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LANGUAGE PEDAGOGY ENGLISH MAJOR

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“THE ROLE OF VOCABULARY KNOWLEDGE IN READING COMPREHENSION IN EFL”

Research report before obtaining the bachelor degree in National and Foreign language
Pedagogy, English Major

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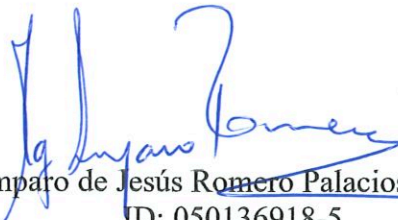
TUTOR'S ENDORSEMENT

In my capacity as a supervisor of the research report entitled "THE ROLE OF VOCABULARY KNOWLEDGE IN READING COMPREHENSION IN EFL", and researched by Lita Sangovalin Daniela Alexandra & Salazar Tipanluisa William Xavier, ID number 050369987-8 & 172836794-5, for obtaining the bachelor's degree in National and Foreign language Pedagogy, English Major.

I CERTIFY THAT:

This research report has been fully revised and has the requirements and merits to be submitted for evaluation by the assigned revision Committee and its presentation and defense.

Pujili August, 2025



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COMMITTEE APPROVAL

The research report entitled “THE ROLE OF VOCABULARY KNOWLEDGE IN READING COMPREHENSION IN EFL”, has been revised, approved and authorized for printing and binding, before obtaining the bachelor’s degree in National and Foreign language Pedagogy, English Major; this meets the substantive and formal requirements to hand in for the presentation and defense.

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GRATEFULNESS

We express our most sincere gratitude to God for life and health, for always guiding us, and for giving us the wisdom to complete our academic career. We also express our gratitude to the Technical University of Cotopaxi and all the professors for welcoming us and sharing valuable knowledge with us. We also express our gratitude to our tutor, Ms. Amparo Romer, for guiding us throughout the development of this research project. Finally, we would like to thank our closest family members who have offered their sincere support.

Thank you infinitely, our success is thanks to all of you.

Daniela & William

DEDICATION

With deep gratitude, I dedicate this work to my loved ones who stood by me. To my grandmother, Transito, your love and wisdom were my refuge. To my mother Karina, thank you for your financial support despite our ups and downs. To my siblings and Elkin, your love, joy, and belief in me kept me going.

Daniela Alexandra Lita Sangovalin

DEDICATION

With enormous satisfaction and joy, I dedicate this research work first to God for giving me the strength and health to achieve my goals and to my parents, Alexandra and Segundo, for their support and motivation throughout my studies. They have been my support during my most difficult times. I love them unconditionally. To my siblings: Daniela, Wilson, and Mauricio. To my beloved grandmother, Rosa Helena, for her unconditional love. To my aunts, uncles, cousins, and friends for their support and encouragement throughout this process.

Thank you for being part of my successes and for allowing me to be your pride.

William Xavier Salazar Tipanluisa

TECHNICAL UNIVERSITY OF COTOPAXI

UNDERGRADUATE PROGRAM

DEPARTMENT OF NATIONAL AND FOREIGN LANGUAGE PEDAGOGY

ENGLISH MAJOR

TÍTULO: EL PAPEL DEL CONOCIMIENTO DEL VOCABULARIO EN LA
COMPRENSIÓN LECTORA EN EFL.

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RESUMEN

El vocabulario es necesario para aprender un segundo idioma; ayuda a los estudiantes a comunicarse con mayor fluidez y claridad. Muchos estudiantes del primer semestre de la carrera de Pedagogía de Idiomas Nacionales y Extranjeras (PINE) de la Universidad Técnica de Cotopaxi Extensión Pujilí, presentan dificultades para comprender textos escritos en inglés. Esto se debe principalmente a la escasa preparación en la secundaria, donde se prioriza la gramática sobre el vocabulario, y a la limitada exposición a materiales auténticos en inglés. El principal objetivo de este estudio es analizar el nivel de conocimiento de vocabulario y su efecto en la comprensión lectora. La muestra estuvo conformada por 35 estudiantes de primer semestre, de la carrera PINE de la Universidad Técnica de Cotopaxi. La investigación adopta un enfoque cuantitativo y un diseño descriptivo mediante la aplicación del Vocabulary Size Test (VST) de Nation (2011) y una sección del examen de comprensión lectora IELTS de Cambridge (RCT). Para categorizar los resultados en niveles (alto, medio y bajo), se basó en la hipótesis de Nation acuerdo a la frecuencia de palabras que el individuo conoce. Los resultados mostraron que la mayoría de los estudiantes tienen un nivel de vocabulario A1 (principiante), lo que dificulta negativamente en su comprensión de textos académicos. Por lo tanto, reforzar la instrucción de vocabulario al inicio de sus estudios es esencial para mejorar la comprensión lectora y el éxito académico.

Palabras claves: Estudiantes de Inglés. Conocimiento de vocabulario, Comprensión Lectora.

TECHNICAL UNIVERSITY OF COTOPAXI

UNDERGRADUATE PROGRAM

DEPARTMENT OF NATIONAL AND FOREIGN LANGUAGE PEDAGOGY

ENGLISH MAJOR

THEME: THE ROLE OF VOCABULARY KNOWLEDGE IN READING
COMPREHENSION IN EFL.

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ABSTRACT

Vocabulary is essential for learning a second language; it helps students communicate more fluently and clearly. Many first-semester students in the National and Foreign Language Pedagogy (PINE) career at the Technical University of Cotopaxi Pujilí Extension struggle to understand texts written in English. This is mainly due to poor preparation in secondary school, where grammar is prioritized over vocabulary, and limited exposure to authentic materials in English. The primary objective of this study is to examine the level of vocabulary knowledge and its impact on reading comprehension. The sample consisted of 35 first-semester students in the PINE career at the Technical University of Cotopaxi. The research adopts a quantitative approach and a descriptive design, using the Vocabulary Size Test (VST) by Nation (2011) and a section of the Cambridge IELTS Reading Comprehension Test (RCT). To categorize the results into levels (high, medium, and low), this study used Nation's hypothesis based on the frequency of words known by the individual. The results showed that most students have an A1 (beginner) vocabulary level, which negatively hinders their comprehension of academic texts. Therefore, reinforcing vocabulary instruction at the beginning of their studies is essential to improve reading comprehension and academic success.

Keywords: English Students, Reading Comprehension, Vocabulary Knowledge.

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UNDERGRADUATE DEGREE WORK STRUCTURE

1. General Information

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The role of vocabulary knowledge in reading comprehension in EFL.

Starting Date:

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Ending Date:

August 2025

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Technical University of Cotopaxi

Sponsoring Faculty:

Pujilí Extension

Sponsoring career:

Pedagogy of National and Foreign Languages Undergraduate Program

Linked Research Project (if applicable):

Formative processes in the teaching and learning of English as a foreign language in the educational institutions of the Cotopaxi province.

Macro project of the career:

Education, communication, and graphic design for human and social development.

Research Group:

"Language Learning and Vocabulary Acquisition Research Group"

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Knowledge area:

Education – Pedagogy of National and Foreign Languages.

Research line:

Education, linguistics, literature, interculturality, and society.

Research line of the career (if applicable):

Language, Linguistics, and Culture

2. Problem Statement

The topic of this study focuses primarily on providing necessary and meaningful information about the importance of vocabulary when reading English texts, especially if the text is in an academic style, such as the textbooks commonly used in classrooms. As Vaughn, Boardman, and Klingner (2024) point out in their book titled “Teaching Reading Comprehension to Students with Learning Disabilities,” in Latin America, foreign language students face significant challenges as readers. They receive texts that can be simple but also very complex, and sometimes lack the words to recognize them in the text, connect them, and correctly understand them while reading. The students read, as they do for any academic or research project, but they do not comprehend.

Students have received instruction focused only on the fundamentals of letters and sounds. However, to move from basic decoding to genuine comprehension, they need more advanced cognitive skills. Researchers note that a limited vocabulary can hinder comprehension. Students can read the printed words on a page but often fail to grasp their meaning. This problem is not due to a lack of enthusiasm, but rather to the absence of the necessary linguistic frameworks. Moreover, a lack of prior knowledge often leaves them ill-prepared to interact with new information. Although they may encounter unfamiliar ideas in texts, they frequently lack the prior experience or contextual awareness necessary to fully grasp the content. Experts say the solution is not simply to provide more reading materials but to provide targeted instruction. This involves going beyond teaching individual words to help students build interconnected networks of vocabulary. This method fosters lasting learning by linking the decoding process to authentic comprehension.

When students begin their Pedagogy of National Foreign Languages (PINE) career, they often have a limited vocabulary in English, which prevents them from developing their reading, writing, listening, and speaking skills. A major contributing factor to this problem is the traditional method of teaching English in secondary school, which prioritizes grammar and translation over speaking. Consequently, vocabulary is frequently acquired through memorizing word lists, without meaningful context or practical use. As a result, while students may pass exams, they struggle to correctly use or recognize words in academic texts or during real-life conversations.

Lack of exposure to genuine English resources outside the classroom is another factor to consider. In educational settings, students often lack books, digital resources, or

access to English-language media such as podcasts, films, or articles. They often rely just on their school lessons, which are limited by time and content. Students struggle to expand their vocabulary naturally without frequent interaction with the language. This problem is due to deficiencies in previous English language instruction, where vocabulary acquisition is sometimes neglected in favor of translation and grammar exercises. A lack of exposure to current English materials, reading practices, and interactive events that help expand real-world vocabulary is common among first-semester students. As a result, they find it difficult to understand even basic texts, which reduces their academic performance and motivation.

