THE ENGLISH VOCABULARY SIZE/DEVELOPMENT OF JUNIOR SECONDARY SCHOOL STUDENTS IN NIGERIAN SCHOOLS: A STUDY OF STUDENTS IN ENGLISH AS A SECOND LANGUAGE SITUATION

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Abstract:

Vocabulary knowledge has been found to be crucial for academic achievement. In Nigeria, English is the second language for many students and also the language of instruction beginning from grade 3. The need to measure the vocabulary size and also encourage vocabulary instruction is not only necessary but paramount for student achievement in school. The purpose of the study was to find out if (a) there is a difference in word size (vocabulary development) based on gender? (b) there is a relationship between reading interest and word size? (c) there is difference between gender and the ability to generate abstract words? (d) there is difference between number of books at home and vocabulary size? (e) there is a significant difference between school type and word size? Five secondary schools in Jos metropolis of Plateau State, Nigeria were selected for the study. Of the five schools, there were two Government Day secondary schools (non- boarding school), a Government Secondary school (boarding), a private day (non-boarding) and a private boarding school. Students completed *"The Vocabulary Development of Secondary School Students Questionnaire"* developed for the study. Only students present during the day of the administration were allowed to complete the questionnaire. 270 usable questionnaires were completed and formed the basis for the analysis. It was found that female word size was significantly higher than those of the female subjects, that there were also able to generate more abstract words and that school type had a significant influence on word size for all subject. Based on these findings, t was recommended that teachers and

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schools do more in teaching vocabulary to all students and develop strategies to engage male students.

Keywords: junior secondary school, teaching strategies, vocabulary development, vocabulary size

1. Introduction

In Nigeria, English is a second language for many students and is the language of instruction beginning in Primary 3. Of the four areas of English- listening, speaking, reading and writing- reading and especially vocabulary knowledge/ development has been found to be one of the most crucial for academic achievement. (Graves, 2007; Thrupp, 2013; Lonigan and Philips 2015). Curtis (1987) opined that learner's ability to acquire new knowledge and information can be stymied by low vocabulary knowledge. In a summary of some of the research on vocabulary, Graves (2007) pointed out the following:

a. Vocabulary knowledge in kindergarten and first grade is a significant predictor for reading comprehension in middle and secondary grades
b. Learning English vocabulary is one of the most crucial tasks for English learners
c. Lack of vocabulary can be a crucial factor underlying the school failure of many students (p.13).

According to the National Reading Panel (2000), vocabulary is one of the five major components of reading and students who do not know many words cannot read very well (Anderson and Naggy, 1993) Research has shown that there is a strong relationship between vocabulary development/ knowledge and reading achievement. (Anderson and Naggy, 1991; Manzo, Manzo and Thomas, 2006; National Reading Panel 2000; Sen and Kuleli, 2015). According to Naggy (1988), since vocabulary is fundamental to reading comprehension, it should be an integral part of any language arts program. Pikulski and Templeton (nd) in writing about the importance of a rich vocabulary for children indicated that:

> "…perhaps the greatest tools we can give students for succeeding, not only in their education but more generally in life, is a large, rich vocabulary and the skills for using those words. Our ability to function in today's complex social and economic worlds is mightily affected by our language skills and word knowledge" (p.1)

Pikulski and Templeton then went ahead to distinguish four kinds of vocabulary: expressive vocabulary (when we speak and write), receptive vocabulary (when we listen to others and read), oral vocabulary (a combination of listening and speaking vocabulary) and literate vocabulary (a combination of our reading and writing vocabularies) (p.2) Richards (1976) pointed out that there are several aspects of vocabulary knowledge including the limitations imposed on the use of the word, the syntactic behavior associated with the word, form, the derivations that can be made and the network of associations between the word and other words. Henriksen (1999) in providing a framework for understanding vocabulary knowledge called for three inter-related parts- a "partial-precise knowledge" dimension, a "depth of knowledge" dimension, and a "receptive-productive" aspect. Chapelle (1998) posited that a knowledge of vocabulary framework should contain four dimensions: (a) vocabulary size, (b) knowledge of word characteristics, (c) lexicon organization, and (d) processes of lexical access. Moinzadeh and Moslehpour (2012) pointed out that in the research on vocabulary knowledge, *a distinction has been made between depth and breadth as the two primary dimensions of vocabulary knowledge* (p. 1016). Breadth of vocabulary knowledge or word size refers to the number of the words learners know at a particular level of proficiency and depth of vocabulary which according to Qian (1999) encompasses pronunciation, morphological knowledge, syntactic properties, meaning, register or discourse features etc. each interacting with the other to ensure better comprehension of the text.

