic response, but the researcher did not find response in phonological and orthographical response. The responses are very various although the stimulus word has low frequency.

Furthermore, the researcher identifies that there are some reasons in choosing the responses. The reasons in choosing the responses stated by the participants are based on general knowledge, personal experience, and their knowledge about medical. Many responses have relationship with medical knowledge although the stimulus word does not have relationship with medical knowledge. It is because the participants are medical students so they have much information about medical world. So their knowledge influences them in choosing the responses.

Overall, the researcher concludes that not all word association type can be found in this research. Phonological and orthographical response cannot be found here, because the participants for this research have advanced level in Bahasa Indonesia. The highest response is found in syntagmatic type for sub type encyclopedic knowledge. It proves that in choosing responses the participants are influenced by their experience and knowledge. It can also be seen from their reasons in choosing the responses.

5.2 Suggestion

The researcher realizes that this research is not perfect since there are still many items which are not taken into analysis of this research. Therefore, some suggestions are needed to make it better. Regarding to the conclusions of this

research, there are some suggestions for Study Program of English and the next researcher.

1. Study Program of English

Since the topic of this research is rare to be discussed in this study program, there is no sufficient information or textbooks about it. The researcher feels difficult in finding references. Sources from internet such as journals or articles may also be useful sources to give more information. Hopefully Study Program of English can provide more references to enrich the related literature so the students will be interested in conducting research in this field.

2. The Next Researcher

Psycholinguistics is very interesting topic to investigate more. Yet, there are still few people in Study Program of English are interested in conducting research in this area. It suggested for the next researchers to conduct similar topic with this research by using richer theories and extended point of view. If future researchers are interested in conducting similar research, they could apply word association test in other groups of participants. Moreover they could set more various stimulus words which can stimulate the participants to produce more various responses. Involving more participants in the study may help the researcher to get richer data. Besides, the next researcher can also investigate more about how the female and male produce response word in word association test.

REFERENCES

Aitchison, Jean. (2002). *Words in the mind: an introduction to the mental lexicon*. 3rd ed. Oxford, UK: Blackwell Publishing, Incorporated.

Arikunto, Suharsimi. (2006). *Prosedur penelitian: suatu pendekatan praktik (revisi VI)*. Jakarta : Rineka Cipta.

Barrow, Sarah. (2011). *First and second language word association. a study of how native English speakers and ESL learners make mental links between English words they have learnt*. Dissertation of Master of Arts in Applied Linguistics. Birmingham: Centre for English Language Studies Department of English University of Birmingham.

Buku pedoman akademik Stikes Bina Sehat PPNI dan AKPER Bina Sehat PPNI Mojokerto (2012). Unpublished. Mojokerto : Stikes Bina Sehat PPNI Mojokerto.

COCA (Corpus of Contemporary American English. Retrieved on October 05, 2014 from <http://www.corpus.byu.edu/coca/>

Creswell, John. (1998). *Qualitative inquiry and research design: choosing of five traditions*. Thousand Oak, California: SAGE.

Darjowijodjo, Soenjono. (2003). *Psikolinguistik-pengantar pemahaman bahasa manusia*. Edisi pertama. Jakarta : Yayasan obor Indonesia anggota IKAPI Jakarta

Du, Wangi., & Gao, Ying. (2013). *Study on the organizational pattern of mental lexicon for Chinese ESL college students of science*. China: Dalian University of Technology.

Field, John. (2003). *Psycholinguistics: a resource book for students*. London: Routledge.

_____. (2004). *Psycholinguistics: the key concepts*. London: Routledge.

Istifci, Iknur. (2010). Playing with words: a study on word association responses. *The Journal of International Social Research Volume 3 / 10 p. 360-368*.

Lara, Alexis Fernandez. (2010). *Word association of intermediate and advanced learners of English as a foreign language and of English native speakers: probing into lexical network knowledge*. Unpublished Undergraduate Thesis. Santiago : Universidad De Chile.

