The effect of Vocabulary Knowledge Depth on Reading Comprehension of Sudanese EFL Learners

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ABSTRACT :

This study aims to investigate the effect of depth of vocabulary knowledge in reading comprehension performance of EFL learners. The study also tries to find out whether gender has any effect on learners' reading comprehension. The participants of the study were 103 third-year students majoring in English at university of Nyala and Comboni college of science and Technology. To collect the relevant data, two tests measuring vocabulary depth and reading comprehension were administered to the participants. The results obtained from the data analysis have not indicated any significant effect of vocabulary depth in EFL learners' reading comprehension ability. The study has also come out that there was no significant difference in performance of males and females participants in vocabulary test and consequently there was no difference in their reading comprehension ability. Vocabulary knowledge has no statistically significant effect in predicting reading comprehension proficiency of the participants. Based on these findings, a number of suggestions and recommendations are put forward.

Key word: Vocabulary breadth, Reading comprehension ، Proficiency level.

المستخلص :

تهدف هذة الدراسة الي فحص تأثير عمق الذخيرة اللغوية في فهم القراءة لدي متعلمي اللغة الانجليزية كلغة اجنبية. كما حاولت الدراسة معرفة تاثير النوع في فهم القراءة. تمثلت عينة الدراسة في 103 طالباً من المستوي الثالث تخصص لغة انجليزية في جامعة نيالا وكلية كمبوني للعلوم والتكنولوجيا. استخدمت الدراسة اختبارين لقياس عمق الذخيرة اللغوية و فهم القراءة. توصلت الدراسة الي عدة نتائج. لم تظهر الدراسة اي تأثير لعمق الذخيرة اللغوية لدي المفحوصين في فهم القراءة. كما اثبتت الدراسة انه لا يوجد فرق في الاداء بين الذكور والاناث في اختبار عمق الذخيرة اللغوية وبالتالي لا يوجد تأثير في القراءة. هذة النتائج تؤكد عدم وجود تاثير ملحوظ لعمق الذخيرة اللغوية في فهم القراءة. بناءا علي هذه النتائج خرجت الدراسة بعدة توصيات ومقترحات.

INTRODUCTION :

With the trend of English language as international language in Sudan, education policy has enhanced to commerce English language teaching from the fifth year in primary school. English has become a prerequisite subject in the early stages of education. Despite that fact, very little progress was felt on the side of learners Students' inefficiency in English remains unresolved thorny issue. They show deficiency in all aspects of English language skills especially their reading skills. Reading comprehension proficiency is affected by many variables. The most critical variable being reached is vocabulary knowledge. In the first language (L1) learning research, it has been acknowledged that vocabulary knowledge plays a critical role in reading comprehension (Anderson & Freebody {1}& Nagy{2}).This has appeared to be the case in second language (L2) context as well. Many stuies (Qian {2}, Qain {3}, and Ouellette {4}) conducted in this sense proved the importance vocabulary knowledge in

reading comprehension. Researchers tend to agree that vocabulary knowledge is a major prerequisite and important factor in comprehension and that there is a relationship between vocabulary knowledge and reading comprehension. Stahl {5}states that the relationship between vocabulary and reading comprehension is a robust one and that vocabulary knowledge has consistently been the foremost predictor of a texts difficulty" (p.241). In consideration of the critical role of vocabulary knowledge in reading comprehension, this study focuses on investigating reading comprehension in the context of its relation to the vocabulary knowledge of Sudanese EFL learners. From teaching experiences, it has been noticed that 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. Hence, the study investigates the critical role vocabulary play in reading comprehension proficiency of the learners.

Vocabulary and reading comprehension

In order to comprehend a text, readers may need to process different levels of the text. "Reading the line" refers to a basic literal comprehension by using basic knowledge of a given language to understand the plane idea that the writers try to convey to readers. "Reading between the lines" involves background knowledge to comprehend the text (Chen {6}. Of all vocabulary knowledge is regarded to be a fundamental factor for successful reading. It is hard to achieve comprehension, either for native speakers or second language learners, without understanding the vocabulary in the reading text Laufer {7} cited in Chen {6} Language

practitioners have suggested several models to describe the relationship between depth of vocabulary knowledge and reading comprehension. There are four hypotheses offered in this regard labeled "instrumentalist", "aptitude", "access", and "knowledge", as an attempt to explain this correlation (Mezynski{8})The instrumentalist hypothesis describes the connection as a direct one. Therefore, just knowing more words will result in greater text comprehension. It sees vocabulary knowledge as being a major prerequisite in comprehension. The aptitude hypothesis argues that the vocabulary –comprehension connection is due to an underlying third factor that can be described as general "verbal aptitude". It is conceptualized as quick thinking ability and skill in inferring capacity. It sees 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{1}. 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.

