



**TECHNICAL UNIVERSITY OF COTOPAXI**

**UNDERGRADUATE PROGRAM**

**DEPARTMENT OF NATIONAL AND FOREIGN LANGUAGE PEDAGOGY  
ENGLISH MAJOR**

**MODALITY: RESEARCH REPORT**

**THEME:**

**VOCABULARY KNOWLEDGE IN THE COMPREHENSION OF ACADEMIC TEXTS IN EFL LEARNERS AT  
THE TECHNICAL UNIVERSITY OF COTOPAXI**

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

**Authors:**

Berrones Cevallos Dylan Vinicio  
Palate Colcha Carlos David

**Tutor:**

Tovar Viera Rodrigo Vicente, MSc.

**PUJILI - ECUADOR  
2022**

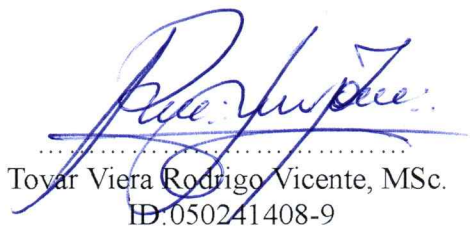
## TUTOR'S ENDORSEMENT

In my capacity as a supervisor of the research report entitled "VOCABULARY KNOWLEDGE IN THE COMPREHENSION OF ACADEMIC TEXTS IN EFL LEARNERS AT THE TECHNICAL UNIVERSITY OF COTOPAXI", and researched by Berrones Cevallos Dylan Vinicio & Palate Colcha Carlos David, ID number 172732937-5 & 172648752-1, 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, 2022



Tovar Viera Rodrigo Vicente, MSc.  
ID:050241408-9

## COMMITTEE APPROVAL

The research report entitled "VOCABULARY KNOWLEDGE IN THE COMPREHENSION OF ACADEMIC TEXTS IN EFL LEARNERS AT THE TECHNICAL UNIVERSITY OF COTOPAXI.", 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.

Pujili August, 2022



Abata Checa Fanny Mercedes, MSc  
ID: 050227874-0  
Committee president



Arias Arroyo Paulina Alexandra, PhD.  
ID: 050221209-5  
Committee, Member 1

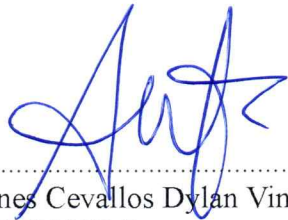


Cando Guanoluisa Fabiola Soledad, MSc.  
ID: 050288460-4  
Committee, Member 2


**COPYRIGHT REFUSE**

We, Berrones Cevallos Dylan Vinicio & Palate Colcha Carlos David confer the rights of this undergraduate research report and authorize its total reproduction or part of it, as long as it is under the regulations of the Technical University of Cotopaxi.

Pujili August, 2022



.....  
Berrones Cevallos Dylan Vinicio  
ID: 172732937-5



.....  
Palate Colcha Carlos David  
ID: 172648752-1

## **GRATEFULNESS**

*First of all, we express our most sincere gratitude to God for providing us health and life, for guiding us to get to where we are now. For giving us the necessary wisdom to successfully complete our professional development stage. Also, to our beloved Technical University of Cotopaxi and all the professors that make it up for having received us with warmth and forging in us values of both knowledge and humanity. To our dear tutor, PhD. Rodrigo Tovar, for having been more than a teacher, for being a great friend since he has wisely helped us during the development of this investigative work. Finally, we thank our families who have given us their unconditional support from our beginnings until today.*

*Thank you infinitely, our success is because of all of you.*

*Dylan & Carlos*

## **DEDICATION**

*With huge satisfaction and full of joy, I dedicate this research work to my parents, Marisol and Vinicio for always relying and motivating me during my studies. They have been my best and hard moments. I love them unconditionally. To my siblings, Alex, Cesar, Emilio, Nicolas, and Yuli who are an important part of my life and always stay with me. To my grandfather Carlos for encouraging and instilling me with good values to be a good human being and never giving up. To my grandmother Edelina for encouraging me and not letting me drop out when I couldn't find the strength to continue. To my brothers of another blood Erick and Kevin for being with me through thick and thin, for those unforgettable moments full of happiness. To my friends, Carlos, Lesly, and Israel for being part of my life and for this bond of true friendship that we have built during this period. To my girlfriend Silvia for supporting and motivating me in this hard stage, and being always my confidant in the good and bad times. To my dear teachers, Fabiola, Rodrigo, Sonia, Paulina, Marcia, Tania, Mercedes, Jose Ignacio, Jorge Luis, Jessica and Marcia for providing me with new knowledge and boosting me to continue working hard to reach my goals.*

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

*Dylan*

## **DEDICATION**

*With huge satisfaction, full of thankfulness, I dedicate this research work to my family and some friends. A special feeling of gratitude to my darling parents, Juan and Alexandra because they have supported me during my studies. To my siblings, Kathy and Pablo, and my nieces Valentina & Samantha for always relying on my capacity and motivating me to complete my university career. To my uncle Edgar, whom I will remember all my life and with whom I would have also liked to share this special moment. To my friends Dylan, Silvia and Lesly for being patient with me and for their effort and help when I needed them. Thanks for all those amazing moments together. To my teachers Rodrigo, Sonia, Marcia, Gina, Fabiola, Paulina and Mercedes for being an example of effort and perseverance to continue working hard to achieve my goals. All of you have been my best.*

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

*Carlos*

**TECHNICAL UNIVERSITY OF COTOPAXI**  
**UNDERGRADUATE PROGRAM**  
**DEPARTMENT OF NATIONAL AND FOREIGN LANGUAGE PEDAGOGY**  
**ENGLISH MAJOR**

**THEME:** VOCABULARY KNOWLEDGE IN THE COMPREHENSION OF ACADEMIC TEXTS IN EFL LEARNERS AT THE TECHNICAL UNIVERSITY OF COTOPAXI.

**Authors:** Berrones Cevallos Dylan Vinicio & Palate Colcha Carlos David

**Tutor:** MSc.Tovar Viera Rodrigo Vicente

**ABSTRACT**

Vocabulary Knowledge is more than just word recognition, it plays a fundamental role in reading comprehension, as it helps students understand the meaning of written texts and improve their mastery of all English skills. Therefore, this study aims to analyze the size of the vocabulary and the readability of reading comprehension of academic texts in pre-service English teachers in the seventh term at the Technical University of Cotopaxi. The method used was quantitative. In addition, it has a non-experimental, descriptive, and cross-sectional design. The participants were 40 pre-service English teachers of the seventh-cycle, class "A" at the Technical University of Cotopaxi, of which 22 students worked as a representative sample of the entire population. The instruments to collect data used in the study were the McLean & Kramer's (2015) New Vocabulary Level test (NVLT) and a Reading Comprehension Test (RCT) constructed by the researchers which was adapted to the research settings and validated by experts in the linguistics field. The results show that the size of vocabulary knowledge of these students is low compared to the level they are expected to have according to the curriculum of the Pedagogy of National and Foreign Languages major at UTC. In addition, their low vocabulary size might negatively influence their reading comprehension of academic texts.

**Keywords:** Vocabulary knowledge, Reading comprehension, Academic texts



**TECHNICAL UNIVERSITY OF COTOPAXI**

**UNDERGRADUATE PROGRAM**

**DEPARTMENT OF NATIONAL AND FOREIGN LANGUAGE PEDAGOGY**

**ENGLISH MAJOR**

**TÍTULO:** CONOCIMIENTO DE VOCABULARIO EN LA COMPRESIÓN DE TEXTOS ACADÉMICOS EN ALUMNOS DE EFL EN LA UNIVERSIDAD TÉCNICA DE COTOPAXI

**Authors:** Berrones Cevallos Dylan Vinicio & Palate Colcha Carlos David

**Tutor:** MSc. Tovar Viera Rodrigo Vicente

**RESUMEN**

El conocimiento de vocabulario es más que un simple reconocimiento de palabras, juega un papel fundamental en la comprensión de lectura, ya que ayuda a los estudiantes a comprender el significado de los textos escritos y mejorar su dominio de todas las habilidades en inglés. Por lo tanto, este estudio tiene como objetivo analizar el tamaño del vocabulario y la legibilidad de la comprensión lectora de textos académicos en futuros profesores de inglés del séptimo período de la Universidad Técnica de Cotopaxi. El método utilizado fue cuantitativo. Además, tiene un diseño no experimental, descriptivo y transversal. Los participantes fueron 40 futuros profesores de inglés del séptimo ciclo, clase “A” de la Universidad Técnica de Cotopaxi, de los cuales trabajaron 22 estudiantes como muestra representativa de toda la población. Los instrumentos de recolección de datos utilizados en el estudio fueron el New Vocabulary Level test (NVL) de McLean & Kramer (2015) y un Test de Comprensión Lectora (RCT) diseñado por los investigadores, adaptado a los escenarios de investigación y validado por expertos en el campo de la lingüística. Los resultados muestran que el tamaño del conocimiento de vocabulario de estos estudiantes es bajo en comparación con el nivel que se espera que tengan según el plan de estudios de la carrera de Pedagogía de Lenguas Nacionales y Extranjeras de la UTC. Además, su bajo tamaño de vocabulario podría influir negativamente en su comprensión lectora de textos académicos.

**Palabras claves:** Conocimiento de Vocabulario, Comprensión Lectora, Textos Academicos.

## INDEX

COVER PAGE	i
TUTOR'S ENDORSEMENT	ii
COMMITTEE APPROVAL	iii
COPYRIGHT REFUSE	iv
GRATEFULNESS	v
BERRONES DEDICATION	vi
PALATE DEDICATION	vii
ABSTRACT	viii
RESUMEN	ix
1. GENERAL INFORMATION	1
2. PROBLEM STATEMENT	2
3. OBJECTIVES	3
3.1 MAIN OBJECTIVE	3
3.2 SPECIFIC OBJECTIVES	3
4. ACTIVITIES AND TASK SYSTEM IN RELATION TO THE OBJECTIVES PROPOSED	3
5. JUSTIFICATION	5
6. SCIENTIFIC AND TECHNICAL FOUNDATION	6
6.1 BACKGROUND	6
6.2 THEORETICAL FRAMEWORK	7
LEXICAL RICHNESS	7
Type Token Ratio (TTR)	8
LEXICAL ÍNDICES	8
Lexical Density (LD)	9
Lexical Sophistication (LS)	10
Academic Word List (AWL)	11
LEXICAL SPACE DIMENSIONS	12
Vocabulary breadth size	12
Vocabulary size test (VST)	13
Vocabulary level test (VLT)	13
New Vocabulary Level Test (NVLT)	14
Vocabulary depth	15

Fluency	15
VOCABULARY KNOWLEDGE	16
Receptive and Productive Vocabulary Knowledge	16
Lexical Knowledge: Form, Meaning and Use	17
READING COMPREHENSION	17
Extensive and Intensive Reading	18
Reading Comprehension Strategies	18
Vocabulary Learning Strategies	19
LEVELS OF PROCESSING IN READING COMPREHENSION	19
Vocabulary Richness	20
Active Vocabulary	21
Passive Vocabulary	21
Reading Comprehension Test (RCT)	21
Common European Framework of Reference for Languages (CEFR)	22
Reliability and Validity Reading Test	23
Types of assessment, tests, and examinations	23
Reading Comprehension of Academic Texts	24
7. METHODOLOGY	24
7.1 Approach and design	24
7.2 Participants	24
7.3 Research Instruments	25
New Vocabulary Level Test (NVLTL)	25
Reading Comprehension test (RCT)	26
Instrument validation procedure	26
RCT Pilot test	27
Test administration	27
7.4 Data Analysis	28
Process for analyzing the number of correct answers on the NVLT	28
Students' English level Calculus NVLT	30
Reading Comprehension Test Analysis	31
8. ANALYSIS AND DISCUSSION OF RESULTS	35
Results gathered from the New Vocabulary Level Test (NVLTL)	35
Results gathered from the Reading Comprehension Test (RCT)	38
Comparative Analysis of Vocabulary Knowledge and Reading comprehension based on the results from NVLT and RCT	40
9. RESEARCH IMPACTS	43
10. CONCLUSIONS AND RECOMMENDATIONS	44

Conclusions	44
Recommendations	45
11. REFERENCES	46
12. APPENDICES	60
Appendix 1. Vocabulary Level Test (VLT)	60
Appendix 2. Reading Comprehension Test (RCT)	68
Appendix 3. Experts' validation reports	74
Appendix 4. Excerpts about readings used to create the vocabulary test	82

## UNDERGRADUATE DEGREE WORK STRUCTURE

### 1. GENERAL INFORMATION

**Theme:**

Vocabulary Knowledge In The Comprehension Of Academic Texts in EFL Learners At  
The Technical University Of Cotopaxi.

**Starting Date:**

April 2022

**Ending Date:**

August 2022

**Place of Research:**

Technical University of Cotopaxi

**Sponsoring Faculty:**

Pujili Campus.

**Sponsoring career:**

National and Foreign Language Pedagogy

**Linked Research Project (Macro project of the career):**

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

**Work Team:**

Tovar Viera Rodrigo Vicente, MSc; 050241408-9

Berrones Cevallos Dylan Vinicio; 172732937-5

Palate Colcha Carlos David, 172648752-1

**Knowledge area:**

Education setting (professional development of the English teacher in training)

**Research line:**

Education, communication and design for human development and Social.

**Research line of the career (if applicable):**

Language, Linguistics and Culture.

**Keywords:** Vocabulary Knowledge - Reading Comprehension - Academic writing - Academic words- vocabulary size.

## 2. PROBLEM STATEMENT

The theme of the present study, Vocabulary knowledge in the comprehension of academic texts, focuses on providing meaningful information about the importance of vocabulary when reading a text in English and much more if the text has an academic style. Zhang and Anual (2008) point out that “little is known about how students' vocabulary size could affect their reading comprehension” (p.51). This is the case of the Pedagogy of the National and Foreign languages major at the Technical University of Cotopaxi since little is known about the level of vocabulary knowledge that pre-service English teachers are reaching at the last levels of their career, and how it affects their reading comprehension. The Technical University of Cotopaxi in its curriculum points out that at the seventh cycle of their career, pre-service English teachers should have reached a B1.3 level of English. This study examines whether the objective of this major regarding vocabulary knowledge and reading comprehension is being achieved in 22 pre-service English teachers in the seventh term corresponding to the April - August 2022 academic period from the UTC.

One of the causes of this problem might be the irregular and little effectiveness of the virtual learning process that pre-service English teachers faced during the Covid-19 pandemic since “emergency online teaching and learning of English mainly created challenges due to the internet connection problems and students' access to a computer or smart phones” (Erarslan, 2021, p. 349). Studying this problem results relevant since it will allow PINE faculty to evaluate to what extent the career is reaching the goals stated in its curriculum regards vocabulary knowledge and reading comprehension skills. On the other hand, if this problem were not studied, the educational process was not assessed somehow so that it can be corrected or adjusted if necessary. The relevance of studying this problem in the English Language Teaching field lies in the fact that it will provide this subject with the necessary information in order to understand the incidence of vocabulary knowledge in the comprehension of texts. In order to achieve this objective, the research question of this project is: **What is the vocabulary size and reading comprehension level of academic texts in the pre-service English teachers from the seventh cycle at the Technical University of Cotopaxi?**

### 3. OBJECTIVES

#### 3.1 MAIN OBJECTIVE

To analyze the vocabulary size and reading comprehension level of academic texts in the pre-service English teachers from the seventh cycle at the Technical University of Cotopaxi

#### 3.2 SPECIFIC OBJECTIVES

- To examine information from relevant academic sources about vocabulary size and reading comprehension of academic texts.
- To identify the degree of Vocabulary size in pre-service English teachers from the seventh cycle at the Technical University of Cotopaxi.
- To determine the reading comprehension level of academic texts in pre-service English teachers from the seventh cycle at the Technical University of Cotopaxi.
- To compare the level of vocabulary knowledge and reading comprehension of students.