Nekkah, Seyyed Mohsen Asghari, Akhlaghi, Elahm., & Ebrahimi, Shima.

(2013). An assessment of lexical sense relations based on word association test. *European Scientific Journal* vol.9, No.11 p. 383-299

Peppard, Jason. (2007). *Exploring the relationship between word association and learner's lexical development*. An Assignment for Master of Arts in Applied Linguistics. Module 2-lexis. Birmingham : University of Birmingham.

Permatasari, Anggi. (2011). *Word association responses and their relationship with lexical storage (a case study of word association test on Japanese Study Program students University of Brawijaya)*. Unpublished Undergraduate Thesis. Malang : Universitas Brawijaya.

Piggot, Julian. (2006). *The relationship between word-association and learners' lexical development*. Module 5: language teaching Methodology. Birmingham : University of Birmingham.

Rahimi, Ali. (2009). How learners make mental links with words. *California Linguistics Notes Volume XXXIV No. 2 p. 1-26*

Roux, Peter. (2013). Words in the mind: exploring the relationship between word association and lexical development. *Polyglossia Volume 24 p. 80-91*

Wolter, Brent (2001). *A depth of individual word knowledge model for the mental lexicon*. An article retrieved on October 05, 2014 from www1.harenet.ne.jp/~waring/vocab/colloquium/brent2001.htm

Appendix 1: Word Association Questionnaire**WORD ASSOCIATION TEST**

Nama : _____

Silahkan menuliskan kata pertama yang muncul difikiran anda setelah membaca kata stimulus yang telah ditunjukkan dan berikan alasannya!

1. Kata : _____

Respon : _____

Alasan : _____

2. Kata : _____

Respon : _____

Alasan : _____

3. Kata : _____

Respon : _____

Alasan : _____

4. Kata : _____

Respon : _____

Alasan : _____

5. Kata : _____

Respon : _____

Alasan : _____

6. Kata : _____

Respon : _____

Alasan : _____

7. Kata : _____

Respon : _____

Alasan : _____

8. Kata : _____

Respon :

Alasan :

Appendix 2. Consent Form

LEMBAR PERSETUJUAN

Saya yang bertanda tangan dibawah ini

Nama :

Hari/ Tanggal :

Menyatakan bersedia untuk ikut berpartisipasi dalam pengumpulan data untuk kepentingan skripsi yang dilakukan oleh mahasiswa Fakultas Ilmu Budaya Universitas Brawijaya, Program Studi S1 Sastra Inggris yang bernama Diah Widayanti, NIM 115110107111031 dengan penelitian yang berjudul "*Mental Lexicon Produced by the Fifth Semester Students of Stikes Bina Sehat PPNJ Mojokerto (A Case Study of Word Association Test)*".

Mojokerto,

Partisipan

Appendix 3. Classification of Responses

CLASSIFICATION OF WORD ASSOCIATION TYPE

STIMULUS WORD	WORD ASSOCIATION TYPE		TOTAL RESPONSES		
MERAH (RED)	S	COLL	Jambu (guava)	1	
			Merona (blushing)	1	
			Lampu merah (traffic light)	1	
		MWI	Berani (brave)	4	
			Pedas, (hot)	2	
		EK	Darah, (blood)	25	
			Memar (bruise)	1	
			Bintik-bintik (spot)	1	
			Bayi (baby)	1	
			Kerudung (veil)	1	
			Kaos (t-shirt)	1	
			Strawberi (strawberry)	2	
			Tas (bag)	2	
		P	HYPO	-	
	HYPER		Warna (color)	5	
	SYN		-		
	COO		Putih (white)	1	
		PR	-		
	MENOLONG (HELP)	S	COLL	Mama (mother)	1
				Orang miskin (poorman)	2
Orang tua (parents)				1	
Manusia (human)				4	
Sahabat (best friend)				1	
Temen (friend)				3	
Pasien (patient)				2	
Orang sakit(patient)				2	
MWI				Kesusahan (difficulties)	1
				Kerelaan (willingness)	2
		Gotong-royong (mutual assistance)	1		
			Bantuan (assistance)	1	
			Tenaga (energy)	1	

