

**VOCABULARY MASTERY OF HIGH FREQUENCY
WORDS AT TWELVE GRADE STUDENTS
MAJORING IN SCIENCE AT SMA JAKARTA UTARA
(Survey Research)**



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ABSTRAK

RAHMAWATY. 2013. Vocabulary Mastery of High Frequency Words At Twelve Grade Students Majoring In Science At SMA Jakarta Utara: Penelitian Survey. Skripsi, Jurusan Pendidikan Bahasa Inggris, Fakultas Bahasa dan Seni, Universitas Negeri Jakarta.

Tujuan penelitian ini adalah untuk mengukur penguasaan kosakata bahasa Inggris khususnya kosakata berfrekuensi tinggi (*High Frequency Words*) kelas dua belas Jurusan Ilmu Pengetahuan Alam, Sekolah Menengah Atas Negeri Jakarta Utara. Hal ini merupakan topik yang penting karena siswa diharapkan mampu untuk membaca dan memahami teks bacaan yang akan mereka temui di tingkat Universitas. Hal ini sulit dicapai jika tanpa memiliki pengetahuan kosakata yang memadai, karena pengetahuan kosakata pada tingkat dua ribu kata dan tingkat tiga ribu kata berfrekuensi tinggi mencakup 95% kosakata yang terdapat pada teks akademik. Jadi, memiliki pengetahuan kosakata berfrekuensi tinggi merupakan syarat yang harus dimiliki siswa kelas dua belas agar dapat memahami teks akademik. Dua instrumen yang digunakan dalam penelitian ini adalah *vocabulary level test* yang disusun oleh Paul Nation dari Universitas Victoria, Wellington dan *assossiation word test* yang disusun oleh John Read. Kedua tes ini dirancang untuk mengukur kuantitas dan kualitas kosakata siswa. Hasil tes pada kuantitas kosakata menunjukkan bahwa siswa memiliki kosakata berfrekuensi tinggi yang kurang memadai. Siswa diperkirakan mengetahui 729 kata dari tingkat dua ribu kata dan 679 kata dari tingkat tiga ribu kata. Sedangkan, hasil tes pada kualitas kosakata dari tingkat seribu kata dan tingkat dua ribu kata dari kosakata berfrekuensi tinggi adalah rata-rata 56%. Hal itu menandakan bahwa siswa mengetahui kurang dari tiga asosiasi dari empat asosiasi yang diberikan. Dengan keterbatasan kosakata ini, siswa akan menemukan kesulitan dalam memahami teks-teks berbahasa Inggris, walaupun mereka telah mempelajari bahasa Inggris selama kurang lebih enam tahun. Oleh karena itu, diperlukan cara untuk meningkatkan pengetahuan kosakata siswa.

Kata kunci: penguasaan kosakata, kosakata berfrekuensi tinggi, tes kuantitas kosakata, tes kualitas kosakata, tingkat 1,000 kata, tingkat 2,000 kata, tingkat 3,000 kata.

ABSTRACT

RAHMAWATY. 2013. Vocabulary Mastery of High Frequency Words At Twelve Grade Students Majoring In Science At SMA Jakarta Utara: Survey Research. Thesis, English Education, Faculty of Language and Art, State University of Jakarta.

The objective of this study is to estimate the English vocabulary especially high frequency words at twelve grade students majoring in Science at State Senior High School in North Jakarta. This is an important topic since the students are expected to be able to read and comprehend the texts they will encounter in the University. It is difficult to achieve without an adequate vocabulary knowledge since knowing the second thousand and the third thousand of high frequency words cope 95% in academic texts. Thus, mastering high frequency words is the prerequisite for twelve grade students to comprehend the academic texts. Two instruments used in this study are *vocabulary level text* devised by Paul Nation at Victoria University of Wellington and *assosiation word test* composed by John Read. Both test are designed to estimate the quantity and the quality of students' vocabulary mastery. The result of the quantity test showed that students have inadequate high frequency words. Students were estimated have 729 words of the second thousand words and 679 words of the third thousand words. Whereas the result of the quality test of the first thousand words and the second thousand words of high frequency words was 56% on average. It means that the students knew less than three associates of four associates given. With the limited of vocabulary mastery, the students will meet difficulty in comprehending English texts, though they have learnt English for more or less six years. Therefore, it is needed to find a way to improve the students' vocabulary mastery.

Keywords: Vocabulary Mastery, High Frequency Words, Vocabulary Quantity test, Vocabulary Quality test, 1,000 words level, 2,000 words level, 3,000 words level.

CHAPTER 1

INTRODUCTION

1.1. Background of the Study

In Indonesia, twelve grade students of senior high school have learned English for almost nine years since Elementary level. By pointing to KTSP 2006 curriculum as the standard curriculum used in twelve grade of senior high school in 2013. As stated in *Permendiknas No.22 2006*, elementary students study English for two hours in a week as a local content or *Mulok* in classes 1V, V, and VI. Whereas the junior and senior high school students study English for four hours in a week, except for the language program in senior high school which learn English for five hours in a week during one academic which is equal to more or less 40 weeks to study.

In formal way, English learning has been provided large proportion of time to study. Unfortunately, many senior high school students, have a poor understanding in English. As stated by Lie (2000: 61), English is officially taught in secondary schools in Indonesia, but the ability in this foreign high school graduates is generally low as not having language skills needed for their daily life such as delivering their ideas and thoughts, understanding what people speak and understanding written passages.

One of the reasons behind inability in understanding English is lack of vocabulary mastery. If someone has poor ability in vocabulary, he can't clearly communicate their own idea as he wants whether in spoken or written form. He

can't clearly utterate what he wants to deliver. He can't understand clearly what he reads. Without a sufficient vocabulary, everyone can't communicate effectively and deliver their ideas. Adil Al-Kufashi (in Astaman, 2006) adds that having proficiency in vocabulary is the modal to communicate fluently. Grabe (1998: 17) states that the lack of vocabulary is the biggest obstacle in fluent reading by English second language students. Thornbury (2002) also believes that without grammar very little can be conveyed, without vocabulary nothing can be conveyed. Therefore, vocabulary mastery is significant to have to understand skills of language such as reading, speaking, listening, and writing effectively.

To be able to understand daily English utterances either in spoken or written form, senior high school students should understand around 2,000-3,000 family words. This number of vocabulary comes from the following considerations. Firstly, Nation (2001: 15) states several researchers supported the claim knowing about 2,000 family words, because it gives access to about 80 percent of the words in any written texts. Secondly, Read (2000: 158) adds high frequency word list consist of 2,000 word families, which form the base of the vocabulary that all proficient users must master. Thirdly, knowing larger number than 2,000 words is more suggested. Since 3,000 family words gives access 95% of written text to get adequate comprehension (Laufer & Nation, in Read 2000: 83).

Those considerations are relevant to the KTSP 2006 curriculum emphasizes on the importance of vocabulary in English language. Unfortunately, in the KTSP 2006 curriculum uncited a number of vocabulary student must know

in every educational level. However, in the previous curriculum, the level of vocabulary explicitly stated in 1994 curriculum. Senior high school student must know about 2,500 words to be able in developing language skills (Munjin, 2000).

Achieving 2,000 family words in six formal years of studying in junior and senior high school should not be difficult, if a student learns one new family word a day. According to the estimation by Miera (in Thornbury, 2002), the target of 2,000 core vocabulary of high frequency words could be achieved in forty weeks or one academic year if students learn fifty words to study a week.

This number of vocabulary is necessary to prepare them in understanding the English reading materials in the University. As stated by Nurweni & Read (in Read, 2000) argue that having an adequate vocabulary is the critical prerequisite for reading comprehension. In that case, students need to prepare themselves with vocabulary adequacy since its importance of either reading comprehension or academic success in general.

To have vocabulary adequacy, not only the quantity of words must be known, but also the quality of words must be understood by students. It means that both quantity and quality of words determine whether they have adequate vocabulary knowledge or not. As suggested by Qian (2002), vocabulary knowledge comprises two dimensions, which are vocabulary breadth or size, and depth or quality of vocabulary knowledge. Vocabulary breadth refers to the number of words the meaning which a learner has at least some superficial knowledge. Vocabulary depth is student's level knowledge of aspects of word

knowledge or how well the students know this word. It refers to the quality of learners' word knowledge.

Unfortunately, the previous studies of estimating English vocabulary mastery were still far from the target 2,000-3,000 vocabulary which are considered as the base of vocabulary must be known by students. As the study conducted by Nurweni and Read (in Read, 2000: 83), they found the vocabulary knowledge of first-year university students in Indonesia about 1,200 words on average even after six years of high school English study. The next study conducted by Quinn (1968 in Catalan, 2005), who conducted a study of a vocabulary size of high school students graduated in Salatiga and discovered that the subjects knew less than 1,000 of the most frequent English words after six years of study in high school. The survey research conducted by Astuti (2006), in English Education of State University of Jakarta. She found the vocabulary knowledge of student of fifth to seventh semester about 1,782 words on average. Takala (1985 in Catalan, 2005) conducted study whose subjects were secondary school students, they gained about 1,500 words on average.

From those studies, it inspired the researcher to estimate the vocabulary knowledge especially in high frequency words of 2,000 and 3,000 word level of the twelve grade students in secondary school before they enter University. Because if students' vocabulary knowledge is early known in the secondary school, the students who have not vocabulary adequacy can improve their vocabulary knowledge before entering the University. Therefore, it is expected to

create the senior high school graduates who have vocabulary adequacy to understand the reading materials in University.

1.2 Research Question

According to the explanation above, researcher is interested in finding out the vocabulary mastery of the twelve grade students at SMA Jakarta Utara have.

1. How many high frequency words do twelve grade students majoring in Science at SMA Jakarta Utara have before entering the University?
2. How is the quality of word knowledge in high frequency words of twelve grade students majoring in Science at SMA Jakarta Utara?

1.3. Objectives of the Study

The objective of this study are:

1. To find out how many high frequency words of twelve grade students majoring in Science at SMA Jakarta Utara know before entering the University.
2. To find out the quality of vocabulary knowledge in high frequency words of twelve grade students majoring in Science at SMA Jakarta Utara.

1.4. Scope of the Study

The scope of this study is the vocabulary mastery of twelve grade students majoring in Science at SMA Jakarta Utara. The number of schools are 6 schools from 15 Senior High Schools in North Jakarta. The number of subjects are 194 students from majoring in Science.

1.5. Significance of the Study

Through this research, I hope will bring some benefits in providing informations to be used as reference sources to know the real condition of students vocabulary mastery in secondary school. For the teachers, they can know their students' English vocabulary achievement. Thus, they are able to develop their teaching in vocabulary in order to lead the students more motivated in expanding their vocabulary, especially in teaching high frequency words. And for the ones who are interested in vocabulary, this research can be used as a guidelines to enrich our knowledge on vocabulary.

CHAPTER 2

LITERATURE REVIEW

To provide the basic theory of research, this chapter will discuss the topic that becomes the focus in this research. The aspects explained here are Defining Vocabulary and Word, Word Knowledge, Vocabulary Knowledge, The Approach & Principles in Vocabulary Learning, Vocabulary Levels, Assessing Vocabulary Knowledge, Curriculum Implementation.

