

The Effect of Vocabulary Breadth on Reading Comprehension

MAY ALI ELZEIN FADAL ALLA

Dr. MAHMOUD ALI AHMED

Graduate College

College of Education

Sudan University of Science and Technology

Abstract:

This study seeks to explore the effect of vocabulary breadth on reading comprehension. To collect the required data to inform the paper, two language tests were adopted vocabulary level test and a reading comprehension test. The sample of the study comprised 41 second-year students majoring in English language at University of Sudan of Science and Technology. Quite a number of good results have been drawn from this study. The first encouraging outcome is the fact that there was a positive correlation between vocabulary breadth and reading comprehension. A situation which entails that the students have to be conversant in vocabulary knowledge through excessive exposure to texts rich in authentic vocabulary. Therefore, Students with high aptitude to learning vocabulary and high level of vocabulary breadth were more successful in reading comprehension. These findings have evidently confirmed the positive effect of vocabulary breadth on reading comprehension.

Key words: Vocabulary breadth, Reading comprehension Proficiency level

INTRODUCTION

Vocabulary knowledge is an important component in the language and literacy development of ES\FL students, and has

a profound effect on their overall academic achievement and language proficiency. Hence, success in foreign language learning is strongly connected with good vocabulary knowledge. Language learners, teachers, and researchers all agree that vocabulary is an indispensable tool in the process of language learning. In that, words are the primary carriers of meaning and thus they carry the main information load in communication. Therefore, it is considered as a prerequisite and strong determinant of all language skills achievement, specially reading comprehension. Research consistently reveals that vocabulary knowledge heavily relates to proficiency in reading comprehension than other factors such as grammar knowledge Qian{1}. Without understanding the meaning of words, second language readers may have a hard time developing comprehension.

From teaching experiences, the researchers have found that vocabulary is a critical issue which concerns Sudanese EFL learners' English acquisition and development in reading skill. Vocabulary seems to be very problematic to the majority of Sudanese University students who must study English as required courses but rarely use it in their daily lives. This may be the reason behind their limited vocabulary knowledge and goes nowhere comparing to numbers of years they had studied English in the school. This study is carried out with the intention of finding some empirical evidence to the relationship between vocabulary knowledge and reading comprehension performance of the Sudanese EFL learners.

VOCABULARY KNOWLEDGE AND READING COMPREHENSION

There is a link between vocabulary knowledge and reading comprehension but it is a very intricate one. A number of paradigms or models have been put forward to describe the relationship between vocabulary knowledge and reading

comprehension. Four hypotheses were offered in this connection where they are respectively labeled as “*instrumentalist*”, “*aptitude*”, “*access*”, and “*knowledge*”. The instrumentalist hypothesis describes the connection as a direct one. Consequently, greater grasp of the text occurs as a result of having such considerable stock of word power. It views vocabulary knowledge as being a major fundamental in comprehension.

The aptitude hypothesis is trichotomous as three factors are involved as essential in understanding, the most important of which is the verbal aptitude. It is conceptualized as quick thinking ability and skill in inferring capacity. It perceives vocabulary knowledge as one of many outcomes of having these abilities. The large vocabulary a person has is just a reflection of superior verbal aptitude Anderson & Freebody {4}. The access hypothesis explains that vocabulary knowledge is useful to comprehension when words can be accessed quickly and easily. This access can involve several factors including fluency of lexical access, speed of coping with affixed forms, and speed of word recognition. The knowledge hypothesis emphasizes the role of a reader’s background knowledge in comprehension. It sees vocabulary as an indicator of good world knowledge.

WHAT IS VOCABULARY KNOWLEDGE?

To arrive at a proper definition for vocabulary knowledge, this should be conducted along the lines of the disciplines comprising applied linguistics such as phonetic, phonology, morphology, syntax, semantic and pragmatic. Numerous linguists and scholars have provided various ideas to define vocabulary knowledge. Nation, for example, defined vocabulary knowledge in terms of form, position, function and meaning. He also divided the word knowledge into two aspects, receptive and productive process. First, the knowledge of word form involved the pronunciation and spelling of lexical items. Second, word

position dealt with syntactic issues in regard to the usage of words such as the rules for word combinations. Third, word function was to discuss the proper way of using words in specific contexts. Finally, word meaning referred to vocabulary depth and its associates. Hendrickson (1988) underlined three dimensions to define vocabulary knowledge, which are partial-precise knowledge, depth of vocabulary knowledge and receptive productive. Recently, Qian (1998) developed four dimensions of vocabulary knowledge from the earlier frameworks, which are vocabulary size, depth of vocabulary knowledge, lexical organization, and automaticity of receptive-productive knowledge. It could be concluded that knowing a word could mean being capable of recognizing and using it to meet different purposes.