			Social (social)	2	
			Mebutuhkan (need)	1	
			Kasih (compassion)	1	
			Rasa bakti (devotion)	1	
		EK	Kecelakaan (accident)	3	
			PMI (Indonesian red cross)	1	
			Melahirkan (give birth)	3	
			Dermawan (benignant)	1	
			Baik (good)	10	
			Simpatik (sympathetic)	1	
			Sifat terpuji (laudable)	3	
			Relawan (volunteer)	2	
		P	-	-	
			HYPER	-	
			SYN	Membantu (help)	
			COO	-	
		PR	-	-	
TUA (OLD)	S	COLL	Orang tua (parents)	2	
			Kakek dan nenek (grandmother and grandfather)	12	
			Makhluk hidup (living thing)	1	
		MWI	Dewasa (adult)	1	
			Ampun (forgiveness)	1	
		EK	Mikir (thinking)	1	
			Tongkat (stick)	1	
			Rambut (hair)	2	
			Keriput (wrinkled)	7	
			Sakit (sick)	4	
			Perawatan (nursing)	1	
			Penurunan fungsi (disfunction)	1	
			Lemah (weak)	1	
			Bungkuk (bent)	3	
			Pikun (senile)	1	
		P	HYPO	-	-
			HYPER	Usia (age)	1
				Umur (age)	1
			SYN	Lansia (far advance in life)	8
			COO	Muda (young)	2
	PR	-	-		
MENCINTAI (LOVE)	S	COLL	Orang tua (Parents)	5	
			Ibu (mother)	4	
			Saudara (sibling)	1	

			Pacar (soulmate)	2
			Kekasih(soulmate)	3
			Anak (child)	1
			Keluarga (family)	1
		MWI	Suka (like)	1
			Jodoh (mate)	1
			Jatuh cinta (falling in love)	3
			Anak muda (teenager)	1
			Hati (heart)	4
			Kebutuhan (need)	1
			Cinta (love)	1
			Rasa kasih (love)	1
			Asmara (amour)	1
			Kasih sayang (affection)	1
			Perasaan (feeling)	3
		EK	Sakit hati (broken heart)	2
			Sakit (sick)	1
			Berbunga-bunga (flowery)	1
			Indah (beautiful)	1
			Bahagia (happy)	1
			Galau (confused)	2
			Putus (break)	1
			Tidak senang (unhappy)	1
			Tulus (sincere)	2
	P	HYPO	-	
		HYPER	-	
		SYN	Menyayangi (love)	3
			Mengasihi (love)	1
		COO	Membenci (hate)	3
	PR		-	
LAMPU (LAMP)	S	COLL	Lampu jalan (street lamp)	1
			Hias (decorative)	1
			Aladin (alladin)	1
			Ruangan (room)	2
			Taman (park)	1
			Mati (off)	2
			Cahaya (light)	3
		MWI	Listrik (electricity)	1
			Putih (white)	3
			Menyala (on)	2
		EK	Menghangatkan (warming)	1
			Ruang operasi (operating theatre)	1
			Terang (bright)	20