2.1 Defining Vocabulary

The first thing should we do before defining vocabulary is by defining what is word. By referring to Oxford English Dictionary (online version, 2011), which defines a word as “an element or unit of speech, language, etc”. It continues with the definition:

Any of the sequences of one or more sounds or morphemes (intuitively recognized by native speakers as) constituting the basic units of meaningful speech used in forming a sentence or utterance in a language (and in most writing systems normally separated by spaces); a lexical unit other than a phrase or affix; an item of vocabulary, a vocable. (Oxford English Dictionary, online version, 2011)

In the definition of OED, a word is also said to be an item of vocabulary and vocabulary is as the body of words used in a particular language. In other words, all existing words of a language make up its vocabulary.

After knowing the definition of vocabulary, then it raises the question what is the importance of learning vocabulary in second or foreign language?

According to Rupley *et al.* (1998), vocabulary is the glue that hold stories, ideas and content together so that making comprehension accessible for learner. Green and Meara (in Folse, 2004) added that learners need vocabulary and see acquisition of vocabulary as their greatest challenge. Furthermore, Chall & Jacobs (2003) stated the correlation of word knowledge with reading comprehension indicates if students don't adequately expand their vocabulary knowledge, their reading comprehension will be affected. Horwitz and Taylor (in Schmitt and McCarthy, 1997: 201) found that a number of ESL students completing their questionnaire agreed that the most important part of learning foreign language is vocabulary.

From those perspectives, it is quite clear that vocabulary is one of the most important components in language besides other components such as structure, pronunciation, and intonation. Vocabulary knowledge is important because it includes all the words we must know to access our background knowledge, express our ideas and communicate effectively, and learn about new concepts.

By considering the importance of vocabulary in learning second or foreign language, then it comes up the question, how to be master in vocabulary knowledge? The answer is the learners should understand first what is word knowledge.

2.2 Word Knowledge

Recognizing word is important in learning vocabulary. Because words has some aspects which has significant affect in learning vocabulary. These following are the researchers' concepts on the aspect of word knowledge.

Firstly, Thornbury (2002: 15) discusses the issue of word knowledge. At the most basic level, a learner has to learn the form and meaning of the word. After that, the word knowledge can be expanded by learning other possible meanings of the word, both the spoken and the written form of the word, the grammatical behavior of the word, different derivations of the word, collocations of the word, register of the word, word associations and frequency of the word in the language.

To summarize word knowledge by Thornbury, it can be seen as in the diagram for the word *tangi* :

Tangi	
The meaning (s) sound	Weep, mourn, lamentation. It has come to funeral, chimmes and birdsong.
The spoken form	/tæŋl/
the written form	Tangi.
The word's derivation	<i>tangihanga</i> (noun) <i>tangihia</i> (passive form).

The register of the word	<i>Tangi</i> used colloqually to mean <i>funeral</i> : now commonly used in New Zealand English.
The association of the word	<i>Tangi</i> has strong associations with traditional Maori culture, evoking the rituals of the community area.
The grammatical behavior	<i>Tangi</i> is used as both a noun and a verb.
The word frequency	<i>Tangi</i> is high frequency word in Maori, as well as being used in NZ English.
The collocation of the word	Walata sangi (funeral song). tangi reka (sweet sound: harmonious).

The second concept of word knowledge by Schmitt. He defines knowing word as the ability to distinguish the meaning from the similar words used in different contexts. The meaning of a word is the relationship between a word with its referents such as its person, its thing, its condition. It involves the ability of spelling a word in the spoken form, recognizing the parts of word in written form, and expressing the grammatical meaning based on its word class and its word formation (Schmitt, 2000: 22).

In short, Schmitt divides knowing word into three aspects, such as meaning, written and spoken form, and grammatical (2000: 44).

The third concept of a word knowledge can be defined in three significant aspects, such as form, meaning and use, and the term of receptive and productive

knowledge (Nation, 2001: 26). The concept of word knowledge by Nation can be seen in the following diagram:

Form	<p>Spoken</p> <p>Written</p> <p>Word Parts</p>	<p>R What does the word sound like?</p> <p>P How is the word pronounced?</p> <p>R What does the word look like?</p> <p>P How is the word written and spelt?</p> <p>R What parts are recognizable in this word?</p> <p>P What word parts are needed to express the meaning?</p>
Meaning	<p>Form and Meaning</p> <p>Concepts and Referents</p> <p>Associations</p>	<p>R What meaning does this word form signal?</p> <p>P What word form can be used to express the meaning?</p> <p>R What is included in the concept?</p> <p>P What items can the concept refer to?</p> <p>R What other words does this make us think of?</p> <p>P What other words could we use instead of this case</p>
Use	<p>Grammatical Functions</p> <p>Collocations</p> <p>Constraints on use (register frequency)</p>	<p>R In what patterns does the word occur?</p> <p>P In what patterns must we use this word?</p> <p>R What words or types of words occur with this one?</p> <p>P What words or types of words must we use with this one?</p> <p>R Where when and how often would we expect to meet this word?</p> <p>P Where when and how often can we use this word?</p>

Note : R = receptive, P = productive

Furthermore, Richard (in Read, 2000: 25) describes his assumption covering various aspects of word knowledge as follows:

1. Knowing word means knowing the degree of probability of encountering that word in speech or print.
2. Knowing a word implies knowing the limitations on the use of the word according to variations of function and situation.
3. Knowing a word means knowing the syntactic behavior associated with the word.
4. Knowing a word entails knowledge of the underlying form of a word and the derivations that can be made from it.
5. Knowing a word entails knowledge of the work associations between that word and other words in the language.
6. Knowing a word means knowing the semantic value of the word.
7. Knowing a word means knowing many of the different meanings associated with a word.

In short, word knowledge requires knowing form, meaning and use. Knowing the form of word is required to know how the words are spoken based on how its spelt and pronounced, to know how the words are written based on

how its look and written, and how the word parts are recognized. Knowing the meaning of word is expected to make the associations with other related words. Whereas knowing the use of word is expected to know how words collocate, in which context and situation, and what pattern we use.

2.3 Vocabulary Knowledge

As the explanation before, Nation (in Read, 2000: 92) has proposed word knowledge which involves not only word meaning, but also the aspects of word knowledge, including spelling, pronunciation, grammatical form, frequency, collocation and restrictions on the word use, as well as the distinction between receptive and productive knowledge.

As word knowledge has been proposed by researcher, Qian (2002) also proposed vocabulary knowledge. He confirmed that at least there are two primary dimensions to achieve the vocabulary knowledge. They are vocabulary breadth and depth. Vocabulary breadth refers to the size or number of words meaning. Vocabulary depth is defined as learners' level knowledge of various aspects of given word, or how well learners know this word.

Breadth of vocabulary knowledge is addressed to measure the number of words learners know. Recently, amount of vocabulary size is around 20,000 word families. It excludes proper names, compound words, abbreviations and foreign words. However, smaller vocabulary size has been designed to be a good start to be learned by EFL or ESL which is known as high frequency words, as listed in *General Service List* by West (1953).

Depth of vocabulary knowledge is not only focuses on the meaning, but also the aspects of word knowledge, which cover such components as pronunciation, spelling, meaning, register, frequency, morphological, syntactic, and collocational. If these components are connected each others, a good comprehension in reading can be achieved (Qian, 2002: 515).

2.4 The Approach & Principles in Vocabulary Learning

After understanding both word knowledge and vocabulary knowledge, the next question is how are the ways either to teach or to learn the vocabulary knowledge? Schmitt (2000) said that there is no best way to teach vocabulary. Yet, some researchers recommend several approaches and principles to develop vocabulary teaching and instruction.

Nation (1990: 5) suggested two ways of learning vocabulary. The first is receptive learning. It involves the learner's ability to recognize and to understand a word and its meaning when it is encountered in reading and listening. The second is productive learning. It involves the learner's ability to produce a word when speaking or writing.

Secondly, The National Reading Panel (2000) suggest that vocabulary is taught by both directly and indirectly. Direct instruction means teaching specific word, such as analyzing word suffixes and prefixes, guessing word from context. Whereas indirect instruction means expose learner to study a lot of new words or instruct them to read more, and learners listen to a native speaker.

Read (2004: 147) explained learning vocabulary can be either incidental, when learning is the process of learning something without the intention of doing so. Intentional, when vocabulary is the actual target of learning.

Related to the teaching vocabulary level, Nation (2001) offers some approaches in teaching high frequency words. The first is direct teaching, it involves teacher explanation and peer teaching. The second is direct learning, it involves study from word cards and dictionary use. The third is incidental learning, it involves guessing meaning from context in extensive reading and use in communicative activities. And the last is planned encounters, it involves graded reading and vocabulary exercises.

Besides approaches of learning vocabulary, a number of principles should be considered when developing a vocabulary.

The first principles is from Wallace (1988). The principles in teaching vocabulary are:

1. Aim. It involves what is to be taught, which words, and how many words.
2. Need. It means the target vocabulary should respond students' real needs and interest.
3. Frequent exposure and repetition.
4. Meaningful presentation. It means the presentation must clear, and unambiguous denotation or reference should be assured.

Here are the principles in explicit teaching of vocabulary by Sokmen (in Schmitt, 2000):

1. Build a large sight vocabulary containing both high frequent words and more difficult, low frequent words while also enabling learners to choose certain words to be learned.
2. New words should be integrated with the already known words.
3. Concern the number of encounters with the new word: the word should be encountered often enough through various activities and in different contexts.
4. Learners should be engaged in a deep level of processing while learning new words.
5. Teachers should also facilitate imaging when presenting new words; these methods include arranging vocabulary in organized units, using visual illustrations and making words concrete and contextualized.
6. Finally, learners should be encouraged to discover and use independent learning strategies so that they can learn vocabulary outside the classroom.

The next principles in vocabulary learning by Nation (2001: 218) are as follows:

1. Choosing words

Learners should choose words that will be useful to learn, such as the words which are often encountered by learners, or used in their language situations. The frequency lists can be used is *The General Service List* by West (1953) which contains 2,000 words as the most frequent words. It would be ideal for beginners to study English. Other list is the *Academic Word List* by Coxhead (1998) which contains the most frequent academic vocabulary that would be useful for learners to study academic english.

2. Choosing strategy

Learners should choose the appropriate strategy by including definitions, sentences, etc. The purpose of doing this is to set and prepare the learners to do the tasks of word learning.

3. Choosing aspects of word knowledge to focus on

Not only the word meaning, but also the word knowledge aspects should be learned by learners. For example, students can learn the accent of word, collocations and word family members, the grammatical patterns. Learners can enrich their word knowledge by learning more different aspects.

2.5 Vocabulary Levels

There are levels of vocabulary used as guidance based on its frequency and its range of certain level. As suggested by Nation (2001: 11), vocabulary divided into four levels based on its frequency, that means how often the word occurs in the written text or spoken text and its range, that means how wide the coverage of word occurs in the written text or spoken text.

1. High Frequency Levels

High frequency word occurs very frequent in all kinds of language used in either formal (speech, newspaper, and academic texts) or informal contexts (conversations, novels, magazines). High frequency words covers 80%-95% of the running words in written texts. Many researchers suggest to learn English language by focusing on high frequency word level because of their importance.