Depth of vocabulary knowledge.

Depth of vocabulary knowledge focuses on the idea that for useful higher-frequency words learners need to have more than just a superficial understanding of the meaning. The knowledge about a word includes knowing many of the different meanings related with the word. What a word means to the reader depends upon what he is reading and what he expects to read, the phrase, clause or sentence in which the a word is

used. The meaning of a word, that is to say, depends upon the thought that it is being used to express and the context of its expression Richards ({10} p.203). Nation{11}puts it more vividly, he states "Knowing a word involves being able to recognize it when it is heard what does it sound like?) or when it is seen (what does it look like?)" .This involves the ability to distinguish it from words with a similar forms. The following are considered main aspects of the depth of vocabulary knowledge:

- Pronunciation and spelling: This involves knowing how different forms of the word are pronounced and spelled;

- Morphological properties: This involves knowing the word's stem, its capability of inflection, derivation, and other word formation devices and its possible parts of speech;

- Syntactic properties: this involves knowing the word's possible positions and its syntagmatic relations, including collocational relations, with other words in a sentence;(Henriksen {12} & Oian {2}).

According to Qian {13} cited in Chen {6} the depth dimension should cover such components as pronunciation, spelling, meaning, register, frequency, and morphological, syntactic, and collocational properties. Traditionally, a dichotomy has been presented in the field of vocabulary testing regarding the nature of lexical competence: the distinction between breadth (size) and depth of vocabulary knowledge.

Literature review

Nassaji {14} investigated how second language learners' depth of vocabulary knowledge correlates to the type and level of lexical differencing strategy use and how this relation intervenes learners' success in derivation word definition from content. The study concluded that there is significant relationship between depth of vocabulary knowledge and the degree and type of strategy use and success. Participants who had stronger depth of vocabulary knowledge used certain strategies more frequently than those who had weaker depth of vocabulary knowledge. They found that the stronger students made more effective use of certain types of lexical inferencing strategies than their weaker counterparts. It was also found that depth of vocabulary knowledge made a significant contribution to inferential success over and above the contribution made by the learner's degree of strategy use.

Qian, and Schedle {15} 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.

Adopting multivariate and content analyses, Qian {16} attempted to reveal the relationships among vocabulary size, depth of vocabulary knowledge, and reading comprehension in (ESL) context . He also examined the extent to which depth of vocabulary knowledge adds to the prediction of reading comprehension scores over and above the prediction afforded by vocabulary size. The study revealed that the scores on vocabulary size, depth of vocabulary knowledge, and reading comprehension were positively, and closely, related. Depth of vocabulary knowledge made a unique contribution to the prediction of reading comprehension scores, over and above the prediction afforded by vocabulary size. There was also a positive relationship between the learners' depth of vocabulary knowledge and

their lexical inferencing ability. The findings of this research point to the importance and necessity of improving the depth of learners' vocabulary knowledge in their ESL learning.

Qain {15} investigated ESL learners' use of their vocabulary knowledge for inferring meanings of unknown words in reading comprehension. The study concluded that the semantic and morphological aspects of vocabulary knowledge play an important role in learners' comprehension processes. The analysis revealed a positive relationship between certain aspects of learners' vocabulary knowledge and their lexical inferencing ability. In processing the meaning of unknown words, all learners looked for cues to meaning, but learners with varying depths of vocabulary knowledge tended to focus on varying strategies.

Ouellette {4} distinguished between vocabulary breadth and depth of vocabulary knowledge to better explain the role of oral vocabulary in various reading skills. The study revealed that each distinct reading skill was related to the vocabulary measures in a unique manner. Receptive vocabulary breadth was the only oral vocabulary variable that predicted decoding performance after controlling for age and nonverbal intelligence. In contrast, expressive vocabulary breadth predicted visual word recognition, whereas depth of vocabulary knowledge predicted reading comprehension.

The surveyed studies have specifically proved the significance of vocabulary knowledge in language proficiency in general and success in reading comprehension in particular. However, no study has been conducted to investigate the effect of vocabulary in reading comprehension proficiency in Sudan. Therefore, this research attempts to find the effect of vocabulary knowledge depth on Sudanese EFL learners' reading proficiency.