Brooks, Clenton, & Fraser (2023), for academic goals, a strong vocabulary is essential. As individuals progress to higher educational levels, the need for an extensive vocabulary becomes increasingly important for understanding complex academic materials. Pedagogy of National Foreign Languages (PINE) career teachers often face challenges in meeting curriculum demands and addressing students' limited vocabulary proficiency. While various strategies are implemented to improve vocabulary knowledge, progress can be slow when students are not actively involved in their own learning process. A lack of engagement with reading and vocabulary practice outside of the classroom further restricts students' ability to acquire new lexical items. Therefore, since vocabulary development is vital to the success of the program and the preparation of future language educators, collaboration between teachers and students must begin as early as the first semester. Furthermore, this research not only examines the influence of vocabulary proficiency on reading comprehension but also seeks to provide practical insights into effective vocabulary instruction methods that can help foreign language learners improve both their reading comprehension and overall academic performance. To achieve this, the present study poses the following research question: **What is the effect of vocabulary level on the reading comprehension of first-semester PINE students at the Technical University of Cotopaxi?**

3. Objectives

3.1.General Objective:

To analyze the effect of vocabulary knowledge on the reading comprehension of first-semester PINE students at the Technical University of Cotopaxi.

3.2.Specific Objectives:

- To examine the theoretical foundations of vocabulary knowledge in reading comprehension in EFL.
- Identify levels based on the results of the instruments applied to the level of vocabulary knowledge and reading comprehension in English as a foreign language.
- To compare the level of vocabulary knowledge and the level of reading comprehension.

4. Activities and Task System in Relation to The Objectives Proposed

Specific objective	Activities	Result of the activity	Verification Means
To examine the theoretical foundations of vocabulary knowledge in reading comprehension in EFL.	Research Information Literature Review	A structured theoretical framework explaining the relationship between vocabulary and reading comprehension.	Theoretical Framework
To identify levels based on the results of the instruments applied to the level of vocabulary knowledge and reading comprehension in English as a foreign language.	Apply instruments. Analysis of the Data	Describing the data tables with students' scores for vocabulary knowledge and reading comprehension.	Data analysis Analysis and Discussion
To compare the level of vocabulary knowledge and the level of reading comprehension	Tabulate the average by using charts Present the participants' results obtained. Analyze the scores from both tests. Compared the data.	Clear comparative analysis of vocabulary and comprehension levels.	Conclusion and Recommendation.

5. Justification

The role of vocabulary in English as a Foreign Language (EFL) is essential for reading comprehension and overall language development. A strong vocabulary enables students to recognize, understand, and interpret words, helping them grasp the meaning of sentences, paragraphs, and texts effectively. Dixon and Zhao (2020) considered theories such as the Interactive Model of Reading and constructivist perspectives, highlighting the critical role vocabulary plays in developing communication and reading skills. The researches underline that word comprehension enables readers to connect ideas, process information, and engage in higher-level reading tasks. Furthermore, early vocabulary knowledge is a strong predictor of academic success, reinforcing the importance of vocabulary development, especially in young learners. Effective reading comprehension relies on the ability to recognize words, understand their meaning, apply strategies, and read fluently over time. Therefore, vocabulary acquisition is crucial for both language development and cognitive growth, particularly in the early stages of learning.

Snow & Katz (2019), stress that vocabulary is very important for reading comprehension in language, especially in the case of English as a Foreign Language (EFL) students, since students with a greater knowledge of vocabulary tend to understand the text more effectively, quickly and more deeply without limitations, while those with a weaker vocabulary often experience difficulties when it comes to deepening words and their meaning in a complex text. When teachers know the student's vocabulary level, they can understand the student's comprehension and their problems and implement specific strategies to help the student read better. In this way, learners are better able to cope with more difficult texts and reading activities.

When it comes to starting to learn a foreign language, such as English, most students spend an enormous amount of time reading textbooks, doing exercises in a grammar book, and even watching the occasional online video in the target language. But what many fail to recognize is that focusing on vocabulary is just as important, sometimes even more important, to effectively learn a foreign language. According to Grabe & Stoller (2002), vocabulary knowledge is the basis for reading comprehension skills, in particular, for learners of English as a Foreign Language (EFL). Reading comprehension, like the production of fluent texts, is a complex cognitive process that begins with decoding, lexical access, and syntactic parsing up to the integration of semantic and

macrostructural knowledge. Based on this, effective reading comprehension in English as a foreign language (EFL) requires a good knowledge of vocabulary, especially for first-semester students preparing to become future language teachers. Students enrolled in the Pedagogy of National Foreign Languages PINE career, at the Technical University of Cotopaxi encounter significant difficulties during the first semester due to their limited vocabulary knowledge. Most begin the course with an A1 vocabulary level, insufficient to master the skills required by the curriculum and understand academic texts.

This research is important because it emphasizes the need for vocabulary-focused instruction from the beginning of the career, examining the relationship between reading comprehension and vocabulary development. The results of this study, can guide teachers in using more effective approaches, such as reading based activities, explicit vocabulary instruction, and the inclusion of frequently used academic vocabulary. Early vocabulary development not only improves reading comprehension but also lays the foundation for better communication skills, improved academic outcomes, and the professional preparation of future language teachers. This will be of great value to both students and faculty members of the Universidad Técnica de Cotopaxi. As English teachers, they will have an understanding of the importance of teaching vocabulary rather than grammar, which will give them opportunities to use more effective ways of teaching.

Furthermore, the research contributes to the field of English as a foreign language (EFL), **pedagogy** by offering practical evidence about the importance of vocabulary as a predictor of academic success. It can guide future interventions, teaching methods, and policies aimed at improving the quality of English education at the university level, not only for Pedagogy of National Foreign Languages (PINE) students but also for other EFL learners in similar contexts.

Despite this, this research presented some limitations. The first limitation of this study is that the sample is very small, comprising only first-semester students at the Technical University of Cotopaxi. This would mean that the results could not be applied to all English learners, but they could still be of some use and a starting point for future research. Second, it proved impractical that all available books and articles were free, and not all were easy to search. To counteract this, the researcher accessed free websites such as Google Scholar and used the university library. Finally, this study considers only vocabulary size and its effects on reading comprehension. It does not cover other skills, such as listening, speaking, or deep knowledge of word meanings. Even with these limitations, the topic remains very important because this research helps students and

teachers of English in the PINE career, as it is considered important. After all, a broad vocabulary helps to deduce the meaning of new words and to enjoy the reading process more, avoiding frustrations.

6. Scientific and Technical Foundation

6.1. Background

In recent years, vocabulary development has become crucial for English as a foreign language (EFL) students, especially with regard to reading comprehension. A strong vocabulary allows students to grasp the overall meaning of a narrative. Those with a higher vocabulary level are able to interpret and understand the meaning of sentences and paragraphs, as well as recognize the connections between individual sentences and how paragraphs relate to each other. Studies have shown that students with a richer and deeper vocabulary knowledge are more likely to comprehend texts effectively compared to their peers with limited vocabulary.

Along these lines, Ludewig, Hübner, and Schroeder (2023) argue that reading comprehension is a fundamental skill in students' academic process, particularly in foreign language learning environments, and is directly related to the amount of available vocabulary. This was based on a study titled "Vocabulary, Text Coverage, Word Frequency, and the Three Lexicons." It demonstrated that lexical knowledge is one of the best predictors of reading comprehension, raising a lexical threshold of at least 56% of a text's words to effectively understand it. Its results imply that texts will be too challenging if students have little knowledge of this proportion to grasp the meaning.

Sidek & Rahim (2015) in this research examined the role of vocabulary knowledge in reading comprehension in two languages, first language (Malay language) versus second language (English language), using this group of participants. The findings demonstrate vocabulary effects on comprehension; (2) participants performed better in their L1 because of higher vocabulary level selling SP: delete. And they came to obtain favorable results in explicit and implicit comprehension tasks than in English, and topic-specific jargon in English that limited comprehension. The research underscores the importance of enhancing vocabulary to improve reading comprehension, especially in FL contexts.

Additionally, Hartono and Prima (2021) conducted research entitled "The Correlation Between Indonesian University Students' Receptive Vocabulary Knowledge

and Their Reading Comprehension Level." The purpose of the study was, to measure the knowledge of Indonesian university students on receptive vocabulary, to assess the students' reading comprehension level, and to investigate the association between the two variables. Furthermore, the investigators observed a positive relationship between vocabulary knowledge and reading comprehension level, particularly the 4,000-word students with low reading proficiency may lack vocabulary, may experience direct relationship to their poor reading comprehension level. The two studies demonstrate the reciprocal nature between the lexical field and academic text comprehension. English teachers and researchers have analyzed a wide range of cases where students cannot recall essential vocabulary learned in the previous class to understand the different activities proposed in language skills. Thus, students drop out of second language classes due to poor vocabulary acquisition and comprehension.

And in our context, Berrones and Palate (2022) analyzed the size of the vocabulary and the readability of academic texts among English teachers in training in the seventh cycle at the Technical University of Cotopaxi. They used a quantitative approach with a non-experimental, descriptive, and cross-sectional design. Forty seventh-cycle English teachers in training participated, with 22 students forming the representative sample. Data were collected using the New Vocabulary Level Test (NVLТ) by McLean and Kramer (2015) and a Reading Comprehension Test (RCT), which the researchers developed, adapted to the context of the study, and validated with the help of linguistics experts. The results indicated that the students' vocabulary size was low compared to the expected level of the curriculum. This suggests that their limited vocabulary may negatively influence their comprehension of academic texts.

6.2.Theoretical Framework

Vocabulary Knowledge in English Foreign Language (EFL).

According to Kalhagen (2023), vocabulary knowledge is the main part of the language used to communicate and share ideas in written and spoken ways, and refers to the set of words that learners need to learn to communicate effectively in English; vocabulary is the most important component of language. Vocabulary acquisition is influenced by factors such as self-regulated learning and beliefs such as a growth mindset, which can positively influence learners' ability to expand their vocabulary effectively. By integrating cognitive and motivational factors, vocabulary knowledge can be developed

through deliberate and adaptive learning strategies, as demonstrated by tools such as the Vocabulary Size Test (VST) for breadth and collocation tests for depth.