According to Nation (2001: 11), there are some characteristics of the English high frequency words, such as:

1. High frequency word occurs very often.
2. High frequency words are useful in English. They are receptively and productively important used in both oral and written form and in formal and informal use. They are useful when writing assignments, writing letters, taking part in conversation, and giving formal talks.
3. High frequency words make up a very large proportion of the running words in all kinds of text and language use because they hold 80-95% of running words in the text.
4. They are relatively small group of words that can be learned in a school teaching progress over three to five years.

Then, high frequency words is categorized into three levels, they are:

1. High frequency of 2,000 words. The number of words is the most native speaker use in their daily conversation. 2,000 most frequent words in English provides reader with familiarity with nearly nine out of every ten words in written text (Thornbury, 2002). 80% of running words in the text are 2,000 high frequency words (Nation, 2001). The learners can find list of 2,000 words in *A General Service List* by Michael West (1953) (see Appendix 1). And the list of the 2,000 words by Nation (see Appendix 3).

2. High frequency of 3,000 words. Several researchers suggest 3,000 words. Liu Na and Nation (in Nation and Waring, 1993: 5) has shown that 3,000 words is required to allow successful guessing meaning of the unknown words since it provides at least 95% coverage of a text. Nation (1991) added that EFL needs a productive knowledge of at least 3,000 high frequency words to cope with the academic reading task. The learners can find the list of 3,000 words as listed by Nation (see Appendix 4).

3. High frequency of 5,000 words. High frequency of 5,000 words is a boundary level between the high and low frequency level (Qian, 2002: 52). This level is claimed as what learners need to be able in reading the text autonomously since 5,000 words holds a high enough proportion about 95% of running words in the text (Nurweni and Read, 1999: 162).

2. Academic Words Level

Academic words are not that common in everyday communication, but they frequently occur in academic texts. Nation (2001) has explained academic textbooks consist of many common words in different kinds of academic texts such as *policy*, *phase*, *adjusted*, *sustained*, etc. Academic words holds about 9% of running words in the text. A list of academic words mentioned by Nation (2001) is *Coxhead's list* which includes 570 word families. This small list of words is important for anyone who use English for academic purposes.

3. Technical Words

Technical words is different from the academic words which is in all area of academic subjects. Technical words comes from the special purpose of particular subject, e.g. bussiness. Nation (2001) explained that technical words covers about 5% of running words in the text. We can find 1,000 entries in dictionary based on each subject area.

4. Low Frequency Words

Low frequency words is the words that does not occur often in daily language or academic. According to Nation (2001: 12) mentioned the characteristics of Low frequency words, such as:

1. They cover 5% of the words in academic text.
2. They include all the words that are not high frequency, academic, and technical words.
3. They consist of technical words for other subject areas, proper nouns that we rarely meet in our use of the language.

2.4.1 Vocabulary Levels in Senior High School

After knowing the levels of vocabulary based on its frequency and its range, related to this study taken in Secondary School, it raises the question? “Which levels of vocabulary do the secondary school students should master before entering University?”

Secondary school students need to focus on the high frequency words that consists of 2,000-3,000 words. The number of words comes up from the following considerations:

1. About 80% - 95% of running words in the spoken and written text and occur in all kinds of any languages are high frequency words (Thornbury, 2002; Nation, 2001; Nurweni and Read, 1999: 162).
2. High frequency Levels has been set as the most frequent words of English is the best decision for students going on to academic study (Nation and Hwang, 1995).
3. Nation & Laufer (in Read, 2000) stated vocabulary of 3,000 word families is necessary to achieve.
4. Knowing 2,000 words can increase comprehensible language input, as students would be able to understand speech that are exposed to and written texts that they read.
5. The level of 2,000 words is a beginning (Schmitt, 2000: 144). As claimed by Nation (1990: 261), the level 2,000 and 3,000 words contain the high frequency level that all learners need to know in order to function English.
6. They are relatively small group of words that can be learned in a school teaching progress over three to five years (Nation: 2001).

7. The 1994 curriculum explicitly stated that secondary school students must know the target of vocabulary is 2,500 words for Science and Social Program and 3,000 words for Language Program (Lie, in Sadewa: 2004).

Those considerations confirmed that secondary school students are suggested to have the high frequency words of 2,000-3,000 words before going on to academic study since this number of words is required to understand the reading materials. Furthermore, it covers 80%-95% of running words in the spoken and written text and occur in all kinds of any languages.

2.6 Assessing Vocabulary

The definition of evaluation is a continuing process about collecting and interpreting information to value some decisions made in a design of teaching system. Thus, the evaluation consists of two elements, such as: information, and decision (Hamalik, 2008) (available at arniatuu.files.wordpress.com).

The characteristics of evaluation are as follow:

1. Validity is evaluation tool is to measure one thing exactly.
2. Reliability is evaluation where the result has the same measurement result if it is used anytime.
3. Discriminative is evaluation tool must show the different result in every students.
4. Practical is evaluation tool must easy to use.

The evaluation can be measured by qualitative or known as non-measurement and quantitative or known as measurement. Qualitative data can be obtained by observations as well as by narrative accounts of class performance. Quantitative data can be obtained by test and questionnaire.

Vocabulary is important to be assessed, because vocabulary is the most component in learning second or foreign language. As Schmitt (2000: 163) stated vocabulary is regarded as an important component in language thus it needs to be assessed.

2.6.1 Purpose of Assessing Vocabulary Knowledge

Vocabulary knowledge test focuses on the design to assess learners for the following purposes (Read, 2000: 151):

1. Achievement test is to find out how well the learners have mastered a vocabulary knowledge that they have been taught.
2. Progress test is to assess how well students have learned the words presented in the units in the coursebook.
3. Placement test is to estimate how many high frequency words learners have already known. It helps to decide what kind of vocabulary learning programme the students need.

2.6.2 Assessing Breadth Vocabulary

These followings are the reasons of measuring vocabulary size and the place research has been done by Read (2000: 83):

1. Reading researcher have interested in estimating how many words are known by learners since vocabulary knowledge influence their reading comprehension. The result of such research is useful to design reading teaching programmes in schools.

2. Research of the migrant students has shown the vocabulary knowledge holds the significant role in their academic achievement.

3. Nation and Kennedy (1994) found that knowledge of 4,000 and 5,000 words would be prerequisite for understanding an undergraduate economic textbook written in English. It has shown that there are certain numbers which is needed to cope with the language demands of their studies.

4.. It is useful to measure a realistic minimum vocabulary size for foreign students, and prepare students to face their reading need at university level. It is appropriate to apply in Indonesia as foreign countries.

After knowing the reasons of estimate the vocabulary size, the question is how the ways to estimate it. There are three steps in conducting vocabulary size assessment (Read, 2000: 85), they are:

1. What counts as a word?

Researcher have to make decisions about how to deal with abbreviations, proper nouns, compound words, idioms, and other multi-word units.

2. How do we choose which words to test?

Researcher can use the sampling of word which represents a higher proportion of the items in a list containing a thousand words that the learners need to use the words. The sampling of high frequency words suggested, *General Service List* by Michael West in 1953 and *Teacher's Word Book* by Thorndike and Lorge in 1944 (Meara and Jones, 1988; Nurweni and Read, 1999).

3. How do we find out whether the selected words are known?

As stated by Read (2000: 88-91), to select known words is by selecting the test items, assessing the learners and calculating the known words by the learners.

The next method is an estimate of vocabulary size can be done by two ways. The first method is based on sampling from a dictionary, and the second method is based on corpus-derived lists of selecting word families according to their frequency. Usually, these word families are grouped into the first 1,000 most frequent words, the second 1,000 most frequent, and so on. This test is generally used by non-native speakers of English (Nation, 1990).

2.6.3 Kinds of Breadth Vocabulary Test

To estimate vocabulary breadth or how many vocabulary of learners' have can use the following vocabulary tests (Read, 2000: 87):

1. Multiple – Choice

Multiple choice is popular with the test developers, as well as other aspects of language proficiency because they are so convenient to administer and

easy to analyze in well established procedures, but it is not suitable enough to test the second language learners.

2. Matching of words with definitions

Matching items is more reliable than the other vocabulary test items and provide learners to show their knowledge of vocabulary. The lack of this item is guessing factors.

3. Translation items

This items is very efficient to know the knowledge of vocabulary because it can explore the idea of learners in vocabulary knowledge. However, the lack of using this item is subjectively to measure the ability of vocabulary and the most time consuming to held the test than the other items.

4. The checklist (or yes-no) test.

Checklist test is the simplest way of testing vocabulary. But there is no way how valid the test takers are reporting their knowledge of the words.

2.6.4 Assessing Depth Vocabulary

According to Read (2000: 91), the depth vocabulary test or the quality of word knowledge test have the following purposes:

1. In doing vocabulary depth test, the subject are required to demonstrate their understanding of each word by giving explanation. The interviewer have opportunity to explore subject knowledge of the word.

2. Measuring part of word knowledge in the context of the research on incidental vocabulary learning.

3. There are the relevance of the result of students' depth of vocabulary knowledge to their level achievement in schools.

Depth vocabulary consists of various aspects of word knowledge. Nation (2001) has made aspects of word knowledge to be assessed as in this following table:

Form	<p>Spoken</p> <p>Written</p> <p>Word Parts</p>	<p>R</p> <p>P</p> <p>R</p> <p>P</p> <p>R</p> <p>P</p>	<p>Can the learners recognize the spoken form of the word?</p> <p>Can the learners pronounce the word correctly?</p> <p>Can the learners recognize the written form of the word?</p> <p>Can the learner spell and write the word?</p> <p>Can the learner recognize known parts in the word?</p> <p>Can the learner produce appropriate inflected and derived forms of the word?</p>
Meaning	<p>Form and Meaning</p> <p>Concepts and referents</p> <p>Associations</p>	<p>R</p> <p>P</p> <p>R</p> <p>P</p> <p>R</p> <p>P</p>	<p>Can the learner recall the appropriate meaning for the word form?</p> <p>Can the learner produce the appropriate meaning for the word form?</p> <p>Can the learner understand the range of uses of the word and its central concept?</p> <p>Can the learner use the word to refer to a range items.</p> <p>Can the learner produce common associations for this word?</p> <p>Can the learner recall this word when presented related ideas?</p>

Use	Grammatical Functions	R	Can the learner recognize correct of the word in context?
		P	Can the learner use this word when presented with realted ideas?
	Collocations	R	Can the learner recognize collocations?
		P	Can the learner pronounce the word with appropriate collocations?
	Constrains on use (register, frequency...)	R	Can the learner tell if the word is common, formal, infrequent, etc?
		P	Can the learner use the word at appropriate times?

As we can see from the table, there are many aspects of word knowledge which can be assessed to know the depth vocabulary knowledge by every learner. It raises the difficulty to set the format of depth vocabulary test. However, (Schmitt, 2000: 175) has suggested two main approaches for assessing the depth vocabulary knowledge. They are: a developmental approach and dimensional approach. The developmental approach uses scales to describe the stage of acquisition of a word. On the other hand, dimension approach describes the level of mastery of the aspects of word knowledge.