### 4. ACTIVITIES AND TASK SYSTEM IN RELATION TO THE OBJECTIVES

#### PROPOSED

Specific objective	Activities	Verification Means
<p>To examine information from relevant academic sources about vocabulary size and reading comprehension of academic texts.</p>	<ul style="list-style-type: none"> <li>● To examine accurate and reliable sources of studies related to the epistemic foundation.</li> <li>● To structure the theoretical framework by organizing the variables that explain the problem under study.</li> <li>● To cite meaningful research and authors to enrich the theoretical framework.</li> </ul>	<p><b>Scientific and technical foundation</b></p> <ul style="list-style-type: none"> <li>● Background</li> <li>● Theoretical Framework</li> </ul>

<ul style="list-style-type: none"> <li>● To identify the degree of Vocabulary size in pre-service English teachers from the seventh cycle at the Technical University of Cotopaxi.</li> </ul>	<ul style="list-style-type: none"> <li>● To select the participants who will be enrolled in this study.</li> <li>● To adapt the NVLT into google forms platform.</li> <li>● To apply the NVLT.</li> </ul>	<ul style="list-style-type: none"> <li>● NVLT Table of students' results (See Table. 1)</li> <li>● NVLT (See. Appendix 1)</li> </ul>
<ul style="list-style-type: none"> <li>● To determine the reading comprehension level of academic texts in seventh cycle pre-service teachers at the Technical University of Cotopaxi.</li> </ul>	<ul style="list-style-type: none"> <li>● To construct the reading comprehension test (RCT).</li> <li>● To set parameters for measuring readability in reading comprehension.</li> <li>● To validate the RCT by experts.</li> <li>● To run a pilot test of RCT for two eighth-cycle students with outstanding averages.</li> <li>● Apply RCT</li> </ul>	<ul style="list-style-type: none"> <li>● Expert validation form.</li> <li>● RCT Table of students' results</li> <li>● CEFR Level of English tables</li> </ul>
<ul style="list-style-type: none"> <li>● To compare the level of vocabulary knowledge and reading comprehension of students.</li> </ul>	<ul style="list-style-type: none"> <li>● To tabulate the scores by using charts.</li> <li>● To analyze the statistical data statistically</li> <li>● To present the students' results obtained.</li> </ul>	<p>Analysis and Discussion Of Results 8.3</p>



## 5. JUSTIFICATION

Starting from the fact that English language learners struggle with vocabulary since they begin their educational career with much lower vocabulary skills compared to their first language (Brooks et al, 2021). This is one of the main reasons college students have difficulty understanding English textbooks (Huang, as cited in Yu-han & Wen-ying, 2015). In addition to that, many students consider learning vocabulary a complex process that takes a long time to master because “vocabulary-learning is challenging, particularly, for the nonnative speakers of English who face problems relating to the meanings of new words, spelling, pronunciation, correct use of words, guessing meaning through the context and so on” (Afzal, 2019, p. 83). In this sense, analyzing vocabulary knowledge and reading comprehension level of academic texts in the seventh cycle of pre-service English teachers at the Technical University of Cotopaxi as in this study, results are highly significant in order to understand this phenomenon in the Ecuadorian context. This study provides relevant information that will contribute to the enrichment of the scientific literature and serve as an instrument for improving the pedagogical processes and the scientific knowledge when training new English teachers. The phenomenon was addressed through the use of research instruments which were useful to measure the vocabulary students’ level and their comprehension of them in academic texts. In this study, NVLT and RCT were applied, this last one was constructed by the researchers and adapted to the research environment. It was also validated by experts in the linguistics field. This research is the continuation of a master's degree project carried out at the Technical University of Cotopaxi by Romero in 2021 about the importance of vocabulary knowledge when producing academic texts. Based on the significant results that Romero’s study offered on the importance of vocabulary in writing in English, the present study shows the importance of lexicon, but this time in reading comprehension. The data this study reveals can generate an impact so that similar studies continue being carried out in order to show the importance of vocabulary in the other linguistic skills that an English language learner must master, that is, Listening and Speaking.

## **6. SCIENTIFIC AND TECHNICAL FOUNDATION**

### **6.1 BACKGROUND**

Abouzeid (2018) conducted a study aimed at evaluating the effectiveness of one Intensive English Program (IEP) at an English medium university in Lebanon through the construct of vocabulary size. He used an experimental type of quantitative research with 100 English as a Foreign Language (EFL) learners enrolled in an Intensive English Program (IEP). Pre and Post instruction using the New Vocabulary Levels test (NVLT) were the instruments used in this study. Results revealed that across the NVLT's 6 receptive vocabulary lists (1000, 2000, 3000, 4000, and 5000 most frequent words in addition to the Academic Word List), students showed a statistically significant improvement on the post-test ( $p=0.000 < 0.05$ ), endorsing the effectiveness of IEP in a foreign language context in enhancing students' receptive vocabulary size. This study concludes with practical implications for EFL IEP teachers and syllabus designers.

Al-Khasawneh (2009) conducted a study aimed to determine the role of vocabulary size in reading comprehension among Saudi EFL learners. He used a non-experimental type of quantitative research with 64 freshmen students enrolled in the Department of English language at King Khalid University, Abha, Saudi Arabia. Both the Vocabulary Size Test developed by (Schmitt et al) and the reading comprehension test taken from the TOEFL preparation manual were used to collect the necessary data for the study. The main findings revealed that the overall vocabulary size of Saudi EFL learners was 2025 word families. This amount helps students to comprehend 90% of written texts as pointed out by many researchers in this field. The results also showed a significant relationship between vocabulary size and reading comprehension. In conclusion, vocabulary knowledge is an important predictor of comprehending written texts.

Anjomshoa & Zamanian (2014) conducted a study aimed to determine the relationship between vocabulary knowledge and reading comprehension among students studying English at Azad University of Kerman. They used a correlational study with 81 Iranian EFL undergraduate students of English between 19 and 21 years old. A questionnaire, Vocabulary Level Test (VLT), and Reading Comprehension Subtest (TOEFL-RBC) were used to collect data for this study. The main findings showed a significant positive relationship between vocabulary knowledge and reading comprehension. The findings suggest that giving awareness of vocabulary knowledge to the students along with making them conscious of their ability gives them a broader sense of the

depth of reading comprehension texts and improves their reading ability. In conclusion, there was a significant moderate positive relationship between vocabulary knowledge and reading comprehension. This study recognized that vocabulary knowledge is a predicting factor in reading comprehension in students studying English.

Romero (2021) conducted a study aimed to measure lexical richness and readability in the written production of thirty-nine pre-service teachers at the Technical University of Cotopaxi in the November 2020 - March 2021 Academic Cycle. She used descriptive research with a mixed design of qualitative and quantitative approaches (QUAN/qual). The population selected for the research has constituted the students of the Technical University of Cotopaxi. The sample is delimited to thirty-nine English degree students coursing the seventh level of the career and studying Academic Writing in the November 2020- March 2021 Academic Cycle. Lex-tutor Vocab profile and Coh-Metrix were employed to gauge lexical richness and readability. The main findings from the lexical richness examination demonstrated that 83.59% of the corpus is composed of the 2000 most frequent words in English. In terms of readability, the corpus is very difficult to read. The correlational analysis revealed that lexical density, lexical sophistication, and lexical diversity explain in different proportions the variation in the readability of English degree students' writing. To conclude, pre-service English teachers require vocabulary instruction about less frequent and academic words to increment their written products' quality.

## **6.2 THEORETICAL FRAMEWORK**

### **LEXICAL RICHNESS**

One of the most accurate measures of children's level of language development is the number of words their vocabulary knows. In other words, lexical richness is proportional to the children's cognitive and linguistic ability. Indarti (2021) states that "lexical richness is the variety of vocabulary size used by an author to write an essay" (p. 48). It is used to describe the size of the learners' vocabulary as well as their usage of it. Learners who can employ a variety of words have a high lexical richness, which allows them to make better use of their vocabulary and enhance their communication skills (Wijaya, 2018). Therefore, lexical richness is in charge of studying the variety of lexis in any given written text and it is closely related to the quality of writing and reading.

## Type Token Ratio (TTR)

Djiwandono (2016) defined “lexical richness as the presence of different words in a text, is commonly measured through type-token ratio (TTR)” (p. 209). This measure determines lexical variation on the basis of the ratio of new words (type) to the total number of all words (token). Thus, it is justifiable to establish the type-token ratio as a measure of lexical richness (Djiwandono, 2016). Below is the formula of the Type-Token Ratio cited in Šišková (2012, p. 28).

**Figure 1**

*Type-Token Ratio formula*

$$TTR(N) = \frac{V(N)}{N}$$

**N = number of tokens**

**V = number of types**

**Note:** Djiwandono, 2016

The Type-Token Ratio (TTR), as shown in Figure 1, is the result of dividing the total number of ‘types’ and the total number of ‘tokens’ in a text. The overall number of words is represented by the term "tokens", and the term "types" refers to the number of distinct word forms, e.g. In the phrase “This puppy is white and this puppy is brown”, there are 6 types (this / puppy / is / white / and / brown) for 9 tokens. Therefore, a high type/token ratio indicates how well a learner expresses himself with his own vocabulary and not the types of words he knows since lexical variation distinguishes only between different words, not between the quality of the words used in a composition (Signes & Arroitia, 2015, p. 549). Noteworthy, a well-written composition, among other things, makes effective use of vocabulary (Laufer & Nation, 1995, p. 307). Likewise, “measuring lexical richness is generally concerned with how many different words are used in a spoken or written text” (Siskova, 2012, p. 26).

## LEXICAL ÍNDICES

As mentioned above, TTR is in charge of measuring lexical richness based on the relationship between vocabulary (V) and text length (N) (Panas, 2007). Traditionally, TTR was used to know

how varied are the words in a text or any given passage, but given the length of vocabulary richness found, Lexical richness was divided into lexical indices which help to measure the quality of vocabulary at different levels according to their density, diversity, and sophistication. Šišková (2012) points out three groups of lexical richness measures: measures of lexical diversity (saying how many different words are used), lexical sophistication (saying how many advanced words are used), and lexical density (saying what is the proportion of content words in the text) (p. 26). Similarity to Hui & Yang (2021) who state that “lexical richness is about the quality of vocabulary, covering lexical diversity (the variety of words), lexical sophistication (the advancement of words), and lexical density (the proportion of content words)” (p. 173). All of them will be explained more deeply below.

### **Lexical Density (LD)**

Many researchers found that the factor which influences difficulty in the reading text is lexical density (Fadhillah, 2018, p. 12). Lexical density refers to the “proportion of lexical items (content words) related to the number of function words in each discourse” (Tovar, 2022, p. 226). Lexical items (content words) refer to nouns, adjectives, verbs, and some adverbs whereas grammatical items refer to determiners, pronouns, most prepositions, conjunction, finite verb, and some classes of adverbs (Herljimsi, 2014). It gives a percentage according to what information load of the text can be presumed. It also provides some insights into the vocabulary level of the learners (Musa, 2016, p. 5). Ure (1971), who first proposed measuring lexical density, said that it should be understood as the ratio of the number of lexical items to the number of running words (Prawianto & Bram, 2020, p. 257). Then, this formula has been developed and refined by several scholars. One important study is from Laufer and Nation (1995). By examining vocabulary size and use of L2 learners’ writing productions, they propose the following formula of lexical density measurement (Choemue & Bram, 2021, p. 152).

**Figure 2**

*Lexical density measurement formula*

Lexical Density (LD) =	the number of content words × 100
	total numbers of tokens

**Note:** Laufer & Nation, 1995

### Lexical Diversity (LD)

Lexical diversity (LD) has been used in a wide range of areas, producing a rich history in speech-language pathology (Fergadiotis, 2015, p. 1). On the other hand, Wang (2014) mentions that “some researchers tend to consider lexical richness to be synonymous with lexical diversity (e.g., Arnaud, 1984; Wimmer & Altmann, 1999)” (p. 66). However, both are similar but with different focuses. Broadly, Lexical diversity is the range of different words used in a text or conversation (Baese-Berk et al, 2021, p. 3). In the same way, Tovar (2017) states that “lexical diversity measures how many different words are used in a whole text” (p. 61). Johansson (2008) claims that “the more varied a vocabulary a text possesses, the higher lexical diversity” (p. 62). Therefore, lexical diversity is responsible for measuring the variety of different words that exist in a text, and even the ways in which these ones are deployed. Most often, lexical diversity is measured through a type-token ratio (TTR), which compares the number of different words (types) with the number of total words (token) (Dewaele & Pavlenko, 2003, p. 123).

**Figure. 3**

*Lexical Diversity formula*

Lexical Diversity (LD) =	number of different words (types)
	total number of words (tokens)

Note: Dewaele & Pavlenko, 2003

### Lexical Sophistication (LS)

Regarding to Choemue & Bram (2021) state that “lexical sophistication is a measure intended to find out how many “unusual” or advanced words are employed by the writers in their writings” (p. 150). Similarity to Read (2000) who states that “the use of technical terms and jargon as well as the kind of uncommon words that allow writers to express their meanings in a precise and sophisticated manner” (p. 200). Therefore, lexical sophistication is crucial to help students to understand advanced vocabulary in complex readings and improve the proficiency of their writings. Otherwise, Indarti (2021) states that “Lexical Sophistication is the percentage of ‘advanced’ words in the text (N° of advanced words x 100 / total number of lexical tokens)” (p. 48).

**Figure 4***Lexical Sophistication formula*

<b>Lexical Sophistication (LS) =</b>	Number of advanced tokens × 100
	Total numbers of lexical tokens

**Note:** (Indarti, 2021)

**Figure 4** presented above measures the amount of different or advanced words to the whole words used in the text, Nonetheless, Kusumaningrum & Ardi (2020) state that sophisticated or advanced words are not the commonly words that are used in the text since they tend to be difficult and rarely used in a text or daily communication. Despite that, Baese-Berk et.al (2021) support the idea of other linguists who state that “lexical sophistication is frequently used as an indicator of language proficiency in second language assessments of speaking and writing” (p. 4). High-frequency words and low-frequency words are the two basic categories that can be used to categorize English vocabulary. The high-frequency words, which are split into two levels of 1000 and 2000 words, are used often in all types of text. On the other hand, writers rarely use low-frequency words like those on the Academic Word List (AWL) and Off-list words in their texts (Indarti, 2021). However, it is believed that low-frequency terms are a reliable indicator of the depth of writings, particularly in academic ones.

### **Academic Word List (AWL)**

The Academic Word List (AWL) contains 570 word families that are most frequently found in academic texts. This list was created by looking through a sizable corpus (or collection) of academic texts and choosing the words that appeared there:

In texts from all four academic faculty sections: Arts, Commerce, Law and Science.

Over 100 times in the corpus overall.

At least 10 times in each academic faculty section.

Outside the 2000 most frequent words on Michael West’s General Service List (GSL). The GSL includes everyday words such as I, house and do (Coxhead, 2017, p. 1)

Noteworthy, in academic texts, the coverage of the first 1,000 more frequent words is 71.4%, the second 1,000 more frequent words cover an extra 4.7%, and the AWL covers 10% of the text. The rest of the vocabulary will cover the last 13.9%. (Romero, 2021). Generally, the AWL is embedded in the low-frequency words that are uncommonly employed by the writers across the texts (Choemue & Bram, 2021, p, 151). Indeed, Academic word lists are essential for students who are studying or preparing to study at a tertiary level in English, due to the complexities that learners have in mastering and using them in their written assignments. Even though AWL does not include “content” vocabulary for particular subjects, learners need to master it as well as any discipline to produce coherently-structured writing (Coxhead, 2017).

## **LEXICAL SPACE DIMENSIONS**

Progress toward establishing a model of lexical development to guide vocabulary acquisition research requires more precise specification of the various dimensions of lexical competence, and the interrelationships among them (Henriksen, 1999, p. 303) Some researchers describe vocabulary knowledge as a three-dimensional ‘lexical space’ (Daller et al. 2007), where the first dimension is lexical breadth (lexical size), which describes how many words learners know without considering how well they know them, the second dimension is lexical depth, which concerns how well the learner knows the words, and the third dimension is fluency.

### **Vocabulary breadth size**

Vocabulary breadth, sometimes called vocabulary size, refers to how many words a person knows (Masrai, 2019). Similar to Alqallaf (2021) who states that “vocabulary size refers to the linear and one-dimensional domains of words” (p, 59). It may be used to reflect a learner’s recognition vocabulary only: their ability to recognise the form of a word as a real word in the foreign language and distinguish it from an artificially created non-word. (Milton, 2013, p, 60). The vocabulary breadth might be measured by assessing both receptive and productive vocabulary. Receptive vocabulary has the function of perceiving the meaning of a word through its form when listening or reading whereas productive vocabulary implies the use of that word properly when speaking or writing (Romero, 2021). Therefore, Vocabulary breadth is assumed as the number of words in which learners have a superficial knowledge of their meaning either in



productive or passive vocabulary. Likewise, there are three types of formats that have been used effectively to measure vocabulary size.