Statement of the problem

The significance of vocabulary knowledge in reading comprehension has been long well-established document in the field of second language research (Mezynski{8} & Nagy{2}, Qain, {13}. This proves that learners of ESL\EFL may encounter difficulty if they have no sufficient vocabulary knowledge. Most Sudanese EFL learners show inefficiency in reading comprehension. Among many variables, lack of vocabulary depth is claimed to be a factor which may lead to their weak performance in reading comprehension. This lends credence to investigate the role of vocabulary depth knowledge in reading comprehension of Sudanese EFL learners.

The study objectives.

Due to the proposed significance of vocabulary knowledge in L2 reading comprehension, the present study was conducted to determine the role of Sudanese EFL learner's depth of vocabulary knowledge on their reading comprehension proficiency. It also aims to identify the difference between the reading comprehension scores of two groups as having high and low depth of vocabulary knowledge.

The present study aimed to investigate the role of vocabulary depth for reading comprehension. The following research questions guided this investigation:

- To what extend does depth of vocabulary knowledge affect reading performance?

-Does gender have any effect on learners' reading performance?

Significance of the study

In the Sudanese EFL setting, achieving high level of vocabulary knowledge is considered critical. One of the biggest challenges for the learners is vocabulary deficiency. This is considered to be due to the limited time for either direct instruction in English classes or

incidental acquisition through extensive reading in and out-schools setting. In fact, students who are exposed much less to English words then experience slow vocabulary growth. Their limited vocabulary may hinder them from comprehending text and further results in poor performance in over all English proficiency. With these considerations lying behind, this study is investigating the effect of vocabulary depth in reading comprehension. The significance of this study could be viewed from instructional prospective. The study provides teachers with precise description of the nature of this effect, which may lead them to choose suitable and appropriate teaching material.

Methodology

Participants

To examine the effect of vocabulary depth in reading comprehension, the researchers targeted students who had learned English as a foreign language at tertiary level for two years. The study investigated 103 third-year English majoring students at university of Nyala in southern Darfur state and Comboni Collegde of science and Technology in Khartoum state.

Instruments

Reading comprehension test.

The researchers used the TOFEL standardized test of reading comprehension. The TOFEL test

a) logical b) healthy c)bold d)solid

In this example, there are 3 correct answers on the left box (logic, healthy and solid). and 1 on the right box ; "sleep" Sound sleep". But in some other items there will be either 1 in the left and 3 on the right or 2 on the left and 2 on the right.

The study procedures

The study was conducted using instruments that measured the role of EFL students' vocabulary depth of knowledge on their reading

is adopted to measure intermediate EFL learners, which is considered to be appropriate for the level the the study subjects. Reading test in this study includes two passages with multiple-choice. The participants were asked to choose the best suitable answer from the options. The total score of the test is 20.

Vocabulary depth test.

The vocabulary knowledge test used in this study was the Word Associates Test (WAT).This measure was sellected with intention to contribute to inferences about the test taker's depth of receptive English vocabulary knowledge, by measuring three vocabulary elements: synonymy, polysemy, and collocation. WAT in this study includes 20 items, each of which consists of one stimulus word (an adjective), and two boxes, each containing four words. Among the four words in the left box, one to three words can be synonymous to one aspect of, or the whole meaning of, the stimulus word. Also, there can be one to three words that collocate with the stimulus word among the four words in the right box. In scoring, each correct answer was awarded one point. The maximum possible score, therefore, was 80 for the 20 items. The following is an example:

Sound

a) snow b) temperature c) sleep d)dance

comprehension. To accomplish this purpose, the vocabulary depth test was formulated to measure the subjects' vocabulary depth. Then two passages of reading comprehension test were developed to test the reading ability of the subjects. 103 students from third year English-majors at university of Nyala were investigated in this study. Before taking the tests, the purpose of the study was explained to the participants. They were given instructions on how to take the

tests, and were assured of the confidentiality of results. The study tests were administered during normal class time. Instructions were explained and each of the two tests was given one hour to be completed. The study tests were reviewed and validated for their content, appropriateness, and practicality by three experts of EFL teaching at University of Nyala.