2.6.5 Kinds of Vocabulary Depth Test

Knowing depth vocabulary or how well the learners know about vocabulary can be assessed by using several tests comprised by Schmitt (2000), such as:

1. Interview

Interview is used to assess the depth of vocabulary knowledge. The interviewer can ask several questions and explore the questions to get the desired

answers and the interviewee is given more opportunities to ask the question they don't know. Interview needs well preparation in arranging the questions. Thus, it wouldn't be time-consuming.

2. Vocabulary Knowledge Scale (vks)

VKS is a developmental test. This format test combines student self-report with production to make sure the students know the words. VKS emphasizes what students know, rather than what they do not know, by allowing them to show their partial knowledge of a word. VKS is interesting effort to measure word knowledge. But VKS has limitation such as it can decrease the complex nature of vocabulary knowledge to a single scale. Because a single scale is not the appropriate way to categorize the several forms of word knowledge that people have (2000: 132-138).

3. Association Word Test

Association word test a dimension approach test. Association word test composed by Read (1993/1998) is an attempt to associate the target word with other aspects of word knowledge, such as collocation. The test is arranged of these aspects which represents the test taker's vocabulary knowledge. There are eight options who follow the target word, the first four options have some associations with the target word and other four options don't. However, it is very difficult to interpret the scores because of some associates are chosen based on they knew the words or just guessed.

2.7 The Curriculum Implementation

Curriculum is defined as a set of goals and system about the content and the material to be taught and methods to be used to carry out teaching and learning activities at schools (Bismoko, Alip, and Mukarto, 1994: 10). A curriculum can be specially designed by school, known as school curriculum or designed by the national authority, known as national curriculum.

Since 1945 or known as Independence Year, the national curriculum of Indonesia had undergone change several times, namely in 1947, 1952, 1964, 1968, 1975, 1984, 1994, 2004 KTSP 2006 curriculum (understood as School Based Curriculum) and the latest is 2013 curriculum, those conversions are logically consequences of political issue, government system, social cultural, economic, science and technology change in the living of state community (Soekisno, 2007). Therefore, the curriculum as a set of educational plans should be developed dynamically according to the demands and changes that occur in society.

However, related to this study which the subject are twelve grade students of secondary school, where the implementation of learning still using KTSP 2006 Curriculum as their guideline to develop their teaching and learning process, eventhough 2013 Curriculum has been released to be implemented in year of 2013.

The arrangement of KTSP was started in year 2006-2007 by referring to the *Standar Isi* and *Standar Kompetensi Lulusan* to the primary education and high education through the decree of Minister of National Education Regulation or *Permendiknas No. 22 2006*. Principally, KTSP is the part of *Standar Isi*, but the development of teaching is given to school, so that it can be suited to the school needs. In process of KTSP refers to *Permendiknas No 24 2006* about The Implementation of *Standar Isi* and *Standar Kompetensi Lulusan*.

According to *Permendiknas No. 22 Tahun 2006* about *Standar Isi*, guidance syllabus must be obeyed for all schools in Indonesia to develop their own syllabus. This syllabus guidance is putted in *Standar Kompetensi* or *Kompetensi Dasar* in every syllabus design. In *Standar Kompetensi* or *Kompetensi Dasar* emphasizes on the importance of vocabulary mastery in supporting four skills in language (reading, writing, listening, and speaking). For instance, in *Standar Kompetensi* of Listening skill stated *Memahami makna dalam teks percakapan transaksional dan interpersonal resmi dan berlanjut dalam konteks kehidupan sehari-hari*. It emphasizes on understanding vocabulary to support the listening skill.

Unfortunately, in KTSP 2006 curriculum unstated the level of vocabulary should be mastered by students in every educational level. In contrast to 1994 curriculum, which emphasizes on the increase of the students' ability on understanding English material to support their study in the higher educational level (Lie, 2002: 61). It is stated that after three years study in high school, students are expected to achieve 2,500 words to able in developing language skills

(Munjin, 2008: 3). The level of vocabulary are expected to be achieved after four contact hours every week in the ten and eleven grades and five contact hours in twelve grade of social science or eleven contact hours in twelve grade of the language programs (Lie, in Sahadewa 2004).

The main target of the 1994 National Curriculum is to help students to acquire the language skills. However, the language elements consist of structure, vocabulary, spelling and pronunciation are not taught separately. Instead, they taught to develop the four skills of language.

2.7 Conceptual Framework

As the explanation above, it can be inferred that vocabulary is one of the most important component in English. Since it includes all the words we must know to access our background knowledge, express our ideas and communicate effectively, and learn about new concepts. Competencies must exist in mastering vocabulary are knowing the meaning of word and knowing the appropriate context to use of the words.

In developing vocabulary learning is used approaches and principles. The first approaches are receptive and productive learning. It involves the learner's ability to receive and to produce word in language skills. The next approaches are indirect and direct learning. That means that how the way vocabulary is taught. Vocabulary also can be learnt through incidental learning and intentional learning which the activities are distinguished based on the learning objective. Whereas

principles considered when developing a vocabulary to a language course such as choosing words and strategy and choosing word knowledge aspects to focus on.

Vocabulary knowledge can be accessed through three significant aspects, such as form, meaning, and use and the term of receptive and productive knowledge.

Vocabulary knowledge can be measured by using two primary dimensions. The first is breadth vocabulary or vocabulary quantity. It means that to obtain an estimate of vocabulary size as how many words learners know. To have vocabulary size need to first focus on learning the level of high frequency words consists of 2,000-3,000 words. Since it represents 80% - 95% of running words in the spoken and written text and occur in all kinds of any languages.

Another dimension is to measure how well the learners know the aspects of words. It means the depth vocabulary or vocabulary quality. Knowing several aspects of word can be accessed through these components of word such as pronunciation, spelling, meaning, concepts and referents, associations, grammatical, collocations, register, frequency.

For twelve grade secondary school graduates, vocabulary mastery is necessary to have to understand the reading materials in the University. Knowing their vocabulary knowledge is necessarily done when they are still in secondary school. If the result show the learners have lack vocabulary, it can be anticipated by learners to learn unknown vocabulary so that the target of vocabulary can be achieved when they graduate by having adequate vocabulary to understand the

reading materials in the University which mostly use English language. In understanding of a text they encounter, the learners are not only demanded to know about the meaning of word, but also the ability to use the words appropriately.

The importance of vocabulary knowledge as explained above has addressed the researcher to conduct the test to measure the vocabulary size of high frequency words and the quality of knowing the words by the senior high school have. Because having adequate vocabulary size and being able to know the vocabulary in depth is an obligation to master vocabulary.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter discusses the methodology of the study. The study represents a survey approach in order to answer the research question. This chapter draws the procedures followed in the selection of the Approach of the Study, Place and Time of the Study, Participant of the Study, Data Collection Method, Pilot Study, and Data Analysis, Procedures of The Study.

3.1 Approach of the Study

The aim of this study is to find out how many high frequency words and how is the quality of word knowledge in high frequency words of twelve grade students majoring in Science at SMA Jakarta Utara before entering the University. A survey approach is used to collect data. The purpose of using survey is to collect data from large population to get the specific information. Survey research is available for developing the representative characteristics of a large population. It can be applied by almost any subject. Researcher have used survey to investigate leadership, teaching practice, education and academic achievement (available at www.sagepub.com/43589-8.pdf).

3.2 Place and Time of Study

This research was conducted at SMA Negeri Jakarta Utara. This research was held from October until December 2013.

3.3 Participant of the Study

The population of this study is the twelve grade students of majoring in Science at SMA Jakarta Utara. The reason to choose twelve grade students because they have learnt English for almost six years and to know whether they have mastered the level of high frequency words or not since this level is meaningful to have before entering the University level. In distributing test, the researcher chose 6 schools from 15 schools in North Jakarta. 6 schools cover 40 percent of the total schools. The school selection was based on their achievement in the national exam score. Firstly, the researcher selected two public schools that had the high national exam score and stratified them as high-level public schools. Then, the researcher selected another 2 public schools that had the average national exam score and stratified them as the medium-level school. Finally, the researcher selected two public schools that had the low national exam score and stratified them as low-level schools. Then, the researcher chose one science class as the representative of science classes from every school. There were 194 students taken as the the samples. 30 studenrs from SMA Negeri 13, 35 students from SMA Negeri 52, 30 students from SMA Negeri 75, 32 students from SMA Negeri 80, 37 students from SMA Negeri 72, 30 students from SMA Negeri 110. The sampling procedure used in this study is Stratified Sampling.

3.4 Data Collection Method

In this study, there are two instruments to collect the data i.e vocabulary level test and association word test.

3.4.1 Vocabulary Level Test

Using the Vocabulary Level Test devised by Professor Paul Nation at Victoria University to estimate students' vocabulary size. The 1990 test version comprises of five parts representing five levels of word frequency in English: The 2,000 words, 3,000 words, 5,000 words, the University Word Level, and 10,000 words. The test is found reliable and valid since it refers to *The Word Frequency Data* by Thorndike dictionary in 1944 and *The General Service List* by Michael West in 1953. VLT was chosen since it was easy to make and easy to mark. VLT provided very low chances of guessing and tested a large number of words in short time. The three general vocabulary test consists of 60 words and 30 definitions, the AWL test consist of 72 words and 36 definitions. VLT contains of six words and three definitions. As in the following example from 2,000 word-level test.

1. bussiness	
2. clock	
3. horse	<u> 6 </u> part of a house
4. pencil	<u> 3 </u> animal with four legs
5. shoe	<u> 4 </u> something used for writing
6. wall	

In this study, VLT used was high frequency words from 2,000, 3,000 level by considering that this levels are the stage should be mastered by students as cited in 1994 curriculum. Nation (in Read, 2000: 119) claims that the 2,000 and

3,000 word levels contain the high frequency level that all learners need to know in order to function English.

3.4.2. Association Word Test

Association word test was formulated by Read (1993) to measure how well the learners know the aspects of high frequency words which have meaning, form, and uses.

In arranging the association word test format, each test item consists of one adjective used as stimulus words, two boxes which each box containing four target words. There are always four correct answers in each item test.

According to Read (2000: 181), there are 3 main types of the relationship between target word and its associates, such as:

1. Paradigmatic: The two words are synonyms or at least similar in meaning, perhaps with one being more general than the other. For instance: *edit-revise*, *abstract-summary*, *assent agreement*.
2. Syntagmatic: The two words often occur together in a phrase which can collocate. For instance: *edit-film*, *team-sport*, *occur-phenomenon*.
3. Analytic: The associate represents one aspect or component of the target word and it is like dictionary meaning. For instance: *team-together*, *edit-publishing*, *expert-overseas*.

In this association word test, the eight associates were divided into two group of four. As in the following examples:

Sudden

beautiful quick surprising thirsty	change doctor noise school
------------------------------------	----------------------------

The words on the left are adjectival forms. The associates between them. In the first case, *quick* and *surprising* are either synonyms of the target word or represent one aspect of its meaning, They have a paradigmatic relationship with a stimulus word. On the right side are four nouns. The associates between them such as: *sudden change* and *sudden noise* which can collocate with the stimulus word and have a syntagmatic relationship with it.

3.5 Data Processing and Analysis

The data is proceed by using microsoft excel. The data consist of quantitative data. The instruments used in this study are tests.

