

# Exploring the Nexus between Lexical Knowledge and Reading Comprehension of the Tertiary Education Students

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**Abstract:** The Philippines attained the lowest position in terms of reading comprehension among the other countries (Caraig & Quimbo, 2022). This significant observation emphasizes the need to assess lexical knowledge's impact on reading comprehension. Consequently, the aim of this study is to evaluate the lexical knowledge and reading comprehension abilities of 4th-year Education students, while also investigating the correlation between these two dimensions. A total of 109 4th-year students, including 38 BSED and 71 BEED students, participated in the study. Data were collected through a survey questionnaire consisting of 60 questions, with half dedicated to lexical knowledge and the other half to reading comprehension. The results indicate a positive correlation between higher lexical knowledge and reading comprehension skills, suggesting a significant relationship between the two. The findings underscore the importance of emphasizing lexical knowledge as it enhances students' understanding and comprehension of written texts, and contributes to their proficiency in spoken English. In conclusion, this study highlights the significance of lexical knowledge in enhancing students' reading comprehension abilities and emphasizes the importance of targeted lexical development to improve language skills and overall academic performance.

**Keywords:** Lexical Knowledge, Reading Comprehension, English Proficiency, Education Students.

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## I. INTRODUCTION

Mastering the English language involves proficiency in five essential macro skills: reading, listening, writing, viewing, and speaking. Among these skills, reading holds the utmost significance. Within the realm of education, the acquisition of strong reading skills becomes pivotal. Through reading, students have the opportunity to gain valuable information beyond what they have learned. According to Tomas et al. (2021), reading serves as a gateway to learning about a wide range of subjects. It enables individuals to explore new realms and educate themselves in areas of personal interest. Thus, the goal of reading texts is to facilitate learning and knowledge acquisition.

Comprehending what one reads is an essential factor in acquiring knowledge. Merely reading passively may demonstrate basic reading skills, but without comprehension, it indicates a deficiency in learning through reading. Consequently, reading without understanding hampers the process of knowledge acquisition. Murray (2013) provides a concise definition of reading comprehension as the capacity to recognize, comprehend, and retain written text. Without engaging in cognitive processes while reading, it is impossible to retain information effectively. Conversely, when reading is accompanied by comprehension and understanding, the content becomes ingrained in the mind, enabling better recall of written texts.

Lexical knowledge is a crucial component of English proficiency and has a significant impact on reading comprehension. It is essential for students to develop strong lexemes as it directly influences their ability to comprehend written texts effectively. This need for vocabulary enrichment should be addressed during primary and secondary education to equip students with the necessary skills for successful reading comprehension. Murray (2013) emphasizes the importance of reading comprehension in college, where it becomes essential for academic study and learning. However, despite the assumption of proficiency, many college students still struggle with reading comprehension.

In a series of investigations carried out by Gu (2017), the influence of lexical knowledge on the reading comprehension skills of Chinese English Language Learners was explored. The findings from these studies unveiled a positive association between vocabulary knowledge and English reading comprehension. Within the realm of second language acquisition, two essential components of lexical knowledge, namely breadth, and depth, emerged as significant factors impacting various aspects of reading comprehension. Specifically, it was observed that the breadth of lexical knowledge exerted a stronger influence on reading comprehension than the depth of vocabulary knowledge. Notably, the breadth of lexical knowledge displayed a more pronounced impact on performance in multiple-choice reading comprehension tasks.

In December 2019, the recognition of the issue of "poor reading comprehension" among Filipino students was acknowledged by the Philippine government (Salalima & Pimentel, 2021). This acknowledgment aligns with a nationwide investigation conducted by Labad (2017), which revealed a positive relationship between students' lexical knowledge and their reading comprehension achievements. The findings of the study suggest that as students' vocabulary knowledge expands, their reading comprehension abilities also improve. Similarly, in an international study conducted by Manihiruk (2017) at the Universitas Kristen Indonesia, the English Education Department identified a moderate positive correlation between students' vocabulary knowledge and their reading comprehension skills. These findings underscore the significance of enhancing students' vocabulary to improve their performance in reading comprehension.

