

VOCABULARY KNOWLEDGE IN RELATION TO STUDENT'S READING COMPREHENSION: A REVIEW

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***Abstract :** In language learning, vocabulary knowledge is considered as a dominant factor, either as a second or a foreign language. Vocabulary knowledge is justified as a crucial site to overall language acquisition process. There are a lot of unknown words that language learners encounter while they are reading are probably a very basic and fundamental reasons. In this notion, the learner may have difficulties in comprehending the text they are reading. Language learner and educators alike know that many of the reading comprehension breakdowns that experienced by students involve word recognition and lexical access course. Hence, this paper is an attempt to extend knowledge of vocabulary and its relationship with reading comprehension. Through the review of various views in vocabulary role and reading comprehension, intended to broaden knowledge of vocabulary and its relationship with reading comprehension.*

***Keywords:** Vocabulary Knowledge, Reading Comprehension*

INTRODUCTION

Vocabulary language learning is an active process that requires on the part of the learners to continually acquire vocabulary of a target language. Acquiring adequate words to build language learner's mental library of lexicon is a crucial factor. In this process, they can play the role and a

function well in a given and various context. There are some studies either as first language or second language have already indicated that vocabulary knowledge is one of the best predictors of reading ability and the capability to obtain new details from reading texts (Nation 2001; Qian 2002; Read 2000).

Hu and Nation (2000), Schmitt (2000), and Lesaux et al (2010) also

state that the amount of familiar and unfamiliar vocabulary is one of the most significant elements in recognizing the complication of a text. A notable finding across many of the studies is strong and significant correlations between vocabulary knowledge and reading comprehension. Similar with Stahl (2003) says that the relationship between vocabulary knowledge and reading comprehension is robust. In most of the cases, vocabulary knowledge has constantly been as the foremost predictor upon a text's difficulty. If it is conducted in research toward second or foreign language, it can be assumed that the same prediction be made. Recently, however, only a few studies have been found to qualify this assumption (Akbarian 2010; Baleghizadeh & Golbin 2010; Farvardin & Koosha 2011).

One of the reasons of lack of research in this area is that people make mistakes in differentiating L2 and foreign language acquisition (Moghadam et al 2012). Second language generally is the language that is learned or studied after the mother tongue or first language. However the

term has a restricted picture when it is contrasted to the term of foreign language, in which the second acts as an identified medium of communication among people who speak some other languages as their mother tongue, and the foreign language plays no significant role in the community and is mostly learnt only in the classroom (Ellis 1994). Ignorance of the differences between second and foreign language may result in confusion in the practice of language learning, teaching and research work. Further Ellis (2003) emphasizes that a foreign language learner refers to any language that a learner learns subsequently to the mother tongue. The word 'second' in the noun phrase of 'second language learner' is not intended to contrast with a noun phrase 'foreign language learner'. Thus, it can refer to the learning of a third or fourth language. Whether the learner is learning a language naturally as a result of living in a country where it is spoken or learning it in a classroom through instruction (Ellis, 2003). It could implies in the case of vocabulary learning.

WORD AND VOCABULARY

Word can vary in all sorts of ways (Bogaards, 2004; Milton, 2009). Word can vary in term of sound, letter, and length. They can differ in how they are allowed to change and make derived or inflected forms, such as plurals, singular, and various tenses. And they can vary in the range of nuance and meaning they convey and, consequently, in what situations you can use them. Unquestionably, these can all influence whether, and how completely a word is learned. These kinds of differences between words have been investigated at some length, usually under the umbrella idea of the learning burden; what makes a word difficult or easy to learn. Nation (2001); Milton (2009); Bogaards, P. & Laufer, B. (2004); Mehring (2005) say, the term“word” really refers to some very specialist definitions of the term, such as **types**, **tokens**, **lemmas** and **word families**. Here is an example: “The rabbit ate the carrot”. Therefore the number of separate words in the sentence can be counted. In this case, there are five separate words. This type of definition

is useful if we want to know how many words there are in a passage, for example, or how long a student’s essay is. It is also the type of definition used by dictionary compilers and publishers to explain how big the corpus is, which they use to find real examples of word use. When counting words this way, words are often called **tokens** to make it quite clear what is being talked about. So, we would say that the sample sentence above contains five tokens.