The first test is vocabulary level test. This test has 60 target words which are divided into two levels of high frequency words. Each level consists of 10 numbers. Each number has three target words. The number of correct answer represents the students' vocabulary mastery for each level in the high frequency level. The formula to calculate the result of test is:

$$\text{Subject's Vocabulary Size} = \frac{\text{Subject's score on the Level Test}}{\text{Number of total items}} \times 1000$$

For example, students A got 25 correct answer for 2000 word level, students B got 24 correct answer for 3000 word level.

$$2,000 \text{ words level} = \frac{25}{30} \times 1000 = 833 \text{ words}$$

$$3,000 \text{ words level} = \frac{24}{30} \times 3000 = 800 \text{ words}$$

From the calculation, it can be inferred that students A got 833 words for 2,000 word level, students B got 800 for 3000 words level.

Since the VLT in this study included two levels, that are 2000 words and 3000 words, the highest possible score is 60 (1 point x 30 items x 2 levels).

Nation (1983, as cited in Mehrpour et al.,) states that score of 12 or less out of 18 (66,67%) at a vocabulary size level indicates that this level has not been mastered. Therefore, the researcher assumed that a score of 20 out of 30 at each level could be an indication of that level's mastery.

The second test is Association Word Test. In this study, association word test consist of 25 target words of the high frequency words. By the total number of 1,000 words level are 10 and the total number of 2,000 words level are 15. As Schmitt (2000: 165) stated, sampling of test from the most frequent 1,000 and 2,000 levels is often sufficient, especially for beginners.

In scoring, participants got one point for each correctly answered item. Since each number of 25 association word test items has four correct answer, the maximum score is 100 (Read, 2000). After gaining the score per participant. All of the scores were counted to find the mean of of all participants. Moreover,

according to Read (2000: 183), the proficient participants are able to identify three associates or more (75%) or from four associates given. It means that if the participants only identify less than three associates or less than 75%, they have low proficient in vocabulary knowledge.

3.6 Pilot Study

Pilot study refers to mini versions of a full-scale study as well as the specific pre-testing of a particular research instrument such as a test. Pilot studies are a significant element of a good study design. Conducting a pilot study does not guarantee success in the study, but it does increase the possibility. (available at <http://sru.soc.surrey.ac.uk/SRU35.html>).

Therefore, to know the test was valid and reliable to use in the full scale research, the test is tried to the students as the sample who were not the target of this study. The total sampling are 25 students. The students were given 45-60 minutes to do the test. There were not test item revised after experiment test. The try out result was calculated using split half reliability. The result of the try out was 0,79 for the vocabulary level test (see appendix 5) and 0,84 for association word test (see appendix 6).

According to Kerlinger (1990), the validity concept has meaning if the score is positive. The higher score that almost close to score of 1, the result will be more valid.

This following is the formula Split-Half Reliability:

$$r'_{xy} = \frac{\sum x'y'}{\sqrt{(x'^2)(y'^2)}}$$

$$r_{xy} = \frac{2(r'_{xy})}{1+r'_{xy}}$$

Note : r_{xy} : coefisien of validity

x : score of odd numbered

y : score of even numbered

x' : standard deviation of odd numbered

y' : standard deviation of even numbered

3.7 Procedures of the Study

In conducting the study, the researcher took the following procedures:

1. Deciding which are the schools and participants to be investigated.
2. Asking permission to Headmaster in SMA Negeri 13, SMA Negeri 52, SMA Negeri 75, SMA Negeri 80, SMA Negeri 72, SMA Negeri 110.
3. Distributing the test to the participants.
4. Counting the result of the test.
5. Tabulating and analyzing obtained data.
6. Interpreting data to find answers based on the research questions.

CHAPTER 4

FINDINGS AND DISCUSSIONS

This chapter presents the result of the study which is presented into two sections: The findings gained from survey results and the discussions of the findings.

4.1 Findings

Based on the tabulation of obtained scores from the test, the result of the test will be presented in three parts:

1. The result of the first thousand word list as the base of vocabulary depth.
2. The result of second thousand word list as the base of vocabulary breadth and vocabulary depth.
3. The result of third thousand word list as the base of vocabulary breadth.

4.1.1 The result of the first thousand word list

The result of the first thousand word list consists of the tabulation from each student (see appendix 7). The test consists of word associations item which are adressed to know about the students' depth of vocabulary mastery by measuring three aspects: dictionary meaning, synonym, and collocation. The students score were calculated by giving one point for correct answer item.

The measurement of the depth of vocabulary mastery of the first 1000 using word association test scores is presented in table 1.

Table 1

The measurement of the depth of vocabulary mastery of the first 1000 using word association test scores

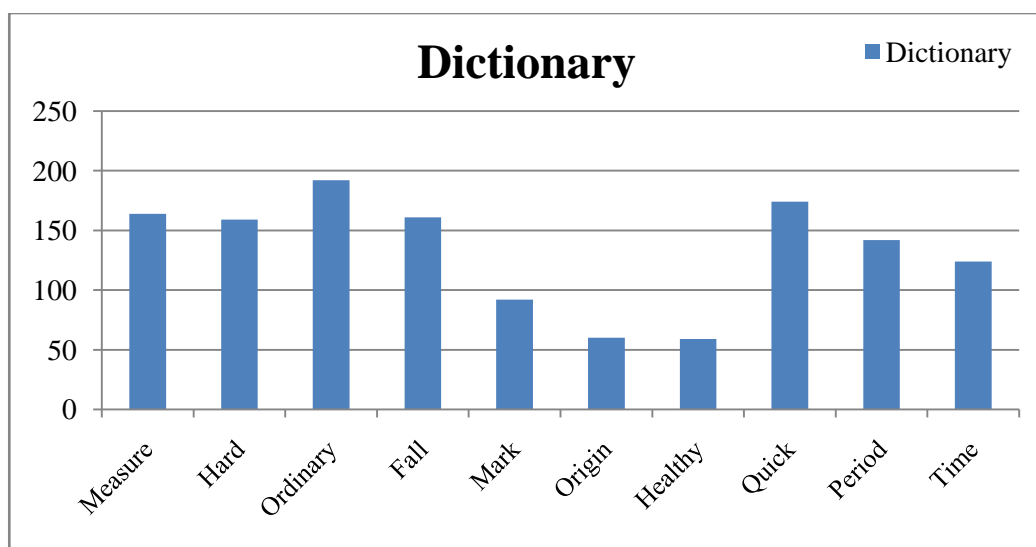
Aspect of Word Knowledge	Total	Mean Score	Percentage	Minimum	Maximum
Dictionary Meaning	10	6,7	67,5%	1	10
Synonym	12	7	57,5%	1	11
Collocation	18	8,4	46%	2	16
The total score	40	22,1	171%		

As we can see from the mean of Twelve Grade students Majoring in Science at SMA Jakarta Utara, show that their depth of vocabulary knowledge of the first 1000 word. The mean estimate of all three aspects (dictionary meaning, synonym, and collocations) was 57%. It can be considered on average the students were able to answer correctly more than two or less than three of four associates.

The result of the test in details are as follow. The first aspect of knowing words is dictionary meaning. The mean percentage was 67%. It means that students were able to know the dictionary meaning of word. However, the

dictionary meaning item of the test was rather difficult. Because 5 students or about 2,6% achieved the highest score 10. Whereas the lowest score was achieved by 1 student.

Here is the details of the achievement of dictionary meaning based on the total participants in each word presented in the chart.

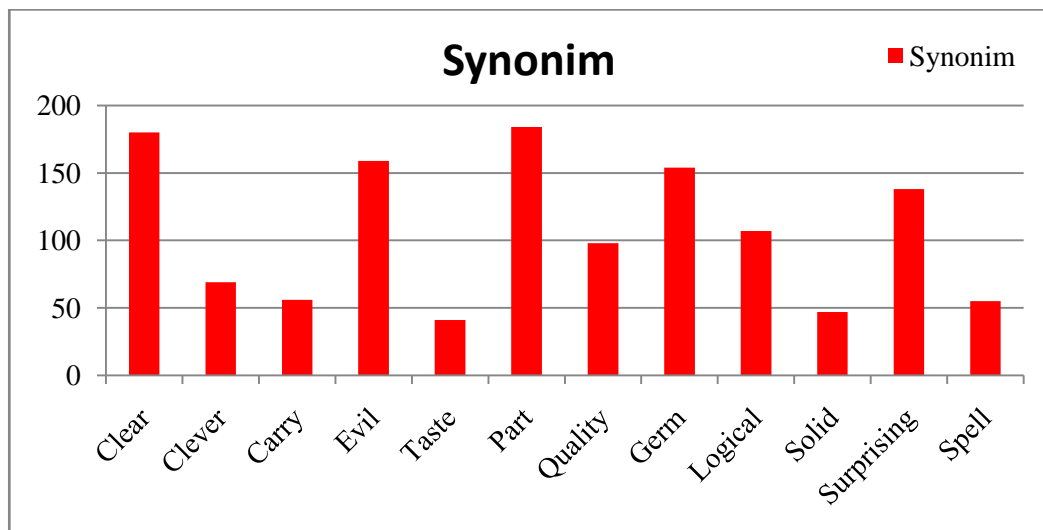


From the chart, it can be inferred that more than 100 students were familiar with the dictionary meaning of *common: ordinary, count: measure, cruel: hard, drop: fall, sudden: quick, term: period and time*. On the other hand, few students or about less than 90 students knew the dictionary meaning of *feature: mark, seed: origin, sound: healthy*.

The second aspect of knowing words is synonym. The mean percentage was 57,5%. It means that the synonym item of test was entirely rather difficult. None student achieved the highest score 12. However, there are 4 students

achieved score 11. On other hand the lowest score, 1 was achieved by only one student.

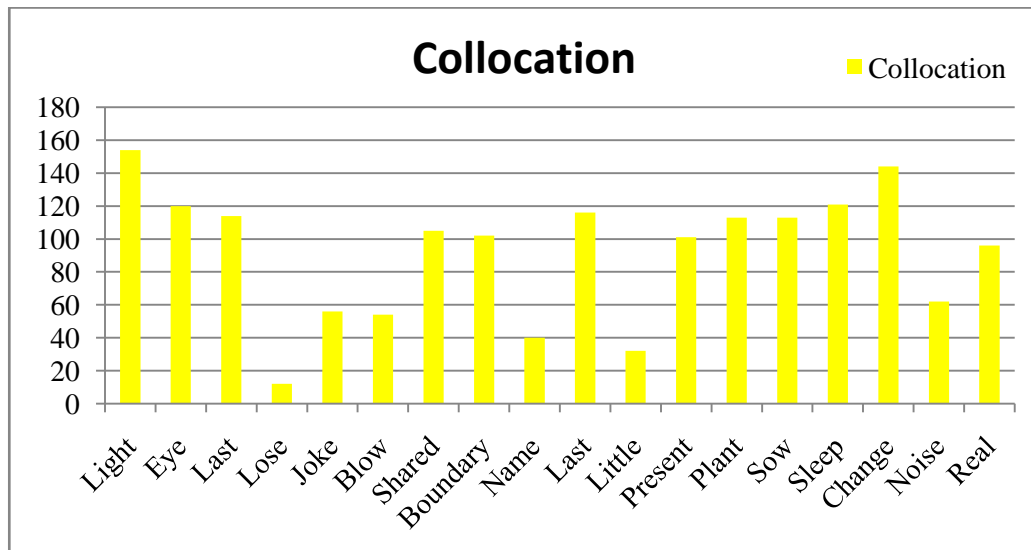
Here is the details of the achievement of synonym based on the total participants in each word presented in the chart.