			Menerangi (enlightened)	1		
			Gelap (dark)	1		
			Panas (hot)	1		
	P	HYPO	Philips (brand of a lamp)	3		
			Osram (brand of a lamp)	1		
		HYPER	Alat penerang (something that can make bright)	10		
		SYN	-			
		COO	-			
	PR		-			
STETOSKOP (STETHOSCOPE)	S	COLL	Mendengar (listen)	5		
		MWI	Pendengar (listener)	4		
			Beli (buy)	1		
			EK	Dunia kesehatan (medical world)	1	
				Mendengarkan jantung (listen to heart)	2	
				Jantung (heart)	4	
				Pemeriksaan (check up)	5	
				Kesehatan (healthy)	2	
				Detak jantung (heart beat)	2	
				Auskultasi (listen)	3	
				TTV (vital sign)	1	
				Rumah sakit (hospital)	1	
				Perawat (nurse)	1	
				Kedokteran (medical)	1	
				Tenaga kesehatan (paramedic)	1	
				Detak (beat)	2	
			P	HYPO	-	
				HYPER	Alat medis (medical equipment)	7
					Alat periksa (check-up equipment)	1
			Alat bantu orang Kesehatan (medical equipment)	1		
			Alat ukur (measurer)	1		
		SYN	Alat mendengar detak Jantung (equipment to listen heart beat)	10		
		COO	-			
	PR		-			
DOT (NIPPLE)	S	COLL	Bayi (baby)	30		
			Tempat susu (milk container)	2		
			Susu (milk)	2		
			Botol (bottle)	1		
		MWI	Minuman anak (children drinks)	1		
			Gemesin (funny)	1		

			Minum (drink)	5	
			Menyusui (breast feeding)	1	
			Toko peralatan bayi (baby shop)	1	
		EK	Kenyal (elastic)	5	
			Empuk (soft)	1	
			Plastik (plastic)	2	
	P	HYPO	-		
		HYPER	Alat bantu minum bayi (an equipment helps baby to drink)	4	
		SYN	-		
		COO	-		
	PR		-		
AMBULAN (AMBULANCE)	S	COLL	Mobil cepat (fast car)	3	
		MWI	-		
		EK	Mengantar pasien (take a patient)	3	
			Gawat darurat (emergency)	7	
			Cepat, sigap, siaga, (alert)	3	
			Jenazah (corpse)	3	
			Pasien (patient)	1	
			Rumah sakit (hospital)	4	
			Rujuk (refer)	1	
		P	HYPO	-	
			HYPER	Mobil (car)	4
				Kendaraan (vehicles)	4
				Alat transportasi (transportation)	2
	SYN		Mobil rumah sakit (hospital car)	4	
	COO		-		
	PR			-	

Appendix 4. Letter of Research Permission

**KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN
UNIVERSITAS BRAWIJAYA
FAKULTAS ILMU BUDAYA**

Jalan Veteran, Malang 65145 Indonesia
Telp. (0341) 575875 (direct), Fax. (0341) 575822 (direct)
E-mail: fib_ub@ub.ac.id http://www.fib_ub.ac.id

Nomor : 1711/UN10.12/AK/2014

Lampiran : -

Perihal : Permohonan Ijin Penelitian

19 Mei 2014

Yth. Ketua Yayasan Kesejahteraan Warga Perawatan
Perawat Nasional Indonesia (YKWP-PNI)
Jl. Raya Jabon Km. 06 Mojokerto-Jawa Timur

Dalam rangka penyelesaian tugas akhir mahasiswa Program Sarjana (S1) Fakultas Ilmu Budaya Universitas Brawijaya:

Nama : Diah Widayanti
NIM : 115110107111031
Semester : 7 (Tujuh)
Program Studi : S1 Sastra Inggris

Mohon bantuan Bapak/Ibu pimpinan memberikan ijin kepada mahasiswa kami untuk melakukan kegiatan penelitian dan memperoleh data pendukung dari instansi saudara.

Adapun judul Skripsi dari mahasiswa tersebut adalah : *Mental Lexicon Produced By The Fifth Semester Students of Stikes Bina Sehat Ppni Mojokerto (A Case Study of Word Association Test)*

Perlu kami sampaikan bahwa mahasiswa yang bersangkutan telah menyatakan bersedia menjaga kerahasiaan data yang telah diperoleh dan hanya digunakan untuk penelitiannya tersebut (terlampir).

Demikian atas bantuan dan kerjasama yang baik ini, diucapkan terimakasih.



Dekan,

Prof. Dr. Ratya Anindita, M.S., Ph.D.
NIP. 19610908 198601 1 001

Appendix 5. Sample of Data

WORD ASSOCIATION TEST

Nama : Imroatul sholikhah

Silahkan menuliskan kata pertama yang muncul difikiran anda setelah membaca kata stimulus yang telah ditunjukkan dan berikan alasannya!