### **Vocabulary size test (VST)**

The first format is a test of vocabulary size that measures how many words a learner knows. Generally, it assesses a student's understanding of the word's form and their capacity to connect that form to its meaning (Coxhead, et al, 2015). In this sense, the Vocabulary Size Test is designed to measure both first language and second language learners' written receptive vocabulary size in English (Nation, 2012). Indeed, the purpose of vocabulary size tests is to estimate the total amount of words a learner knows. When comparing groups of learners and measuring long-term vocabulary increase, this estimate can be valuable (Nation, 2013). The vocabulary size test was developed to provide a reliable, accurate, and comprehensive measure of a learner's vocabulary size from 1st 1000 to the 14th 1000 word families of English (Nation & Beglar, 2007, p. 9). One of the reasons for applying this test is to measure how close non-native speakers are to having enough vocabulary to be able to perform certain tasks such as reading a novel, reading newspapers, watching movies and listening to music, or even having friendly conversations. (Nation & Beglar, 2007) The test consists of 140 items (ten from each 1000-word level). (See the Appendix below) Here is a sample item from the 5th 1000-word level. (Nation & Beglar, 2007)

#### **Figure 5**

*Sample from the Vocabulary Size Test*

1. miniature: It is **miniature**.

a very small thing of its kind.  
 an instrument for looking at very small  
 objects.  
 a very small living creature.  
 a small line to join letters in handwriting

**Note:** Nation & Beglar, 2007

### **Vocabulary level test (VLT)**

The second test format, the Vocabulary Levels Test (VLT), is arguably the most widely used test to measure vocabulary knowledge. It was created by Nation (1989, 1990) and modified by Schmitt, Schmitt, and Clapham (2001) to assess how well test-takers could recognize the

word-definition matching format in five-word frequency levels (2000, 3000, 5000, and 10,000) and an academic vocabulary level. (Webb et al, 2017). Similar to Susanto (2017) who states that the Vocabulary Level Test (VLT) is typically used to measure receptive vocabulary knowledge at the lexical level (p. 158). It should be noted that the VLT is a validated and reliable test because it is examined by experts (Susanto, 2017). According to Kremmel & Schmitt (2018) mention that Each section of the revised VLT consists of 30 items in a multiple matching format. Three items, therefore, represent 100 words of any particular frequency band. Items are clustered together in 10 groups for this so that learners are presented in each cluster with six words in a column on the left and the corresponding meaning senses of three of these in another column on the right. Learners are asked to match each meaning in the right-hand column with one single word from the left-hand column (p. 1). (See Figure 6)

**Figure 6**

*Samples from the Vocabulary Levels Test VLT*

2,000 Level		3,000 Level		5,000 Level
1 birth		1 betray		1 gloomy
2 dust	— game	2 dispose	— frighten	2 gross
3 operation	— winning	3 embrace	— say publicly	— empty
4 row	— being born	4 injure	— hurt seriously	3 infinite
5 sport		5 proclaim		4 limp
6 victory		6 scare		5 slim
				6 vacant
				— dark or sad
				— without end

**Note:** Schmitt et al., 2001

### **New Vocabulary Level Test (NVLT)**

The third test format is New Vocabulary Level Test (NVLT), a diagnostic vocabulary instrument for pedagogical or research purposes (McLean & Kramer, 2015). The NVLT is a receptive test which contains the most frequent 5,000-word families of Nation's (2012) British National Corpus / Corpus of Contemporary American English (BNC/COCA) word list (McLean & Kramer, 2015). Likewise, Romero (2021) states that "the newest version is the New Vocabulary Level Test (NVLT), developed by Stuart Mclean and Brandon Kramer in 2015. This test reflects learners' knowledge at six frequency levels (1000, 2000, 3000, 4000, 5000, and AWL)" (p. 18). Similarity to McLean & Kramer (2016) mentioned that NVLT measures the vocabulary knowledge from the first 5000 more frequent words with 24 items and the Academic Word List (AWL) with 30 items. Likewise, NVLT can also diagnose learners' vocabulary knowledge at the beginning of a course of study, estimate achievement throughout the course of study (i.e., formative assessment),

and measure the knowledge gained upon completion of a course (i.e., summative achievement)” (McLean & Kramer, 2016, p. 4). Despite their importance in measuring size, this exam has been chastised for demonstrating shallow and superficial rather than a deeper understanding of specific terms (Ibrahim, 2012). Therefore, using another measure to include these notions of word knowledge seemed necessary. This measure is called the depth of vocabulary knowledge test (Ibrahim, 2012, p. 15).

### **Vocabulary depth**

Depth of vocabulary knowledge, on the other hand, plays a role equivalent to vocabulary size in reading comprehension. (Ibrahim, 2012, p. 15). Alqallaf (2021) states that deep vocabulary regards to what extent learners know those lexical words. Similarity to Pajooresh (2007) mentions that “lexical depth refers to the semantic hierarchies that children develop cognitively as they grow up” (p. 118). Vocabulary depth refers to word meanings, semantic, collocations, and syntactic patterning (Bardakçı, 2016). For example, vocabulary depth for the word “board” would include the word meaning such that the noun “board” can be synonymous with “plank”, but can also be a verb when used to describe how we enter airplanes as in the phrase “boarding the plane” (Binder et.al, 2017, p. 2). In this sense, vocabulary depth implies an understanding that the role a word plays, as well as its meaning, can vary (Binder et.al, 2017, p, 2). Undoubtedly, knowing the variation that a particular word has aids in a deep understanding of it e.g. the word “safe” can vary its form as well as meaning to create safeness, safely, unsafely, among others. Therefore, depth of vocabulary knowledge relates to how well one knows a word (Marzban & Hadipour, 2012 p. 5297).

### **Fluency**

Over the past decade there has been increasing attention paid to reading fluency as an emergent dimension of reading comprehension rather than a component skill of reading (Damico, et.al, 2010, parr, 4). Indeed, fluency is a prerequisite skill to comprehension. It is the automatic recognition of words that frees up the cognitive capacity required for comprehending the meaning of the words (Pressley, 2002). Therefore, Fluency refers to the learners’ ability to read quickly, accurately, and with proper expression to comprehend written texts.

## **VOCABULARY KNOWLEDGE**

Gaining vocabulary is essential to grasping ideas or thoughts in a second language (L2). Indeed, vocabulary is central to the reading process, and learners who are unable to master the vocabulary of the texts that are being used in their classes often struggle to comprehend the required classroom reading (Coxhead et al., 2010). So, Vocabulary knowledge might be understood as how many words a person knows (Nation & Beglar, 2007). Vocabulary knowledge is a fundamental component of language ability, therefore it is essential in determining how well second language (L2) learners can express themselves. This is particularly evident in academic writing, where there is an expectation to adhere to a set of precisely defined words that frequently occur in academia (Higginbotham & Reid, 2019). Indeed, Al- Khasawneh (2019). states that “Vocabulary knowledge is the building block of learning a second language and the degree of success for learning any language depends on the amount of vocabulary a learner possesses” (p. 24).

In similar earlier work, Stahl (2005) claims that vocabulary knowledge is not something that can be fully mastered; it is something that expands and deepens over the course of a lifetime. Thus, vocabulary knowledge is essential in mastering English skills throughout life and the deep understanding of a text or even its purpose will depend on the richness of these words. Otherwise, it is widely accepted that vocabulary knowledge entails receptive and productive knowledge. We have considerably more words available to us at a receptive level (words we can understand when read or heard) than words at a productive level (words we can produce in speaking or writing). (Higginbotham & Reid, 2019, p. 5). Indeed both are measured through vocabulary tests,

### **Receptive and Productive Vocabulary Knowledge**

Vocabulary tests are often conceptualized as measuring either receptive or productive vocabulary knowledge, estimating either the total number of vocabulary items known (size tests) or mastery of vocabulary at certain frequencies of occurrence within a given corpus (levels tests). (McLean & Kramer, 2016, p. 1). Regarding to Mohamed et.al (2020) states that “receptive vocabulary refers to vocabulary that learners can recognize while reading or listening to a text” (p. 26). Similarly to web (2008) mentioned that “knowing students’ receptive vocabulary size provides teachers with a gauge as to whether those students will be able to comprehend a text or a listening

task” (p, 79). Therefore, receptive vocabulary aboard to the learners' ability to understand any word when they listen to or see it. Productive Vocabulary, on the other hand, comprises the set of words a learner can use while speaking and writing. (Kanavoz & Varol, 2018, p. 9). Similar to Mohamed et.al (2020) state that “productive vocabulary refers to vocabulary that learners can produce and use in speaking and writing to convey their thoughts” (p. 26). Therefore, productive vocabulary knowledge might be defined as the learners' ability to use and understand words successfully either in a daily speech or in writing text.

### **Lexical Knowledge: Form, Meaning and Use**

Lexical knowledge is "a continuum consisting of several levels and dimensions of knowledge," from just a familiarity with the word to the ability to use it correctly in free production” (Laufer & Paribakht, 1998, as cited in Golkar & Yamini, 2007, p. 89). Whereby, there are three main components of lexical knowledge recognized as form, meaning, and usage. ‘Form’ (knowledge of the spoken and written forms and recognize its parts), ‘Meaning’ (Understand the form-meaning relationship, concept and referents that a word signifies, and its association with other words), ‘use’ (Knowing the grammatical functions of the word, the collocations of the word, and the constraints on the use of the word) (KILIÇ, 2019).

Indeed, Dornyei (2009) highlights that language is a dynamic process of pattern formation by which humans use linguistic forms to make meaning in context-appropriate ways. There are two key dimensions of language: “form” and “forms”. “Forms” deal with the internal grammatical structure of words. The relationship between boy and boys, for example, and the relationship (irregular) between man and men would be forms of a language (Pozzi, 2004, p. 1).

### **READING COMPREHENSION**

MCKEE (2012) points out that “reading comprehension can be defined as the ability to understand a text, to analyze the information, and to interpret correctly what the writer is stating” (p. 46). Reading Comprehension also involves visual perception, which is an active process that involves what the eyes process and what the brain interprets (Sulaiman et.al, 2020). Therefore, reading comprehension makes reference to the student's capacity to understand the text, understand its meaning, and integrate with what the reader already knows. It relies on two types

of reading comprehension: Extensive and Intensive, both will help readers to enhance their reading comprehension.

### **Extensive and Intensive Reading**

When learners are reading extensively, they are primarily focused on the message of the text and what it is saying (Waring, 2011, p. 3). Similarly to Umam (2013) who states that extensive reading means reading some materials for pleasure outside the classroom. When students “learn to read” (Extensive Reading), they are practicing the skill of reading by reading for information – reading a story book for example with the aim of enjoying the reading without consciously knowing they are learning (pp. 5-6). Indeed, Muchtar (2019) agreed that “extensive reading is to read widely and in large quantities, with the main aim to enjoy reading activities” (p. 3). Therefore, the implementation of extensive reading in EFL learners can have positive effects on them, improving their reading skills since it is a flexible method to apply to any level of English students.

Intensive reading, by contrast, involves reading a text in details under the teacher’s guidance, to arrive at a profound understanding, i.e. to take a text, study it line by line, referring at every moment to our dictionary and our grammar, comparing, analyzing, translating, and retaining every expression that it contains (Umam, 2013, p. 4). Otherwise, Muchtar (2019) argued that “intensive reading is the reading that is only limited to the short text and carried out with the aim of understanding the whole content of reading” (p. 4). Regarding Miller (2013), states that “students in an intensive reading course typically read passages in their textbooks, and the teachers attend to issues of grammar, vocabulary, text organization and meaning that arise from the readings” (p. 69). Therefore, reading intensively makes reference to reading any kind of text in detail under the teacher’s supervision, It is commonly applied in short text. Teachers, on the other hand, recommend students apply reading strategies to determine the main idea or have an insight of the text, based on their background knowledge.

### **Reading Comprehension Strategies**

Reading strategies offer helpful skills that make it much easier for readers to comprehend any form of content. It will all depend on the reader’s background knowledge concerning the language and its culture, as well as the kind of article you are dealing with (Gomez & Avila,

2009, p. 58). Skimming and scanning are two effective reading strategies based on reading swiftly any text for different purposes. As Fauzi (2018) states that “Skimming is one of the strategies that require readers to read quickly in order to get an overview of the general idea or gist of a section” (p. 106). Scanning, on the other hand, means quickly searching for some particular pieces of information in a text. It means that by using the scanning strategy, it won't be necessary to read the whole text since the reader will only focus on extracting specific details of the text like names, dates, numbers, and others (Brown, 2001). Therefore, when readers use skimming and scanning while reading an entire text, they tend to improve their ability to grasp or identify a particular or general idea quickly and accurately without reading everything. Nonetheless, to reach that goal, it is crucial to apply vocabulary learning strategies.

### **Vocabulary Learning Strategies**

Regarding to Waldvogel (2011) mentioned that the area of L2 vocabulary acquisition research that has been gaining attention in recent years to help explain the difficulties some L2 learners encounter when learning vocabulary is the focus on learning strategies—vocabulary learning strategies (VLS) in particular (p. 1). In this sense, the term VLS can refer to "the sets of learning techniques or behaviors, which language learners use to discover the meaning of a new word, to retain the knowledge of newly learned words, or to expand their vocabulary knowledge". (Intaraprasert, 2004). Similarly to Cameron (2001) defines VLS as “the actions that learners take to help themselves understand and remember vocabulary items” (p. 92). Therefore, Vocabulary learning strategies might be defined as the mechanical processes that learners or readers use to decode or find out the meaning of any unknown words and somehow grasp them in the long-term memory (information storage for a long period of time). Otherwise, there are levels of processing in reading comprehension that help readers to understand the reading information.

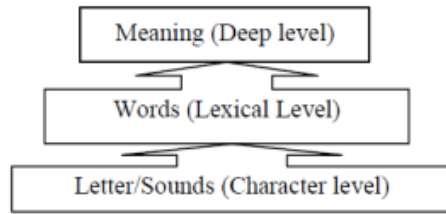
### **LEVELS OF PROCESSING IN READING COMPREHENSION**

Reading is a complex process that requires the use of reading comprehension levels. There are two types of levels of processing reading comprehension which are: “bottom-up” and “top-down”. In bottom-up processing, words are formed into phrases, and phrases are formed into more abstract units called propositions or ideas; these processes require knowledge of syntax (grammar). Just as several words can be processed into one phrase, several phrases can be

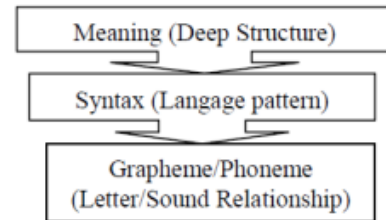
processed into one idea. (Kirby, 2007, p. 2) Otherwise, Top-down processing happens when the reader activates his/her background knowledge to facilitate comprehending the text (Hosseini et.al, 2014, p. 686).

**Figure. 7**

*Bottom-up and Top-down processing*



*Fig.1 Bottom-up Model*



*Fig. 2 Top-down Model*

**Note:** Liu, 2014

Regarding the figures above, In other words, Top-down processing focuses on understanding the surface structure of the text whereas bottom-up processing emphasizes understanding its structure in depth from its phonetic patterns or form to their meaning. From another perspective, Top-down processing focuses on the background knowledge that a reader uses to comprehend a written text, drawing on one's own intelligence and experience to comprehend a text where predicting meaning is important whereas bottom-up processing requires sophisticated knowledge to be able to understand many linguistic signals, it focuses on the linguistic clues to build a literal comprehension of the text (Ajon, 2014).

### **Vocabulary Richness**

Another term that is also frequently used in reading comprehension is called vocabulary richness. It means, that while you maintain more reading, more vocabulary richness will reach. This dimension in vocabulary richness is often termed as 'receptive' and 'productive' or 'passive' and 'active' vocabulary. It is often measured in quantitative stylistics and focused on making a superficial and deepest study of the use of words. Vocabulary richness is divided into two types which are “Active Vocabulary” and “Passive Vocabulary”



### **Active Vocabulary**

Active vocabulary consists of those words that are used with confidence in writing or speech due to an understanding of their meaning and use in context. In order to give proficiency in spoken and written language, words must continuously be added to the active vocabulary of the students (Gogoi, 2015, párr, 5). The active vocabulary of a language calls for:

- The use of the right word in the right place.
- The spontaneous recall of words.
- Grammatical accuracy i.e., use of correct tenses, inflexions and word order.
- In speech, fluency and ability to reproduce correct sounds, pronunciation, intonation, rhythm etc.

Therefore, active vocabulary might be regarded as words that students understand and use in speech or writing because they know the meaning of those words accurately.