From the chart, it can be inferred that more than 100 students were familiar with synonym of *bright: clear, cruel: evil, feature: part, seed: germ, sudden: surprising, sound: logical*. On the other hand, less than 100 students were able to answer the synonym of *bright: clever, count: carry, drop: taste, feature: quality, sound: solid, term: spell*.

The third aspect of knowing words is collocation. The mean percentage was 46%. It means that most students met the difficulty to answer the collocation of word. None student achieved the highest score 18. Only one student achieved 16 as the maximum score. Whereas the lowest score, 2 was achieved by 3 students.

Here is the detail of collocation achievement based on the total participants in each word presented in the chart.



From the chart, it can be inferred that more than 100 students were familiar with collocation of *bright light*, *bright eye*, *sudden change*, *last count*, *common shared*, *common boundary*, *last drop*, *plant seed*, *sow plant*, *sound sleep*. On the other hand, less than 100 students knew the collocation of *lose count*, *cruel joke*, *cruel blow*, *common name*, *little drop*, *sudden noise*, *real term*, *feature present*.

4.1.2. The breadth vocabulary of the second thousand word list

The result of the breadth test consists of the tabulation from each student. (see appendix 8). The test consist of matching words with definitions.of matching words with definitions. The results were calculated using the formula commonly used in vocabulary size. The students correct answer were divided by the total items then multiplied by 1000.

The measurement of the breadth of vocabulary mastery of the second thousand using vocabulary level test scores is presented in table 2.

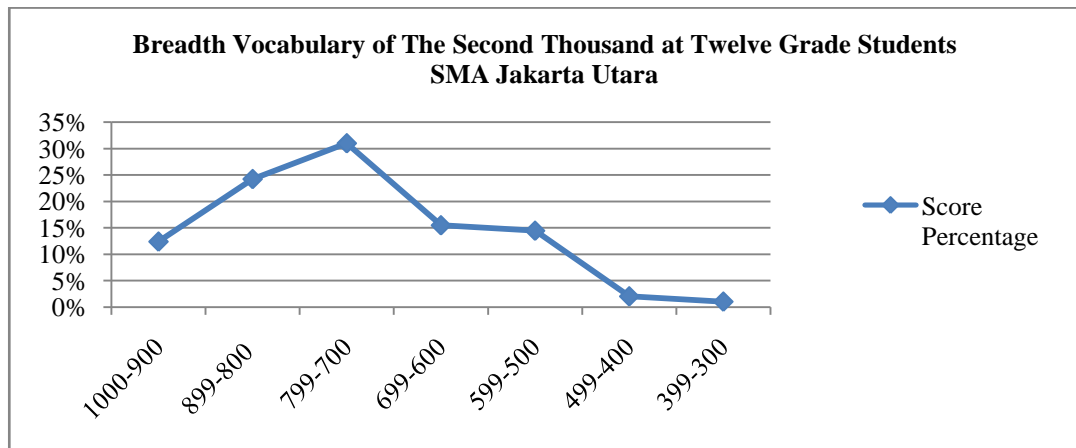
Table 2

The measurement of the breadth of vocabulary mastery of the second thousand using vocabulary level test scores.

List	Total Number of words	Mean of words known	Mean of Correct Answer	Minimum	Maximum
Second 1000 Words	1000	729	22	367	967

The mean shows that, for twelve grade students Majoring in Science at SMA Jakarta Utara had the mean of words known 729 words and the mean of correct answer 22. None of the students achieved perfect score 1,000 words.

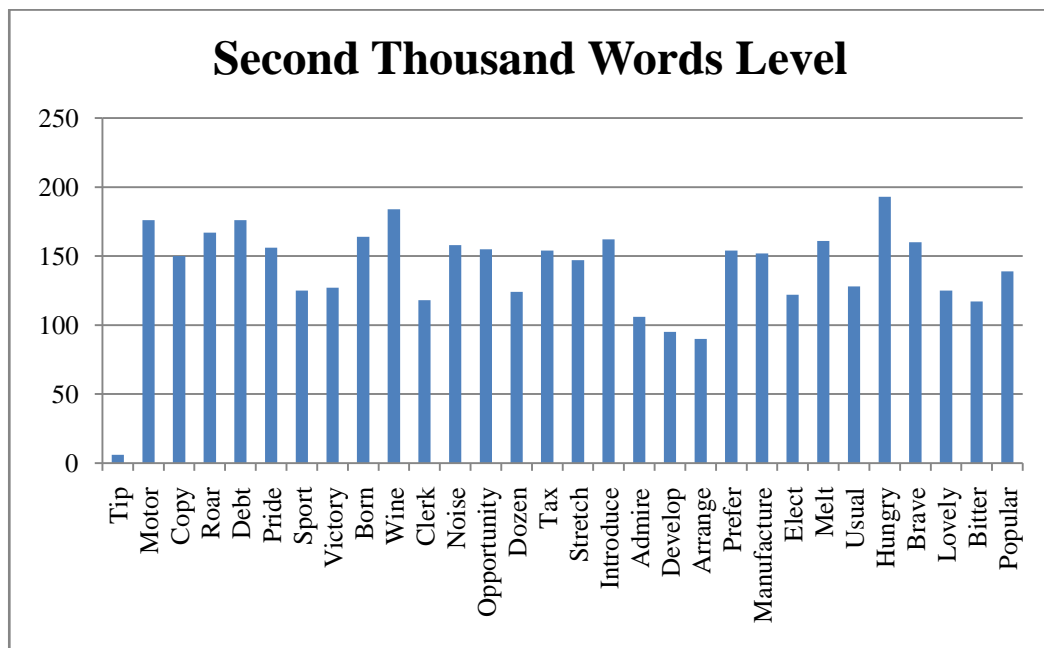
Here is the detail of calculation of the second thousand words presented in the chart 1.1



The chart figures that 24 students from 194 students or 12% were estimated to know between 900-967 of the word in the list. 47 students from 194 students or 24% were estimated to know between 899-800 of the word in the list. 60 students of 194 or 31% students were estimated to know between 799-700 of the word in the list. 30 students of 194 students or 15% were estimated between 699-600. 28 students of 194 students or 14% were estimated between 599-500, 3 students of 194 students or 2% were estimated between 499-400. 2 students of 194 students or 1% were estimated between 399-300.

Therefore, it is excessively clear that most twelve grade students majoring in Science known 799-700 high frequency words on the second thousand (2,000) word level. By the mean of words known were 729 words. None of the students have not achieved the most frequent level of English. Though the 2,000 word level is the vocabulary size they must master in the Senior high school.

Here is the details of the second thousand words' based on the number of words which students know.



As we can see from the chart, students were familiar with the definitions of the following words: about 150-190 students were familiar with the words: *motor* was known by 176 students, *copy* was known by 150 students, *roar* was known by 167 students, *debt* was known by 176 students, *pride* was known by 156 students, *born* was known by 164 students, *wine* was known by 184 students, *noise* was known by 158 students, *opportunity* was known by 155 students, *tax* was known by 154 students, *introduce* was known by 162 students, *prefer* was known by 154 students, *manufacture* was known by 152 students, *melt* was known by 161 students, *hungry* was known by 193 students, *brave* was known by 160 students. The second group is about 100-145 students knew the definitions of the words: *sport* was known by 125 students, *victory* was known by 127 students, *clerk* was known by 118 students, *dozen* was known by 124 students, *admire* was known by 106 students, *elect* was known by 122 students, *usual* was known by 128 students, *lovely* was known by 125 students, *bitter* was known by 117

students, popular was known by 139. The third is about less than 100 students knew the definitions of the words: *tip* about 6 students, *develop* about 95 students and *arrange* about 90 students.

4.1.2 The depth vocabulary of the second thousand word list

The result of the second thousand word list consists of the tabulation from each student (see appendix 9). The test consists of association word test item which were addressed to give inferences about the students' depth of vocabulary mastery by measuring three aspects of word knowledge such as dictionary meaning, synonym, and collocation. The students score were calculated by giving one point for correct answer item.

The measurement of the depth of vocabulary mastery of the second 1000 using word association test scores is presented in table 3.

Table 3

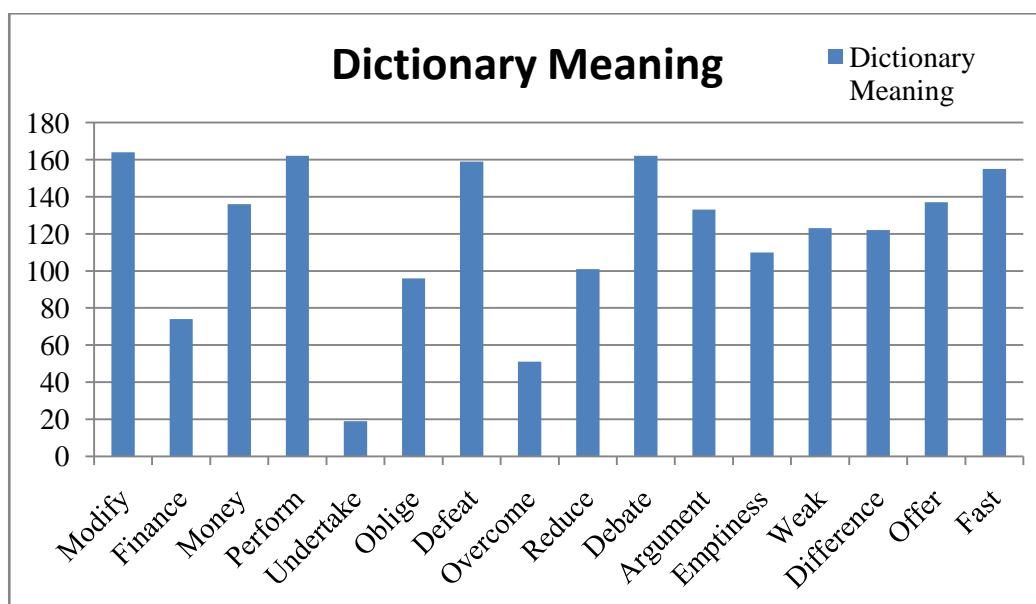
The measurement of the depth of vocabulary mastery of the second thousand using association word test scores.

Aspect of word knowledge	Total Score	Mean Score	Percentage	Min	Max
Dictionary Meaning	16	9,7	61%	3	16
Synonym	23	12,8	55,6%	6	22
Collocation	21	10,5	50%	2	17
The total score of 3 aspects	60				

As we can see in the chart, the mean of Twelve Grade students Majoring in Science at SMA Jakarta Utara show that their depth (quality) of vocabulary knowledge of the first 2,000 word was rather surprising. The mean estimate of all three aspects (dictionary meaning, synonym, and collocations) was 55,5%. It can be considered the students were able to answer correctly less than three of four associates.