1. Kata : Merah
 Respon : Darah
 Alasan : Karena darah berwarna merah

2. Kata : Mendong
 Respon : kecelakaan
 Alasan : Karena orang kecelakaan segera butuh pertolongan

3. Kata : Tua
 Respon : Lansia
 Alasan : Karena lansia adalah orang yg sudah >65

4. Kata : Mencintai
 Respon : Anak
 Alasan : Karena anak sangat butuh cinta orang tua

5. Kata : Lampu
 Respon : penerang
 Alasan : Karena tanpa lampu tidak bisa belajar dg baik

6. Kata : Stetoskop
 Respon : Jantung
 Alasan : Karena stetoskop untuk mendengarkan detak jantung

7. Kata : DOT
 Respon : Bayi
 Alasan : Karena anak bayi minum susu dg DOT

8. Kata : Ambulan
 Respon : Gawat darurat
 Alasan : Karena ambulan digunakan y transportasi gawat darurat

WORD ASSOCIATION TEST

Nama : Lely Harenah

Silahkan menuliskan kata pertama yang muncul difikiran anda setelah membaca kata stimulus yang telah ditunjukkan dan berikan alasannya!

1. Kata : Merah
 Respon : Darah
 Alasan : karena darah berwarna merah
2. Kata : Menolong
 Respon : Parien
 Alasan : saya sering menolong pasien yg membutuhkan pertolongan
3. Kata : Tua
 Respon : Muda
 Alasan : karena kalau ada yg tua pasti ada yang muda
4. Kata : Mencintai
 Respon : Hati
 Alasan : karena mencintai dengan hati
5. Kata : Lampu
 Respon : ruang operasi
 Alasan : Di ruang operasi banyak lampu
6. Kata : Stetoskop
 Respon : Jantung
 Alasan : karena stetoskop adalah alat untuk mengukur detak jantung
7. Kata : Dot
 Respon : Bayi
 Alasan : ketika bayi minum susu menggunakan dot
8. Kata : Ambulan
 Respon : Mobil cepat
 Alasan : Ambulan jalannya cepat

WORD ASSOCIATION TEST

Nama: Feny Budi Rahman

Silahkan menuliskan kata pertama yang muncul difikiran anda setelah membaca kata stimulus yang telah ditunjukkan dan berikan alasannya!

1. Kata : Merah
 Respon : Bendera
 Alasan : Bendera Indonesia
2. Kata : Monolong
 Respon : Baik
 Alasan : Sifat positif
3. Kata : Tua
 Respon : Usia
 Alasan : Proses hidup
4. Kata : Mencintai
 Respon : Orang tua
 Alasan : Orang tua selalu menemani anaknya
5. Kata : Lampu
 Respon : Terang
 Alasan : tanpa lampu gelap
6. Kata : Stetoskop
 Respon : Alat
 Alasan : Biasanya digunakan untuk mendengarkan detak jantung
7. Kata : Dot
 Respon : minum
 Alasan : digunakan bayi untuk minum
8. Kata : Ambulan
 Respon : mobil
 Alasan : pengantar orang sakit