In addition to knowing about the size of a piece of writing or speech, the number of words produced, we may also be interested in the number of different words that are used. The terms **types** and **tokens** are used to distinguish between the two types of count. **Tokens** refer to the total number of words in a text or corpus, **while types** refer to the number of different words. Look again at the sample sentence; there are five tokens, but only four types because “the” occurs twice. It will be appreciated that **types** are much more interesting to use in measuring the vocabulary knowledge of learners, as we usually want to know how many different words they have at their disposal, rather than

how much they can produce regardless of repetition.

A *lemma* includes a headword and its most frequent inflections, and this process must not involve changing the part of speech from that of the headword. In English, the lemma of the verb 'produce', for example, would include 'produces', 'produced' and 'producing', but not 'production', which is a noun and not a verb and, by this method of counting, would be a different word (Milton 2009). As Vermeer (2004) points out that lemma is the most reliable unit of counting words. This assumption is that language learners at this level are likely to have mastered only the most frequent inflections and derivations, but may not know the more infrequent and irregular ways in which words can change. By using lemmatized wordlists as the basis for tests at this level, the believable and stable results can be identified. Vocabulary tests, such as Nation (1990;2001); Schmitt et al. (2001); Meara and Milton (2003), use this kind of definition of a word in their counts and estimates of vocabulary knowledge.

The last one is word family. It includes affixes that used systematically and that greatly reduce learning burden of derived words. It is known as base form covering kinds of affixes, such as -ly, -ness, and un-. So the word family consists of a head word, its inflected forms, and its closely related derived forms. The example of this lead, leads, and leading. The words are grouped as one word family that refers to different words with various parts of speech (Nation 2001).

Vocabulary knowledge can be viewed as the number of words a person knows (Nation & Beglar, 2007). Many authors have similar definitions about vocabulary. Diamond & Gutlohn (2006) suggest that vocabulary is the knowledge of words and their meanings. This means that without establishing a strong vocabulary base first, comprehension and use of a language will not be achieved. In addition, the language learner should be able to recognize words, and know their meanings as well. Thus, when the learners are effectively able to recognize and use a word in different contexts, speak, write, pronounce the word well,

they have the knowledge and meaning of that word. To Sum up the definition of word and vocabulary, a word is a unit formed of sounds or letters that have a meaning (Sheeler & Markley, 2000) and vocabulary is defined as total number of words that the learners know the meaning and can use (Milton, 2009).

What is Vocabulary Knowledge?

The multidimensionality and complication of word knowledge have been taken into notice by many researchers (Moghadam 2012). To know a word completely should include various kinds of linguistic knowledge ranging from pronunciation, spelling, and morphology (Nation 1990; Haastrup & Henriksen 2000; Meara 1996; Mehring 2005). It is also to knowledge of the word's syntactic and semantic relationships with other words in the language, involving knowledge of antonym, synonymy, hyponym and collocational meanings (Read 2000; Hendriksen 1999).

The most complete descriptions of word knowledge were those suggested by Nation (1990, 2000).