As explained by Teng, Mizumoto, and Takeuchi (2024), vocabulary is defined in two important terms as its breadth and depth. Learners develop a broad vocabulary of words when learning another language. The number of words a student knows is considered breadth, while knowing the meaning and function of the words is considered depth. And some of the factors that influence vocabulary knowledge include self-regulated learning and even beliefs, such as a growth mindset, that will work at the behavioral level for effective vocabulary size expansion. Combining cognitive and motivational aspects, vocabulary knowledge can be expanded through both conscious and intentional learning approaches (e.g., VST for breadth and placement testing for depth).

The Importance of Vocabulary in English Foreign Language (EFL).

According to Nurmanova and Komiljonova (2024) determine that vocabulary directly affects language use in all senses: reading, writing, listening, and speaking. Vocabulary is a key element in the acquisition of a second foreign language (L2), as it is the means of communication, and without it, language skills cannot be acquired; in this case, English. A strong vocabulary is the key to reading comprehension and also represents enormous benefits for listening comprehension, speaking, and writing. By accumulating a large vocabulary, language learners are able to comprehend written materials, as well as follow oral communications and write and speak clearly and powerfully. Research indicates that a large vocabulary is one of the most important factors in the overall picture of a learner's language skills and academic performance. This is because comprehension improves as the learner acquires the meaning of words in context; with better comprehension comes more effective communication overall. And then there is the role of words in confidence and motivation.

Mukhta, Ali, and Amal (2023) lie that focusing on vocabulary learning in the EFL context sounds reasonable. Not only that, it turns out that this same technique works and covers all areas of language proficiency, such as reading comprehension, phonological decoding, phonemic awareness, pronunciation, and ultimately, fluency. It is not an exaggeration, but a bitter truth that a large vocabulary is a must for EFL users. "Think of the somewhat paradoxical observation that, although language is based on grammar, it is the lexicon that forms its substance." Wilkins (1972) says that little can be transmitted without grammar, nothing without vocabulary. For learners, vocabulary is very important.

When reading a new lexical item, the student experiences a cognitive problem, which makes it difficult to understand texts. It's hard to guess the meaning of new words, and grammatical rules don't help with individual words. Therefore, reading becomes very difficult.

Vocabulary Breadth.

According to Chen (2020), vocabulary learning is complex and multidimensional. Knowing the two sides of vocabulary learning, he takes into account Anderson and Freebody's (1983) research that considers vocabulary breadth as the total number of words a learner knows. However, they do not precisely define what counts as “knowing a word well enough” to count the word as “known.” This concept encompasses that there is more than just receptive vocabulary, which is how productive vocabulary words are used, all the words that a learner is able to use in speaking or writing or other forms of contribution. However, it also covers words that students assimilate through listening or reading. Researchers stress the importance of vocabulary because the need for a large vocabulary to learn any language is essential, stressing also that a good vocabulary is necessary for communication and comprehension. Learners with a broad knowledge of the foreign language vocabulary they have acquired over time tend to understand a wide variety of complex and non-complex texts and can express themselves more easily and quickly.

According to Anderson and Freebody (1983) also noted that tests of vocabulary breadth are available on tests in order to determine how many words a student can recognize or define. From there, they indicate similarly, their results make it clear that they support a positive correlation between vocabulary breadth and reading comprehension. That is, students who have a large vocabulary across multiple topics are able to quickly comprehend complex texts. That is, the range of vocabulary learners have, but it is also important that they know in which situations they can use them to better understand and develop the language in a more fluent and natural way.

Vocabulary Depth

Anderson and Freebody (1983) in their same research also note that vocabulary depth can be assessed in terms of an individual's performance on a series of tests designed to measure the extent to which the learner can recognize or produce words. They find that vocabulary breadth and reading comprehension are positively related (students with

larger vocabularies are better readers). After all, while vocabulary breadth is critical, students need to deepen their understanding of how words work in different contexts; all of which leads to vocabulary depth.

In Wang and Zhang's (2025) research defined depth is defined as the degree of comprehension of a word beyond its basic definition and having different meanings depending on its contexts. Their study analyzed the relationship between vocabulary knowledge and reading comprehension of Chinese high school students, as well as the manifestations of vocabulary depth and breadth over time. It was observed that vocabulary breadth was more predictive in 10th and 11th grades, while vocabulary depth was increasingly important in higher grades. These results indicate that the relationship between vocabulary growth and reading comprehension is not strictly linear over the time children spend in school.

Breadth vs. Depth of Vocabulary Knowledge

Teng, Mizumoto, and Takeuchi (2024) studied the nature of the links between growth mindset and self-controlled vocabulary acquisition. And they mentioned that vocabulary knowledge can be classified into breadth and depth. Breadth refers to the number of words an individual possesses, even if his understanding is superficial. Depth, on the other hand, refers to how well a person knows a word, including its various meanings, uses, and relationships to other words. They employed the Vocabulary Size Test (VST), by Nation and Beglar (2007), a test known for its reliability and consistency in determining the degree of vocabulary knowledge. In this study, the top 10,000-word families were used and participants completed a 100-item test (each item assessed knowledge of one word). This measure reflects understanding of both form and meaning, and the results suggest that learners with a wide range of vocabulary, along with a deep and rich vocabulary, outperform those with a narrow range of high-frequency vocabulary.

Receptive and Productive Vocabulary

Receptive Vocabulary

Webb (2005) defines receptive vocabulary as those words that learners can recognize and understand in either written or spoken texts when they see or hear them, for example, when reading or listening to a passage. Even though students will understand what these words mean when they are implied in context, they may not use them yet in productive language skills (Nagy, Anderson, & Herman, 1987). The process of learning

receptive vocabulary typically involves exposure to the word through a definition or example sentence and listening/pronunciation work rather than using the word in speech.

Burhanuddin, Ahmad, Said & Asimiran (2019) show that listening is more than just hearing words; it means processing spoken language to understand the spoken message. Receptive vocabulary is useful in helping learners understand both spoken and written language, even if learners have not yet incorporated those words into their language production. This is confirmed by a study by Grabe & Stoller (2019) investigating the incidental acquisition of word meanings through reading. In the present study, 352 third, fifth and seventh grade students worked with expository and narrative texts from their stored grade-level textbooks. Six days after the readings, their comprehension of difficult words was assessed. Significant gains in word knowledge were observed across courses at each skill level. In terms of text features, the ratio of 'difficult' (conceptually unknown) words to the average word length was found to have the greatest influence on the learning trajectory.

Productive Vocabulary

Webb & Webb (2020) define productive vocabulary as a learner's ability to use words in speech and writing. Unlike with the receptive lexicon, productive second language vocabulary knowledge requires not only understanding of the meaning of a word, but also knowledge to spell and pronounce it, and know how to use it in context. This level of lexical control enables learners to express their ideas, feelings, and thoughts clearly and in such a way that is readily understood.

Webb (2005) adds that productive lexis is a lexis that one keeps the form and meaning of for the correct usage in producing communication. He makes a distinction between two types of productive vocabulary: "controlled productive vocabulary" (those that learners could produce if prompted or cued) and "free productive vocabulary" (which consists of words that learners are able to produce on their own in writing and speaking, e.g., in a free-writing exercise or during a spontaneous conversation). "Receptive Vocabulary is the total number of English words that an individual can understand through reading in both their spoken and written forms" (Durgut, 2022). So, a child's receptive vocabulary is something like a master decoder set of skills that allow the child to hear a word and to know the word's spelling, sound, and form as well as what it means as part of what she hears or what she is reading. In contrast, productive (or active)

vocabulary is our use of a word without having to stop and think about it when we write or when we speak.

Lexical Knowledge: Form, Meaning, and Use.

According to Nation (2001), it's a really advanced piece, more than just meaning a word. It has (1) form, (2) meaning, and (3) use. Form includes the phonic and graphic representation of a word (pronunciation and spelling), as well as morphosyntactic factors such as prefixation or affixation. These attributes assist learners in remembering and using the word correctly. The comprehension part is the ability to understand that a word has multiple meanings or is used in different contexts; what ideas it is attached to and how it compares in meaning with everything we already know and understand; it has the ability to estimate and perceive subtle shades of meaning in words.

Nation (2001) refers to the kind of pattern a word forms in the language and how it is used in sentences, what other parts of speech it might be, what kind of verb forms it can make, what kind of words it is often associated with, how much formality/respect this word needs in different situations, etc. Learners need to master these linguistic components in order to understand texts and express themselves effectively, especially in English as a foreign language (EFL), where learners struggle to learn how to decode lexical input. It is therefore the part of the lexicon that should be considered essential not only for receptive skills (reading and listening) but also for productive skills (writing and speaking).

The Vocabulary Size Hypothesis

Nation (2001) and his theorizing of the vocabulary size hypothesis suggests that having a larger vocabulary is directly related to better language processing, as well as more effective learning and greater overall linguistic competence. This implies that people who know more words not only have a larger number of words, but also have more robust and accessible mental representations of those words, enabling them to use language more quickly and effectively. This model supports the idea that when learners expand their vocabulary, they are more likely to be able to comprehend texts with more complicated language that they can interpret and respond to. This argument is supported by the work of Paul Nation, who suggests the importance of vocabulary breadth in reading comprehension. In his book *Learning Vocabulary in Another Language* (2001), Nation stresses that vocabulary knowledge is a prerequisite for good comprehension. That is,

“learners can use new information in combination with their prior knowledge if they have adequate vocabulary to comprehend texts” (Nation, 2001).

Likewise, Nation (2001) states that comprehension is more than knowing words: it is the ability to notice and use words in context. He also reports that readers vary in the size of their vocabulary and that readers with a large vocabulary will, in general, be able to guess meaning from context and, consequently, will have good comprehension of a text (Nation, 2001). This article underscores the idea that vocabulary size is essential for skillful and effective reading. In short, the vocabulary size hypothesis, according to which larger vocabulary size is related to better text comprehension, is supported by empirical evidence from studies by Paul Nation, who argues that the range of words one can use to comprehend texts is of paramount importance.