### **Passive Vocabulary**

Passive Vocabulary consists of those words, the meaning which can be understood when they appear in speech or writing of others but which we cannot use in our own speech and writing because we are not fully conversant with them. Passive vocabulary calls for

- A recognition of vocabulary in speech or writing.
- An acquaintance with major grammatical items or forms.
- The skill of stimulating rapidly the sense of large word groups. (Gogoi, 2015, párr, 7)

Therefore, Passive vocabulary is made up of terms that learners are able to identify or understand but not able to employ in their speech or writing.

### **Reading Comprehension Test (RCT)**

In order to know the level of readers' performance, it is essential to apply a test or assessment. Arshad et.al (2020) states that "testing is basically a procedure for measuring knowledge, ability or performance of a test taker" (p. 1290). In addition, Hughes (2003) claims that in testing reading, testers need to take into account the skills that are involved in the reading process and that are appropriate to the purpose of the test (p. 26). In this sense, the Reading Comprehension

Test (RCT) is an instrument that measures university students' abilities in reading a wide array of texts. This high-stakes test is developed to assess the reading skills of postgraduate school students, in which its result can be used as a requirement for students to have a thesis examination (Danuwijaya, 2018, p. 31). In addition, Danuwijaya (2018) mentions that RCT consists of 100 multiple choice questions which test some skills in reading, such as the ability to understand the main information in the text, scan detailed information, get the meaning of words, understand pronoun reference questions, make inferences from the text, identify not-explicitly-stated information, and locate information in the text (p. 31). The RCT design must be approved by experts who will verify if the tests are reliable and valid regarding the criteria established by the European Framework of Reference for Languages (CEFR).

### Common European Framework of Reference for Languages (CEFR)

The Common European Framework of Reference for Languages: Learning, teaching, assessment (CEFR) is the result of twenty years of work by the Council of Europe and "provides a transparent, coherent and comprehensive basis for the elaboration of language syllabuses and curriculum guidelines, the design of teaching and learning materials", and how to evaluate them. (Velleman & Geest, 2014, p. 352). The CEFR categorizes language skills into six levels: A1, A2, B1, B2, C1, and C2. It includes several scales, including one for reading comprehension levels. The Reading Level Test Tool (RLTT) derives the reading comprehension level from technically measurable text elements using the CEFR. (Velleman & Geest, 2014). So, the students will have to reach the indicators of the CEFR as shown in the following scheme:

**Figure 8**

*CEFR Common Reference Levels: self-assessment grid*

	A1	A2	B1	B2	C1	C2
Reading	I can understand familiar names, words and very simple sentences, for example on notices and posters or in catalogues.	I can read very short, simple texts. I can find specific, predictable information in simple everyday material such as advertisements, prospectuses, menus and timetables and I can understand short simple personal letters.	I can understand texts that consist mainly of high frequency everyday or job-related language. I can understand the description of events, feelings and wishes in personal letters.	I can read articles and reports concerned with contemporary problems in which the writers adopt particular attitudes or viewpoints. I can understand contemporary literary prose.	I can understand long and complex factual and literary texts, appreciating distinctions of style. I can understand specialised articles and longer technical instructions, even when they do not relate to my field.	I can read with ease virtually all forms of the written language, including abstract, structurally or linguistically complex texts such as manuals, specialised articles and literary works.

**Note:** Little, 2016

## **Reliability and Validity Reading Test**

Reliability and Validity are two terms that are frequently used in assessment, particularly testing. Similar to Mohajan (2017) who states that “Reliability and validity are the two most important and fundamental features in the evaluation of any measurement instrument or tool for a good research.” (p. 1). Nonetheless, a test instrument must maintain its validity and reliability. Reliability refers to the consistency of the results we obtain from an assessment. This may mean:

*Consistency across time*—would the results have been the same if the test or assessment had taken place on another day, or at another time?

*Consistency across tasks*—would the result have been the same if other tasks had been chosen to assess the learning?

*Consistency across markers*—would the results have been similar if another marker had scored the assessment? (Darr, 2005, p. 59).

Indeed, determining reliability has traditionally been seen as a statistical exercise. It usually involves calculating a reliability coefficient to indicate how well assessment results agree over repeated uses of the assessment tool (Darr, 2005, p. 59).

The validity, on the other hand, often has been treated as the degree to which a test or assessment tool measures what it claims to measure as if this were something inherent in the assessment instrument itself (Darr, 2005, p. 55). Therefore, it is essential that the decisions made from the results of a test are well founded in order for the assessment applied to have any use at all.

## **Types of assessment, tests, and examinations**

Nowadays, there are standardized design tests which are made to measure the student’s level of proficiency based on what CEFR established. So, English language teaching works with a wide range of tests and examinations including those from the Cambridge English suite: Key (KET), Preliminary (PET), First (FCE), Advanced (CAE), and Proficiency (CPE) (Chazal, 2014, p. 29). These tests are used to measure all students’ skills (Reading, Listening, Writing and Listening) in order to measure the students’ English level in each one.

## **Reading Comprehension of Academic Texts**

Many English as a Second Language (ESL) learners may regard reading English academic texts as a daunting task in the context of second language reading. The complex features of academic texts which include academic discourse, text structure, and vocabulary may affect learners' understanding of complex contents that are usually presented in a lengthy and complex language structure (Sulaiman et.al, 2020, p, 60). Indeed, eye tracking has long been used as a research tool in reading studies. Eye movement data is critical for understanding the reading process and all of its components, especially when making inferences about the cognitive processes involved in reading (Rayner et al, 2012)

Noteworthy, comprehension depends not only on the characteristics of the reader, such as prior knowledge and working memory, but also on language processes, such as basic reading skills, decoding, vocabulary, sensitivity to text structure, inferencing, and motivation. (Moore, 2014, p, 2). In this sense, it is essential to use academic reading tests to measure the degree of students' comprehension and language processes.

## **7. METHODOLOGY**

### **7.1 Approach and design**

The research approach used was quantitative because it allowed describing the situation of the research subject through statistical processes. The study also has a non-experimental, descriptive, and cross-sectional design. Non-experimental since it is intended to “describe the existing phenomena without manipulating conditions to affect subjects' responses and there are no manipulations of an independent variable” (Radhakrishnan, 2013, p. 25). Descriptive because it “describes the characteristics of the population or phenomenon that is being studied.” (Manjunatha, 2019, p. 863), and cross-sectional since data were collected at a single point in time.

### **7.2 Participants**

The study population was 40 pre-service English teachers from the seventh cycle, class “A” at the Technical University of Cotopaxi in the April - August 2022 academic period. In the process of data collection, out of 40 students, only 22 responded and completed both tests, NVLT and

RCT. That is why only a group of 22 pre-service English teachers worked as a representative sample despite the fact that the instruments were predestined to cover the entire population so their participation in the present study was voluntary.

### **7.3 Research Instruments**

The current study adopted two tests: the New Vocabulary Level Test (NVLT) (See Appendix 1) and the Reading Comprehension Test (RCT) (See Appendix 2). The NVLT by McLean & Kramer (2015) was structured by 150 multiple-choice questions with one correct answer and three distractors. The test was carried out virtually by using the Google forms platform in order to evaluate the number of words pre-service teachers know. Due to the student's schedule, the test was open from Saturday morning until midnight so that they can select the best time for them during this period to develop it.

On the other hand, the Reading Comprehension Test (RCT) (See Appendix 2) was constructed by the researchers following the structure of 30 questions that the KET Cambridge exam uses for assessing reading comprehension. Moreover, the researchers used 4 reading texts with academic style retrieved from the [Linguahouse.com](https://www.linguahouse.com) platform in the Pre Intermediate-range (A2-B1) (See Appendix 3) in order to respond to the sample English level and research purposes. All the material used to construct the RCT was adapted to the context of the research, and it was validated by experts (See Appendix 4). The test was carried out in a face-to-face modality by using five exercise sheets and one answer sheet for each participant who had 50 minutes to complete the test.

#### **New Vocabulary Level Test (NVLT)**

New Vocabulary Level Test (NVLT), is a diagnostic vocabulary instrument for pedagogical or research purposes (McLean & Kramer, 2015). Romero (2021) states that this test was developed by Stuart Mclean and Brandon Kramer in 2015 (See appendix 1). According to McLean & Kramer, the NVLT is structured into six parts through which it is possible to measure and describe the vocabulary size of a person from 1000 to 5000 more frequent words in English and also the use of the Academic Words List (AWL). The NVLT contains six parts. These parts, also called bands or word families, are separated according to their level of frequency in English. The groups of 1000, 2000, 3000, 4000 and 5000 most frequent words. In addition to the Academic

Word List (AWL), in total 6 parts. The first five parts (1000, 2000, 3000, 4000, and 5000) are graded over 24 points per section, and the section of the AWL is graded over 30 points. The total sum of all sections has a total of 150 points.

### **Reading Comprehension test (RCT)**

The Reading Comprehension Test (RCT) is an instrument that helped researchers to measure university students' abilities in reading academic texts within the study. The test was strategically constructed by the researchers and adapted to the research environment taking information from important sources such as Cambridge English Assessment, Linguahouse.com and KSEAcademy.com. The researchers used Cambridge English Assessment in order to take the model of the KET exam reading comprehension part, which contains 30 questions divided into 5 parts (See Appendix 2). From Linguahouse.com, the researchers take four texts with academic style in the Pre-intermediate level of English (A2-B1) that this website offers. This level of English was considered so that the test difficulty responds both, to the participants' English level average (A2) obtained through the NVLT and to the English level their career expected them to have (B1.3) (See Appendix 3). Finally, from KSEAcademy, the researchers constructed the table Percentages and range of answers to get the CEFR English level based on the calculus by Porras (2019). (See Figure 22 )

### **Instrument validation procedure**

The Reading Comprehension Test (RCT) constructed by the researchers, accomplishes the following validation process. In the first instance, the Reading Comprehension test was analyzed by two experts in the Linguistics field. The two experts have master's degrees in Applied Linguistics to teach English as a foreign language. The researchers provided them with two documents, a rubric with specific criteria in order to assess the instrument and the validation report. After the evaluation, one of the experts suggested: "to be aware when using abbreviations and initialisms in the text that might produce an increase of wrong answers in the test" The researcher took into consideration this suggestion and obeyed what was indicated by the expert. Thanks to the evaluation process, the researchers were able to adjust the test much better so that it is suitable for the sample to answer it. Finally, the experts gave their responses and all of them gave a positive answer in favor of the instrument's validity.

### **RCT Pilot test**

The instrument was pilot tested with two students from the eighth cycle with outstanding averages in the Pedagogy of National and Foreign Languages major at the Technical University of Cotopaxi. The first participant has a B1 level of English certified by Cambridge Assessment English. These students were considered since their level of English allowed the researchers to establish a proper time for the sample of the study to develop the test. For instance, if the students who were involved in the pilot test take 40 minutes to solve it, the researchers will consider providing the sample of the study with 20 more minutes since their level of English is lower than the students in the pilot test.

The pilot test also helped the researchers to know opinions about the difficulty of the questions within the test. At the beginning of the pilot test, the researchers pointed out to the participants that they wanted to determine their English level previous to getting their bachelor's degree. The participants were enthusiastic about knowing their English level regarding reading comprehension, so they did their best on the test. After the pilot test, the results showed that the first participant completed it in 30 minutes and the second in 35 minutes.

The results obtained were, 29 and 27 over thirty points respectively. Regarding the participants' opinions about the difficulty of the test, the first participant pointed out that it was easy to recognize what the questions asked her to do but the difficulty level was a bit challenging. The second participant agreed about not having problems understanding the instructions in the test, but the difficulty was also challenging.

### **Test administration**

In order to carry out the NVLT the researchers agreed with participants on a specific schedule to develop the test virtually at a weekend. This was because the participants' university schedule did not allow them to take the test during the week. The participants stated that due to their weekend activities a specific hour was not possible to establish, so they asked the researchers to open the test from Saturday at 10:00 am until Saturday midnight. In order to control the test, the researchers activated the function of Google forms that do not permit participants to check their answers. By doing this the researchers avoided the participants to share their answers with their classmates.

In the case of the RCT the researchers agreed with the participants to take the test Wednesday from 5:00 to 6:00 pm. The researchers asked the teacher in charge of that hour to point out her students to do their best in the test since she was going to check their answers. This was done in order to get the participants to do their best so the results can be as real as possible. During the test the researchers were controlling that the participants do not ask their classmates for help.

## 7.4 Data Analysis

### Process for analyzing the number of correct answers on the NVLT

The researchers considered Coxhead's study (2000), which describes the percentages of over 100% for each group of word families. The first 1,000 more frequent words section is 71.4% over 100%, the 2,000 more frequent words cover an extra 4.7%, and the AWL covers 10% of the English language regarding academic texts. The rest of the vocabulary will cover the last 13.9%, which means 4.63% for each one of the sections 3000, 4000 and 5000-word families (Romero, 2021).

The first step of the analysis is to count the number of correct answers in each section. Then, multiply that number by the percentage of the section it belongs to (71.4%, 4.7%, 10%, 13.9%). Finally, divide the result of the last operation over the maximum score in each band, (24 and 30). In this sense, for the first bands of 1000 and 2000 more frequent words, the correct number of answers was multiplied by a factor of 74.1 and 4.7 respectively, which represent percentages over 100% regarding Coxhead's study. Then, the result of the multiple obtained was divided under 24, which corresponds to the total points of these sections. (See Figures 9-10)

**Figure 9**

*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.



**Figure 10**

*Formula to get the percentage of 2000 more frequent words*

$$\text{Percentage (2000)} = \frac{(\# \text{ Correct answers} * 4.7)}{24}$$

**Note:** The formula was used to get the percentage in the section of the 2000 more frequent words for each participant.

Then, to calculate the percentages of the bands 3000, 4000 and 5000, the number of the correct answers in each section was multiplied by 4.63 and divided by 24. This process was done to calculate the percentage in the three sections (See Figures 11 - 12 - 13). Finally, the researchers sum the result of the three sections  $P(3000) + P(4000) + P(5000) = >3000$  in order to get the total result of the parameter **>3000** in *Table 1*

**Figure 11**

*Formula to get the percentage of 3000 more frequent words*

$$\text{Percentage (3000)} = \frac{(\# \text{ Correct answers} * 4.63)}{24}$$

**Note:** The formula was used to get the percentage in the section of the 3000 more frequent words for each participant

**Figure 12**

*Formula to get the percentage of 4000 more frequent words*

$$\text{Percentage (4000)} = \frac{(\# \text{ Correct answers} * 4.63)}{24}$$

**Note:** The formula was used to get the percentage in the section of the 4000 more frequent words for each participant

**Figure 13**

*Formula to get the percentage of 5000 more frequent words*

$$\text{Percentage (5000)} = \frac{(\# \text{ Correct answers} * 4.63)}{24}$$

**Note:** The formula was used to get the percentage in the section of the 5000 more frequent words for each participant

Finally, to get the percentage of the Academic Word List (AWL), the number of the correct answers from this section were multiplied by 10 and divided under 30. it reflects a quantity in reference to the 10% that AWL covers in an academic text. (See Figure. 14)

**Figure 14**

*Formula to get the percentage of Academic Word List*

$$\text{Percentage (AWL)} = \frac{(\# \text{ Correct Answers} * 10)}{30}$$

**Note:** The formula was used to get the percentage in the section of the Academic Word List for each participant

### **Students' English level Calculus NVLT**

The next part is to calculate the students' level of English according to the Common European Framework of Reference for Languages: Learning, teaching, assessment (CEFR). The CEFR categorizes language skills into six levels: **A1**, **A2**, **B1**, **B2**, **C1**, and **C2**. It includes several scales, including one for reading comprehension levels. Once the total sum of the percentages from **section 1** for frequent words to **section 6** for academic words has been obtained, the vocabulary level of each student will be determined through the following table:

**Figure. 15***Pre-service English teachers CEFR English Level regard to vocabulary*

<b>CEFR English Level and vocabulary size</b>	<b>NVLT Result</b>
1000	0% - 71,4%
2000 + AWL	71,4% - 86,9%
>2000 + AWL	86,10% - 97,99%
5000 + AWL	98% - 100%

**Note:** Romero, 2021

**Figure. 15** shows that if a student has a percentage between 0% - 71.4%, it corresponds to an A1 English level in reference to the CEFR, which means, the student is good at recognizing basic terms but not academic ones. Consequently, if the student has between 71.4% - 86.9%, it corresponds to an A2 English level, which means that the student is able to understand the 2000 most frequent word lists and also a few of the academic words. Now if the student is between 86.10% - 97.99%, he/she is considered to be at a B1 level and is able to understand more than the 2000 most frequent words including a good range of academic words. Finally, if the student is between 98% - 100%, he/she is considered to be at a B2 level and is able to master and understand the 5000 most frequent as well as non-frequent words and academic ones

### **Reading Comprehension Test Analysis**

The analysis of reading comprehension was carried out on the same sample of 22 pre-service English teachers, but now by implementing a Reading Comprehension Test (RCT). The RCT is an instrument that measures university students' abilities in reading a wide array of texts (Danuwijaya, 2018, p. 31). The test was strategically constructed so that its difficulty level responds both to the participants' English level average obtained through the NVLT (A2) and to the English level their career expected them to have (B1.3). Based on this, a reading comprehension test of a pre-intermediate (A2-B1) was applied. The level considered to develop the test was Pre-intermediate, so that was adapted to the KET exam as a reference in order to measure reliable reading comprehension, considering all the criteria in which this test is evaluated.