Nation (2000) itemized eight different types of knowledge that are required to know a word, but later amended it, adding a ninth aspect 'word parts'. He explains the nine aspects of vocabulary knowledge are as follows:

1. Knowledge of the word spoken form
2. Knowledge of the word written form
3. Knowledge of the parts in a word which have meaning
4. Knowledge of the link between a particular form and a meaning
6. Knowledge of the vocabulary that is associated with a word
7. Knowledge of the concepts a word may possess and the items it can refer to
7. Knowledge of a word's grammatical functions
8. Knowledge of a word's register and frequency
9. Knowledge of a word's collocations

Nation further broke down each aspect into receptive and productive knowledge, which will be explained further in the next part. To sum up the nine items above, it can be claimed that vocabulary knowledge is not an all-or-nothing relationship, but a systematic procedure in which various types of

knowledge are learned until all aspects of knowledge are known for an item. Obtaining comprehensive knowledge of a word needs substantial takings in all nine aspects of knowledge, and consequently, large number of words, specifically the less frequent ones, may only be partially learned. It also seems likely that some aspects of knowledge are acquired before others. Schmitt and McCarthy (1997) and Schmitt (1998, 2000) propose that knowledge of form, and meaning may be obtained before some of the other aspects such as collocation and register.

Productive vs Receptive/Passive Vocabulary

The vocabulary construct is most often understood as being made up of several sub-knowledge or abilities. This perspective on vocabulary learning helps researcher to focus on particular aspects in order to measure and test each one of them. The most widely spread distinction is that of receptive and productive vocabulary. Both concepts are very often used with those of passive and active vocabulary.

Receptive vocabulary is defined by Nation (2001) to bring idea that learners receive language input from others through listening or reading and try to comprehend it. In other words, receptive vocabulary would involve reading or listening to a word and retrieving its meaning. On the contrary, productive vocabulary conveys the idea of a learner wanting to express something through speaking or writing, retrieving the word and producing its appropriate spoken or written form. The fact that this distinction is a widely accepted one. Nation (2001) refers the two concepts as passive and active vocabulary and as “being the result of different types of associations between words.” Following this view, active vocabulary may be activated by other words as it has many different connections with other words while passive vocabulary can only be activated by external stimuli, namely by hearing or seeing their forms. It is worth mentioning that research carried out in the area of passive or receptive vocabulary has proved that this type of vocabulary is larger than an active or productive one. Following Laufer and

Goldstein (2004) state that this phenomena indicate that many words are first acquired passively and that active knowledge is a more advanced degree of knowledge. All productive or active vocabulary involves words that we apply when we speak or write.

Breadth of vocabulary knowledge

Breadth of vocabulary knowledge is referred to the quantity or number of words learners know at a certain level of language competence (Nation 2001). The major issue for L2 vocabulary acquisition is in how many words a L2 learner needs. There is no doubt that the response can be less than about how many words a native speaker knows and can produce.

As Nation (2006) states the number of words that educated native speakers of English know is around 20,000 word families and for each year of their early life they add on average 1,000 word families. These number of words are the one that native can either use in their daily life or as verbal skill or during reading. Studies of native speakers' vocabulary seem to suggest that second language learners need to

have a vocabulary size of 2000 most high frequency words to understand about 80% of the running texts. These data are not regular and a large variation could be between individuals. These data do not include proper nouns, abbreviations, compound words, and also foreign words. A word family incorporates a root word, its inflected forms, and a small number of logically repeated derived forms (Bauer & Nation 1993).

According to Nation and Waring (1997), learners need to know a minimum of 3000 or so high frequency words because it gives coverage of at least 95% of a running text. This 95% is expected to allow the language learner can comprehend the text. Moreover, most research indicate that knowledge of the most frequent 5000 words should provide sufficient vocabulary to facilitate reading authentic texts. As a matter of fact, there still remain some unknown words, but this level of knowledge should permit learners to comprehend most of the communicative content of the text and deduce the meaning of many of the unfamiliar words from context.

The good news for second language teachers and second language learners is that a small quantity of words happens frequently and this small proportion allows learner to understand a large amount of the running words in a written or spoken context which leads to a good degree of comprehension of a text.