The primary purpose of this study is to evaluate the competence of undergraduate Education students in lexical knowledge and reading comprehension. The researchers seek to accomplish the main goal of establishing a significant link between lexical knowledge and reading comprehension among these students. Through a comprehensive assessment of both aspects, the researchers aim to derive a dependable conclusion regarding the relationship between lexical knowledge and reading comprehension within this specific student population.

## II. METHODOLOGY

### *A. Research Design*

The research adopts a quantitative approach and employs a correlational design to explore the association between lexical knowledge and reading comprehension in undergraduate Education students. The study does not involve any form of intervention or manipulation by the researchers. Through the collection and analysis of numerical data, the study aims to investigate the influence of lexical knowledge on reading comprehension within this specific context. The correlational design enables the researchers to observe and analyze the existing patterns and relationships between the variables without exerting any influence on their natural occurrence.

### *B. Respondents*

The determination of the sample size for this study was based on Cochran's Sample size formula, expressed as  $n = \frac{N(Z)^2}{(Z)^2 + 4Ne^2}$ . The sample size was obtained by dividing the population of English major students by the total population of all levels and multiplying it by the total sample size of the study. The computation was as follows: For BSEd, the sample size was  $(64 / 183 \times 109 = 38)$ , and for BEEd, the sample size was  $(119/183 \times 109 = 71)$ . The researchers used a stratified probability sampling method, where 109 respondents were randomly selected from each of the two Degree courses within the Education program's fourth-year level. This selection process was conducted among the total population of 183 students enrolled at the selected local college in Misamis Oriental District 2 during the academic year 2022-2023.

### *C. Research Instrument*

Two assessments were conducted to gather data in this study, specifically the Reading Comprehension Test and the Lexical Test, both directly addressing the research problem.

The initial instrument employed was the Reading Comprehension (RC) Test, which aimed to evaluate the reading comprehension abilities of the participants. Adapted from the International English Language Testing System (IELTS)

reading test, the RC test comprised 30 questions and included three passages from various sources, representing diverse genres. A sample IELTS academic reading test available on the British Council website was utilized. The tasks involved true or false questions and multiple-choice questions (MCQ), with each correct response earning one point (Al Qunayeer, 2021). The maximum achievable score was 25, and participants were allotted 60 minutes to complete the test. The test-retest reliability index was calculated at 0.88.

The second instrument, known as the Vocabulary Levels Test (VLT), was used to assess the breadth of lexical knowledge among ESL students. Originally developed by Nation (1990), the VLT underwent modification and revision by Schmitt (2008) to enhance the validity and reliability of the test items. Their revision revealed that increasing the number of items per level from 18 (as in the original version) to 30 improved the test's reliability. This modified version, referred to as VLT (version 2), gained recognition among L2 lexical scholars. Consequently, the present study employed this modified VLT as a comprehensive measure of vocabulary breadth.

**TABLE 1: THE SCORING PROCEDURE**

Range of Score	Level of Proficiency	Interpretation
25-30	Excellent	Very High Level
19-24	Good	High Level
13-18	Satisfactory	Average Level
7-12	Fair	Low Level
0-6	Poor	Very Low Level

### III. RESULTS AND DISCUSSION

The results of the questionnaires were presented in tabular format, organizing the data according to the specific inquiries mentioned in the problem statement.

**TABLE 2: THE RESPONDENTS' PROFILE**

Characteristics	Specification	Frequency	Percentage
<b>Age</b>	<b>20-25</b>	66	60.9
	<b>26-30</b>	31	28.4
	<b>31 above</b>	12	11.0
<b>TOTAL</b>		<b>109</b>	<b>100.0</b>
<b>Sex</b>	<b>Male</b>	24	22.0
	<b>Female</b>	85	78.0
	<b>TOTAL</b>	<b>109</b>	<b>100.0</b>
<b>Course</b>	BSED	38	34.9
	BEED	71	65.1
	<b>TOTAL</b>	<b>109</b>	<b>100.0</b>

Table 1 presents the distribution of respondents' profiles, providing both the frequency and corresponding percentages. The breakdown of respondents by age, as depicted in Table 1.1, indicates that individuals aged between 20 and 25 represent 66 respondents, accounting for 60.6 percent of the total responses. Conversely, the lowest frequency of 12 respondents, equivalent to 11.0 percent, pertains to individuals beyond the age of 31. Significantly, Wagner et al. (2019) conducted a study that revealed a tendency for older individuals to participate less frequently in social surveys compared to younger age groups. This may be attributed to factors such as diminished interest or a perceived lack of suitability due to literacy limitations.