The test followed the model of the Cambridge KET exam reading comprehension into 5 sections out of 30 points. Each part of the test was focused on measuring the students' understanding of the simple written academic text in different activities. The first part measures the students' reading comprehension of hidden messages through multiple choice questions as shown in (Figure. 16)

**Figure. 16**

*RCT. Part 1: messages with comprehension questions*

"There are certain inappropriate phrases that instantly change the way people see you," Dr Bradberry said in a LinkedIn article. But avoiding these phrases is more difficult than you think.

1.

- A. Inappropriate phrases are difficult
- B. Avoiding inappropriate phrases is difficult, but you need to do so.
- C. There are more inappropriate phrases than you think.

**Note:** Extracts from the RCT part 1. The content of the text was retrieved from [LinguaHouse.com](http://LinguaHouse.com)

The second part contains 6 passages which were graded out of 6 total points, 1 point for each correct score. This part of the RCT As a second part contains three short texts with questions as shown in (Figure 17)

**Figure 17**

*RCT. Part 2: three texts with questions*

*For each question, choose the correct answer. Only one answer is correct.*

- A) **"He's lazy/incompetent/a jerk"** You shouldn't make negative remarks about a colleague. If your remark is true, everybody already knows it, so you don't need to say it. There will always be rude or incompetent people in any workplace, and everyone probably knows who they are. If you can't help them work better or fire them, then badmouthing them will only make you look bad.
- B) **"That's not in my job description"** If you use this phrase, your boss will think that you are only interested in doing the minimum amount of work required. If your boss asks you to do something that you feel is inappropriate for your position, you should complete the task. Later, schedule a conversation with your boss to discuss your role in the company and whether your job description needs an update.
- C) **"It's not my fault"** It's never a good idea to blame other people. If something went wrong, explain what happened in an objective way and let your boss and colleagues decide who is responsible. When you start pointing fingers, you will make people nervous. Some people will avoid working with you, and others will blame you first when something goes wrong.

7. Which phrase you should avoid so that you can keep a friendly environment with your colleagues

( ) A                      ( ) B                      ( ) C

**Note:** Extracts from the RCT part 2. The content of the text was retrieved from [LinguaHouse.com](http://LinguaHouse.com)

This part contains 7 statements related to Text A, Text B and Text C . Students have to interpret the information and select each statement with the correct text. It was graded over 7 points, 1 point for each correct score. The third part, the activity was carried out through the comprehension of long text based on multiple choice questions as shown in (Figure 18).

**Figure 18***RCT. Part 3: Long texts with comprehension questions*

Is your drive to work a waste of time? Maybe you hate driving or don't have a license? The solution: self-driving cars. Carmakers have been talking about these for years and have made many predictions about when the necessary computer technology will be ready.

There are six levels of technology that can do some or all of the driver's work. At the lowest levels, the driver controls the car, and the computer helps with parking or staying in a lane. This technology is already in use. At the higher levels, the driver is free to work or sleep, and the computer is fully in control although with a speed limit.

Some people predict that this technology won't be available for many years. It's the middle levels, where a person and a computer both drive the car, which we may see on our roads soon. The question we all want to ask is: are self-driving cars safe? Actually, they might prevent thousands of accidents, although there is a danger that drivers could become too confident about the technology.

Self-driving cars will have other effects. They will probably be better for the environment, as a computer drives a car more efficiently than a person. Self-driving cars may replace taxis. The biggest winners are likely to be some disabled people who don't have a driver's license or older people who have lost confidence in driving on busy roads.

**14. Carmakers have...**

- A. speculated a lot about when self-driving cars will be ready
- B. set a specific date when self-driving cars will be ready
- C. been thinking about including computer technology in today's cars

**15. At the first levels**

- A. The driver is an assistant to the car
- B. The driver is the main controller of the car
- C. These levels are not in use yet

**Note:** Extracts from the RCT part 3. The content of the text was retrieved from [Linguahouse.com](http://Linguahouse.com)

This part contains 5 items with multiple choice questions. It was graded over 5 points, 1 point for each hit. . In the fourth part, the assigned activity is based on filling gaps in the text as shown in (Figure 19).

**Figure 19***RCT. Part 4: Long texts with gap-filling activity*

In a new document, the company gives guidelines to keep people safe and they stopped \_\_\_\_\_(19) that "complex passwords are "stronger"". Now, they recommend that people simplify their approach.

**19. A) to say / B) saying / C) say**

The GCHQ gives a number of tips \_\_\_\_\_(20) people who work in IT as well as normal users. They warn people to change their default passwords and to make sure that accounts can't be accessed if they're under attack. They also say that people \_\_\_\_\_(21) avoid storing passwords as plain text files because other people can read these files.

**20. A) for / B) to / C) by      21. A) have to / B) should / C) has to**

**Note:** Extracts from the RCT part 4. The content of the text was retrieved from [Linguahouse.com](http://Linguahouse.com)

This part contains 6 gaps with three options for each one. It was graded over six points, with 1 point for each correct answer. Finally, part 5 consists of filling gaps according to the context, one word per each one as shown in (Figure 20).

**Figure 20**

*RCT. Part 5: Text with gaps*

Diners believe a meal is tastier if it's more \_\_\_\_\_, (25) according to academic research in the United States.

People \_\_\_\_\_ (26) eat expensive food notice that it's tastier \_\_\_\_\_ (27) the same meal offered at a \_\_\_\_\_ (28) price, a Cornell University study showed. The researchers concluded that the \_\_\_\_\_ (29) can manipulate our taste and how we feel about eating.

The study looked at the eating habits of 139 people in an Italian restaurant. The price of the \_\_\_\_\_ (30) was set by the researchers at either \$4 or \$8 for the all-you-can-eat meal.

**Note:** Extracts from the RCT part 5. The content of the text was retrieved from [Linguahouse.com](http://Linguahouse.com)

The last part contains 6 gaps which were graded out of 6 total points, with 1 point for each correct score. To obtain the total score of the reading comprehension test (RCT), the researchers sum the total of students' hits of each section respectively over 30 points. Following the **Table 3** below.

**Figure 21**

*Formula to get the total score of RCT*

Student 1	Score (Part 1) + Score (Part 2) + Score (Part 3) + Score (Part 4) + Score (Part 5)	Total	Total x 100% / 30	CEFR Level
	30			

**Note:** This was the formula used by the researchers to get the total score of each participant in the RCT. KSE Academy (2019). How to calculate your Cambridge exam score.

Through this formula, the researchers might know the students' English level according to the CEFR Level. So, to determine the level at which each student is, the (Figure 21) shown below was used.

**Figure 22***Percentages and range of answers to get the CEFR English level*

CEFR English Level	RCT range of correct answers	Results
A1	Less than 20p	< (66.6%)
A2	20p, 21p, 22p, 23p	(66.6%) - (70%) - (73.3%) - (76.6%)
A2+	24p, 25p, 26p, 27p	(80%) - (83.3%) - (86.6%) - (90%)
B1	28p, 29p, 30p	(93.3%) - (96.6%) - (100%)

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

**Figure 22** shows a detailed description of how the classification of the student's English level was carried out as established by the CEFR with reference to the RCT score. The first criterion of the scheme "CEFR English level" shows the different levels of the CEFR that the test was intended to cover, where the lowest level is A1 and the highest is B1. The second criterion "RCT range of correct answers" indicates the total of students' hits obtained in RCT. Finally, The third criterion "Results" describes the students' scores in terms of percentages. According to the CEFR, if the test-taker obtains at least 20 out of 30 points, the test-taker is considered in the A2 CEFR English Level. Therefore, if the participants in this study have less than 20 points which in terms of percentage equals <66,6%, will be located in the A1 CEFR English Level. On the other hand, if the participants obtained from 20 to 23 points which in terms of percentages correspond to 66,6%, 70%, and 73,3% respectively, it means, the participants reach A2 CEFR English Level. Moreover, the participants who obtains from 24 to 27 points which in terms of percentages correspond to 80%, 83,3%, 86,6%, and 90% respectively, will be in A2+ CEFR English Level. Finally, the participants who obtain 28 to 30 points which in terms of percentages corresponding to 93.3%, 96.6%, and 100% respectively will be in the B1 CEFR English Level

## 8. ANALYSIS AND DISCUSSION OF RESULTS

Findings from the data analysis are presented with a view to responding to the research objective, which was to analyze the vocabulary knowledge and its influence on the reading comprehension

of academic texts in the seventh-term pre-service English teachers at the Technical University of Cotopaxi. The data was analyzed from the New Vocabulary Level Test (NVLT) and Reading Comprehension Test (RCT).

### Results gathered from the New Vocabulary Level Test (NVLT)

The analysis of the application of New Vocabulary level test (NVLT) on a sample of 22 pre-service English teachers showed the following results reflected in *Table 1*

**Table 1:**  
*Vocabulary Level Test*

<i>Students</i>	<i>Section 1 (1000)</i>	<i>Section 2 (2000)</i>	<i>Section 3 (3000)</i>	<i>Section 4 (4000)</i>	<i>Section 5 (5000)</i>	<i>Section 6 (AWL)</i>	<i>1000</i>	<i>2000</i>	<i>&gt;3000</i>	<i>AWL</i>	<i>Total</i>	<i>English Level</i>
Student 1	18	10	5	7	7	6	53,6	2,0	3,7	2,0	61,2	A1
Student 2	17	23	17	3	5	9	50,6	4,5	4,8	3,0	62,9	A1
Student 3	17	18	17	20	19	19	50,6	3,5	10,8	6,3	71,2	A1
Student 4	22	18	9	11	5	12	65,5	3,5	4,8	4,0	77,8	A2
Student 5	19	21	21	20	19	24	56,5	4,1	11,6	8,0	80,2	A2
Student 6	20	18	16	17	15	25	59,5	3,5	9,3	8,3	80,6	A2
Student 7	20	19	21	19	18	23	59,5	3,7	11,2	7,7	82,1	A2
Student 8	21	19	15	18	15	23	62,5	3,7	9,3	7,7	83,1	A2
Student 9	21	19	17	16	14	24	62,5	3,7	9,1	8,0	83,3	A2
Student 10	21	17	19	20	18	23	62,5	3,3	11,0	7,7	84,5	A2
Student 11	21	20	21	19	20	22	62,5	3,9	11,6	7,3	85,3	A2
Student 12	22	16	18	14	14	24	65,5	3,1	8,9	8,0	85,5	A2
Student 13	24	20	20	17	7	5	71,4	3,9	8,5	1,7	85,5	A2
Student 14	22	18	12	16	20	22	65,5	3,5	9,3	7,3	85,6	A2
Student 15	22	23	20	15	14	21	65,5	4,5	9,5	7,0	86,4	A2
Student 16	21	24	22	24	22	28	62,5	4,7	13,1	9,3	89,6	B1
Student 17	21	23	24	24	23	28	62,5	4,5	13,7	9,3	90,0	B1
Student 18	22	22	19	17	21	28	65,5	4,3	11,0	9,3	90,1	B1
Student 19	23	18	20	17	20	24	68,4	3,5	11,0	8,0	91,0	B1
Student 20	23	20	23	21	18	27	68,4	3,9	12,0	9,0	93,3	B1
Student 21	23	23	22	21	22	26	68,4	4,5	12,5	8,7	94,1	B1



Student 22	24	23	21	15	18	26	71,4	4,5	10,4	8,7	95,0	B1
<b>Average</b>											<b>83,6</b>	<b>A2</b>

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

The results of the new vocabulary level test (NVLT) exhibited that 7 students have a B1 level. This number of students constitutes 31.81% of the total, indicating that these pre-service English teachers are expected according to the university's curriculum planning. They could understand the meaning of 3000-word families that commonly cover academic texts. Numerous researchers like MacGregor (2010) and Schmitt et al (2015) have argued in their study that a vocabulary size of these 3,000-word families is the minimum threshold in order for learners to communicate and successfully engage in either receptive or productive language use (Abouzeid, 2018). Likewise, the results of this study are in line with the Abouzeid (2018) study, whose findings indicated knowledge of the most frequent 3,000-word families is considered a minimum requirement to achieve success in language learning (Laufer, 1992; Nation, 2001) as this vocabulary size provides students with 95% lexical coverage necessary for minimum comprehension (Laufer, 1989). 54.55% of the students belong to the A2 level of vocabulary about the established parameters, and 13.64% of A1 pre-service English teachers. Together, these percentages constitute 68.19% of the students' sample which reflects basic vocabulary knowledge that might affect their reading comprehension. It means, they probably master from 1000 to 2000 more frequent word families containing the basis of language. In a similar study, Milton & Alexiou (2009) in their research agree that learners at A1 and A2 levels probably know less than 3000 of the most frequent words in English, and Learners at B1 levels will know about 3000. Similarly, Webb and Chang's (2012) study of 222 EFL learners in Taiwan found that the increase in learners' knowledge of lower frequency words (3,000 and 5,000) was greater than that of higher frequency words (1,000 and 2,000). They concluded that this represented ineffective learning," but at the same time that it should be expected in light of the input because "few materials and topics consist entirely of high-frequency words." Nonetheless, Romero (2021) in her research states that although the first 1000 and 2000 more frequent word families contain the basis of language, teachers require specialized and less frequent kinds of vocabulary to write, read and perform successfully in an academic context. That is why the students from these levels A1 and A2 need to practice more vocabulary in a specialized academic text to reinforce their level of reading comprehension expected in their cycle.

**Figure. 23**

*Pre-service English teachers CEFR English Level regard to vocabulary*

CEFR English Level and Vocabulary Size.		NVLT Result	N Pre-service teachers	Percentage
A1	1000	0%-71,4%	3	13.64%
A2	2000 + AWL	71,4%- 86,9%	12	54.55%
B1	> 2000 + AWL	86,10% - 97,99%	7	31.81%
<b>Total</b>			<b>22</b>	<b>100%</b>

**Note:** Coxhead as cited in Romero, 2021.

### **Results gathered from the Reading Comprehension Test (RCT)**

Once the RTC was applied and the students' answers were analyzed. The researchers obtained the following results tabulated in *Table 2* below.