Vocabulary Size Test (VST).

The Vocabulary Span Test, which focuses primarily on receptive written vocabulary, helps assess knowledge of the words in a language. It is designed to assess the receptive written vocabulary of learners of English, whether as a first or second language. It examines the students familiarity with written word forms, the relationship between form and meaning, and, to a lesser extent, their understanding of word concepts. Although the test primarily assesses vocabulary in isolation, each word is accompanied by a short, non-defining sentence. Following the framework established by Read (2013), this test is a discrete-choice tool that employs a multiple-choice format and is available in both monolingual and bilingual versions, covering vocabulary up to the 1,000-word level. For each question, participants select the correct definition or translation of a word from four provided options. The test is available in both print and digital formats.

Although words are presented in short example sentences, the assessment largely treats vocabulary as a stand-alone skill, separate from everyday language application. At the item level, it assesses receptive knowledge of individual written words, while at the global level, it estimates the learner's total vocabulary, focusing only on single words and excluding proper nouns. The 140-item test is effective because of its broad coverage of various frequency levels, incorporating a significant number of items. Research by Vu & Peters (2021) indicates the importance of including all levels of the test, as certain words from lower frequency levels may still be recognized for various reasons that were constituted by Nguyen and Nation in 2011. These could include their status as loanwords

or cognates, their relevance to the learners' personal interests or hobbies, their use as technical terms in familiar fields, or simply due to chance familiarity.

Reading Comprehension

The researchers Hassan and Dweik (2021) highlight, reading is an intellectual endeavor, and its main objective is to develop textual comprehension through language. Reading is an interactive process that arises from the relationship between the reader and the text, which generates meaning and helps identify key ideas. Comprehension is the ultimate goal of reading and is achieved through the organization of key ideas and other analytical strategies that facilitate interpretation. Furthermore, reading requires the activation of prior knowledge, inferences, and critical reflection on the material, allowing reading to be used as an active process that employs reasoning and comprehension, rather than a passive act.

According to Bruggink et al (2022), reading is one of the main skills and also a determining factor in learning a foreign language, so teachers of English should focus on the development of this skill. Reading comprehension is a skill that plays an important role in today's foreign language learning. Learners or readers who lack vocabulary cannot achieve a deep understanding of a reading, which does not allow them to cope with challenges in everyday life. This also affects the handling of information and the acquisition of new knowledge.

Also, they included that reading comprehension is a vital skill today, especially should one desires to study other languages. Media students who are lacking in their vocabulary may find it very difficult to comprehend even the most basic ideas in a text, which can cause problems at every turn. As for picking up and putting away new information, that too is restricted by one's lack of words at hand. True reading comprehension skills are needed to interpret and analyze written texts. This means not just decoding the words as they come to you, but actively making sense of what they say, dragging up previously known terms, and inserting new information only if it fits in thus producing a comprehensible whole.

Kendeou et al. (2020) explored the cognitive processes involved in reading comprehension, emphasizing how these two key factors, working degrade and previous knowledge, came into play. Prior knowledge, in this context, is the vocabulary that abounds when a person interprets and analyze texts. One major impediment to effective

reading comprehension is that readers lack a sufficient background knowledge of vocabulary.

Extensive Reading

As Hidayat and Rohati (2020) mention, an idea derived from Palmer (1968) states that extensive reading simply consists of reading as much as possible, without worrying about the details of meaning or unfamiliar words. Generally, for pleasure and to improve overall reading ability, extensive reading (EL) is a language learning technique that emphasizes reading large amounts of material. This could be interpreted as meaning that extensive reading involves immersing oneself in a large amount of material for genuine understanding and enjoyment, rather than for detailed study or intensive analysis. Palmer noted that this type of reading makes reading easier and more enjoyable.

They also prove to be instructive of how students often immerse themselves in reading a wide variety of easy but meaningful texts without much detailed analysis, simply for their own enjoyment. In a quantitative quasi-experimental study, they compared two classes: one that had adopted extensive reading and the other that had sought to adhere to traditional methods. By conducting pre- and post-tests and analyzing the results using SPSS 20 software (Chicago, IL, USA), they found that students in the extensive reading class improved their comprehension scores by a wide margin compared to their peers without any teacher intervention.

Intensive Reading

On the other hand, Taembo (2023) suggests Renandya and Jacobs's (1997) idea and states that intensive reading is a process of deep immersion in short texts with the help of a teacher; one reads in detail, paying attention to every detail and the nuances of the language. This process includes analyzing vocabulary, grammar, textual connectives, and reasoning. Students typically calmly read many words (sentences) and check unfamiliar words against the analyzed words using an inspection dictionary, and answer the teacher's assurance questions. It is also common for reading speed to gradually decrease during intensive reading, as comprehension often prevails over speed. That is truly what intensive reading is: a detailed and disciplined exercise that gives students the tools to understand and reinforces the basics of their language.

Syntactic Processes in Comprehension

According to Liu and Ni (2024) recently conducted a fascinating study that reveals how language comprehension, word meaning, and sentence structure are interconnected, rather than sequential. Their research points out that parsing is the mental activity that unravels the grammatical composition of sentences in order to grasp their meaning. This involves recognizing how words and linguistic constructions are linked, thereby developing a hierarchical outline of the sentence. This suggests that our brains continually balance both the meaning of words and their organization, emphasizing that understanding language is a dynamic process where meaning and structure are always in dialogue. This introduces a hidden grammatical framework that determines how easily we grasp content. The study reveals that by initially addressing grammar, we do not interfere with context or our knowledge of the real world. Instead, we are guided by the fundamental rules of grammar.

Relationship Between Vocabulary Knowledge and Reading Comprehension.

According to Zhang and Zhang (2022) they mentioned that the relationship between vocabulary knowledge and reading comprehension is, for better or worse, robustly reciprocal. “Language vocabulary has a strong influence on morphological analysis” (Asaad & Shabdin, 2021), basically say that the more words a person knows (his vocabulary), the better he can figure out what new words mean by breaking them down into smaller parts, a rich lexicon greatly contributes to readers’ decompounding of words and comprehension of the meaning of words in context, with important implications for text comprehension.

On the other hand, reading comprehension refers to the growth of vocabulary, where readers are exposed to different words in certain contexts. From their large-scale meta-analysis involving over 100 studies with close to 21,000 learners, they found that there is a moderate to strong association between vocabulary knowledge (VK) and second language (L2) reading and listening comprehension. Specifically, knowledge of meanings was most directly related to reading comprehension, whereas knowledge of word forms was more highly related to listening comprehension. The studies also suggested that vocabulary depth namely, word associations and word formation—was reliably related to both reading and listening comprehension for L2 learners. Furthermore, the vocabulary test modality (orthographic for reading and aural for listening comprehension) also influenced the patterning of such correlations. Zhang and Zhang (2022) found that the

strength of this association could be affected by variables such as the linguistic distance between the learner's L1 and their L2, and the way in which vocabulary was measured.

Reading Comprehension Test (RCT)

Worldwide, the International English Testing System (IELTS) is an international standardized test (IST) of English language proficiency (ELP), jointly administered by Cambridge English Language Assessment and the British Council. Researchers consider it essential because the IELTS is one of the most important English language tests in the world. Furthermore, it is accepted by most academic institutions in English-speaking countries and various professional organizations worldwide. It is also considered a requirement for immigration to English-speaking countries.

The Academic Reading section of the IELTS exam consists of three reading passages with a total of 40 questions spread across a wide variety of reading comprehension Exercises (RCE), including multiple-choice, paragraph matching, and others. The RCT lasts one hour and consists of three passages. The total word count in each passage is between 2,400 and 2,600 words. The Academic Reading sections include two or three exercises. According to Day & Bamford et al (1998), authors who advocate extensive reading as an effective approach to language acquisition implicitly support the idea that reading longer texts, between 2,400 and 2,600 words, is beneficial for language learners. They also emphasize that extensive reading involves reading a large amount of material at a comfortable level of comprehension, either for pleasure or for general comprehension, without frequently stopping to look up words. Furthermore, texts of this length, because they are carefully graded according to difficulty, allow students to practice sustained reading, consolidate vocabulary, and improve reading speed and fluency.

Common European Framework of Reference for Languages (CEFR)

Abidin and Hashim (2021) point out that the CEFR, which stands for the Common European Framework of Reference, was created by the Council of Europe to provide a structured way to describe and assess language proficiency. This framework outlines six levels of language ability, ranging from A1 for beginners all the way up to C2 for those who have truly mastered the language in all its forms—reading, writing, listening, and speaking. Mohamed (2022) argues that the CEFR was designed to standardize the instruction of students learning English as a foreign language. Mountains of Education of

Malaysia, however, teachers face many challenges here, including inadequate understanding and training related to the CEFR and the inclusion of inappropriate materials in textbooks. A principle as important as Plurilingualism, inherent to the CEFR, has also been conveyed gradually and somewhat incidentally in educational programs.

In terms of a multilingual and multicultural context in Malaysia, there is much room for ESL learners to benefit from PL, provided that teachers are ready for training and exposure. Indeed, the implementation of a plurilingual perspective to the curriculum may go some way to supporting teachers in its embodiment. With its impact on curriculum planning, learning and teaching resourcing, and assessment shaping, the position the CEFR occupies in the field of language education is pivotal. Teachers rely on CEFR levels to establish focused, attainable learning objectives for their students. Many language exams and certificates have set their scores according to CEFR levels, enabling a dozen organizations worldwide to outsource language exams. Schools and universities also use the CEFR to determine the level of language courses, and for companies to decide on the language skills of a potential employee.

The use of the CEFR creates one common language for describing language proficiency and so promotes coherence and fairness in the teaching and testing of languages across the globe. It provides teachers with an organized plan for developing personalized lessons that meet the needs of their students, and helps students to see where they have been and where they are in their learning. Secondly, the CEFR promotes mobility, due to the fact that qualifications are transferable in many countries, and it facilitates individual learners by determining what a learner can (and cannot) do at each level.