VOCABULARY KNOWLEDGE BREADTH

This simply refers to the word power a learner has in somewhat superficial knowledge. It includes the number of words the students know. Nation (1998) cited studies show that the learner had about 260 -300 words in his productive vocabulary after seven months of exposure to English. When a second language learner in the same school system with the native speakers of English, they need to match the rate of vocabulary learning and make up for the difference of vocabulary in English vocabulary that existed when the second language learner entered the system. It was also found that English vocabulary level of 5 to 7 years old children of New Zealand school system were two years behind their counterparts of English as a native language speakers. This may potentially suggest that these children continue to be about two years behind native speakers of English in vocabulary as they progress in the school. Therefore, the difference in vocabulary size of EFL and their counterparts would be very large. Hirsh and Nation (1999) started measuring how big a vocabulary is

necessary for second language readers to achieve certain levels of reading comprehension. They indicate that learners might need around 5, 000 words to read a novel that had been written for English speakers. Put differently, for second language learners to achieve fluency in English, they need to gain at least 5,000 words, preferably 10,000 words.. However, it can be accounted that size of vocabulary knowledge is an important factor in predicting success in reading comprehension.

LITERATURE REVIEW

The effect of vocabulary knowledge on reading comprehension has been explored in different English language teaching contexts. Hu and Nation (2000) conducted a study investigating the test coverage required to read and understand unassisted reading for pleasure. They stated that knowing 98% of the words in texts was necessary to understand texts, which means that more coverage can determine better text comprehension.

Golkar and Yamini (2003) studied the nature of the students' vocabulary knowledge with regard to their passive and active knowledge of the L2 words as a whole and at different word frequency levels. They found that there was a statistically significant difference between the English majors and non-majors. The High proficient group and the English majors had greater passive and active vocabulary knowledge than their corresponding low proficient group and the non-majors.

Very recently, Moinzadeh and Moslehpour (2005) examined the roles of depth and breadth of vocabulary knowledge in reading comprehension of a group of Iranian EFL University students with a minimum vocabulary size of 3,000 word families. The study concluded that the test scores on vocabulary breadth, vocabulary depth and reading comprehension are positively correlated. They also stated that

vocabulary breadth was a stronger predictor of reading comprehension than depth of vocabulary knowledge.

Hirsh and Nation (2003) investigated the amount of vocabulary required to gain coverage of unsimplified novels written mainly for young native speakers of English. The results showed a vocabulary size of 2000 word-frequency was not enough for pleasurable reading. They confirmed that a number of words between 3000 to 5000 word families were needed to provide a basis for comprehension.

Qian, and Schedle (2006) carried out study to evaluate an in-depth vocabulary knowledge measure in the context of developing the new TOEFL test. The study aimed to determine whether this vocabulary knowledge measure could provide a basis for developing appropriate and useful item types for assessing test-takers' reading comprehension. The study concluded that, compared with existing TOEFL vocabulary measures, the new measure has a similar difficulty level and provides a similar amount of prediction of test-takers' reading performance.

A close appreciation of these studies shows that the vocabulary size threshold is necessary for successful reading comprehension. Different researchers have provided different levels of vocabulary size needed according to their contexts, which implies that the threshold of vocabulary size may be a pedagogical problem. Since understanding this relationship is very essential, there is a need for further research in this area. This research is an attempt to investigate this issue in the Sudanese EFL context.

STATEMENT OF THE PROBLEM

Sudanese EFL teachers need to know the effect of vocabulary breath on their students' reading ability. Awareness of this factor is sure to lead to successful language teaching and learning. Thus, this study seeks to provide accurate information

to project this essential factor into light which may help teachers make thriving insights and decisions in lieu of vocabulary teaching and learning.

OBJECTIVES

This study takes as its prime aims the examination of the following areas:

- To examine tertiary level students' vocabulary breadth.
- To investigate the impact of the learners' vocabulary knowledge on their proficiency in reading comprehension.

QUESTIONS

Considering the study objectives, the following research questions were put forward:

- To what extent does students' vocabulary size can help tutor assess their reading comprehension performance?
- What is the difference expected to emerge as a result of having two groups of high and low breadth of vocabulary knowledge?

SIGNIFICANCE OF THE STUDY

Vocabulary knowledge and reading comprehension are inseparable and the most critical factors in EFL learning context. Investigating these factors is of a great value for successful language learning and teaching. Therefore, this study aimed at exploring the impact of the learners' vocabulary knowledge in their reading comprehension. The results of this study would give insights into more successful language teaching prospective for teachers, syllabus developers, policy makers and language learners as well.

METHODOLOGY

Participants

The participants in this study included 41 senior students majoring in English and French at University of Sudan Science and Technology. The participants ranged from 21- 25 years old. They were homogeneous group in terms of English education backgrounds.