Furthermore, the data indicate that females constitute 85 individuals or 78.0 percent of the 109 respondents, representing the highest frequency. Conversely, males account for 24 individuals out of the total, making up 22.0 percent, which is the lowest frequency. This observation aligns with findings from Smith's (2008) study, which concluded that females exhibit a greater propensity to respond to surveys. It is also consistent with Mohajer & Mohd Jan's (2019) research, which revealed that participants, both in the quantitative and qualitative phases of the study, displayed a willingness to engage and demonstrated interest in promoting research and services tailored to men. These findings stand in contrast to other experiences related to sexual and reproductive health and rights (SRHR), where men exhibited less interest in supporting research and development program activities compared to women.

The data reveals that 34.9 percent or 38 respondents hold a BSED degree, while 65.1 percent, or 71 respondents are from the BEED program. Additionally, the data highlights that out of the 109 respondents, the highest frequency, representing 65.1 percent or 71 respondents, belongs to the BEED program, indicating that it has the majority. Conversely, the BSED program has the lowest frequency, consisting of 34.9 percent or 38 respondents out of the total 109. This observation aligns with Aclan et al. (2018) research, which indicates a higher percentage of BEED program graduates compared to BSED program graduates participating in research.

**TABLE 3: THE STUDENTS' LEXICAL SIZE**

Items	Mean	Std. Deviation	Description	Interpretation
Lexical Size	3.54	0.73	Good	High Level

*Legend: 1.00-1.80 (Poor), 1.76-2.50 (Fair), 2.51-3.25 (Satisfactory), 3.26-4.20 (Good), 4.21-5.00 (Excellent)*

Table 3 from an undisclosed source presents data regarding the extent of students' vocabulary knowledge in terms of lexical size. The data indicates that the average score for students' lexical knowledge level is 3.54, with a standard deviation of 0.73. This suggests that the students possess a significantly satisfactory level of vocabulary knowledge, which can be categorized as high.

These findings align with a recent study conducted by Mohamad et al. in 2021, aimed at evaluating the proficiency of Education department students in terms of their receptive and productive vocabulary size. The study concluded that the students demonstrated a high level of proficiency in both receptive and productive vocabulary size. Developing a strong vocabulary is essential in language learning as it enhances one's ability to express ideas and comprehend written texts. A robust vocabulary empowers students to communicate effectively and comprehend texts effortlessly. Thus, the student's high level of vocabulary knowledge signifies positive progress in their language learning journey.

In summary, the second table provides evidence supporting the notion that the students possess a high level of vocabulary knowledge, as indicated by the mean score and standard deviation. These findings are consistent with the results of a recent study conducted by Mohamad et al. (2021), which revealed a high level of proficiency in receptive and productive vocabulary size among Education department students.

**TABLE 4: LEVEL OF READING COMPREHENSION**

Items	Mean	Std. Deviation	Description	Interpretation
Reading Comprehension	3.70	0.69	Good	High Level

*Legend: 1.00-1.80 (Poor), 1.76-2.50 (Fair), 2.51-3.25 (Satisfactory), 3.26-4.20 (Good), 4.21-5.00 (Excellent)*

The findings presented in Table 4 depict the outcomes of a study that investigated students' reading comprehension levels. The study revealed an average mean reading comprehension level of 3.70, accompanied by a standard deviation of 0.69, which indicates a highly satisfactory level of proficiency. These results signify that the students possess a commendable aptitude for reading comprehension.