7. Methodology.

Research approach

This study employs a quantitative approach to assess vocabulary knowledge and its impact on reading comprehension among English students in the first cycle of the PINE career at the Technical University of Cotopaxi. This approach facilitates the collection and careful analysis of data, such as vocabulary knowledge level and reading comprehension level, and the comparative analysis between the two variables. Also, the collected data will be analyzed and presented in percentage form. According to Creswell and Creswell (2017), this method is effective for identifying cause-and-effect

relationships through careful measurement and observation. It involves testing theories using various research strategies and collecting data with reliable tools that yield statistical information.

Research Method

The research employs a descriptive design to assess the level of vocabulary knowledge in reading comprehension among English as a foreign language student in the first cycle of the PINE career at the Technical University of Cotopaxi. The two variables obtained are expressed without any manipulation. This helps the research to be truthful and reliable. Siedlecki (2020) says that the purpose of the descriptive design is to describe samples without manipulating any variables, exploring multiple or a single variable, analyzing one or two characteristics of a population to identify the problems within the population.

Research Context

The study initially included 53 students from the first cycle of PINE at the Technical University of Cotopaxi. However, this number later changed to only 35 students. The researchers intentionally excluded 11 students because they were repeating the cycle, meaning that they had prior knowledge that could have affected the results. In addition, 3 students were absent on the day of the test due to health problems and were on medical leave. In addition, 4 students dropped out of English before the instruments were administered. This careful exclusion process ensured that the data were pure and true, with no prior knowledge influencing the participants. By focusing in this way, the research aims for a clearer understanding of the difficulties faced by first-semester students. To assess two areas, we used two tests: a Vocabulary Size Test (VST) to measure how many words they knew, and the International English Language Testing System (IELTS) Reading Comprehension Test (RCT) to check their reading level.

Data Collection Procedure

The instrument used in the present study is the Vocabulary Size Test created by Nation and Beglar (2007). The Vocabulary Size Test has several versions that are adapted, ranging from physical to digital tests. There is a version that includes one that evaluates vocabulary of up to 20,000 word families. But for the study, the researchers selected a version that accommodates up to 14,000 word families, consists of 140 multiple-choice

questions, with 10 questions corresponding to each 1,000-word family, which is recommended as standard for beginner learners. The vocabulary size to calculate the total number of known words uses the formula that states the result is multiplied by 100 to obtain each word family. This instrument was used because it is recommended by many researchers and linguists. It effectively measures a person's total vocabulary knowledge, rather than limiting itself to measuring competence with specific sets of words. It includes words of different frequency levels, ranging from very common words to more advanced ones like scientific terms, ensuring a comprehensive representation of vocabulary. And to measure the frequency of the vocabulary, we use the levels of the British National Corpus.

One advantage of employing a multiple choice format for the vocabulary test is that it is generally more accessible for test takers compared to a fill in the blank format. This choice reflects the test creators' aim to maximize the credit awarded for what learners know, even if their knowledge is incomplete. The design allows for educated guesses based on intuition. However, due to the limited number of words from each frequency level, the test may not accurately reflect the individual knowledge at each level. Therefore, the overall score is the most critical measure, rather than the scores for individual levels, and it is perfectly acceptable for participants to score lower on the more difficult and less common word levels.

The second instrument used in this study was the Reading Comprehension Test (RCT) published by the International English Language Testing System (IELTS). According to Ludewig et al (2023), they used this instrument to investigate how different frequency levels of vocabulary knowledge (high-, mid, and low-frequency word ranges) predict L2 reading comprehension among Arab tertiary-level learners of English. Hartono & Prima (2021) used the same instrument to measure Indonesian university students' receptive vocabulary knowledge and measure their reading comprehension level to investigate the association between the two variables. For this reason, the instrument (RCT) was used in the present research. The researchers selected three IELTS Reading exercises: 1, 2, and 3. In each reading part, the participants have 20 minutes to analyze and answer the questions; in all passages, the participants have 1 hour to complete the three passages. At the end of the test, the answer sheet was collected and tabulated in Excel to conduct a discussion and analysis.

8. Analysis and Discussion of Results

The Vocabulary Size Test (VST) Analysis

In this research, the Vocabulary Size Test (VST) by Nation and Beglar (2007) is a standardized tool created to assess the receptive written vocabulary of an English learner. It is suitable for both those who speak their native language (L1) and those who are speakers of a second language (L2), and it assesses how many word families a person can understand in different reading contexts.

Instrument validation

The Vocabulary Size Test (VST), developed by Nation and Beglar in 2007, has become a standard tool for measuring receptive vocabulary knowledge. The instrument, which covers 14,000 levels, is the one by Nation & Beglar (2007), and its reliability and validity have been consistently confirmed in the field of vocabulary assessment, making it an appropriate and reliable resource for evaluating students' vocabulary size. The researchers chose the Vocabulary Size Test for this research due to its wide recognition and solid reliability in numerous previous studies that aim to measure receptive vocabulary knowledge.

Several studies, notably those carried out by Gökcan and Aktan (2022), Carcamo (2022), and Matsuo (2022), demonstrate the accuracy and consistency of the Vocabulary Size Test across different groups of students. The instrument is based on the frequency list of the established sets from the British National Corpus, which is suitable for students of both the first and second languages. A simple and effective reverse solution for different frequency levels. This function increases its usefulness for evaluating vocabulary expansion in the academic context.

Test administration

The assessment was implemented through Google Forms, which provided a flexible and structured environment. The participants had 45 minutes to complete the test. The teacher's permission was obtained, which allowed the evaluation to be conducted as scheduled. The use of Google Forms significantly reduced the possibility of participants changing answers or engaging in unfair practices, thereby contributing to a more accurate assessment of their understanding. Before starting the test, the researcher provided detailed instructions on how to access the form and described this process. Participants

were informed that they could ask questions before beginning the test; however, as soon as they started, they had to complete it without taking a break.

Process for analyzing the number of correct answers on the Vocabulary size test (VST).

The vocabulary Size test (VST) used in this study is measured through a student's written English dictionary, using 14,000 words that contain 140 multiple-choice questions. LE (2024) used that each set of 10 questions is a frequency belt of 1,000 words based on the Bauer and National Corpus (1993) to establish high-tech words in the field of obstetrics and gynecology (OB&G), the words of the United Kingdom National Army. Thus, a score of 35 out of 140 indicates that the student has a vocabulary of 3,500 word families. No adjustments should be made for guessing. Applying such corrections would bias the measurement of vocabulary size, since each word assessed corresponds to 100 or 200 words. It is essential to assume that students do not guess randomly. However, it is important to interpret the final scores keeping in mind that, due to the partial sensitivity of the test and the absence of a correction for guessing, the estimated vocabulary size may be somewhat inflated. The researchers referenced Coxhead's study (2000), which indicates that the percentages for each group of word families exceed 100%. Specifically, the part that contains the most popular word is 71.4% of 100%, while in 2000, the most popular words introduced 4.7% more. The Academic Word List (AWL) represents 10% of the vocabulary used in academic documents. Another vocabulary is 13.9%, translated as 4.63% for each part corresponding to the 3000, 4000, and 5000 word families.

Figure 1.

Formula to get the percentage of 1000 more frequent words

$$\text{Percentage (1000)} = \frac{(\# \text{ Correct answers} * 74.1)}{24}$$

Note: the formula was used to get the percentage in the section of the 1000 more frequent words for each participant.

Students' English level Calculus Vocabulary size test (VST).

The next step is to assess the level, and for this, the Common European Framework (CEFR) of Reference for Languages was used, which highlights three important aspects: Learning, Teaching, and Assessment. This framework classifies

language skills into six different levels: A1, A2, B1, B2, C1, and C2. It covers various scales, one of which refers to reading comprehension. After calculating the total percentage of Section 1, which covers frequently used words, we need to create a lexical competence for each student using academic vocabulary according to the table below: to determine what students should do to increase their vocabulary expansion, Figure 2.

Figure 2.

Percentages and range of answers to get the CEFR English level.

Level	1000 word family lists	Learning procedures
High frequency	1000-2000	Reading graded readers Deliberate teaching and learning
Mid-frequency	3000-9000	Reading mid-frequency readers Deliberate learning
Low frequency	10,000 on	Wide reading Specialised study of a subject area

Note: Milton J and T. Alexiou (2009), Vocabulary size and the Common European Framework of Reference in Languages.

Table Components

The Common European Framework (CEFR) Level is a consolidated system that classifies language proficiency into six different levels: A1, A2, B1, B2, C1, and C2. In this study, an adapted table was created that focuses only on three specific levels: A1, A2, and B1, which correspond to the language skills of beginners at intermediate stages. VST Points: This section describes the evaluation area of the Vocabulary Size Test (VST), which corresponds to each CEFR level. For example, the score ranges from 120 to 140 points at the B1 level, while the score varies from 0 to 69 points.

Dictionary size (x100): this column transforms the VST indicators into an assessment of vocabulary size, represented by the total number of known words (multiplied by 100). For example, B1 levels are associated with a vocabulary of approximately 12,000 to 14,000 words, while A1 levels reflect a vocabulary of 6,900 or fewer. Dictionary level: dictionary knowledge is classified into three levels: high, medium, and low. The B1 level is called "high," which reflects a stable vocabulary that is suitable for daily conversations and some academic discussions. The A2 level is called "intermediate," which indicates a practical vocabulary for communication. On the contrary, level A1 is called "low," which means a limited vocabulary knowledge, mainly too much basic interaction.

Interpretation of the Table

High Level (B1): Students who score between 120 and 140 points on the VST, with a vocabulary of between 12,000 and 14,000 words, demonstrate a good command of English. They are usually able to participate in conversations, understand the main ideas of texts, and express their ideas in familiar contexts.