Instruments

Vocabulary level test

The vocabulary size (VS) measure applied in the present study was Vocabulary Level Test (VLT). This test is widely used in the research area of second language acquisition to test learners English proficiency Nation(2006). The test has five parts corresponding to five levels of word frequencies in English: 2000,3000, 5000, academic, and 10,000. In this study only 2000, 3000, and 5000 levels were investigated in addition to some modifications in the content of test. At each vocabulary size level there are three test items, each comprising three words and three definitions. The test taker is required to match the three definitions with three words provided by writing the corresponding number of the word beside its definition, as in the example below.

1 page animal with four legs
2 camel one side of a single paper
3 bank side of waterway.

Reading comprehension test

A multiple-choice-question-format of Reading Comprehension (RC) test was used to measure the subjects' reading comprehension. The test consists of two tests selected from standardized TOFE test. Each multiple-choice question in the two passages is based on the content of its corresponding passage. On the basis of what is stated or implied in the

passage, the participants were asked to choose one best answer to each question from the four options provided after reading the passage. The total score for the RCT is 20 points.

PROCEDURES

This study was aimed at investigating the impact of Sudanese EFL learners' size of vocabulary knowledge on their reading comprehension proficiency. To achieve this, the vocabulary level test was formulated to measure the subjects' vocabulary size. Then two passages of reading comprehension test were developed to test the reading ability of the subjects. 41 students from third year English-majors at Sudan University of Science and Technology were investigated in this study. The study tests were administered during normal class time. Instructions were explained and each of the two tests were given one hour to be completed. The subjects were assured confidentially of their participation accompanied with an explanation about the purpose of the study. The study tests were reviewed and validated for their content, appropriateness, and practicality by three experts EFL teaching at the University.

RESULTS

Procedures of data analysis

The statistical procedures underlying the data analysis of this study were a Pearson product-moment correlation and t-tests. First, the contribution of vocabulary size on predicting reading performance of the students was measured using Pearson correlation. Next, t-test was carried out to compare the means obtained from two groups' reading performance with high and low breadth of vocabulary knowledge. For this step of data analysis, participants were divided into two groups (High and low) according to their scores on the breadth of vocabulary knowledge test (VLT). To do this, a cut- point had to be

determined. Based on Schmitt's (2007) mastery criterion of 86% on an earlier version of the test, we choose 70% as an appropriate cut off point in this study. Accordingly, participants were divided into two groups. Participants who scored at or above 70 % were classified high achievers and those who obtained below 70% were classified as under achievers. This cut off point was chosen because the overall performance of the participants in this study was rather weak; only 5 participants scored at or above 70%. Therefore 70% is considered a reasonable cut point for the purposes of this study. An independent-samples t-test was conducted to compare the scores of the two groups.

DATA ANALYSIS AND DISCUSSION

The results of data analysis are as follows:

Table (1) Statistical results of correlation between vocabulary size and reading comprehension.

Vocabulary Size		V. Size	Reading
	Pearson Correlation	1	.347(*)
	Sig. (2-tailed)	.	.026
	N	41	41
Reading comprehension	Pearson Correlation	.347(*)	1
	Sig. (2-tailed)	.026	.
	N	41	41

* Correlation is significant at the 0.05 level (2-tailed).

As shown in Table 1, there is a positive correlation of .35 between the scores on the (VS) and (RC). This shows that the RC increases as the (VS) increases. It further emphasizes the positive association and interconnection of these two measures. The interrelations among the two variables appear to be statistically significant at the 0.05 level (2-tailed).

According to these results, it can be stated that vocabulary is an important factor in reading comprehension proficiency. Since scores on breadth of vocabulary knowledge can account for variance in reading comprehension scores, and then breadth

of vocabulary can be considered to have an impact on reading performance. The correlation coefficient between the RCT and the VLT is .35. In other words, the correlation of two variables was statistically significant at 0.05 level (2-tailed). Therefore, vocabulary breadth and reading comprehension in the present study can be classified as having a correlation. The finding suggested that the students' reading comprehension was highly associated with their vocabulary knowledge. That is, if students have more vocabulary knowledge, then their reading comprehension test scores may be higher.

Table (2) Statistical t-test results of high and low proficiency groups

Group	Mean	N	Std. Deviation	T-Test	d.f	S.g (P-Value)
High	10.6000	5	2.30217	1.943	39	0.05*
Low	8.3056	36	2.49364			
Total	8.5854	41	2.55906			

**Significant at the 0.05 level.

The above table (2) compares between high and low proficiency groups. It shows that the mean score for high group is (10.6000), and the standard deviation is (2.30217). Whereas the mean for low group is (8.3056) and the standard deviation is (2.49364). The calculated t-test is significant at (0.05). It shows that the overall mean of reading success for high group significantly higher than that for low group. Accordingly; the result shows statistically significant difference in reading comprehension performance between the two groups as having high and low proficiency of vocabulary breadth. The participants who were more proficient in terms of breadth of vocabulary knowledge performed better on reading comprehension tests. Acknowledging the impact of vocabulary knowledge in reading comprehension, these results identify deficiencies in learner's vocabulary knowledge as a hindrance to comprehension. Besides, they ascertain that the growth in vocabulary knowledge matches more reading comprehension.