2. Vocabulary Knowledge

2.1 Breadth

Studies by Schmitt (2000) showed that learners needed a mastery of the most frequent 2000 words in order to read without much assistance. Nation (2006) posited that 8,000-9,000 of the most frequent words was needed for learners to read novels. In another study (Nation 2004) showed that the first 2000 words from British National Corpus should be the focus of instruction for English language learners since 80-90% of those 2000 words are encountered in texts Other scholars have posited different numbers for word size required to comprehend texts for different groups of learners (Moinzadeh and Moslepour, 2012 p. 617; Ibrahim, Sarudin and Muhammad, 2016).

2.2 Depth

Akbarian (2010) pointed out that depth of vocabulary refers to "*how well the language learner knows a word*"(p. 392) In agreeing with Akbarian's delineation, Teng (2014) pointed out that the study of depth goes back to Richards (1976) who proposed that knowledge of a word included knowing its relative frequency, basic forms and derivations, association with other words etc. On the other hand (Qian, 2002) pointed out that the depth of vocabulary should cover such areas as pronunciation, spelling, meaning, register, frequency, and morphological, syntactic, and collocational properties.

In a review of research, several studies (Koda, 1989; Mohammed and Afshar, 2016; and Shen 2008) found out that depth and breadth of vocabulary knowledge have a positive and significance with each other and with reading comprehension for ESL and English as a Foreign Language learners.

3. The Study

Many studies done on the teaching of English in Nigerian schools often report on the problems / challenges of teaching English to second language learners in Nigeria (Etim, 1982; Obiegbu, 2016; Fatiloro 2015; Evue, 2013;) These problems have ranged from lack of textbooks, examination malpractice, lack of qualified teachers to poor study habits and lack of technology and other resources. Afangideh and Jude (2013) pointed out that factors such as "*unavailability of literacy materials, poor learning environment, poor utilization or accessibility of literacy materials negatively hinder the development of reading skills among learners*". (p. 297) Very few reported studies have been done in the area of vocabulary development and reading performance in Nigerian secondary schools. Muodumogu (2003), in her research with teachers concluded that the use of instructional materials/teaching aids will help in vocabulary improvement. Obiegbu (2016) pointed out that there is a decline in the reading culture in Nigeria with terrible consequences. "*Unfortunately, the new wave of information technology has gripped the younger generation in a most tenacious and fascinating manner. These young ones would rather browse all day or night than exert their energy on reading. Browsing on the internet actually proves more exciting*" (p.55). Dada (1987) investigated the strategies used by secondary school students for identifying words in a reading passage. He reported that those who "*rely solely on sight vocabulary as a strategy for word identification performed poorer than those who employ other basic word skills like phonics and structural analysis*" (p.115) In

summarizing some of the research done on reading in Nigeria (Etim, 1990, p.90) called for more research regarding vocabulary development and reading comprehension.

This study on vocabulary size set out to find out the following:

i. Is there a difference in word size (vocabulary development) based on gender?

ii. Is there a relationship between reading interest and word size?

iii. Is there difference between gender and the ability to generate abstract words?

iv. Is there difference between number of books at home and vocabulary size?

v. Is there a significant difference between school type and word size?