Medium Level (A2): Students achieving scores between 70 and 119 points, with a vocabulary size of 7,000 to 11,900 words, have a functional vocabulary that enables them to manage simple communication tasks. They can understand and utilize basic phrases and expressions related to personal information and daily necessities.

Low Level (A1): Students with a score between 0 and 69 points, with a vocabulary of 6900 words or less, have a very limited vocabulary. They may have difficulty communicating in a basic way and understanding simple texts, often resorting to memorized phrases.

This table effectively correlates vocabulary size, as assessed by the Vocabulary Size Test, with CEFR levels, offering educators and learners a clear perspective on language proficiency. It serves as a useful resource for assessing vocabulary knowledge and guiding language instruction, helping to identify areas that need improvement and setting appropriate learning objectives.

Table 1.

English level according to the CEFR for the vocabulary size test.

CEFR English level	VST Points	Vocabulary size test (x100)	Vocabulary level
B1	140 - 120	14,000 - 12,000	High level
A2	119 - 70	11,900 - 7,000	Medium level
A1	69 - 0	6,900 - 000	low level

Note: The researchers constructed the table Percentages and range of answers to get the CEFR English level based on the calculus by Porras (2019).

The Reading Comprehension Test (RCT) Analysis

The analysis of reading comprehension was carried out on the same sample of 35 first-cycle students from the first cycle of PINE career, but now by applying a Reading Comprehension Test (RCT). According to Peña & Luque (2021), in higher education, reading comprehension allows for the integration of knowledge that facilitates the

training process and the successful handling of academic and personal situations. The test was strategically selected so that its difficulty level corresponded to the participants' average English proficiency score obtained through the VST (VST) and the expected level of English for their degree program (B2). Based on this data, an intermediate reading comprehension test (A1-B2) was administered.

The test was taken from the academic reading comprehension section of the International English Language Testing System (IELTS) exam, with three sections. Only the first three sections were considered, so these sections correspond to the participant's English proficiency level. The first section measures literal comprehension and, to a lesser extent, inferential comprehension and the identification of specific information using multiple-choice questions, as shown in Figure 3.

Figure 3.

RCT. Part 1: Specific information using multiple-choice questions

Cambridge IELTS
IELTS Reading Exercise 1
Do the following statements agree with the information given in the reading passage? Choose either True, False, or Not Stated if there is no information on this in the reading passage.

Record Number of Americans Give Up Citizenship
It's a highly coveted passport that represents freedom and opportunity to millions of people worldwide, yet more Americans than ever are renouncing their U.S. citizenship. A record number of Americans - 1,337 - relinquished their passports in the first three months of 2015, according to the U.S. government. That's up 18 percent from last year at this time, according to an analysis by Bloomberg News, and nearly 40 percent of the total 3,615 Americans who gave up their passports in 2014. "It was a gut-wrenching experience that I do not think I will ever be over," former American Ruth Freeborn told Reason.com. Freeborn says she is an average, stay-at-home mother who married a Canadian man and moved to Canada to help care for his elderly parents. She blames the Foreign Account Tax Compliance Act (FATCA) for forcing her into a decision she didn't want to make. FATCA, which was enacted by Congress in 2010, was designed to target rich Americans who use foreign accounts to avoid paying U.S. taxes, but it impacts expatriates at all income levels. FATCA requires that foreign financial institutions report financial accounts held by U.S. taxpayers to the Internal Revenue Service (IRS), the U.S. government agency responsible for tax collection. The United States taxes its citizens on all income, regardless of where it is earned or where a person lives. This can lead to complicated and time-consuming paperwork that some expatriates complain has been made even more burdensome by FATCA. "The cost of compliance with the complex tax treatment of non-resident U.S. citizens and the potential penalties I face for incorrect filings and for holding non-U.S. securities forces me to consider whether it would be more advantageous to give up my U.S. citizenship," Stephanos Orestis, a American living in Norway, wrote in a March 23 letter to the Senate Finance Committee. "The thought of doing so is highly distressing for me since I am a born and bred American with a love for my country. More than 7 million Americans live abroad, according to the IRS. Many of those who have chosen to renounce their citizenship have limited ties to the United States. Some were born here but have lived elsewhere their entire lives. Anyone born in the U.S. automatically receives citizenship, as do people born abroad to American parents. Eduardo Saverin, the Brazilian-born billionaire co-founder of Facebook, trimmed his tax bill when he relinquished his U.S. citizenship in 2012. "I am obligated to, and will pay hundreds of millions of dollars in taxes to the U.S. government," said Saverin in a statement at the time. "I have paid and will continue to pay any taxes due on everything I earned while a U.S. citizen." As Saverin learned, giving up U.S. citizenship doesn't come cheap. There's the \$2,350 renunciation fee and an exit tax that can climb into the millions of dollars. But some who have renounced have found there's an emotional cost to giving up U.S. citizenship, which often goes to the core of Americans' identity. American-born Patricia Moon, who lives in Canada, renounced her citizenship not long after FATCA was enacted. "I was terrified we'd lose all our money," Moon, who became a Canadian citizen in 2008, told the Guardian. But the decision to give up her American passport wasn't an easy one. "It was like coming off my right arm." Source: PCMag.com

1. There was a lot of support for the FATCA legislation at the time.
 - True
 - False
 - Not stated
2. All US citizens have to pay taxes to the IRS.
 - True
 - False
 - Not stated
3. The co-founder of Facebook cut his tax bill by giving up US citizenship.
 - True
 - False
 - Not stated

Note: Extracts from the RCT part 1. The content of the text was retrieved from

IELTSBritishcouncil.com

The second part contains three questions, scored out of a total of 3 points, with 1 point for each correct answer. This part of the RCT, as the second part, contains three short texts with questions, as shown in Figure 4.

Figure 4.

RCT. Part 2: Contains three short texts with questions

Cambridge IELTS

IELTS Reading Exercise 2

The reading passage has three paragraphs. Choose the correct heading for paragraphs A-C from the list of headings. Write the correct number.

1. Random Tests
2. Tilt Compensation
3. Repeating History
4. Lean Reduction
5. Model Method

Tilting Tower Of Pisa

A

One of the world's most famous buildings, the Leaning Tower of Pisa, has recently reopened after ten years of closure, and later in the year, tourists will once again be allowed to climb the ancient monument. The free-standing bell tower of Pisa Cathedral started leaning to the south as soon as building started. As it was completed in stages over nearly 200 years, the builders compensated for the tilt by bending the tower as it went up. The problem was that the soft sand and clay under its foundations were compressed by the tower's weight. Over the centuries, it leaned more and more, and in 1990 it had to be closed to tourists. Professor John Burland of Imperial College, London, who supervised the stabilisation work, says it was near to collapse: "We can't say when it would have gone, because that would have been a random event like an earthquake or a storm, but we knew we hadn't got long; we knew we had to do something very quickly."

B

Previous efforts to slow the progress of the tilt had failed to help; in fact some had even accelerated it. The committee appointed by the city of Pisa to plan a rescue considered several options, including pumping water out of the sand, and weighing down the ground on the northern side, opposite the lean. But tests on a concrete model of the Leaning Tower suggested that the best method would be to dig out small amounts of earth from boreholes drilled at an angle under the northern side. Instruments measured the results to the millimetre, as Professor Burland guided the operation by fax from his London office: "We had 41 drill holes going in under the tower over its full width. On any one day we would perhaps operate from four of them at the most, and each day we extracted a maximum of 100 litres, which is really just a few bucketfuls."

C

Professor Burland and the team were well aware that, while allowing the tower to collapse would have been a disaster, straightening it too far would have done Pisa's tourist industry no good either; few visitors would come to see a Vertical Tower of Pisa. But he's satisfied that the drilling has gone just far enough: "We've reduced the lean by about 10%; the tower was leaning about four-and-a-half metres near the top. It's now leaning just a little bit over four metres, which is enough to stabilise the tower, but not enough for a tourist to look at it and say, "Ah! They've reduced the lean". It's not visible." The Leaning Tower is now stable; even if it were to return to its former rate of tilt, it should survive another 300 years before more action is needed and from November onwards, tourists will once again be allowed to look down from its overhanging eighth storey.

Paragraph A

Paragraph B

Paragraph C

Note: Extracts from the RCT part 2. The content of the text was retrieved from

IELTSBritishcouncil.com

The last section contains 5 questions of Select True, False, or No. If not indicated, each question is equivalent to a score of 5 points, with the following literals shown in Figure 5.

Figure 5.

RCT. Part 3: Select True, False, or No, if not indicated.

Professor Burland and the team were well aware that, while allowing the tower to collapse would have been a disaster, straightening it too far would have done Pisa's tourist industry no good either; few visitors would come to see a Vertical Tower of Pisa. But he's satisfied that the drilling has gone just far enough: "We've reduced the lean by about 10%; the tower was leaning about four-and-a-half metres near the top. It's now leaning just a little bit over four meters, which is enough to stabilize the tower, but not enough for a tourist to look at it and say, "Ah! They've reduced the lean". It's not visible." The Leaning Tower is now stable; even if it were to return to its former rate of tilt, it should survive another 300 years before more action is needed, and from November onwards, tourists will once again be allowed to look down from its overhanging eighth storey.

Source: bbc.co.uk

1. The tower's closure has been expensive for the city of Pisa.
 - True
 - False
 - Not stated
2. By 1990, the tower could have collapsed at any time.
 - True
 - False
 - Not stated
3. Some of the previous attempts at slowing the lean rate had had the opposite effect.
 - True
 - False
 - Not stated
4. The tower leans towards the north.
 - True
 - False
 - Not stated

Note: Extracts from the RCT part 3. The content of the text was retrieved from

IELTSBritishcouncil.com

To obtain the total score of the reading comprehension test (RCT), the researchers sum the total number of students' hits of each section, respectively, over 30 points. Following Figure 6 below.

Figure 6.