CONCLUSION

The verbal objective of this study was to determine the impact of vocabulary knowledge breadth on reading comprehension success among Sudanese students studying EFL at tertiary level. As the result of this study, there was a significant positive impact of vocabulary size reading comprehension proficiency. This result nudges us into accepting the idea that vocabulary is the building block of language proficiency in general and reading comprehension in particular. Mezynski. {2}.regards good vocabulary knowledge as the primary factor in successful reading comprehension suggesting that "what is important is the number of words taught p. 255). Findings of this study provide evidence show that breadth of vocabulary knowledge vocabulary knowledge has made a significant, and unique, contribution to the prediction of scores on reading comprehension. Moreover, based on results of this research, it could be stated that the difference in reading comprehension scores of two groups(having high and low breadth of vocabulary knowledge) can be related to the difference between the two groups on their size of vocabulary knowledge. Hence, the scores on depth of vocabulary knowledge can enhance the prediction of reading comprehension proficiency. As a result one can states that EFL learners need to be acquired a good knowledge of high frequency words along with adequate additional vocabulary to enhance their proficiency in reading comprehension. The findings of this study can be applied to teaching new vocabulary and developing materials that put great emphasis on vocabulary teaching for Sudanese EFL learners.

IMPLICATIONS OF THE STUDY

The findings of this research have generated wider base of implications for teachers and syllabus designers in the

Sudanese EFL contexts. Since the study showed positive impact of vocabulary breadth knowledge on reading comprehension success, it is recommended to language teachers and curriculum designers to incorporate this important aspect of vocabulary knowledge (vocabulary breadth) in language curriculum. Investigation of EFL learners from different levels of language proficiency is considered of a great important in the future research. Further research also should be carried out to measure the other aspects of vocabulary knowledge among the Sudanese EFL setting.

REFERENCES

- 1 - Qian, D. D. (1999). Assessing the roles of depth of breadth of vocabulary knowledge in reading comprehension. *Canadian Modern Language Review*, 56, (pp282- 308.)
- 2- Mezynski, K. (1983). Issues concerning the acquisition of knowledge: Effects of vocabulary training on reading comprehension. *Review of Educational Research*, 53(2), (pp. 253-279)Newark, DE.: International Reading Association.
- 3- Nagy, W. E. (2005). Why vocabulary instruction needs to be long-term and comprehensive. In E. H. Hiebert, & M. L. Kamil (Eds.), *Teaching and learning vocabulary: Bringing research to practice* (pp. 27-44). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- 4- Anderson, R. C., & Freebody, P. (1981). Vocabulary knowledge. In J. T.Guthrie (Ed.), *Comprehension and teaching: Research reviews* (pp. 77-117).Newark, DE.: International Reading Association.
- 5- Nation, I. S. P. (1990) *Teaching and learning vocabulary*. Boston, MA: Heile and Heinle.
- 6- Henriksen, B. (1999). Three dimensions of vocabulary development. *Studies in second Language Acquisition*, 21, (pp.303-317).

- 7- Qian, D. D. (2002). Investigating the relationship between vocabulary knowledge and academic reading performance: *An assessment perspective. Language Learning, 52*, (pp. 513-536).
- 8- Hirsh, D., & Nation, I. S. P. (1992). What vocabulary size is needed to read simplified texts for pleasure? *Reading in a Foreign Language, 8*(2)(pp,689 696).
- 9- Hu, M., and Nation, I. S. P. (2000). Unknown vocabulary density and reading comprehension, in *Reading in a Foreign Language, 13*, 2: 403-430.
- 10- Golkar, M., and Yamini, M. (2007). Vocabulary, proficiency and reading comprehension, in *The Reading Matrix, 7*, 3:(pp. 88-112).
- 11- Moinzadeh, A. & Moslehpour, M. (2012) Depth and Breadth of Vocabulary Knowledge: Which Really Matters in Reading Comprehension of Iranian EFL Learners? *R Journal of Language Teaching and Research, Vol. 3, No. 5*, (pp. 1015-1026.).
- 12- Qian, D.D. & Schedle, M.(2004). Evaluation of an in-depth vocabulary knowledge for assessing reading performance. *Language Testing, 21*, 28-52.
- 13-Schmitt, N., Schmitt, D., & Clapham, C. (2001). Developing and exploring the behavior of two new versions of the Vocabulary Levels Test. *Language Testing, 18*(1), 55-88.