4. Method of Investigation

In testing for vocabulary breadth and depth, several tests and scales are often used. Read (1993) has discussed at great length some of the problems associated with the use of some of the scales (pp356-357. He added that *"in the measurement of vocabulary size … the desirability of context has to be weighed against the need to cover a large sample of words. This means that presenting words in isolation may be the only practical way of achieving the necessary coverage."* (p.357). Learners in this study were given a questionnaire, *"The Vocabulary Development of Secondary School Students Questionnaire"* that had three sections to complete. Section 1 sought demographic information from subjects in the study. In section 2, subjects were given 15 minutes to write as many words as they could recall without opening a book or looking at other resources like notebook, a novel, a newspaper etc. In section 3, they were given 15 minutes to write an essay on the topic- The Importance of Education. The aim of this section 3 was to enable the researcher to be able to quantify the word size of each of the subjects in the study.

Five secondary schools in Jos metropolis of Plateau State were selected for the study. Only students in Junior Secondary School 2 in these five secondary schools were allowed to complete the Questionnaire on the day it was administered. The classroom teacher administered the questionnaire and collected the completed work. Of the 330 students from the five schools who could have completed the Questionnaire, 270 year 2 junior secondary school students completed the questionnaire, giving a more than 80 percent rate of return.

4.1 Data Analyses
Data collected was analyzed using SPSS. Table 1 and Table 2 below provide information about the participants in the study

Table 1: Gender of the study group

Gender	Number
Male	69
Female	201
Total	270

Table 1 above showed that there were 270 students in the study with 69 subjects being male and 201 subjects' female students. More female students participated in the study form two reasons- more girls attended school the day the Questionnaire was administered and more girls were in Junior Secondary School 2 in many of the five schools used in the study.

Table 2 below showed school type and the number of participants. More subjects came from Government Day school because this was a larger school.

Table 2: Number of participants by school type

School type	Number
Government Day	126
Private Day	93
Government Boarding	3
Private Boarding	48
Total	270

Research Question 1: Is there a difference in word size (vocabulary development) based on gender?

To find this out, we began with a word count produced by each student during the first 15 minutes where subjects were asked to write as many words as they knew.(Section 2 of Questionnaire). Further analysis using mean and standard deviation was carried out to find out if there was a difference in word size based on gender.

Table 3: Vocabulary size and gender

	Number	Mean	SD	df	t-test	p- value
Male	69	77.64	21.635	268	-3.46	0.00
Female	201	85.32	13.399			

$p<0.05$

Table 3 above shows vocabulary size based on gender. P-value is less than 0.05 significant level. Therefore, there is a significant difference between male and female students in vocabulary development with female students having a larger vocabulary size.

Research Question 2: Is there a relationship between reading interests and word size?

Table 4 presets the data on the relationship between reading interest and word size.

Table 4: Relationship between reading interests and word size

Variables	N	Mean	SD	df	r	p-value
Word size	271	83.27	16.25	269	-0.14	0.82
Reading interest		2.25	0.566		-0.14	

The relationship between reading interests and word size indicate a strong relationship since the p-value is 0.82. Data was further analyzed using ANOVA to find out if the relationship between reading interest and word size is significant.

Table 5: ANOVA showing difference between reading interest and word size

Variables	Sum of squares	df	Means of square	F	p-value
Between groups	333.19	3	112.73	0.424	0.736
Within groups	70969.13	267	265		
Total	71307.33	270			

p>0.05

Since the p-value of 0.736 is greater than 0.05 level of significance, the null hypothesis is accepted.

Research question 3: Is there a difference between gender and ability to generate abstract words?

Table 6 below shows mean scores of male and female students in the ability to generate abstract words over the period of the study.

Table 6: Mean scores of male and female students in the ability to generate abstract words

Variables	N	Mean	SD
Male	69	67.46	23.33
Female	209	75.68	16.17

The mean scores for females were higher than the mean scores for male students. This showed that girls generated more abstract words than male students during the time given to students. Further analysis was done using t-test as shown in Table 7 below:

Table 7: T-test of Independent samples for male and female students in abstract word generation

Variables	N	Mean	SD	df	t	p-value
Male	69	67.46	23.33	268	-3.22	
Female	209	75.68	16.17			

$P< 0.05$

Table 7 above indicated that there is a significant difference between male and female students in the ability to generate abstract words because p- value is less than 0.05.