Formula to get the total score of RCT

Student 1	Score (Reading Section 1) + Score (Reading Section 2) + Score (Reading Section 3)	Total	Total *100%/14	CEFR Level
	14			

Note: This was the formula used by the researchers to get the total score of each participant in the RCT. British Council (2021). How to score in IELTS.

Through this formula, the researchers were able to obtain the English proficiency level according to the CEFR. So, Table 4 below was used to identify each participant's level.

Table 2.

Percentages and range of answers to get the CEFR English level

CEFR English Level	RCT range of correct answers	Results
A1	Less than 6	< (42.86%)
A1 Plus	7p, 8p, 9p, 10p 11p	(50%) - (57.14%) - (64.29%) - (71.42%) - (78.57%)
A2	12p, 13p, 14p	(85.71%) - (92.85%) - (100%)

Note: This table was developed by the researchers to show percentages and range to get the CERF English level.

Table 2 shows a clear description of how the student's English proficiency level was classified according to the CEFR, regarding the RCT score. The first criterion in the diagram, "CEFR English Level," shows the different CEFR levels required for the test, with A1 being the lowest, A1Plus being the medium, and the highest score being A1. The second criterion, "RCT Range of Correct Answers," shows the total number of correct answers achieved by participants in the test. Finally, the third criterion, "Results," is presented. The scores are detailed in percentages. According to IELTS, based on the

CEFR, if a student scores 6 out of 14 points, they can be considered at the CEFR A1 English level. Thus, if a participant scores less than 6 points, which in percentage terms is equivalent to <42.86%, they are placed at the CEFR A1 level. Similarly, if a participant achieves between 7 and 11 points (50%, 57.14%, 64.29%, 71.42%, and 78.57%), they are considered to have reached CEFR level A1 plus. Finally, those who obtain between 12 and 14 points (85.71%, 92.85%, and 100%, respectively) are placed at CEFR level A2.

Analysis of results

The results of the data analysis are presented to answer the research objective, which was to analyze the level of vocabulary knowledge and its influence on reading comprehension in EFL of the first cycle of the PINE career. The data were analyzed based on the Vocabulary Size test (VST) and Reading Comprehension Test (RCT).

Results gathered from the Vocabulary Size Test (VST)

The analysis of the application of the Vocabulary Size Test (VST) on a sample of 35 students of the first semester of English showed the following results reflected in Table 3.

Table 3.

Vocabulary Level Test Results

NUMBER OF STUDENTS	PUNCTUATION (Raw Score (out of 140))	Vocabulary size test (x100)	HIGH	MEDIUM	LOW
STUDENT 1	37	3700			x
STUDENT 2	58	5800			x
STUDENT 3	79	7900		x	
STUDENT 4	45	4500			x
STUDENT 5	28	2800			x
STUDENT 6	57	5700			x
STUDENT 7	48	4800			x
STUDENT 8	19	1900			x
STUDENT 9	52	5200			x
STUDENT 10	56	5600			x
STUDENT 11	21	2100			x
STUDENT 12	63	6300			x
STUDENT 13	49	4900			x
STUDENT 14	78	7800		x	
STUDENT 15	37	3700			x
STUDENT 16	78	7800		x	
STUDENT 17	52	5200			x
STUDENT 18	42	4200			x
STUDENT 19	46	4600			x

STUDENT 20	31	3100		x	
STUDENT 21	39	3900		x	
STUDENT 22	34	3400		x	
STUDENT 23	45	4500		x	
STUDENT 24	64	6400		x	
STUDENT 25	47	4700		x	
STUDENT 26	67	6700		x	
STUDENT 27	63	6300		x	
STUDENT 28	31	3100		x	
STUDENT 29	37	3700		x	
STUDENT 30	102	10200	x		
STUDENT 31	34	3400		x	
STUDENT 32	64	6400		x	
STUDENT 33	17	1700		x	
STUDENT 34	46	4600		x	
STUDENT 35	77	7700	x		
TOTAL	35		0	5	30

Note: The design of this table was developed by Romero (2021) and adapted by the researchers to the purpose of this study, using the percentages and range of answers to get the CEFR English level, which shows the result obtained in the VST.

Table 4.

English level according to the CEFR for the vocabulary size test.

Vocabulary Size Test				
CEFR English level	Level	Rating Scale	Students	Percentage
B1	High	140 - 120	0	0,00%
A2	Medium	119 - 70	5	14.29%
A1	Low	69 - 0	30	85.71%
Total			35	100,00%

Note: The design of this table was developed by Romero (2021) and adapted by the researchers for this study.

The results of the vocabulary test (version 14,000) revealed that, among the 35 participants, the majority of first-semester English learners fell into the low vocabulary range. Specifically, 30 students (85.71%) scored between 4,000 and 6,999 word families, corresponding to an A1 proficiency level according to the CEFR standards. These students are likely to understand most of the 2,000–3,000 most frequently used word families, which cover essential vocabulary for both academic and general texts. According to Laufer (1992), Nation (2001), and Schmitt et al. (2015) highlight that familiarity with 3000 word families is a crucial parameter for effective reading comprehension and practical application of language in both receptive and productive

contexts. This helps to understand that to have good reading comprehension, students should have more than 3000 word families.

Conversely, only 5 participants (14.29%) were identified at the medium vocabulary level, scoring between 7,000 and 11,900 word families. This indicates that these learners possess a more extensive vocabulary, enabling them to engage with a wider array of academic and general texts. Nevertheless, this vocabulary level still does not meet the requirements for higher academic achievement, as outlined by the CEFR for B1 proficiency.

Importantly, no participants (0.00%) reached a high vocabulary level, which is generally associated with knowledge of over 12,000-word families. This level corresponds to B2-C1 proficiency and is essential for understanding non-simplified materials such as newspapers and academic journals.

These results suggest that a significant 85.71% of students, categorized at the lower level, may benefit from focused vocabulary instruction to attain the vocabulary size necessary for academic success. So, students at lower levels need to enhance their knowledge of not only high-frequency vocabulary but also medium-frequency and specialized academic terms to improve their reading comprehension. Therefore, it is advisable that future instructional strategies incorporate the reinforcement of vocabulary learning techniques and the introduction of more specialized vocabulary to assist these learners in their academic pursuits. The group's mean score is 58.9 points, while the mode, representing the most frequently occurring score, is 37 points. The range, which indicates the difference between the highest and lowest scores, is calculated as $102 - 19 = 83$ points. These statistics illustrate considerable variability in student scores, with most students clustering around the middle range.

Results gathered from the Reading Comprehension Test (RCT)

Once the reading comprehension test (RTC) was applied and the students' responses were analyzed, the researchers obtained the following results. The researchers obtained the following results, tabulated in Table 5 below.

Table 5.

Results of Reading Comprehension Test

Number of Participants	Reading Section	Reading Section 2. (3 points)	Reading Section 3 (5 points)	Score	Percentage
				14/14	100%

1. (6
points)

Student 1	3	1	4	8	57,14
Student 2	2	0	2	4	28,57
Student 3	3	1	1	5	35,71
Student 4	4	2	1	7	50,00
Student 5	3	1	1	5	35,71
Student 6	3	2	2	7	50,00
Student 7	2	2	1	5	35,71
Student 8	3	3	2	8	57,14
Student 9	1	3	2	6	42,86
Student 10	5	1	2	8	57,14
Student 11	2	1	2	5	35,71
Student 12	2	1	2	5	35,71
Student 13	1	3	1	5	35,71
Student 14	3	0	3	6	42,86
Student 15	3	2	1	6	42,86
Student 16	3	1	0	4	28,57
Student 17	2	3	2	7	50,00
Student 18	2	0	1	3	21,43
Student 19	1	1	4	6	42,86
Student 20	3	1	1	5	35,71
Student 21	3	3	2	8	57,14
Student 22	3	3	0	6	42,86
Student 23	3	2	1	6	42,86
Student 24	3	1	1	5	35,71
Student 25	2	0	2	4	28,57
Student 26	6	0	2	8	57,14
Student 27	2	1	2	5	35,71
Student 28	5	2	2	9	64,29

Student 29	0	2	3	5	35,71
Student 30	2	2	2	6	42,86
Student 31	1	0	2	3	21,43
Student 32	2	1	4	7	50,00
Student 33	1	1	1	3	21,43
Student 34	5	0	2	7	50,00
Student 35	2	1	1	4	28,57

Note: This table was developed by the researchers to show the results obtained in the RCT.

The analysis shows a general performance on the reading comprehension test (RCT) administered to the 35 PINE program participants. The researchers obtained the following results, tabulated in Table 6 below.

Table 6.

English level according to the CEFR for the reading comprehension test.

Reading Comprehension Test				
Level	CEFR Level	Rating Scale	Students	Percentage
High	A2	14 - 12	0	0,00%
Medium	A1 Plus	11 - 7	11	31,43%
Low	A1	6 - 0	24	68,57%
Total			35	100,00%

Note: This table was developed by the researchers to show the general results obtained in the RCT.

The table presents the results of a reading comprehension test administered to a sample of 35 university students, classifying them into different reading proficiency levels that correlate with the Common European Framework of Reference for Languages (CEFR). The data reveal a significant concentration of students at the most basic levels of reading comprehension, suggesting a considerable challenge in mastering English for academic purposes.

The analysis of the distribution of students by level is particularly revealing. The overwhelming majority of the student population falls into the "Low" level, which corresponds to the A1 English level. Specifically, 24 of the 35 students tested (68.57%) fall into this category. This level, while indicating that students have surpassed the

absolute starting point (Pre-A1), is still considered fundamental. This implies that their ability to understand English texts is limited to simple sentences and familiar situations, which is notoriously insufficient for reading university academic material, which often requires understanding complex concepts, specialized vocabulary, and advanced grammatical structures.

At the "Medium" level, corresponding to the A1 Plus CEFR level, are 31.43% of students, or 11 of the 35 assessed. These students have a basic understanding, but are still limited to very simple everyday expressions and basic personal information. The combination of these two groups (A1 Plus and A1) means that 100% of the 35 students are at basic levels of reading comprehension. This underscores the critical need for intervention and language support so they can effectively access academic information in English.