Depth of vocabulary knowledge

Read (1993) explained the notion of depth of word knowledge which is more absorbing from an second language vocabulary acquisition research belief than just quantitative angles of lexical knowledge, as the guilty of the learner's vocabulary knowledge. Many researchers have emphasized the intricate and dynamic nature of this knowledge. Recent research indicates that teaching vocabulary may be problematic because many teachers are not confident about the best practice in vocabulary teaching and at times do not know where to begin to form an instructional emphasis on word learning (Berne & Blachowicz, 2008 as cited in Susanto 2017b).

It is really obvious that knowing a word means knowing more than its single meaning in a specific text. Learners also need to know how to pronounce and spell the words. Moreover the syntactic and semantic relationship with other words such as collocation, synonym, antonym and hyponym are part of the learning process (Chapelle 1998). So, vocabulary should not be considered a single dimension, instead it is better to be viewed as a multidimensional structure (Qian & Schedl 2004).

Depth of vocabulary knowledge is a network of links between words. It is about how they associate and interact with each other, and may be restricted in use according to register and context. This might include, for example, how words collocate, form, idioms, and have multiple possible meanings amongst. The vocabulary depth in generalis used to refer to a wide variety of word characteristics, including the shades of meaning a word may carry, its connotations and collocations, the phrases and patterns of use it is likely to be found in, and the associations the word creates in the mind of the user. All

of these components imply that a word will be linked to other words and ideas in the lexicon and, provided these links are correct and appropriate, to enable learners to use their chosen words appropriately and well arranged (Milton 2009).

SIGNIFICANCE OF VOCABULARY LEARNING

To prove the importance of vocabulary in second language acquisition, numerous ideas have been raised. Krashen (1989) holds the opinion that there are great causes for devoting consideration to vocabulary. Firstly, vocabulary appears to be a proper indicator of language ability because learners regularly make use of dictionary rather than a grammar book. Wilkins (1972) puts forward that has been quoted by many researchers that without grammar, very little can be conveyed, but without vocabulary, nothing can be conveyed. This means knowing a great amount of vocabulary is actually favorable since it assists learners to speak more and to have a good influence on other people as well.

Secondly, a great amount of words is required for being competent in a foreign language. Baker et al (1998) also believe that learning a foreign language fundamentally and immensely is dependent on vocabulary knowledge. According to Nation (1998) learning vocabulary is the most crucial of process of progressing learner's knowledge. So the educator teachers should be concerned that teaching vocabulary is something new and different from student's native language and find out the appropriate techniques, which will be implemented to the students (Susanto 2017b).

As explained above, vocabulary learning has received increasing attention in ESL/EFL research agenda because lexical ability is one of the prerequisite skills for L2 and foreign language literacy (Astika 1993; Laufer & Nation 1993; Laufer 1994; Lee & Munice 2006). In other words, vocabulary knowledge determines the extent to which the learners have commands over a foreign language.

BREADTH AND DEPTH OF VOCABULARY KNOWLEDGE

Researchers in the area of vocabulary learning and teaching are differentiated between two aspects of vocabulary knowledge. They are size and depth (Bogaards 2004; Haastrup & Hendriksen 2000; Milton 2009; Read 2000). However, not long ago, Milton (2009) analyzed a great deal of studies in his outstanding volume *Measuring Second Language Vocabulary Acquisition*. Milton experientially claims that the two aspects are not divisible and that they might be connected to each other.

Moreover, administering Vocabulary Levels Test (for measuring breadth) and Word Associates Test (for measuring depth of vocabulary knowledge) to 44 Korean students and 33 Chinese students, Qian (2002) found that the scores of the two tests were closely and significantly correlated at 0.78 for the Korean students and 0.82 for the Chinese students. He concludes that size is as valuable as depth to vocabulary knowledge since these two aspects overlap one another and are

interconnected. Qian (2002) also observes that the score on the depth and size of vocabulary knowledge measures are both capable of explaining a considerable portion (over 50%) of the variance in reading comprehension scores.