Research Question 4: Is there a difference between number of books at home and vocabulary size?

Table 8 below shows the mean scores for number of books at home and word size.

Table 8: Number of books at home and word size

Number of books at home	N	Mean	SD
Less than 50 books	137	81.53	17.71
Between 51 and 100 books	95	86.13	12.87
More than 100	37	82.00	18.05
Total	271		

There is some difference between number of books at home and vocabulary size. Subjects who had between 51-100 books at home had a higher vocabulary size with mean being 86.13 when compared to subjects who had less than 50 books at home. However, those with more than 100 books had home did not have a mean vocabulary size higher than those with 51-100 books at home. This data was further tested for significance using one way ANOVA. The analysis is presented in Table 9 below,

Table 9: ANOVA for Books at Home and Vocabulary Size

Variables	Sum of squares	df	Mean squares	F	p- value
Between groups	1338.75	3	1446.25	1.703	0.167
Within groups	69968.59	267			
Total	71307.336	270			

$p>0.05$

p value is greater than 0.05 significant level. Therefore, there is no significant difference between number of books at home and vocabulary size for the subjects in the study.

Research Question 5: Is there a significant difference between school type and word size?

Table 10: Mean Scores for School Type and Vocabulary Size

School Type	N	Mean	SD
Government Day Sec. School	126	76.83	20.42
Private Day Secondary School	93	88.88	7.96
Government Boarding	3	90.00	0.00
Private Boarding	48	88.75	8.660
Total	271	83.27	16,251

Students in private boarding and private day secondary school performed a little higher than students in government secondary school. This data was further analyzed using ANOVA presented n Table 11 below.

Table 11: ANOVA for School Type and Vocabulary Size

Variables	Sum of squares	df	Mean squares	F	p-value
Between groups	9784.48	4	2446.126	7.021	0.00
Within groups	62965.85	266	231.289		
Total	71307.336	270	237.601	7.021	0.00

$p < 0.05$

p-value is less than 0.05 level of significance; therefore, there is a significant difference that exists between school type and vocabulary size.

5. Findings and Discussion

A. Gender and vocabulary size

There was a significant difference between male and female students in vocabulary development with female students have a significant vocabulary size. This is in line with Gu (2002) who reported that "*Female students significantly outperformed their male counterparts in both a vocabulary size test and a general proficiency test*" (p. 35). Moreover, female students were able to generate more abstract words and this was statistically significant when compared to male students.

B. Reading interest and word size

There is a strong relationship between word size and reading interest; however, using an ANOVA, this was not statistically significant at the p.o5 level. Bernstein (1955)

pointed that when students read stories that were interesting to them, then they have superior reading comprehension (p.288).

C. Number of books at home and vocabulary size

There was no significant difference between number of books at home and vocabulary size for the subjects in the study. This may be explained with the fact that many of the students attended private schools.

D. School type and vocabulary size

There is a significant difference that exists between school type and vocabulary size in favor of students attending private schools.

6. Conclusions

Female students had a significantly higher vocabulary size than the male subjects in the study. They were also able to generate more abstract words. Since "*vocabulary size is a better predictor of later language ability than lexical composition*" (Lee, 2011), then in L2 situations as Nigeria, teachers need to spend more time teaching vocabulary in order to increase vocabulary size of students, especially that of males. This teaching should include direct instruction, exposure of students to new words daily, and encouraging extensive reading (Butler, Urrutia, Buenger, Gonzalez, Hunt, and Eisenhart, C. (2010). Number of books at home did not have a statistically significant difference in terms of word size for students in the study; however, type of school attended did have a significant difference in subject word size. Invariably then, type of school attended and what happens in the classroom has bearing on hindering or helping students grow in their vocabulary size. Vocabulary growth, for students, is a continuous process and "*depth of word knowledge is built as students encounter words across various texts and contexts*" (Larson, Dixon, Townsend, 2013 p.20).

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