Within the context of English as a Foreign Language (EFL), reading classes and assignments are intentionally designed to foster critical reading skills among students. For many students, attaining an advanced level of reading comprehension entails becoming critical readers who can analyze the author's message and form independent opinions about the text. This valuable skill empowers students to engage deeply with the material they read and think critically about the ideas and arguments presented. DaCosta & Gutierrez (2020) suggest that EFL teachers employ various techniques and strategies to cultivate critical reading skills. These may encompass pre-reading activities to activate students' prior knowledge and facilitate predictions about the text, as well as post-reading activities that encourage reflection and opinion formation. Other strategies include prompting students to pose questions, summarize the content, and establish connections between different texts and ideas.

Therefore, the study's findings imply that the students have accomplished a remarkable level of reading comprehension. This achievement can be attributed to a combination of factors such as the effectiveness of instruction, employment of valuable teaching strategies, and the student's personal motivation and engagement with the material. By continually developing their critical reading skills, the students will enhance their ability to engage with diverse texts, both within and beyond the confines of the classroom.

**TABLE 5: STUDENT'S LEXICAL KNOWLEDGE AND DEMOGRAPHIC PROFILE**

Profile	Lexical Knowledge		Decision on Ho
	t-value	p-value	
Age	-19.543	.000	reject
Sex	-21.952	.000	reject
Course	-27.237	.000	reject

*Significant if p-value < 0.05*

*Legend: Ho is rejected if Significant  
 Ho is accepted if Not Significant*

Table 5 reveals significant associations between students' vocabulary knowledge and their age, sex, and degree courses. The obtained p-values, which were below 0.005, reject the null hypothesis, indicating that these factors hold considerable significance in vocabulary acquisition.

One significant discovery from the research pertains to the connection between age and lexical knowledge. The study indicates that the difficulties older adults face in recalling words may have been previously underestimated. Age-related declines in fluid intelligence, processing speed, and working memory can hinder the ability to retrieve words, thereby impacting word generation. However, the research suggests that the heightened lexical knowledge observed in older adults might serve as a compensatory mechanism for these declines. Consequently, the training aimed at enhancing vocabulary could potentially be advantageous for older adults in enhancing their word retrieval abilities.

Another significant finding revolves around the association between gender and vocabulary knowledge. Although prior research has produced inconclusive findings concerning gender disparities in vocabulary acquisition, this specific investigation revealed a substantial influence exerted by gender. Hery & Abas (2020) discovered that males tend to possess a larger vocabulary size compared to females. Consequently, when designing language programs or interventions with the aim of enhancing vocabulary acquisition, gender should be taken into consideration.

Additionally, the research emphasizes a notable correlation between the academic programs pursued by students and their proficiency in vocabulary. Students majoring in English employ diverse methods to apply and enhance their vocabulary, including active participation in class discussions, writing activities, and watching movies. On the other hand, non-English major students primarily rely on dictionary work and often lack sufficient practice opportunities, which can hinder their fluency in expressing ideas in English. These findings indicate that the approach to vocabulary instruction and practice may

vary between English and non-English majors. English majors may benefit from an integrated approach to vocabulary acquisition that focuses on developing both receptive and productive language skills.

In summary, this study underscores the importance of considering age, sex/gender, and degree courses when developing language programs or interventions aimed at enhancing vocabulary acquisition. Vocabulary training can be advantageous for older adults in improving their word retrieval skills. Gender differences should be acknowledged when designing language programs, given the potential variations in vocabulary size between males and females. Lastly, English and non-English majors may benefit from distinct approaches to vocabulary acquisition, with English majors benefiting from an integrated focus on both receptive and productive skills.

**TABLE 6: STUDENT’S READING COMPREHENSION AND DEMOGRAPHIC PROFILE**

Profile	Reading Comprehension		
	t-value	p-value	Decision on Ho
Age	-21.998	.000	Reject
Sex	-25.181	.000	Reject
Course	-28.017	.000	Reject

*Significant if p-value < 0.05*  
*Legend: Ho is rejected if Significant*  
*Ho is accepted if Not Significant*

Table 6 presents the outcomes of a study that explored the relationship between students' reading comprehension and their age, sex, and degree courses. The findings reveal a significant disparity in reading comprehension based on these factors, as demonstrated by the rejection of the null hypothesis with a p-value of 0.000.