A particularly striking finding is the complete absence of students at the "High" level, which is associated with the A2 level of English. The table indicates 0 students (0.00%) in this category. An A2 level, while still basic, represents an ability to understand frequently used sentences and expressions related to areas of immediate relevance. The lack of students reaching this higher level within the basic range suggests a widespread deficiency in fundamental English skills, even those that would allow students to handle slightly more complex reading tasks.

Regarding the "Rating Scale" column, the numbers (14, 12 for High; 11, 7 for Medium; 6, 0 for Low) appear to indicate the scoring ranges or criteria used to classify students at each level. For example, a student with a maximum performance of 6 points or less would be classified as "Low" (A1 Plus), while a performance between 7 and 11 points would place them in "Medium" (A1). The absence of students at the "High" level (A2) could imply that none of them achieved the required scores for this level (which the table suggests are above 11, possibly as high as 14). However, the exact interpretation of both sub-columns of the "Rating Scale" would require a more detailed description of the test's scoring methodology.

In summary, the results of this reading comprehension test reveal a student population with very limited English skills, predominantly at levels A1 and A1 Plus, with a notable lack of students reaching even the upper basic level (A2). This situation raises important implications for curriculum design, English language teaching, and academic support within the university institution, highlighting the urgent need for language

reinforcement programs to improve students' ability to understand academic material in English.

Comparative analysis of vocabulary knowledge and Reading Comprehension based on the results of VST and RCT.

Once the data are obtained from applying the two research instruments, an attempt is made to compare the results of the VST and the RCT. This comparison is shown in Table 7.

Table 7.

Results from (VST) and (RCT).

Participant	VST Results	CEFR level	RCT Results	CEFR Level
Participant 1	37	A1	57,14	A1 Plus
Participant 2	58	A1	28,57	A1
Participant 3	79	A2	35,71	A1
Participant 4	45	A1	50	A1 Plus
Participant 5	28	A1	35,71	A1
Participant 6	57	A1	50	A1 Plus
Participant 7	48	A1	35,71	A1
Participant 8	19	A1	57,14	A1 plus
Participant 9	52	A1	42,86	A1
Participant 10	56	A1	57,14	A1 Plus
Participant 11	21	A1	35,71	A1
Participant 12	63	A1	35,71	A1
Participant 13	49	A1	35,71	A1
Participant 14	78	A2	42,86	A1
Participant 15	37	A1	42,86	A1
Participant 16	78	A2	28,57	A1
Participant 17	52	A1	50	A1 Plus
Participant 18	42	A1	21,43	A1
Participant 19	46	A1	42,86	A1
Participant 20	31	A1	35,71	A1
Participant 21	39	A1	57,14	A1 Plus
Participant 22	34	A1	42,86	A1
Participant 23	45	A1	42,86	A1
Participant 24	64	A1	35,71	A1

Participant 25	47	A1	28,57	A1
Participant 26	67	A1	57,14	A1 Plus
Participant 27	63	A1	35,71	A1
Participant 28	31	A1	64,29	A1 Plus
Participant 29	37	A1	35,71	A1
Participant 30	102	A2	42,86	A1
Participant 31	34	A1	21,43	A1
Participant 32	64	A1	50	A1 Plus
Participant 33	17	A1	21,43	A1
Participant 34	46	A1	50	A1 Plus
Participant 35	77	A2	28,57	A1
Average	49,8	A1	41,02	A1

Note: This table was designed by researchers to show the comparison between the results from VST and RCT

In terms of percentages, the researchers show the result of the VST was an average of 49.8% for all participants, which is equivalent to the A1 CEFR level, meaning most participants master the families of 4900 more frequent words. On the other hand, the results from the (RCT) for all participants were 41.02%, corresponding to the A1 CEFR level. The findings show that 100% of the entire sample scored lower on the VST, and almost the majority of students also scored low on the RCT. In a previous study developed by Berrones and Palate (2022), they found similar results since the participants did not score as high on NVLT as they expected. The overall proficiency rate for level A2 is 71.40% - 86.9% compared to 0% for A1, and the cut-off score for level A1 is 71.4%. Likewise, Berrones and Palate found that “the vocabulary in participants was an average of 83.6%, which is equivalent to the A2 CEFR level, which means that most students master the families of 2000 and 3000 more frequent words” (p. 42).

Taking into account the results from both tests, the researchers assume that the participants can recognize the meaning of a word in isolation, which is word by word, rather than understanding the word in context. In their study, Escandary et al (2024) state that it’s common for English learners to understand the meaning word by word, whether there is a polysemy or a homonym in a sentence, but this highlights that understanding a word within a broader context with words with multiple meanings (polysemy) or homonyms can be a significant obstacle. Therefore, it seems logical that most of the

participants in this study understand the meaning of words much better from their form (polysemy or homonymy) than from understanding them in a given text.

With this in mind, the researchers begin to analyze the study's two variables, vocabulary knowledge and reading comprehension, based on the results of the VST and RCT instruments. The analysis focuses on determining whether the high or low vocabulary knowledge of 35 first-year university English students is related to their high or low level of reading comprehension.

It is important to emphasize that the results of the first variable, Vocabulary knowledge, show an A1 level. Furthermore, the reading comprehension test was designed so that the level of complexity covers the level of difficulty at which the participants are and covers the average English level obtained through the VST (A1). The researchers' analysis consists of determining whether the low vocabulary level of the participants would affect their reading comprehension of academic texts, following these two premises: Berrones and Palate (2022)

- Premise 1 (P1): If the participants get a high English level in the RCT despite their low English level in the NVLT, then the Vocabulary knowledge does not influence their reading comprehension of academic text.
- Premise 2 (P2): If the participants get a low English level in the RCT as their English level in the NVLT, then Vocabulary knowledge influences their reading comprehension of academic text. (p.43)

Based on the results from *Table 1* and *Table 3* from the VST and RCT, the researchers determined that the participants' case fulfills *P2*, since the low vocabulary level did affect the participants' reading comprehension, to the point that their reading comprehension level was equal to their average vocabulary level.

Through this analysis, the researchers were able to answer the research question, "What is the effect of vocabulary level on the reading comprehension of first-semester PINE students at the Technical University of Cotopaxi?" To this, the researchers concluded that the vocabulary level of the participants is low. And also establish that the low level of vocabulary influences and negatively affects their reading comprehension of academic texts such as textbooks.

9. Research Impacts

Educational impact

This research demonstrates that vocabulary knowledge is a key predictor of reading comprehension, especially in the early stages of academic training. Focusing on first-semester PINE students, the study highlights the need to recognize and correct vocabulary limitations before students advance to advanced levels, where these skills become more difficult to develop. Early analysis of these skills helps teachers make informed decisions about curriculum modifications, reinforce vocabulary instruction, and utilize more effective reading techniques.

From an educational perspective, this research focuses on more vocabulary focused teaching techniques, which benefit both teachers and students. By helping students understand their vocabulary and reading comprehension levels, it also fosters their independence. This means it fosters greater motivation and responsibility for personal development. The results contribute to progress not only in improved academic performance, but also in the overall quality of English language teaching and, of course, in producing future English language teachers who are more confident, better communicators, and better prepared to participate in meaningful educational and social settings over time.

10. Conclusions and Recommendations

Conclusion

According to the first specific objective proposed, to examine the theoretical foundations of vocabulary knowledge in reading comprehension in EFL, it is concluded that there are multiple precise and readable investigations of academic works that provide significant information about the study variables (Vocabulary Knowledge and Reading Comprehension). Regarding the first variable, vocabulary knowledge, several researchers affirm that vocabulary plays an important role, since without vocabulary, there will be no linguistic comprehension. About reading comprehension, the reading skills of a language student are essential, because reading skills encourage critical thinking and help define ideas in a reading text.

Based on the results of the instruments applied to the level of vocabulary knowledge and reading comprehension in English as a foreign language conclude that students have a low level of vocabulary knowledge. This is because students do not have the frequency of words that, should know to have successful reading comprehension,

according to Nation's Hypothesis. Similarly, the results of reading comprehension were low; this could be influenced by the student's lack of reading habits.

Finally, by meticulously comparing the percentages derived from the Vocabulary Size Test (VST) and the Reading Comprehension Test (RCT), it became evident that low vocabulary level indeed negatively affected students' reading comprehension. This observation suggests a direct and significant relationship: students who demonstrated limited vocabulary knowledge had difficulty comprehending the academic texts presented in the comprehension test. Consequently, these findings strongly support the idea that a substantial vocabulary is crucial for effective reading. Therefore, the evidence gathered corroborates the principle that if a student possesses a large and robust vocabulary, this linguistic advantage will inevitably be reflected in their solid and successful reading comprehension performance.

Recommendations

This research proposes using this valuable source to significantly improve university students' understanding of linguistics within the National and Foreign Language Pedagogy curriculum. It's crucial because it will help both teachers and students understand the vital role vocabulary plays in effective reading comprehension.

Based on the low vocabulary level results, the researchers suggest focusing on vocabulary instruction, especially during the first semester. To develop good reading habits and expand vocabulary for better comprehension, English learners should be encouraged to read short passages. This approach can be complemented with various activities and methodologies. Teachers could implement vocabulary notebooks or digital applications for active word learning, use contextualized vocabulary exercises where students infer the meaning of the surrounding text, and regularly review high-frequency word lists. Furthermore, to encourage reading habits and natural vocabulary acquisition, it is proposed to establish a reading club at the university, providing an enabling environment for students to read diverse texts, discuss new words, and expand their vocabulary in a meaningful context.

Finally, the researchers recommend that future researchers expand the number of participants. Alternatively, it would also be beneficial to compare participants from classes across different academic semesters. This would provide a much broader and more

comprehensive perspective on the findings, thereby contributing to the improvement of methodologies and strategies within the PINE program.

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