Mehrpour et al. (2011) investigated the particular role learners' vocabulary knowledge plays in their reading comprehension performance. They also attempted to investigate whether there is a relationship between these two vocabulary knowledge dimensions, that is, depth and breadth. The participants of the study were 60 (30 males and 30 females) EFL learners. To collect the relevant data, Vocabulary Levels Tests and Word Associates Test were administered. The results further revealed that depth and breadth of vocabulary knowledge are positively correlated, that is, those learners who had large vocabulary size had a deeper knowledge of the words, too. Inevitably, it should be mentioned that both breadth and depth aspects of vocabulary knowledge should be viewed as a knowledge continuum rather than two distinct dimensions of lexical

developments (Hendriksen 1999; Read 2004). For beginners, the two aspects seem to be more distinct, but the breadth and depth knowledge tend to converge when learners become more advanced (Read 2004).

Teng (2014) investigated and emphasized the importance of vocabulary knowledge to understand the words was the prerequisite of comprehending academic material. The breadth of vocabulary knowledge facilitated the understanding of the meanings of the words, while the depth of vocabulary knowledge provided a better predictive power for understanding the in-depth meaning of the materials and making it easier for learners to associate the meaning of words with background knowledge.

Aforementioned the depth and width are two aspects that are not divisible, as well as some recent researches proved their close relationship, but the most widely used vocabulary tests are the Vocabulary Levels Test (Webb & Sasao 2013). The researcher may choose the kind of test that count on the students' class situation and intention.

THE RELATIONSHIP OF VOCABULARY KNOWLEDGE AND READING COMPREHENSION

A number of EFL studies have demonstrated the relationship between vocabulary knowledge and reading comprehension performance. Having good and acceptable command of the knowledge of vocabulary will help students to the better understanding of a reading text (Atashneh & Naeimi 2015). Zhang and Anual (2008) studied the role of vocabulary in reading comprehension with 37 secondary students learning English in Singapore. The Vocabulary Levels Test (VLT) was used to measure students' vocabulary knowledge. Result showed that students' vocabulary knowledge at the 2000-word and the 3000-word levels were correlated with their reading comprehension. This shows a close relationship between vocabulary knowledge and English reading comprehension of the text used in the class subject.

Further, Martin and Gould (2008) found a strong correlation both

between vocabulary and reading comprehension and between reading rate and primary print knowledge. Vocabulary knowledge is fundamental in reading comprehension because it functions as identical as background knowledge in reading comprehension. Vocabulary knowledge facilitates decoding, which is a significant part of reading (Qian 2002).

There are more studies that have shown the relationship between vocabulary knowledge and reading comprehension (Alderson 2000; Joshi 2005; Joshi & Aaron 2000; Manyak 2009; and Ricketts et al 2007; Susanto 2017a; Susanto 2017b).

Joshi and Aaron (2000) found that vocabulary knowledge is a strong predictor of reading ability when factor in reading speed with decoding and comprehension. Likewise, Garcia (1991) found that lack of vocabulary knowledge in the test passages followed by questions is a strong element influencing fifth and sixth grade of Latino bilingual learners on a test of reading comprehension. Small vocabulary size, as well as a lack of adequate knowledge of word meanings,

usually impedes learners from comprehending the meaning of the text.

A number of studies Baleghizadeh and Golbin (2010), Huang (2006), Koda (1989); Shen (2008) and (Zhang and Annual (2008) have used scores on vocabulary size to predict levels of academic reading comprehension. Laufer (1996) discovered significant correlations between different types of vocabulary size tests and reading comprehension tests in her studies. In a research with 92 first year university students whose native language was either Hebrew or Arabic [51], the correlation between the scores on the Vocabulary Levels Test and scores on reading comprehension was 0.50 which is moderate, and that between the scores on Eurocentres Vocabulary Test Meara (1989) and scores on reading comprehension was 0.75.