The detail result of the test is as follow: for the first aspect of knowing words is dictionary meaning. The mean percentage was 61%. It means that most students were able to identify the dictionary meaning of word, but the dictionary meaning item of the test was still considered rather easy to analyze. Because only 3 students or about 1,5% achieved the highest score, 16. Whereas the lowest score, 3 was achieved by 1 students.

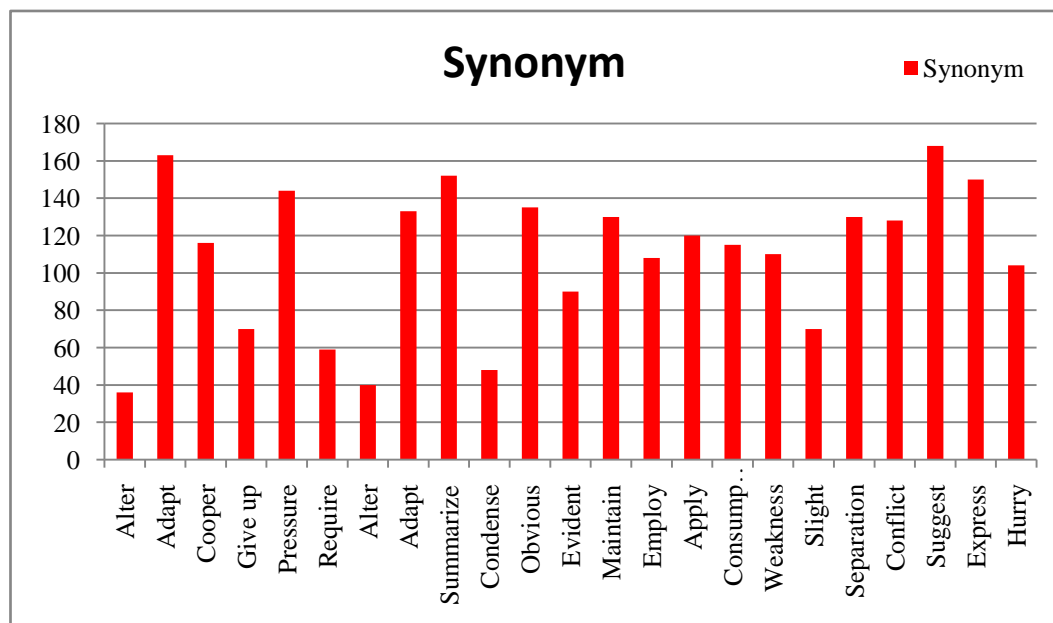
Here is the detail of dictionary meaning based on the total participant in each word presented in the chart.



From the chart, it can be inferred that more than 100 students were familiar with the dictionary meanings such as *adjust: modify*, *brass: money*, *commit: perform*, *conquer: defeat*, *dispute: debate*, *dispute: argument*, *exhaustion: emptiness*, *rapid: fast*, *propose: offer*, *digest: reduce*, *friction: difference*, *faint: weak*. On the other hand, there were some words that few students knew such as *commit: undertake*, *compel: oblige*, *conquer: overcome*, *brass: finance*.

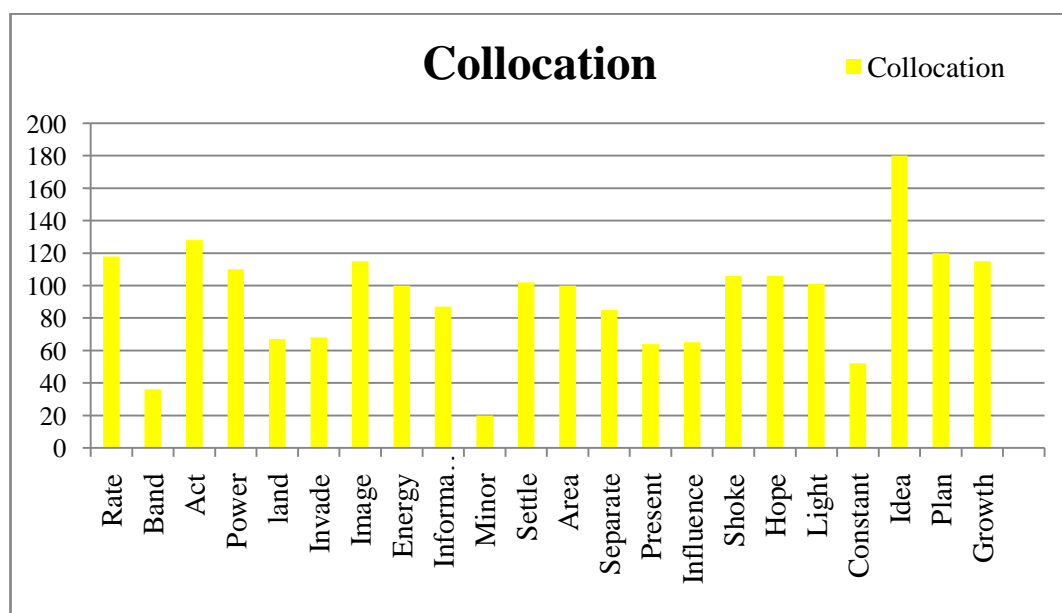
The second aspect of knowing words is synonym. The mean percentage was 55,6%. It means that the synonym item of test was rather difficult. None of the students gained the highest score 23. 3 students achieved the score between 22. Whereas the lowest score, 6 was achieved by 1students.

Here is the detail of synonym based on the total participant in each word presented in the chart.



From the chart, it can be inferred that more than 100 students were familiar with synonym of *modify: adapt, brass: cooper, compel: pressure, adjust: adapt, digest: summarize, distinct: obvious, exert: maintain, exert: employ, exert: apply, exhaustion: consumption, exhaustion: weakness, friction: separation, friction: conflict, propose: suggest, rapid: express, rapid: hurry*. On the other hand, few students or about less than 100 students knew the words *adjust: alter, commit: give up, compel: require, convert: alter, digest: condense, distinct: evident, faint: slight*.

The third aspect of knowing words is collocation. The mean percentage was 50%. It means that only half of the students were able to analyze the collocation of word and the collocation item of test was entirely rather difficult. None of the students achieved the highest score, 21. However, there were 23 students achieved the score 14-16. Whereas the lowest score, 2 was achieved by 1 student.



From the chart, it can be inferred that more than 100 students were familiar with the collocation of words such as *adjust rate, commit act, compel power, convert image, convert energy, distinct area, exhaustion: shoke, faint hope, faint light, propose idea, propose plan, rapid growth, dispute settle*. On the other hand, less than 100 students knew the collocation of words such as *brass band, conquer land, conquer invade, constant friction, dispute minor, digest information, distinct separate, exert influence*.

4.1.4 The result of the third thousand word list

The result of the third thousand word list consists of the tabulation from each student. (see appendix 10). The test consist of matching words with its definitions. The results were calculated using the formula used in the vocabulary level test. The students correct answer were divided by the total items then multiplied by 1000.

The measurement of the breadth of vocabulary mastery of the third thousand using vocabulary level test scores is presented in table 4.

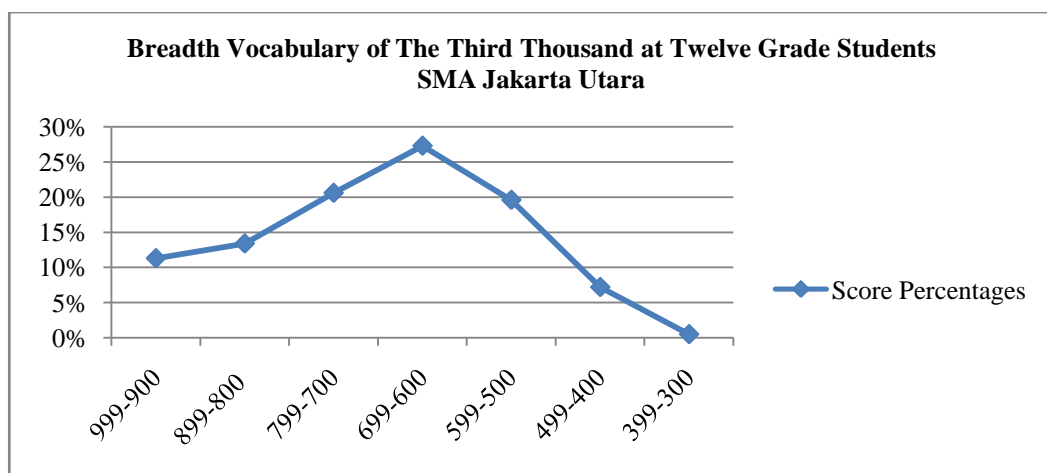
Table 4

The measurement of the breadth of vocabulary mastery of the third thousand using vocabulary level test scores.

List	Total Number of words	Mean of words known	Mean of Correct answer	Minimum	Maximum
Third 1000 Words	1000	679	20	367	967

The mean shows that for twelve grade students of majoring in Science at SMA Jakarta Utara had the mean of score 679 and the mean of words known was 20. All of them did not achieved the target of words, third thousand words. Only few of the students achieved score 900-967 words.

Here is the detail of the calculation the third thousand words presented in the chart 1.2

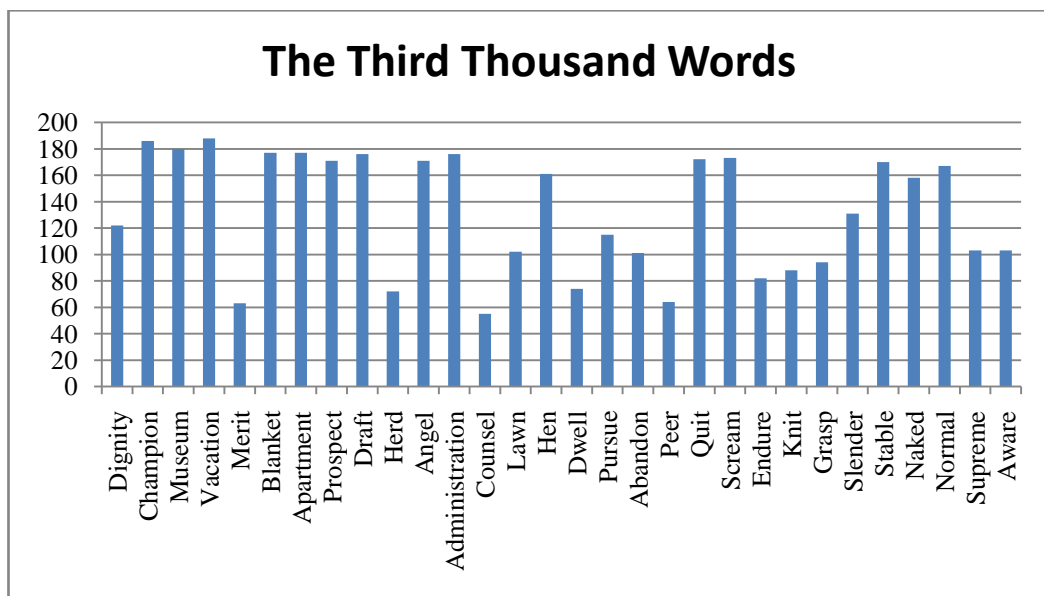


As presented in chart shows that none of the students achieved the highest score, 1,000. However, there are 22 students from 194 students or 11,3% were estimated to know between 999-900 of the word in the list. 27 students from 194

students or 13,4% were estimated to know between 899-800 words. 40 students of 194 students or 20,6% were estimated to know between 799-700 words. 51 students of 194 students or 27,3% were estimated to know between 699-600 words. 39 students of 194 students or 19,6% were estimated to know between 599-500 words. 14 students of 194 students or 7,2% were estimated to know between 499-400. 1 student of 194 students or 0,5% were estimated to know between 399-300.