The study Results

The research question in this study investigated to what extent do the EFL learner' depth of vocabulary knowledge affect their reading comprehension. To answer the research question, a linear regression analysis was conducted to determine the predictive power of vocabulary depth on reading comprehension proficiency of EFL learners. Table 1&2 indicate the results.

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Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.133a	.018	.008	2.629

a. Predictors: (Constant), D V K

In table (1) of model summary, R = 0.133. This indicates that 13% of the variation in reading comprehension was accounted for by the vocabulary knowledge depth. This result indicates that the percentage of increase in reading comprehension as accounted by DVK is rather week, and hence regarded insignificant

according to statistical measures. To give more detailed interpretations, it deemed necessary to conduct coefficient regression analysis. Table (2) below shows the regression coefficients, pointing out the degree to which the independent variable (DVK) was related to the dependent variable, i.e., RC.

Table (2) Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.320	1.117		9.241	.000
	DVK	-.029-	.022	-.133-	-1.349-	.180

a. Dependent Variable: R C

The results illustrated in Table 2 show that the correlation of two variables is not statistically significant at 0.05 level (2-tailed). The table indicates that depth of vocabulary knowledge

has not significantly predicted the reading comprehension performance at p<0.05, as the Sig. index is .180. A look at Beta indices reveals that depth of vocabulary knowledge predicted only (0.13) or 13%of the reading comprehension

scores. This means that there was an increase in reading comprehension scores by .13 for every extra point in the level of vocabulary depth. This level of effect (0. 13) accounted for by depth of vocabulary knowledge is very weak and not considered significant according to statistical measures.

The analysis implies that depth of vocabulary knowledge has not enabled students to recall more information from the text they read. Therefore, one can attribute that the Sudanese EFL students' reading comprehension in this study was not associated with their vocabulary knowledge depth. This shows learners' lack of vocabulary depth. That is, if students have more depth vocabulary knowledge, then their reading comprehension test scores may be higher. This proves that Sudanese EFL learners have no sufficient vocabulary knowledge. Through experience, it has been noticed that most of Sudanese EFL learners show inefficiency in reading comprehension. This claim has been proved clearly by the current study results, which show that the participants' reading comprehension was purely (only 13%) backed by their depth of vocabulary. Among many variables, lack of vocabulary depth is proved to be a factor which may lead to their weak performance in reading comprehension. However, the findings of this study oppose the results obtained by Qian, and Schedle {15}, Ouellette {4} who found that there is a

significant correlation between vocabulary knowledge and reading comprehension among EFL and ESL readers.The study fingings indicate that the participants' reading comprehension was not effected by their vocabulary depth knowledge. In other words, if the participants have more vocabulary depth knowledge, then their reading comprehension test scores may be higher. In fact with surface vocabulary depth, the readers may be burden by unknown word in the text and fail to deal with higher- level process while reading. This is unlike more proffession readers with deep vocabulary knowledge, who are able to deal with law-level process more automatically and are allowed to go into higher order cognitive process. While taking reading task, capable readers with deep vocabulary knowledge can put up with small amount of unknown words in a text without interruption of comprehension and can be able to infer the meanings of unknown words from adequately rich context. However, proportion of surface knowledge of words is too high comprehension is disturbed.

The effect of Gender on the study variables

In order to decide whether the gender variable can have an effect on the independent variable of the study, and consequently to the performance on the dependant variable (reading comprehension), some further analyses of the data were performed. The results obtained from these analyses are shown in the following tables.

Table (3): sample t-test on gender and vocabulary depth

	gender	N	Mean	Std. Deviation	Std. Error Mean	t	P.value	Sig.
DVK	Male	70	52.09	11.851	1.417	1.970.	.052	.817
	Female	33	47.12	12.111	2.108			

Not significant at p<0.05

The results on table (3) above show that there is no statistically significant difference between the

males and females' scores on vocabulary knowledge depth test. Both male and female

learners performed similarly in their vocabulary depth test.

With regard to this point, the above findings show that the variable gender does not have any statistically significant effect on the performance of the participants in the independent variable (VKD) of the study. In addition, as there are no gender differences in vocabulary knowledge, the participants' performance in reading comprehension is considered to be the same. Such being the case, it can be claimed that the variable gender has no effect on participants' performance on reading comprehension, which is the dependent variable of the study.