Furthermore, Pringprom (2011) studied about the relationships between English vocabulary size and reading comprehension performance of 30 undergraduate students at Bangkok University. The researcher administered the Vocabulary Levels Test bilingual

version (English-Thai) to measure the subjects' receptive vocabulary size, and a multiple-choice-question-format reading test to assess the subjects' reading comprehension ability. The finding showed that the subjects' English vocabulary size and their reading comprehension were positively correlated.

Recent studies conducted in foreign language contexts, reported high and positive correlations between vocabulary knowledge and reading comprehension as well. In a study carried out by Rashidi and Khosravi (2010), the role of depth and breadth of vocabulary knowledge in reading comprehension was investigated. The Word Associates Test and the Vocabulary Levels Test were administered to 38 senior university students for assessing depth and breadth of vocabulary knowledge respectively. Findings suggest interrelation among depth, breadth and reading comprehension performance with a positive correlation of 0.87 between the scores on the Word Associates Test and reading comprehension test, and also a positive correlation of 0.75 between the

scores on the Vocabulary Levels Test and reading comprehension test. Students with stronger depth and breadth of vocabulary performed better in reading comprehension test.

Farahani (2006) investigated the relationship between depth of vocabulary knowledge and Iranian learners' lexical inferencing strategy use and success. Her findings showed that there was a significant relationship between depth of vocabulary knowledge and the type of lexical inferencing strategy use. In other words, those who had stronger depth of vocabulary knowledge used certain types of lexical inferencing strategies more frequently than those who had weaker depth of vocabulary knowledge and these strategies made them more successful in inferring the meaning of unknown words.

In another study done by Kaivanpanah and Zandi (2009), the role of depth of vocabulary knowledge in reading comprehension was investigated. For this purpose, a Test of English as a Foreign Language (TOEFL) and a measure of depth of vocabulary knowledge developed by

Qian and Schedl (2004) was administered to 57 EFL learners (17 males and 40 females). The analysis of the results showed that depth of vocabulary knowledge was significantly related to reading.

Matsuoka and Hirsh (2010) suggest that the reading text would provide opportunities to deepen knowledge of the second 1,000 most frequent words in English, and would provide a context for pre-teaching of academic words met in the text for language learners on an academic pathway. The relationship between vocabulary knowledge and reading comprehension is driven by the results which suggest that the text would provide minimal opportunities for learners to develop vocabulary knowledge beyond high frequency and academic words. IN the research, the findings demonstrate a need to supplement use of such texts with an extensive reading program and other forms of language rich input to promote vocabulary development. The action to the reading text need to be adjusted to accommodate the learners' vocabulary knowledge.

The notable and accepted relationship between students' vocabulary knowledge and their ability to successfully understand what they read puts a substantial demand on classroom teachers, curriculum organizers, program developers, and reading researchers. The need is that notable consideration should be given to the growth of students' vocabulary knowledge.

CONCLUSION

This review shows that vocabulary knowledge plays a very significant role in reading exams, and reading investigation has constantly come up with a word knowledge element on which vocabulary tests load positively. Vocabulary knowledge is fundamental since lexical errors are the most recurring ones and, concurrently, they form an important obstruction to communication.

EFL teachers sometimes challenge students' inability to deal with hard words in reading comprehension. Considering the fact that breadth and depth are two connecting aspects of vocabulary knowledge, knowing an

abundant vocabulary cannot assist learners a great deal if their comprehension is insubstantial and shallow. This means to have a good understanding, both aspects of vocabulary knowledge-depth and breadth- are required. Therefore, although the size of vocabulary knowledge is a crucial element on evaluating the reading comprehension, depth of vocabulary, in addition to what is expected, plays a significant part in reading comprehension performance. The investigations mentioned in the review indicate that depth of vocabulary knowledge, breadth of vocabulary knowledge and reading comprehension are highly, and positively, correlated. However, for a particular situation where the language learner is in the lower level of vocabulary, breath vocabulary could be the very earlier the educator can treat to know. Vocabulary Level Test (VLT) is one of the vocabulary test to assess the breadth.

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