Therefore, it is excessively clear that twelve grade students majoring in Science had poor knowledge of high frequency words on the 3,000 or the third thousand word level. The mean of the third thousand level was 679. All students did not achieved the most frequent level of English. Though the 3,000 word level is the vocabulary size they must master in the senior high school.

Here is the details of the third thousand words' based on the number of words which students know:



As we can see from the chart of the third thousand words, more than about 150-190 students knew the definition or meaning of these following words: 186 students knew the definition of *champion*, 180 students knew the definition of *museum*, 188 students knew the definition of *vacation*, 177 students knew the definition of *blanket*, 177 students knew the definition of *apartment*, 171 students knew the definition of *prospect*, 176 students knew the definition of *draft*, 171 students knew the definition of *angel*, 176 students knew the definition of *administration*, 161 students knew the definition of *hen*, 172 students knew the definition of *quit*, 173 students knew the definition of *scream*, 170 students knew the definition of *stable*, 158 students knew the definition of *naked*, 167 students knew the definition of *normal*. The next is about 100-145 students knew the definition of the following words: dignity was 122 students, 102 students knew the definition of *lawn*, 115 students knew the definition of *pursue*, 101 students knew the definition of *abandon*, 131 students knew the definition of *slender*, 103 students knew the definition of *supreme*, 103 students knew the definition of *aware*. And the last is, less than 100 students knew the following of words: *herd* was known by 72 students, *counsel* was known by 55 students, *dwell* was known by 74 students, *peer* was known by 64 students, *merit* was known by 63 students, *endure* was known by 82 students, *grasp* was known by 94 students, *knit* was known by 88 students.

4.2 Dicsussion

The study was intended to estimate the vocabulary mastery of the high frequency words level as the base level must be known by twelve grade students

majoring in Science at SMA Jakarta Utara. Estimating vocabulary mastery can be seen as having two dimensions of vocabulary knowledge; the quantity or known as breadth of vocabulary knowledge and the quality or known as depth of vocabulary knowledge. Both dimensions of vocabulary knowledge are estimated by using vocabulary level test and association word test. The vocabulary level test consists of matching word with its definition which is addressed to get estimation regarding students' vocabulary size, whereas the association word test consists of three aspects of knowing word such as dictionary meaning, synonym, and collocation which is addressed to get assessment how well students know the aspect of word knowledge.

The result of students vocabulary size come to the conclusion that they had the average 729 words for the second thousand word level, 679 words for the third thousand word level.

Most students know the words in the second 1000 word such as *birth*, *motor*, *copy*, because the words have Indonesian cognates. Besides that, most students knew the following words: *tax*, *roar*, *debt*, *pride*, *born*, *wine*, *noise*, *opportunity*, *introduce*, *prefer*, *manufacture*, *melt*, *hungry*, *brave*. In contrast to, they are unfamiliar with the definition of words: *tip*, *clerk*, *dozen*, *stretch*, *admire*, *elect*, *usual*. Some of them were confused to categorize the definition of words between *beautiful* and *popular*, *develop* and *arrange*, *sport* and *victory*.

For the third thousand word list, most of students recognized the words such as *champion*, *angel*, *hungry*, *administration*, *museum*, *vacation*, *draft*,

prospect, apartment, blanket, hen, quit, scream, stable, normal, slender. In contrast to few students recognize the words, such as *merit, hen, pursue, peer, endure, dwell grasp, knitt, abandon, surpreme, normal, counsel, herd, aware.* As the second thousand word list, there are some words that have Indonesian cognates such as *administration, museum, prospect, apartment, stable,* thus students were familiar with the words.

The mean of the second thousand words and the third thousand word of high frequency word was 1424 words or 70,4%. It can be considered the vocabulary mastery of twelve grade students majoring in Science at SMA Jakarta Utara was good. The reason is they have exceed the level's mastery of high frequency words as stated by Nation (1983, cited in Mehrpour et al.), score of 12 or less out 18 (66,67%) at a vocabulary size level indicates that this level has not been mastered. Therefore, on average twelve grade students have achieved the level's mastery since they were able to cope more than 70% of high frequency words level.

The result of the students' depth of vocabulary knowledge of the first thousand word concluded that they had gained the mean 57%. By the percentages of the dictionary meaning aspect was 67,5%, the synonym aspect was 57,5%, and for the collocation aspect was 46%. The percentages indicated that twelve grade students majoring in Science at SMA Jakarta Utara were more capable to categorize the dictionary meaning and the synonym. On the other hand, they met difficulty to categorize the collocation. The causes of the failure in answering the

collocations are their lack of vocabulary knowledge especially in collocation aspect and the students were not understand with the collocations.

Most students know the dictionary meaning of some words such as *common: ordinary, count: measure, cruel: hard, drop: fall, sudden: quick, term: period and term: time*. On the other hand, few of the students knew the dictionary meaning of words are know such as *feature: mark, seed: origin, sound: healthy*.

In the synonym aspect, most students were familiar to the following words, such as: *bright: clever, count: carry, drop: taste, feature: quality, sound: solid, term: spell. bright: clear, cruel: evil, feature: part, seed: germ, sudden: surprising, sound: logical..* Whereas students were not understand with some synonym of the following words, such as *bright: clever, count: carry, drop: taste, feature: quality, sound: solid, term: spell*.

Most students were familiar with the collocations such as *bright light, bright eye, sudden change, last count, common shared, common boundary, last drop, plant seed, sow plant, sound sleep*. Some collocations which weren't understood by most students are *lose count, cruel joke, cruel blow, common name, little drop, sudden noise, real term, feature present*.

The result of the depth of the second thousand words achieved by the twelve grade students majoring in Science at SMA was less dissapointed. At least from the three aspect, they had gained the mean 55,5%. On the average the dictionary meaning aspect gained the highest percentage from all aspects, 61%, the synonym had percentage 55,6% whereas the collocation had the lowest

percentage, 50%. Similar with the result of the depth of the first thousand words, students' lack of answering the collocations.

In aspect of dictionary meaning of the second thousand word, certain words were known by most students: *adjust: modify, brass: money, commit: perform, conquer: defeat, dispute: debate, dispute: argument, exhaustion: emptiness, rapid: fast, propose: offer, digest: reduce, friction: difference, faint: weak*. On the other hand, the dictionary meaning which were not known by the students are *commit: undertake, compel: oblige, conquer: overcome, brass: finance*.

Synonym of the certain words were known by the students: *modify: adapt, brass: cooper, compel: pressure, adjust: adapt, digest: summarize, distinct: obvious, exert: maintain, exert: employ, exert: apply, exhaustion: consumption, exhaustion: weakness, friction: separation, friction: conflict, propose: suggest, rapid: express, rapid: hurry*. On the other hand, certain words were unknown by most students are *adjust: alter, commit: give up, compel: require, convert: alter, digest: condense, distinct: evident, faint: slight*.

Collocation of the certain words of the second thousand word were known by the students such as *adjust rate, commit act, compel power, convert image, convert energy, distinct area, exhaustion: shoke, faint hope, faint light, propose idea, propose plan, rapid growth, dispute settle..* On the other hand, collocation of the certain words were unknown *brass band, conquer land, conquer invade,*

constant friction, dispute minor, digest information, distinct separate, exert influence.

. The depth of vocabulary knowledge test showed that the students had poor quality in vocabulary knowledge, moreover in collocation aspect found difficulties in the process of interpreting the score. It was proven by guessing the correct answer in the students' performance in the test. However, the result of the test still represent the ability of the students' vocabulary mastery in depth.

The result of the test also showed that the students found the difficulty in categorizing the word knowledge into the aspects of word. It can be solved if the students have vocabulary adequacy and knowing the aspects of word, form, meaning, and use.

CHAPTER 5

CONCLUSION AND SUGGESTION

First, this chapter provides general conclusions about the survey findings by reviewing the research questions. Second, it will offer suggestions for English teachers, and future research.

5.1 Conclusion

The conclusion provides the final response to the research questions I ask at the beginning of the study. In review, the research questions are:

1. How many high frequency do twelve grade students majoring in Science at SMA Jakarta Utara know before entering the University?
2. How is the quality of word knowledge in high frequency words of twelve grade students majoring in Science at SMA Jakarta Utara before entering the University?

The first research question is addressed with the following findings:

1. Twelve grade students majoring in Science at SMA Jakarta Utara had vocabulary size of high frequency level as follows:
 - a. The mean 729 words for the second thousand word level.
 - b. The mean 679 words for the third thousand word level.

The average of two levels of vocabulary size, 2,000 word level and 3,000 word level was 704 words or about 70,4%. It means that the twelve grade students majoring in Science at SMA Jakarta Utara have achieved the level's mastery by passing more than 66,7%, the low percentage of the level's mastery by Nation (1983, cited in Mehrpour et al.,).

However, the students must achieve the level's target of 2,000 and 3,000 words since this levels represent 80-95% of running words in written text. Thus they don't meet difficulty in reading materials and delivering their ideas. Thornbury (2002) believes that vocabulary plays more important than grammar.

The second research question is addressed with the following findings:

2. Twelve grade students majoring in Science at SMA Jakarta Utara got the mean of the quality of vocabulary knowledge was 57%. It means that they had low proficiency in the quality of vocabulary knowledge since the students were only able to identify less than three associates. Whereas, Read (2000: 183) assumed that the proficient participants are able to identify three associates or more (75%) from four associates given.

a. The result of the depth of the first thousand word level, they gained the mean 55,5%.

b. The result of the second thousand word level, they gained the mean 56,25%.

The two results of the depth vocabulary knowledge indicates the low proficiency of understanding the English academic books. They will meet

difficulty to express their idea or knowledge into the target language in appropriate ways.

5.2 Suggestion

5.2.1 For English Teachers

English teachers are one of the factors that influence the students's mastery in vocabulary. It is expected that the teachers can improve their strategy in developing vocabulary teaching.

5.2.2 The researcher suggest for the further research

1. Regarding the Vocabulary Level Test, it is significant to know first whether the students guess the word meaning or not.
2. In relation to the Vocabulary Depth Test or Association Word Test, it is required to design the test which is able to explore the ability of students' vocabulary knowledge by involving more aspects of word knowledge, besides the three aspects within association word test. The researcher suggest to use another kinds of vocabulary depth test which is easier to interpret the score and the vocabulary depth test which there is no chance of guessing the answer.
3. Regarding the data processing, the researcher suggest for the next researcher to learn and to use the computer application to process the data, for instance using SPSS. Using SPSS will be more helpful than using microsoft excel that will waste your time.

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