This result contradicts the results obtained by Sallabas (2008)Cited in Mehrpour, S. & et la {17} who indicates that there is a positive relationship between gender and reading comprehension. His study reported that there is a big difference between two genders over reading comprehension and that females are better at reading comprehension than males. Such a result can be attributed to other factors such as difference in language proficiency between males and females. The differences could be involved in reading comprehension are grammatical knowledge, knowledge of discourse, background knowledge, an understanding of how texts are organized, skill in reading, writing, etc. Regarding the current study, this result is fair to some extend due to homogeneity of the study participants (i.e males and females). Participants are homogenous in more than one sense; all participants (males and females) had undergone academic English training at tertiary level for two years. Their socio-economic background is similar. They have had the same type of education as they received the same education before joining their college. They had experienced English learning for 7 years in the basic and secondary school

levels. Therefore, their academic level is almost the same. Hence this homogeneity has been reflected in their performance in the study tasks.

Conclusion

The main objective of this research was to investigate whether depth of vocabulary knowledge is critical factor in predicting reading comprehension of Sudanese EFL learners. The findings of this study show no significant positive effect of vocabulary knowledge depth in reading comprehension of the participants. Findings of this study provide evidence showing that Sudanese EFL learners' depth of vocabulary knowledge has not made any significant effect on their reading comprehension. Hence, one can refer this to their luck of vocabulary depth. Therefore, EFL learners need to know a great deal about each lexical item they learn, beside their need of a large number of lexical items, in order to use it well. Based on this study, it is hoped that teachers, learners, text book writers, translators and lexicographers, in their educational practices, feel and realize the importance of vocabulary depth of vocabulary knowledge in EFL pedagogy.

Implications of the study

The results of this investigation may provide EFL teachers with some critical information. Understanding students' vocabulary knowledge depth and reading ability enables test developers to develop more appropriate English tests that can actually assess students' reading comprehension. EFL teachers should consider vocabulary depth as important components of EFL syllabus to improve students' reading comprehension. They should introduce synonymy and polysemy of words besides their primary meaning. They should also pay attention to the collocation relations of words with each other since they play important roles in comprehension of English texts. The results of

the present study also help students who plan to increase their vocabulary knowledge and improve their reading comprehension. The results also provide textbooks writers with much precious information for developing and promoting English texts. Based on students' vocabulary knowledge and reading ability.

References

1) 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.

2) 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.

3) Qian, D. D. (2002). Investigating the relationship between vocabulary knowledge and academic reading performance: An assessment perspective. Language Learning, 52, (pp. 513-536).

4) Ouellette, G. P. (2006). What's Meaning Got to Do With It: The Role of Vocabulary n Word Reading and Reading Comprehension. Journal of Educational Psychology, 98(3) 554-566.

5) Stahl, S.(2003). Vocabulary and readability: how knowing word meanings affects comprehension. Topics in Language Disorders, 23(3), (pp.241-247).

6) Chen, K. Yu(2014) Vocabulary, Syntactic Knowledge and Reading Comprehension:the Perspective of College EFL Students An Interdisciplinary Journal 66(2014)39-52

7) Laufer, B. (1992). How much lexis is necessary for reading comprehension? In H. Béjoint & P. Arnaud (Eds.), Vocabulary and applied linguistics. London: MacMillan. 126-132.

8) 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.

10) Richards, J. (1976). The role of vocabulary in teaching. TESOL Quarterly, 10(1),(pp.77-90).

11) Nation 1.S. P. (1987), What is Involved in Teaching and Learning vocabulary. New Zealand: Victoria, University of Wellington

12) Henriksen, B. (1999). Three dimensions of vocabulary development. Studies in second Language Acquisition, 21, (pp.303-317).

13) Qian, D. D. (1999). Assessing the roles of depth of breadth of vocabulary knowledge in reading comprehension. Canadian Modern Language Review , 56, (pp282- 308.)

14) Nassaji, H. (2004). The relationship between depth of vocabulary knowledge and L2 learners' lexical inferencing strategy use and success. Canadian Modern Language Review. 61: 107-134.

15) Qian, D.D. & Schedle, M.(2004). Evaluation of an in-depth vocabulary knowledge for assessing reading performance. Language Testing, 21, 28-52.

16) Qian, D.D. 1998: Depth of vocabulary knowledge: assessing its role in adults' reading comprehension in English as a second language. Unpublished doctoral thesis.

17)Mehrpour, S. & ela(2011) The Relationship between Depth and Breadth of Vocabulary Knowledge and Reading Comprehension among Iranian EFL Learners Journal of English Language Teaching and Learning.No.222,