Appendix 6. Sample of Consent Form from the Participants

LEMBAR PERSETUJUAN

Saya yang bertanda tangan dibawah ini

Nama : Inroqius Sholihah

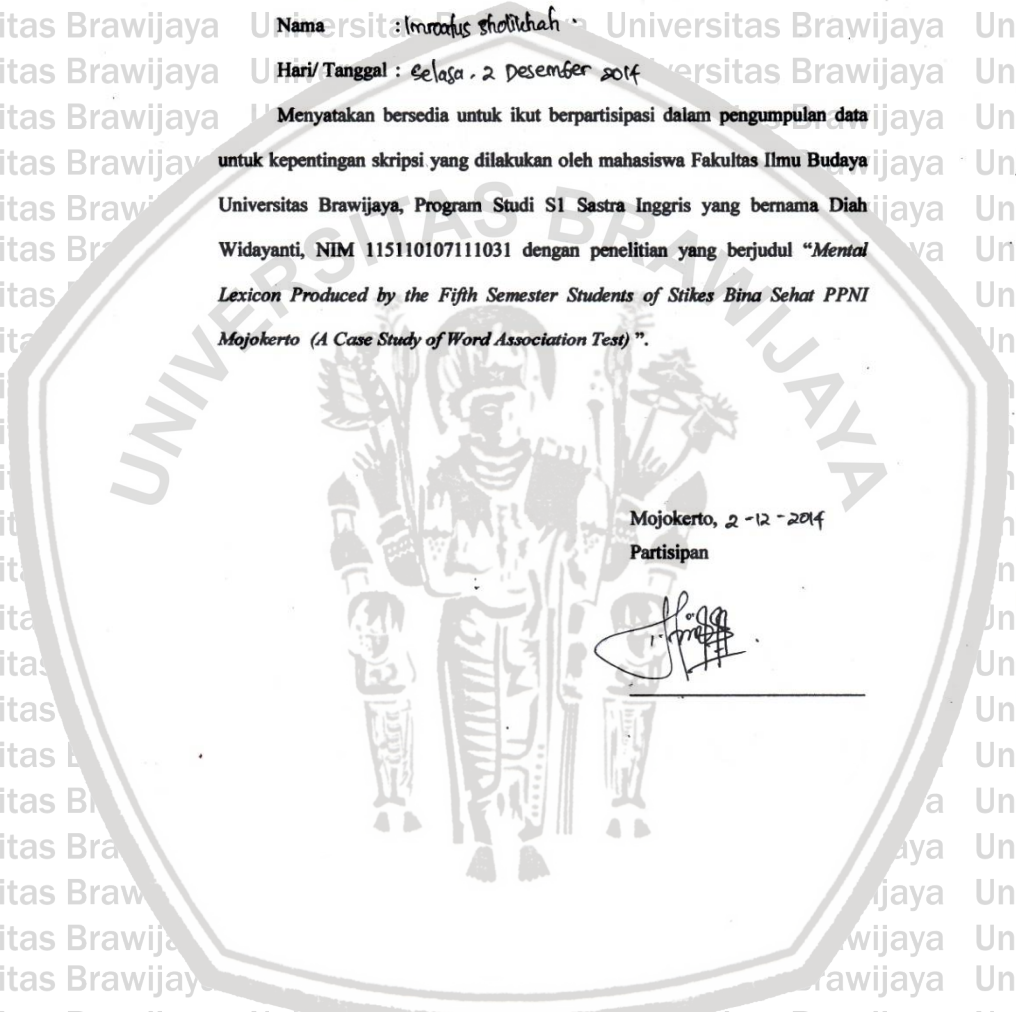
Hari/ Tanggal : Selasa, 2 Desember 2014

Menyatakan bersedia untuk ikut berpartisipasi dalam pengumpulan data untuk kepentingan skripsi yang dilakukan oleh mahasiswa Fakultas Ilmu Budaya Universitas Brawijaya, Program Studi S1 Sastra Inggris yang bernama Diah Widayanti, NIM 115110107111031 dengan penelitian yang berjudul "Mental Lexicon Produced by the Fifth Semester Students of Stikes Bina Sehat PPNI Mojokerto (A Case Study of Word Association Test)".

Mojokerto, 2-12-2014

Partisipan

[Handwritten signature]



LEMBAR PERSETUJUAN

Saya yang bertanda tangan dibawah ini

Nama : **Lely Heriannah**

Hari/ Tanggal : **Selasa, 2 - 12 - 2014**

Menyatakan bersedia untuk ikut berpartisipasi dalam pengumpulan data untuk kepentingan skripsi yang dilakukan oleh mahasiswa Fakultas Ilmu Budaya Universitas Brawijaya, Program Studi S1 Sastra Inggris yang bernama Diah Widayanti, NIM 115110107111031 dengan penelitian yang berjudul "*Mental Lexicon Produced by the Fifth Semester Students of Stikes Bina Sehat PPNI Mojokerto (A Case Study of Word Association Test)*".