**Table 2:**

*Reading Comprehension Test Parts*

<i>Students</i>	<i>Part 1 Messages with comprehension questions</i>	<i>Part 2 Three texts with questions</i>	<i>Part 3 Long texts with comprehension questions</i>	<i>Part 4 Texts with multiple choice gaps</i>	<i>Part 5 Texts with gaps</i>	<i>Total / 30</i>	<i>Total / 100%</i>	<i>English Level</i>
<b>Student 1</b>	3	4	2	2	1	12	40,0	A1
<b>Student 2</b>	1	4	4	2	1	12	40,0	A1
<b>Student 3</b>	5	4	4	4	1	18	60,0	A1
<b>Student 4</b>	2	1	2	2	1	8	26,7	A1
<b>Student 5</b>	6	1	3	4	2	16	53,3	A1
<b>Student 6</b>	2	4	4	2	5	17	56,7	A1
<b>Student 7</b>	4	4	2	0	1	11	36,7	A1
<b>Student 8</b>	5	4	4	4	1	18	60,0	A1
<b>Student 9</b>	5	6	4	5	2	22	73,3	A2
<b>Student 10</b>	4	4	4	4	2	18	60,0	A1
<b>Student 11</b>	3	2	1	3	5	14	46,7	A1
<b>Student 12</b>	3	4	2	2	1	12	40,0	A1

<b>Student 13</b>	4	4	5	5	3	21	70,0	A2
<b>Student 14</b>	5	5	4	5	0	19	63,3	A1
<b>Student 15</b>	5	4	4	4	1	18	60,0	A1
<b>Student 16</b>	6	6	4	4	3	23	76,7	A2
<b>Student 17</b>	4	5	4	3	3	19	63,3	A1
<b>Student 18</b>	4	5	5	4	2	20	66,7	A2
<b>Student 19</b>	3	3	3	2	0	11	36,7	A1
<b>Student 20</b>	4	6	5	2	4	21	70,0	A2
<b>Student 21</b>	5	6	5	4	3	23	76,7	A2
<b>Student 22</b>	4	4	4	4	2	18	60,0	A1
<b>Average</b>							<b>57,0</b>	<b>A1</b>

**Note:** This table was developed by the researchers in order to show the results got in the RCT

The analysis of the reading comprehension test (RCT) shows that 6 students have an A2 level. This number of students constitutes 27.27% of the total, indicating that these pre-service English teachers are likely to have difficulties understanding written academic text since they would be able to read short and simple texts. On the other hand, 12 students have an A1 level. This number constitutes 72.73% of the total, indicating that these pre-service English teachers might have poor vocabulary knowledge to understand academic texts and this affects their reading comprehension. They probably infer familiar names and words and very simple sentences. Therefore, due to the low level of reading comprehension by pre-service teachers shown in the RCT, it is reasonable to think that students might have difficulties with the reading comprehension of academic texts and might require extra training in order to enhance their proficiency in reading skills by practicing the word families and academic word list, using reading and vocabulary strategies or doing activities that promote reading. The results of this study are in line with Da Silva and Hartati (2021) study, they aimed to measure the pre-service teachers' reading skills by using the CEFR level. Their test results showed that 17% of the students are in level A1, 25% in level A2, 25% in level B1, 20% are in level B2, 8% are in level C1, and 5% are in level C2. The result of their research showed that pre-service teachers should improve in English language proficiency and self-assessment.

On the other hand, although the university curriculum expected this sample of students to reach level B1.3 in reading comprehension by providing texts with that level, the result of this test

showed that they will probably not reach this goal due to the complexity of these texts, even having difficulties to understand a text between A2 and B1. Similarly, in a Velleman & Der Geest (2012) study, they demonstrated that the average reading comprehension level of the Dutch population is B1 and the average level of text provided by Dutch government organizations requires a considerably higher reading skills level (C1). This means that part of the population may have difficulty reading texts delivered to them by their own government. Likewise, in the Kärbla, et.al (2019) study, they stated that one reason for poor text comprehension skills at higher levels could be due to national assessments, which assess comprehension as a unidimensional construct.

Finally, according to Al-Khasawneh (2019) in his study stated that “Vocabulary knowledge and reading comprehension are highly related since lexical knowledge can assist foreign language learners in grasping the meaning of written texts” (p. 24) Similar to Ricketts & Vera's (2007) study, mentioned that “vocabulary plays an important role in the development of reading comprehension – the ability to understand connected text” (p. 3) Thus, the role of vocabulary in these pre-service teachers is essential in their reading comprehension as it will help them enhance their ability to understand the vocabulary of any text and use it either in writing or in speech.

**Figure 24**

*Pre-service English teachers CEFR English Level regard to reading comprehension*

CEFR English Level and Vocabulary Size.		RCT Result	N Pre-service teachers	Percent age
A1	less than 20p	<(66.6%)	16	71.73%
A2	20p, 21p, 22p, 23p	(66.6%) - (70%)- (73.3%) - (76.6%)	6	27.27%
Total			22	100%

**Note:** This figure shows the participants sorted in A1 and A2 level according to their results in the RCT

### Comparative Analysis of Vocabulary Knowledge and Reading comprehension based on the results from NVLT and RCT

Once obtained the results of both instruments, the researchers attempt to compare the results from the NVLT and RCT. This comparison is shown in *Table 3*.

**Table 3**  
*Results from NVLT and RCT*

<i>Students</i>	<i>NVLT Result</i>	<i>CEFR level</i>	<i>RCT Result</i>	<i>CEFR level</i>
<b>Student 1</b>	61,2	A1	40,0	A1
<b>Student 2</b>	62,9	A1	40,0	A1
<b>Student 3</b>	71,2	A1	60,0	A1
<b>Student 4</b>	77,8	A2	26,7	A1
<b>Student 5</b>	80,2	A2	53,3	A1
<b>Student 6</b>	80,6	A2	56,7	A1
<b>Student 7</b>	82,1	A2	36,7	A1
<b>Student 8</b>	83,1	A2	60,0	A1
<b>Student 9</b>	83,3	A2	73,3	A2
<b>Student 10</b>	84,5	A2	60,0	A1
<b>Student 11</b>	85,3	A2	46,7	A1
<b>Student 12</b>	85,5	A2	40,0	A1
<b>Student 13</b>	85,5	A2	70,0	A2
<b>Student 14</b>	85,6	A2	63,3	A1
<b>Student 15</b>	86,4	A2	60,0	A1
<b>Student 16</b>	89,6	B1	76,7	A2
<b>Student 17</b>	90,0	B1	63,3	A1
<b>Student 18</b>	90,1	B1	66,7	A2
<b>Student 19</b>	91,0	B1	36,7	A1
<b>Student 20</b>	93,3	B1	70,0	A2
<b>Student 21</b>	94,1	B1	76,7	A2

<b>Student 22</b>	95,0	B1	60,0	A1
<b>Average</b>	83.6	A2	57.0	A1

**Note:** This table was designed by the researchers in order to show the comparison between the results from the NVLT and the RCT

In terms of percentages, the result of the NVLT was an average of 83.6% for the entire sample, this is equivalent to the A2 CEFR level which means that most students master the families of 2000 and 3000 more frequent words. On the other hand, the mean RCT for the entire sample was 57%, corresponding to the A1 CEFR level. The finding shows that almost 100% of the sample get a lower score than they were expected to have in the NVLT and a bit more than the middle of the participants get a lower score in the RCT. In a previous study developed by Susanto (2017) he found similar results since the participants did not perform well on VLT. The overall mastery rate for 2K is 10%, compared to 6% for 3K and the average score for the 2K level is 60%, and the average score for the 3K level is 47%. . Likewise, Susanto found that “the vocabulary in the participants’ textbook was mostly high-frequency words with 81% from the 1000 and 2000 words lists and only 4% from the 3000” (p. 163).

Taking into account these results in the two tests, the researchers assume that students are capable of recognizing the meaning of vocabulary in isolation, that is, word by word, instead of understanding them in context. In their study Olviyanti et al (2015) state that “it is quite common for students to understand every single word or even every single sentence in any given text, but comprehending the relationships between those sentences and what they ultimately mean as a whole is often such a frustrating exercise for them”. Therefore, it seems logical to infer that most of the students who participated in this study are better at understanding the meaning of the words from their form instead of understanding them in a given text.

With this in mind, now the researchers attempt to analyze the two variables of the study, Vocabulary Knowledge and Reading Comprehension, based on the results obtained from the NVLT and RCT. The analysis focuses on determining whether the high or low vocabulary knowledge of 22 pre-service English teachers, inside to their high or low reading comprehension.

It is important to remember that the results for the first variable, vocabulary knowledge, show an average of A2 English level in contrast to the B1.3 the participants are expected to have. And that the Reading Comprehension Test was constructed so that its difficulty level covers both, the

average of English level obtained through the NVLT (A2) and the English level participants are expected to have (B1.3). The researchers' analysis consists of determining if the low participants' vocabulary knowledge would affect their reading comprehension of academic texts, following these two premises:

- ***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.*
- ***P2:*** *If the participants get a low English level in the RCT as their English level in the NVLT, then the Vocabulary knowledge influences their reading comprehension of academic text.*

Taking into account the result in **Table 1** and **Table 2** from the two tests, NVLT and RCT, the researchers determined that, the participants' case fulfills ***P1*** since the low vocabulary knowledge of the participants affected negatively their performance in the reading comprehension, to the point that even their comprehension level was somewhat lower than their average vocabulary level.

Through this analysis, the researchers were able to answer the research question, "What is the vocabulary knowledge size and its influence on the reading comprehension of academic texts in the seventh-term pre-service English teachers at the Technical University of Cotopaxi?" To this, the researchers concluded that the vocabulary knowledge size of these students is low in comparison with the level they are expected to have according to the curriculum of the Pedagogy of the National and Foreign Languages major. And also to establish that their low vocabulary size influences negatively their reading comprehension of academic texts.

## **9. RESEARCH IMPACTS**

Being aware of the vocabulary level and the readability in reading comprehension is rather important for teachers and students of the English Language Pedagogy career. Having this information will help teachers and academic administration staff of this career to be able to make the necessary corrections in the first semesters so that their higher cycle students can avoid arriving at an inappropriate level in terms of the form of the lexicon and the readability of reading comprehension. In addition, this information will help students to create awareness about their

learning so that they can motivate themselves to make a better effort to have a better vocabulary and appropriate development in the comprehension of texts.



## 10. CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

- Based on the first specific objective concerned examining information from relevant academic sources about vocabulary size and reading comprehension of academic texts. It is possible to conclude that there are many accurate and readable sources of academic works which provide meaningful information about the variables of the study. For vocabulary size, they state things like it “has an important role in a language, without vocabulary there would be no language production or comprehension. If the student’s lack of vocabulary, it will be difficult to use English because they cannot understand others or even express their ideas” (Wero et al, 2021, p. 23). And for reading comprehension, they say that “Reading skills are important for the individuals since they foster comprehension in reading. If the students do not have knowledge of reading skills, they cannot be expected to be successful readers” (Kaya, 2015, p. 37). Thanks to this information, it was possible to enrich the research project.
- Based on the second specific objective which was to identify the Vocabulary size of academic texts in the seventh cycle of pre-service English teachers at the Technical University of Cotopaxi. The researchers concluded that 13.64% of the sample reached A1 level, 54,54% reached A2 and 31.82% got B1 level. Although pre-service students reach an A2 level on average of the CEFR, they wouldn’t be able to recognize academic texts since Romero (2021) in her research states that although the first 1000 and 2000 more frequent word families contain the basis of language, teachers require specialized and less frequent kinds of vocabulary to write, read and perform successfully in an academic context.
- The third specific objective focuses on determining the reading comprehension level of academic texts in the seventh cycle of pre-service English teachers at the Technical University of Cotopaxi. The researchers concluded that 71.73% of the sample reached A1 level and that 27.27% got A2. The average of the course with respect to the RCT score corresponds to the A1 CEFR level. Therefore, the lack of students' vocabulary knowledge might affect their understanding of academic texts because these words must be understood in context.

- Finally, with concern to the last specific objective which is to compare the level of vocabulary knowledge and reading comprehension of pre-service students of the seventh cycle, The researchers concluded that the size of pre-service students' vocabulary are better identified in concepts rather than in context. Therefore, it is reasonable to assume that they are better at understanding the meaning of the words from their form instead of understanding them by reading.

### **Recommendations**

- The researchers recommend making use of these research sources within the curriculum of the pedagogy of national and foreign languages major in order to enrich the knowledge of pre-service teachers in these topics of linguistics.
- The researchers recommend reinforcing students' vocabulary by making use of the Nation's 5000 families word lists and Coxhead's academic ones in students' English subjects through the use of teaching materials.
- The researchers recommend encouraging students to read short passages, notices, and stuff like that in 15 minutes every day in order to enhance students' vocabulary knowledge as well as their comprehension of reading texts.
- Finally, the researchers recommend using a glossary with the keywords when introducing a reading text so that students recognize the meaning of the words by their concept and then understand them in context.

## 11. REFERENCES

- Abouzeid, R (2018). The Effect of an Intensive English Program on the Vocabulary Size of Lebanese English Foreign Learners. *International Journal of English Linguistics*, 8 (6), 281-302. <https://www.ccsenet.org/journal/index.php/ijel/article/view/0/36850>.
- Afzal, N. (2019). A Study on Vocabulary-Learning Problems Encountered by BA English Majors at the University Level of Education. *Arab World English Journal*, 10 (3)81-98. DOI: <https://dx.doi.org/10.24093/awej/vol10no3.6>
- Anjomshoa, L & Zamanian, M (2014). The Effect of Vocabulary Knowledge on Reading Comprehension of Iranian EFL Learners in Kerman Azad University. *International Journal on Studies in English Language and Literature (IJSELL)*, 2(5), 90-95. <https://www.arcjournals.org/pdfs/ijSELL/v2-i5/13.pdf>.
- Ajon, V (2014). Teaching Tenth Graders Reading Comprehension Strategies [Bachelor's Degree. Latin University of Costa Rica]. Repositorio de: [https://www.academia.edu/8967800/Teaching\\_Reading\\_Comprehension](https://www.academia.edu/8967800/Teaching_Reading_Comprehension)
- Al-Khasawneh (2009) The Impact of Vocabulary Knowledge on the Reading Comprehension of Saudi EFL Learners. *Journal of Language & Education*, 5 (3), 24-34. <https://jle.hse.ru/article/download/8822/10676>.
- Alqallaf, A & Ahmed, M (2022). Vocabulary Size and Depth of Knowledge: A Study of Bahraini EFL Learners. *International Journal of English Linguistics*, 12(1), 58-75. [https://www.researchgate.net/publication/356390502\\_Vocabulary\\_Size\\_and\\_Depth\\_of\\_Knowledge\\_A\\_Study\\_of\\_Bahraini\\_EFL\\_Learners](https://www.researchgate.net/publication/356390502_Vocabulary_Size_and_Depth_of_Knowledge_A_Study_of_Bahraini_EFL_Learners).
- Arshad, A., Shakir, A., Ahmad, M (2020). A Review on the Principles of a Reading Comprehension Test Construction to Assess the Test Takers at Different Levels. *PSYCHOLOGY AND EDUCATION*, 57(8), 1290-1302. [https://www.researchgate.net/publication/350515745\\_A\\_Review\\_on\\_the\\_Principles\\_of\\_a\\_Reading\\_Comprehension\\_Test\\_Construction\\_to\\_Assess\\_the\\_Test\\_Takers\\_at\\_Different\\_Levels](https://www.researchgate.net/publication/350515745_A_Review_on_the_Principles_of_a_Reading_Comprehension_Test_Construction_to_Assess_the_Test_Takers_at_Different_Levels).

- Baese-Berk, M., Drake, S., Foster, K., Lee, D., Staggs, C., & Wright, JM (2021). Lexical Diversity, Lexical Sophistication, and Predictability for Speech in Multiple Listening Conditions. *Frontiers in Psychology*, 12 (66), 1-19. <https://www.frontiersin.org/articles/10.3389/fpsyg.2021.661415/full>.
- Bardakçı, M (2016). Breadth and Depth of Vocabulary Knowledge and Their Effects on L2 Vocabulary Profiles. *English Language Teaching*, 9(4), 239- 250. <https://doi.org/10.5539/elt.v9n4p239>.
- Binder, K., Cote, N., Lee, C., Bessette, E & Vu, H (2017) Beyond breadth: the contributions of vocabulary depth to reading comprehension among skilled readers. *Journal of Research in Reading*, 40(3), 1-12. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5510944/>.
- Brooks, G., Clenton, J & Fraser, S (2021). Exploring the importance of vocabulary for English as an additional language learners' reading comprehension. *Journal of Studies in Second Language Learning and Teaching*. 11 (3), 351-376. <https://files.eric.ed.gov/fulltext/EJ1314565.pdf>
- Brown, H. Douglas. (2001). Principles of Languages Learning and Teaching. New York: Pearson. [http://angol.uni-miskolc.hu/wp-content/media/2016/10/Principles\\_of\\_language\\_learning.pdf](http://angol.uni-miskolc.hu/wp-content/media/2016/10/Principles_of_language_learning.pdf).
- Calub, C. & Calub, F. (2017). Breadth of Productive Vocabulary Knowledge of Pre-Service Teachers: Basis for the Proposed Intervention Strategies in Vocabulary Enhancement. *AFOR Journal of Language Learning*. 3 (1), 34-51. <https://files.eric.ed.gov/fulltext/EJ1167247.pdf>
- Cambridge Assessment English, (2018). A2 Key for Schools Handbook for Teachers for exams from 2020 <https://cambridge-exams.ch/sites/default/files/a2-key-for-schools-handbook-2020.pdf>
- Cameron, L. (2001). Teaching languages to young learners. Cambridge, UK: Cambridge University Press.