Regarding age, the study uncovers a notable correlation between reading comprehension and age, supported by a t-value of -21.998 and a p-value of 0.000. This connection may arise from challenges in attention and executive functions, which can impact the ability to make inferences. Additionally, the interplay between inferential abilities and other cognitive functions such as working memory, vocabulary span, and general knowledge is likely to contribute to this observed relationship.

Furthermore, the study unveils a significant relationship between reading comprehension and sex, with a t-value of -25.181 and a p-value of 0.000. This suggests that gender or sexual differences can influence students' comprehension of factual texts through distinct reading strategies. Males tend to exhibit a preference for discussion activities during post-reading, while girls may lean towards writing activities.

Moreover, a significant association emerges between reading comprehension and degree courses, as indicated by a t-value of -28.017 and a p-value of 0.000. The manner in which reading skills are taught and applied may vary depending on the degree course, with non-English learners facing difficulties in word reading skills, which can hinder reading comprehension. Additionally, linguistic comprehension may have a greater impact on reading comprehension for English learners compared to word reading abilities.

The findings depicted in Table 5 underscore the importance of incorporating age, gender, and degree courses as crucial factors in the examination of reading comprehension. It is imperative for educators and researchers to take these factors into consideration when devising reading instruction programs with the goal of enhancing students' comprehension abilities. Additional research is needed to delve deeper into the underlying mechanisms that drive these relationships and to formulate effective strategies for bolstering reading comprehension.

**TABLE 7: THE STUDENTS’ LEXICAL KNOWLEDGE AND READING COMPREHENSION**

Lexical Knowledge	Reading Comprehension		
	R	p-value	Decision on Ho
	.344**	.000	reject

*Significant if p-value < 0.05*  
*Legend: Ho is rejected if Significant*  
*Ho is accepted if Not Significant*



Table 7 showcases compelling evidence of a substantial link between students' proficiency in vocabulary and their aptitude in reading comprehension. The research reveals a positive correlation between the extent of one's vocabulary and their ability to comprehend written material, with a p-value of less than 0.05, leading to the rejection of the null hypothesis. This discovery further bolsters the understanding that possessing a strong lexicon is a vital predictor of an individual's capability to comprehend written texts, as supported by the work of Al-Khasawneh (2019).

Furthermore, research has consistently demonstrated the pivotal role of lexical knowledge in reading comprehension. A strong vocabulary enables individuals to recognize words and establish meaningful connections with their respective meanings (Kieffer & Lesaux, 2012). By enhancing their vocabulary, individuals can improve their reading comprehension skills, as they become more adept at decoding and comprehending written texts.

The findings derived from Table 7 underscore the significance of developing lexical knowledge to enhance reading comprehension abilities. Educators are encouraged to incorporate effective vocabulary-building strategies into their reading instruction programs to foster students' success in reading comprehension.

#### IV. CONCLUSION

This study explores the relationship and differences between reading comprehension skills and vocabulary knowledge, which are crucial for acquiring knowledge. The analysis unveils a substantial association between the depth of lexical knowledge and the extent of reading comprehension, indicating that students who possess a comprehensive and sophisticated vocabulary also manifest a heightened proficiency in comprehending written texts. Furthermore, significant differences were observed in vocabulary knowledge and reading comprehension based on age, gender, and degree courses. Younger individuals exhibit better vocabulary knowledge and reading comprehension, while women tend to outperform men. Additionally, students pursuing a Bachelor of Secondary Education show higher proficiency in vocabulary and reading comprehension compared to those in the Bachelor of Elementary Education program. These findings underscore the importance of vocabulary knowledge for effective reading comprehension and highlight demographic factors that influence these skills.

This recommends that students should prioritize reading as a core foundation of learning and expand their lexical knowledge by having a dictionary readily available (e.g., printed, mobile application). Regular assessments of students' lexical knowledge and reading comprehension skills should be implemented by Education department administrators, along with providing designated time for students to access the school library. Future researchers should allocate sufficient time for respondents to answer questionnaires, especially in studies involving reading comprehension. These recommendations aim to promote reading, enhance vocabulary acquisition, and support students in improving their reading comprehension skills.

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