Mojokerto, **2 - 12 - 2014**
Partisipan



Lely H.



LEMBAR PERSETUJUAN

Saya yang bertanda tangan dibawah ini

Nama : Feny Budi Rohman

Hari/ Tanggal : Selasa, 2 Desember 2014

Menyatakan bersedia untuk ikut berpartisipasi dalam pengumpulan data

untuk kepentingan skripsi yang dilakukan oleh mahasiswa Fakultas Ilmu Budaya

Universitas Brawijaya, Program Studi S1 Sastra Inggris yang bernama Diah

Widayanti, NIM 115110107111031 dengan penelitian yang berjudul "Mental

Lexicon Produced by the Fifth Semester Students of Stikes Bina Sehat PPN

Mojokerto (A Case Study of Word Association Test)".



Mojokerto,
Partisipan

Feny Budi Rohman

Appendix 6 : Berita Acara Bimbingan Skripsi

BERITA ACARA BIMBINGAN SKRIPSI

1. Nama : Diah Widayanti
2. NIM : 115110107111031
3. Program Studi : Sastra Inggris
4. Topik Skripsi : Psycholinguistics
5. Judul Skripsi : Mental Lexicon Produced by the Fifth Semester Students of *Stikes Bina Sehat PPNI Mojokerto* (A Case Study of Word Association Test)
6. Tanggal Mengajukan : 06 Oktober 2014
7. Tanggal Selesai : 04 February 2015
8. Nama Pembimbing : I. Fatimah, M.Appl.Ling.
II. Isti Purwaningtyas, M.Pd
9. Keterangan Konsultasi

No.	Tanggal	Materi	Pembimbing	Paraf
1	06 Oktober 2014	Pengajuan Judul	Pembimbing I	
2	07 Oktober 2014	Pengajuan Judul	Pembimbing II	
3	09 Oktober 2014	Pengajuan Bab I, II, III	Pembimbing I	
4	16 Oktober 2014	Revisi Bab I, II, III	Pembimbing I	
5	06 November 2014	Pengajuan Bab I, II, III	Pembimbing II	
6	11 November 2014	ACC Seminar Proposal	Pembimbing I	
7	13 November 2014	Revisi Bab I, II, III ACC Seminar Proposal	Pembimbing II	
8	10 Desember 2014	Seminar Proposal	Pembimbing I	
9	10 Desember 2014	Seminar Proposal	Pembimbing II	
10	18 Desember 2014	Pengajuan Bab IV, V	Pembimbing I	
11	06 Januari 2015	Revisi Bab IV, V Pengajuan Abstrak	Pembimbing I	
12	07 Januari 2015	Pengajuan Bab IV, V Pengajuan Abstrak	Pembimbing II	
13	19 Januari 2015	ACC Seminar Hasil	Pembimbing I	

14	21 Januari 2015	Revisi Bab IV, V Revisi Abstrak ACC Seminar Hasil	Pembimbing II
15	23 Januari 2015	Seminar Hasil	Pembimbing I
16	23 Januari 2015	Seminar Hasil	Pembimbing II
17	23 Januari 2015	Seminar Hasil	Penguji
18	28 Januari 2015	ACC Ujian Skripsi	Pembimbing I
19	28 Januari 2015	ACC Ujian Skripsi	Pembimbing I
20	30 Januari 2015	Ujian Skripsi	Pembimbing I
21	30 Januari 2015	Ujian Skripsi	Pembimbing II
22	30 Januari 2015	Ujian Skripsi	Penguji

Telah dievaluasi dan diuji dengan nilai:



Malang, 04 Februari 2015

Dosen Pembimbing I

Dosen Pembimbing II

Fatimah, M.Appl.Ling.,
NIP. 19751125 200212 2 2002

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