- Chazal, E (2014). English for Academic Purpose. Oxford handbooks. <https://books.google.com.ec/books?id=zO6dBgAAQBAJ&lpg=PT39&dq=ket%20pet%20fce%20cae%20cpe%20ielts%20toefl%20to%20measure%20reading%20literature%20review&pg=PT39#v=onepage&q=ket%20pet%20fce%20cae%20cpe%20ielts%20toefl%20to%20measure%20reading%20literature%20review&f=false>.
- Choemue & Bram (2021). Lexical Richness in Scientific Journal Articles: A Comparison between ESL and EFL Writers. *Indonesian Journal of EFL and Linguistics*, 6(1), 147-167. <https://pdfs.semanticscholar.org/7c8d/7dc68ffbdb1e80270f265be084eeb2851605.pdf>.
- Coxhead, A (2017) An Introduction to the Academic Word List. *Academic Word List*, 1(2), 1-9. <https://amirschool.com/wp-content/uploads/my-upload/tazeha/defining-vocabulary/3-Academic-Word-List.pdf>.
- Coxhead, A., Nation, P ., Slim, D (2015). Measuring the Vocabulary Size of Native Speakers of English in New Zealand Secondary Schools. *New Zealand Journal of Educational Studies* 50(1). 1-25. <https://www.wgtn.ac.nz/lals/resources/paul-nations-resources/paul-nations-publications/publications/documents/coxhead-secondary-school-vocab-size.pdf>
- Daller, H., J. Milton and J. Treffers-Daller (2007). Introduction: Conventions, terminology and an overview of the book”. In: Daller, H., J. Milton, J. Treffers-Daller (eds.). *Testing and Modelling Vocabulary Knowledge*, (pp.1-32). Cambridge: Cambridge University Press
- Damico, J., Damico, H., Nelson, R., Lynch, K (2010) Reading fluency as an Emergent Dimension. [https://www.researchgate.net/publication/301843873\\_Reading\\_fluency\\_as\\_an\\_Emergent\\_Dimension](https://www.researchgate.net/publication/301843873_Reading_fluency_as_an_Emergent_Dimension).
- Danuwijaya, A (2018). ITEM ANALYSIS OF READING COMPREHENSION TEST FOR POST-GRADUATE STUDENTS. *Journal of English Education*, 7(1), 29-40. <https://pdfs.semanticscholar.org/25f3/e4b856a9e86519cc58953fd3cfa0475d3694.pdf>.

- Darr, C (2005). A hitchhiker's guide to reliability. *NZCER SET magazine*, 3(1), 59-60. <https://assessment.tki.org.nz/content/download/6109/62609/version/1/file/A+hitchhiker%27s+guide+to+reliability.pdf>.
- Darr, C (2005). A hitchhiker's guide to validity. *NZCER SET magazine*, 3(1), 55-56. <https://assessment.tki.org.nz/content/download/6110/62612/version/1/file/A+hitchhikers+guide+to+validity.pdf>.
- Da Silva, R & Hartati, E (2021). Revealing Pre-service Teachers' Reading Skills by Utilizing CEFR in their Self-assessment. *Journal of English Teaching Adi Buana*, 6 (1), 87- 97. <https://jurnal.unipasby.ac.id/index.php/jet/article/download/3359/2832>.
- Derslerindeki, A., Mehmet, B., Inan, B., Yüksel, D. (2017). The Vocabulary Size Of Teacher Candidates And Their Success In Major Area Courses. *International Journal of Language Academy*, 5(5), 31/38. [https://ijla.net/Makaleler/1619965150\\_4%20Mehmet%20ALTAY.pdf](https://ijla.net/Makaleler/1619965150_4%20Mehmet%20ALTAY.pdf)
- Dewaele, J. & Pavlenko, A. (2003). Productivity and Lexical Diversity in Native and Non-Native Speech: A Study of Cross-cultural Effects. In Cook, V. (Ed.), *Effects of the Second Language on the First* (pp. 120-131) . Multilingual matters LTD. <https://books.google.es/books?id=TZMEemWllyEC&lpg=PA120&ots=-6LPZ9gdKE&dq=lexical%20diversity&lr&hl=es&pg=PA130#v=onepage&q=lexical%20diversity&f=true>.
- Djiwandono, P (2016). LEXICAL RICHNESS IN ACADEMIC PAPERS: A COMPARISON BETWEEN STUDENTS AND LECTURERS' ESSAYS. *Indonesian Journal of Applied Linguistics*, 5(2), 209-216. <https://ejournal.upi.edu/index.php/IJAL/article/view/1345/939>.
- Erarslan, A. (2021). English language teaching and learning during Covid-19: A global perspective on the first year. *Journal of Educational Technology & Online Learning*, 4 (2), 349-367. <https://dergipark.org.tr/tr/download/article-file/1677427>
- Fadhillah, Y (2018). Analyzing Lexical Density of English Reading Texts in Pathway to English Textbook for Senior High School Grade X [Bachelor's degree, DEPARTMENT OF ENGLISH LANGUAGE EDUCATION FACULTY OF TEACHER TRAINING AND

EDUCATION AR-RANIRY STATE ISLAMIC UNIVERSITY]. Repositorio Institucional UN. <https://core.ac.uk/download/pdf/293469137.pdf>

- Fauzi, I (2018). The Effectiveness of Skimming and Scanning Strategies in Improving Comprehension and Reading Speed Rates to Students of English Study Programme. *Register Journal*, 11(1), 101-120. DOI: <http://dx.doi.org/10.18326/rgt.v11i1.101-120>.
- Fergadiotis, G., Wright, H., Green, S (2015). Psychometric Evaluation of Lexical Diversity Indices: Assessing Length Effects. *Journal of Speech Language and Hearing Research*, 58(3), 1-13. [https://www.researchgate.net/publication/273464919\\_Psychometric\\_Evaluation\\_of\\_Lexical\\_Diversity\\_Indices\\_Assessing\\_Length\\_Effects](https://www.researchgate.net/publication/273464919_Psychometric_Evaluation_of_Lexical_Diversity_Indices_Assessing_Length_Effects).
- Gogoi, G (2015). Vocabulary: Active and Passive Vocabulary: Various Techniques of Teaching Vocabulary. *The criterion: An International Journal in English*, 6(1). <https://www.the-criterion.com/vocabulary-active-and-passive-vocabulary-various-techniques-of-teaching-vocabulary/>.
- Golkar, M & Yamini, M (2007). VOCABULARY, PROFICIENCY AND READING COMPREHENSION. *The reading matrix*, 7(3), 88-112. [https://www.academia.edu/44136586/Vocabulary\\_Proficiency\\_and\\_Reading\\_Comprehension](https://www.academia.edu/44136586/Vocabulary_Proficiency_and_Reading_Comprehension).
- Gomez, N & Avila, J (2009) Improving Reading Comprehension Skills through Reading Strategies Used by a Group of Foreign Language Learners. *How*, 16(1), 55-70. <https://www.redalyc.org/pdf/4994/499450715004.pdf>.
- Henriksen, B (1999). Three dimensions of vocabulary development. Cambridge University Press, 21(2), 303-317. <https://www.jstor.org/stable/44486441>.
- Herljimsi, B (2014) LEXICAL DENSITY OF ENGLISH READING TEXT FOR SENIOR HIGH SCHOOL. *Journal of English Language Teaching and Learning of FBS Unimed*, 3(2), 1-14. <https://jurnal.unimed.ac.id/2012/index.php/jelt/article/download/1838/1485>.

- Higginbotham & Reid (2019). The Lexical Sophistication of Second Language Learners' Academic Essays. *Journal of English for Academic Purposes*, 1(2), 1-33. [https://www.researchgate.net/publication/329384034\\_The\\_Lexical\\_Sophistication\\_of\\_Second\\_Language\\_Learners'\\_Academic\\_Essays](https://www.researchgate.net/publication/329384034_The_Lexical_Sophistication_of_Second_Language_Learners'_Academic_Essays).
- Hosseini, A., Sadat, V., Sadat, Z (2014). The Effects of Top-down/Bottom-up Processing and Field-dependent/Field-independent Cognitive Style on Iranian EFL Learners' Reading Comprehension. *ACADEMY PUBLISHER*, 4(4), 686-693. <https://www.academypublication.com/issues/past/tpls/vol04/04/04.pdf>.
- Hui, G & Yang, Y (2021). LEXICAL RICHNESS IN ENGLISH TRAVEL GUIDEBOOKS BY EFL AND ENL WRITERS. *The 7th Malaysia International Conference on Foreign Languages*, 1(2), 173-187. [:https://www.researchgate.net/publication/355141052\\_LEXICAL\\_RICHNESS\\_IN\\_ENGLISH\\_TRAVEL\\_GUIDEBOOKS\\_BY\\_EFL\\_AND\\_ENL\\_WRITERS](https://www.researchgate.net/publication/355141052_LEXICAL_RICHNESS_IN_ENGLISH_TRAVEL_GUIDEBOOKS_BY_EFL_AND_ENL_WRITERS).
- Ibrahim, H (2012). Depth and Breadth of Vocabulary Knowledge: Assessing their Roles in Reading Comprehension of High-School EFL Learners in the UAE [Master's degree, The British University in Dubai]. Repositorio de: [https://www.academia.edu/9061864/Depth\\_and\\_Breadth\\_of\\_Vocabulary\\_Knowledge\\_Assessing\\_their\\_Roles\\_in\\_Reading\\_Comprehension\\_of\\_High\\_School\\_EFL\\_Learners\\_in\\_the\\_UAE?email\\_work\\_card=view-paper](https://www.academia.edu/9061864/Depth_and_Breadth_of_Vocabulary_Knowledge_Assessing_their_Roles_in_Reading_Comprehension_of_High_School_EFL_Learners_in_the_UAE?email_work_card=view-paper).
- Intaraprasert, C. (2004). EST students and vocabulary learning strategies: A preliminary investigation. <http://sutir.sut.ac.th:8080/sutir/bitstream/123456789/2266/1/bib807.pdf>.
- Indarti, D (2021). Lexical Richness of Students' Writings. *Journal Bahasa dan Sastra*. 13(1). <https://doi.org/10.31294/w.v12i1>.
- Johansson, V (2008). Lexical diversity and lexical density in speech and writing: a developmental perspective. Lund University, *Dept. of Linguistics and Phonetics*, 2(1), 1-73. <https://journals.lub.lu.se/LWPL/article/download/2273/1848/4927>.



- Kärbla, T., Männamaa, M., Uibu, K (2019). Vocabulary and text comprehension levels: what should be considered in assessments?. *Educational Psychology*, 40(1), 1-18. DOI: 10.1080/01443410.2019.1703172.
- Kavanoz, S & Varol, B (2018). Measuring Receptive Vocabulary Knowledge of Young Learners of English. *Porta Linguarum*, 7(22), 7-22. [https://www.ugr.es/~portalin/articulos/PL\\_numero32/1\\_Suzan%20Kavanoz.pdf](https://www.ugr.es/~portalin/articulos/PL_numero32/1_Suzan%20Kavanoz.pdf).
- KILIÇ, M (2019). Vocabulary Knowledge as a Predictor of Performance in Writing and Speaking: A Case of Turkish EFL Learners. *PASAA* ,57(1), 133-164. <https://files.eric.ed.gov/fulltext/EJ1224421.pdf>
- Kirby, J (2007). Reading Comprehension: Its Nature and Development. *Canadian Language & Literacy Research Network*. 1(2), 1-8. [https://www.researchgate.net/publication/242598620\\_Reading\\_Comprehension\\_Its\\_Nature\\_and\\_Development](https://www.researchgate.net/publication/242598620_Reading_Comprehension_Its_Nature_and_Development)
- Kremmel, B & Schmitt, N (2018). Vocabulary Level Test. *The TESOL Encyclopedia of English Language Teaching*, 1(2). 1-7. <https://onlinelibrary.wiley.com/doi/epdf/10.1002/9781118784235.eelt0499>.
- KSE Academy (2019). How to Calculate the Score of Your Cambridge Exam. [How to Calculate the Score of Your Cambridge Exam | KSE Academy®](#).
- Kusumaningrum, M & Ardi, P (2020). A CORPUS ANALYSIS OF LEXICAL SOPHISTICATION IN LLT JOURNAL A JOURNAL ON LANGUAGE AND LANGUAGE TEACHING. *ELTR Journal*, 4(1), 53-75. [https://www.researchgate.net/publication/339042034\\_A\\_CORPUS\\_ANALYSIS\\_OF\\_LEXICAL\\_SOPHISTICATION\\_IN\\_LL\\_T\\_JOURNAL\\_A\\_JOURNAL\\_ON\\_LANGUAGE\\_A\\_ND\\_LANGUAGE\\_TEACHING](https://www.researchgate.net/publication/339042034_A_CORPUS_ANALYSIS_OF_LEXICAL_SOPHISTICATION_IN_LL_T_JOURNAL_A_JOURNAL_ON_LANGUAGE_A_ND_LANGUAGE_TEACHING).
- Laufer, B & Nation, P (1995). Vocabulary Size and Use: Lexical Richness in L2 Written Production. *Applied Linguistics*, 16(3), 307–322, <https://doi.org/10.1093/applin/16.3.307>.

- Little, D (2006). The Common European Framework of Reference for Languages: Content, purpose, origin, reception and impact. *Language Teaching*, 39(03),167-190. [https://www.researchgate.net/publication/232014052\\_The\\_Common\\_European\\_Framework\\_of\\_Reference\\_for\\_Languages\\_Content\\_purpose\\_origin\\_reception\\_and\\_impact](https://www.researchgate.net/publication/232014052_The_Common_European_Framework_of_Reference_for_Languages_Content_purpose_origin_reception_and_impact).
- Liu, S (2014). L2 Reading Comprehension: Exclusively L2 Competence or Different Competences?. *Journal of Language Teaching and Research*, 5 (5), 1085-1091. <https://www.academypublication.com/issues/past/jltr/vol05/05/13.pdf>.
- Marzban & Hadipour (2012). Depth versus breadth of vocabulary knowledge: assessing their roles in Iranian intermediate EFL students' lexical inferencing success through reading. *Elsevier*, 46(2012), 5296-5300. <https://www.sciencedirect.com/science/article/pii/S1877042812021623?via%3Dihub>
- Masrai, A (2019). Vocabulary and Reading Comprehension Revisited: Evidence for High-, Mid-, and Low-Frequency Vocabulary Knowledge. *SAGE*. 1(13), 1-13. <https://doi.org/10.1177/2158244019845182>.
- MCKEE, S (2012) Reading Comprehension, What We Know: A Review of Research 1995 to 2011. *Language Testing in Asia*, 2 (1), 45-58. <https://link.springer.com/content/pdf/10.1186/2229-0443-2-1-45.pdf>.
- McLean, S., & Kramer, B. (2015). The Creation of a New Vocabulary Levels Test. *Shiken*, 19(2), 1-11. [https://www.researchgate.net/publication/284029487\\_McLean\\_S\\_Kramer\\_B\\_2015\\_The\\_Creation\\_of\\_a\\_New\\_Vocabulary\\_Levels\\_Test\\_Shiken\\_192\\_1-11](https://www.researchgate.net/publication/284029487_McLean_S_Kramer_B_2015_The_Creation_of_a_New_Vocabulary_Levels_Test_Shiken_192_1-11).
- McLean, S., & Kramer, B. (2016). The development of a Japanese Bilingual Version of the New Vocabulary Levels Test. *VERB*, 5(1), 2-5. [https://www.researchgate.net/publication/301770053\\_McLean\\_S\\_Kramer\\_B\\_2016\\_The\\_development\\_of\\_a\\_Japanese\\_Bilingual\\_Version\\_of\\_the\\_New\\_Vocabulary\\_Levels\\_Test\\_VERB\\_51\\_2-5](https://www.researchgate.net/publication/301770053_McLean_S_Kramer_B_2016_The_development_of_a_Japanese_Bilingual_Version_of_the_New_Vocabulary_Levels_Test_VERB_51_2-5)
- Miller, K.F. (2013). Intensive Reading, Extensive Reading and the English Reader Marathon at Tsurumi University, *CORE*, 1(2), 72-84. <https://core.ac.uk/download/pdf/229094992.pdf>.

- Milton, J. (2013). Measuring the contribution of vocabulary knowledge to proficiency in the four skills edition. <https://www.eurosla.org/monographs/EM02/Milton.pdf>.
- Milton, J & Alexiou, T (2009). Vocabulary Size and the Common European Framework of Reference For Languages. *Proof.* 1(1), 194 - 211. <https://docs.google.com/document/d/16DibpFN9anHsEDWl6n0xQil7PwJL3-PR/edit#>.
- Mohajan (2017). Two Criteria for Good Measurements in Research: Validity and Reliability. *Annals of Spiru Haret University*, 17(3), 58-82. [https://mpira.uni-muenchen.de/83458/1/MPRA\\_paper\\_83458.pdf](https://mpira.uni-muenchen.de/83458/1/MPRA_paper_83458.pdf).
- Mohamed, F., Hamdy, R., Abdel, E., Za'za. M (2020). Enhancing EFL Receptive and Productive Vocabulary Learning through Integrating Incidental and Intentional Learning among Official Language Preparatory School Pupils. *Journal of Faculty of Education*, 4(121), 24-52. [https://jfe.bu.edu/files/84194\\_1605440054.pdf](https://jfe.bu.edu/files/84194_1605440054.pdf).
- Moore, A.L. (2014) A Research Review of Cognitive Skills, Strategies, and Interventions for Reading Comprehension. <http://download.learningrx.com/reading-comprehension-research-paper.pdf>.
- Muchtar, N (2019) Intensive and Extensive Reading in Improving Teaching Reading Comprehension. *Journal of English Teaching Studies*, 1 (2), 1-13. [https://www.researchgate.net/publication/342162329\\_INTENSIVE\\_AND\\_EXTENSIVE\\_READING\\_IN\\_IMPROVING\\_TEACHING\\_READING\\_COMPREHENSION](https://www.researchgate.net/publication/342162329_INTENSIVE_AND_EXTENSIVE_READING_IN_IMPROVING_TEACHING_READING_COMPREHENSION).
- Musa, T (2016) THE RELATIONSHIP BETWEEN VOCABULARY SIZE, LEXICAL DIVERSITY, LEXICAL DENSITY AND EFL WRITING SCORES: A CROSS SECTIONAL STUDY [Master's dissertation, Anadolu University]. Repositorio Institucional. <https://www.proquest.com/openview/4b1dfb918135d605ff89a147c9eb0341/1?pq-origsite=gscholar&cbl=2026366&diss=y>.
- Nation, P (2012). The vocabulary Size test. <https://www.wgtn.ac.nz/lals/resources/paul-nations-resources/vocabulary-tests/the-vocabulary-size-test/Vocabulary-Size-Test-information-and-specifications.pdf>.

- Nation, P. & Beglar, D. (2007) A vocabulary size test. *The Language Teacher*, 31(7), 9-13.  
[https://www.lexutor.ca/tests/nation\\_beglar\\_size\\_2007.pdf](https://www.lexutor.ca/tests/nation_beglar_size_2007.pdf).
- Nation, P. (2013). *Learning vocabulary in another language* (2nd ed.). Cambridge: Cambridge University Press.
- Olviyanti, I., Marbun, R., Arifin, Z (2015). AN ANALYSIS ON THE ABILITY COMPREHENDING A READING TEXT BY THE SIXTH YEAR STUDENTS. *Core*, 6(1), 1-10. <https://core.ac.uk/download/304714104.pdf>.
- Pajoohesh, P., Ontario Institute for Studies in Education., University of Toronto (2007) A Probe into Lexical Depth: What is the Direction of Transfer for L1 Literacy and L2 Development?. *Heritage Language Journal*, 5(1), 117-145.  
[https://www.international.ucla.edu/media/files/P\\_Pjsh\\_HLJ\\_5\\_1.pdf](https://www.international.ucla.edu/media/files/P_Pjsh_HLJ_5_1.pdf).
- Panas, E (2007).Indexes of lexical richness can be estimated consistently with knowledge of elasticities: some theoretical and empirical results. In Grzybek, P & Köhler, R (Eds.),*Exact Methods in the Study of Language and Text*, pp. (27-767). Quantitative Linguistics [QL].  
<https://www.degruyter.com/document/doi/10.1515/9783110894219.521/pdf>.
- Pozzi, D.C. (2004). *Forms and functions in language: Morphology, syntax.*, from University of Houston, College of Education. <http://www.viking.coe.uh.edu/grn11.intr/intr.0.1.2.htm>,
- Prawinanto, A & Bram, B (2020). ADJECTIVE AND NOUN CLAUSE LEXICAL DENSITY IN AN ENGLISH TEXTBOOK FOR SENIOR HIGH SCHOOL STUDENTS. *Getsempena English Education Journal (GEEJ)*, 7 (2), 255- 268.  
<https://ejournal.bbg.ac.id/geej/article/download/1019/1072/>.
- Pressley, G. (2002). Metacognition and self-regulated comprehension. In A.E. Farstrup, & S.J. Samuels (Eds.), *What research has to say about reading instruction* (pp. 291-309). Newark, DE: International Reading Association.
- Radhakrishnan, G (2013). Non-Experimental Research Designs: Amenable to Nursing Contexts. *Asian J. Nursing Edu. and Research*, 3(1), 25-28.

- [https://www.researchgate.net/publication/338516897\\_Non-Experimental\\_Research\\_able\\_to\\_Nursing\\_Contexts\\_Asian\\_Journal\\_of\\_Nursing\\_Education\\_and\\_Research\\_Jan\\_-\\_Mar\\_2013\\_31\\_25-28](https://www.researchgate.net/publication/338516897_Non-Experimental_Research_able_to_Nursing_Contexts_Asian_Journal_of_Nursing_Education_and_Research_Jan_-_Mar_2013_31_25-28).
- Rayner, K., Chace, K., Slattery, T., Ashby, J (2006). Eye Movements as Reflections of Comprehension Processes in Reading. *SCIENTIFIC STUDIES OF READING*, 10(3), 241–255.[https://www.researchgate.net/publication/228625379\\_Eye\\_Movements\\_as\\_Reflections\\_of\\_Comprehension\\_Processes\\_in\\_Reading](https://www.researchgate.net/publication/228625379_Eye_Movements_as_Reflections_of_Comprehension_Processes_in_Reading).
- Read, J. (2000). *Assessing vocabulary*. Cambridge, UK: Cambridge University Press.
- Ricketts, J & Vera, D (2007). Vocabulary Is Important for Some, but Not All reading Skills. *Scientific Studies of Reading*, 11(3), 1-43.  
[https://www.researchgate.net/publication/41387471\\_Vocabulary\\_Is\\_Important\\_for\\_Some\\_but\\_Not\\_All\\_Reading\\_Skills](https://www.researchgate.net/publication/41387471_Vocabulary_Is_Important_for_Some_but_Not_All_Reading_Skills).
- Romero, N (2021). LEXICAL RICHNESS AND READABILITY OF ENGLISH DEGREE STUDENT’S WRITING [Master’s degree, Technical University of Cotopaxi], Repositorio Institucional UTC.  
<http://repositorio.utc.edu.ec/bitstream/27000/8223/1/MUTC-001063.pdf>.
- Signes, C & Arroitia, B (2015) Analyzing lexical density and lexical diversity in university students’ written discourse. *Elsevier*, 198(1), 546-556.  
<https://www.sciencedirect.com/science/article/pii/S187704281504478X>..
- Stahl, S.A. (2005). Four problems with teaching word meanings and what to do to make vocabulary an integral part of instruction. In E.H. Hiebert and M.L. Kamil (Eds.), *Teaching and learning vocabulary: Bringing research to practice*. Mahwah, NJ: Erlbaum.
- Sulaiman, N., Salehuddin, K., Khairuddin, R (2020) Reading English Academic Texts: Evidence from ESL Undergraduates’ Eye Movement Data. *3L: The Southeast Asian Journal of English Language Studies*, 26(1), 60 – 78. <http://doi.org/10.17576/3L-2020-2601-05>.
- Sulaiman,N.,Khairudin,R., Salehuddin,K (2020).Reading English Academic Texts: Evidence from ESL Undergraduates’ Eye Movement Data. *3L The Southeast Asian Journal of*

- English Language Studies*, 26(1),60-78.  
[https://www.researchgate.net/publication/340281430\\_Reading\\_English\\_Academic\\_Texts\\_Evidence\\_from\\_ESL\\_Undergraduates%27\\_Eye\\_Movement\\_Data](https://www.researchgate.net/publication/340281430_Reading_English_Academic_Texts_Evidence_from_ESL_Undergraduates%27_Eye_Movement_Data).
- Susanto, A (2017). Assessing the Relationship between the Vocabulary Level Test (VLT) and Reading Comprehension. *STUDIES IN ENGLISH LANGUAGE AND EDUCATION*, 4(2), 157-171.[https://www.researchgate.net/publication/320200440\\_Assessing\\_the\\_relationship\\_between\\_Vocabulary\\_Level\\_Test\\_VLT\\_and\\_reading\\_comprehension](https://www.researchgate.net/publication/320200440_Assessing_the_relationship_between_Vocabulary_Level_Test_VLT_and_reading_comprehension).
- Qrquez, M., & Ab Rashid. R. (2017). Reading Comprehension Difficulties among EFL Learners: The Case of First and Second. *Arab World English Journal (AWEJ)*, 8 (3), 421-431. DOI: <https://dx.doi.org/10.24093/awej/vol8no3.27>.
- Technical University of Cotopaxi (2022). Pedagogy of the National and Foreign Languages major. Curriculum. <https://www.utc.edu.ec/Portals/0/BELLEN/2021%20PDF/PEDAGOGI%CC%81A%20DE%20LOS%20IDIOMAS-EPUJI%20M%20G.pdf?ver=2021-11-15-162324-617>
- Tovar, R (2017) Vocabulary knowledge in the production of written texts: a case study on EFL language learners. *Revista Tecnológica ESPOL – RTE*, 30 (3), 89-105. <http://www.rte.espol.edu.ec/index.php/tecnologica/article/view/628/377>.
- Tovar, R (2022). Lexical Richness of Abstracts in Scientific Papers in Anglophone and Non-Anglophone Journals. *3L: Language, Linguistics, Literature® The Southeast Asian Journal of English Language Studies*, 28(2), 224-239. <http://doi.org/10.17576/3L-2022-2802-15>.
- Umam, C (2013) Extensive Reading: What, Why, and How?\*. *Journal Al Hikmah*, 3(1), 39-50.[https://www.researchgate.net/publication/334535447\\_Extensive\\_Reading\\_What\\_Why\\_and\\_How](https://www.researchgate.net/publication/334535447_Extensive_Reading_What_Why_and_How).
- Ure, J. (1971). Lexical density and register differentiation. *Applications of linguistics*, 443-452.
- Velleman, E & Geest, T (2014). Online test tool to determine the CEFR reading comprehension level of text. *Elsevier*, 27(1), 350-358.

[https://moam.info/online-test-tool-to-determine-the-cefr-reading-\\_597a9d7c1723dd93e84db9e0.html](https://moam.info/online-test-tool-to-determine-the-cefr-reading-_597a9d7c1723dd93e84db9e0.html).

Waldvogel, D (2011). Vocabulary Learning Strategies among Adult Learners of Spanish as a Foreign Language. [Doctoral dissertation, Faculty of the Graduate School of The University of Texas at Austin]. Repositorios Institucional: [https://www.academia.edu/34473531/Doctoral\\_Dissertation\\_Vocabulary\\_learning\\_strategies\\_among\\_adult\\_learners\\_of\\_Spanish\\_as\\_a\\_foreign\\_language?email\\_work\\_card=view-paper](https://www.academia.edu/34473531/Doctoral_Dissertation_Vocabulary_learning_strategies_among_adult_learners_of_Spanish_as_a_foreign_language?email_work_card=view-paper).

Walter, K (1979) On comprehension. <https://files.eric.ed.gov/fulltext/ED173749.pdf>.

Wang, X. (2014). The relationship between lexical diversity and EFL writing proficiency. *University of Sydney Papers in TESOL*, 9(1), 65-88. <https://www.sydney.edu.au/content/dam/corporate/documents/faculty-of-arts-and-social-sciences/research/research-centres-institutes-groups/uos-papers-in-tesol/volume-9/article03.pdf>.

Waring, R (2011) Extensive reading in English language teaching. En Widodo, H. & A. Cirocki (Eds.) *Innovation and Creativity in ELT methodology*. Nova Publishers: New York. [https://www.researchgate.net/publication/281941558\\_Extensive\\_reading\\_in\\_English\\_language\\_teaching#:~:text=Extensive%20Reading%20is%20the%20practice.easy%2Dto%2Dread%20texts](https://www.researchgate.net/publication/281941558_Extensive_reading_in_English_language_teaching#:~:text=Extensive%20Reading%20is%20the%20practice.easy%2Dto%2Dread%20texts).

Webb, S (2008). RECEPTIVE AND PRODUCTIVE VOCABULARY SIZES OF L2 LEARNERS. *Studies in Second Language Acquisition*, 30(1), 79-95. <https://www.jstor.org/stable/44488020>.

Webb, S., Sasao, Y., Ballance, O (2017). The updated Vocabulary Levels Test Developing and validating two new forms of the VLT. *International Journal of Applied Linguistics*, 168(1), 33-69. [https://www.lex tutor.ca/tests/webb\\_sasao\\_ballance\\_2017.pdf](https://www.lex tutor.ca/tests/webb_sasao_ballance_2017.pdf).

Webb SA, Chang AC-S (2012). Second Language Vocabulary Growth. *RELC Journal*, 43(1), 113-126. [doi:10.1177/0033688212439367](https://doi.org/10.1177/0033688212439367).

- Wijaya, S (2018). LEXICAL RICHNESS IN ENGLISH LANGUAGE AND CULTURE DEPARTMENT STUDENTS' UNDERGRADUATE THESES. *Journal of English Language and Culture*, 8(2), 140-151. <https://journal.ubm.ac.id/index.php/english-language-culture/article/download/1098/965>.
- Šišková, Z (2012) Lexical Richness in EFL Students' Narratives. *Language studies working papers*. 4(1), 26-36. [https://www.researchgate.net/publication/305999633\\_Lexical\\_Richness\\_in\\_EFL\\_Students'\\_Narratives](https://www.researchgate.net/publication/305999633_Lexical_Richness_in_EFL_Students'_Narratives).
- Yu-han, M. & Wen-ying, L. (2015). A Study on the Relationship between English Reading Comprehension and English Vocabulary Knowledge. *Education Research International*, 1 (15), 1-14. <https://doi.org/10.1155/2015/209154>
- Zhang, L & Anual, S. (2008). The Role of Vocabulary in Reading Comprehension: The Case of Secondary School Students Learning English in Singapore. *RELC Journal*. 39(1), 51-76. [https://www.researchgate.net/publication/249768964\\_The\\_Role\\_of\\_Vocabulary\\_in\\_Reading\\_Comprehension\\_The\\_Case\\_of\\_Secondary\\_School\\_Students\\_Learning\\_English\\_in\\_Singapore](https://www.researchgate.net/publication/249768964_The_Role_of_Vocabulary_in_Reading_Comprehension_The_Case_of_Secondary_School_Students_Learning_English_in_Singapore)



## 12. APPENDICES

### Appendix 1. Vocabulary Level Test (VLT)

#### The new vocabulary level test

This is a vocabulary test.

Please select the option a, b, c, or d which has the closest meaning to the word in **bold**.

#### Example question

**see**: They **saw** it.

- a. cut
- b. waited for
- c. looked at
- d. started

The correct answer is **c**.

If you do not know the word at all, please do not answer the question and continue to the next question.

However, if you think that you may know the word, please try to answer.

Let's begin.

Bilingual versions of this test are also available in Japanese and Chinese. If you are interested in making a version in a different language please feel free to do so, and contact the authors if necessary or required.

#### Section 1

1. time: They have a lot of **time**.

- a. money
- b. food
- c. hours
- d. friends

2. stone: She sat on a **stone**.

- a. hard thing
- b. kind of chair
- c. soft thing of the floor
- d. part of a tree

3. poor: We are **poor**.

- a. have no money
- b. happy
- c. very interested
- d. tall

4. drive: She **drives** fast.

- a. swims
- b. learns
- c. throws balls

d. uses a car

5. jump: She tried to **jump**.

- a. lie on top of the water
- b. get up off the ground
- c. stop the car on the road
- d. move very fast

6. shoe: Where is your other **shoe**?

- a. the person who looks after you
- b. the thing you keep your money in
- c. the thing you use for writing
- d. the thing you wear on your foot

7. test: We have a **test** in the morning.

- a. meeting
- b. travelling somewhere
- c. a set of questions
- d. an idea to do something

8. nothing: He said **nothing** to me.

- a. very bad things

- b. zero
- c. very good things
- d. something

9. **cross**: Don't **cross**.  
 a. go to the other side  
 b. push something  
 c. eat too fast  
 d. wait for something

10. **actual**: The **actual** one is larger.  
 a. real  
 b. old  
 c. round  
 d. other

11. **any**: Does she have **any** friends?  
 a. some  
 b. no  
 c. good  
 d. old

12. **far**: You have walked **far**!  
 a. for a long time  
 b. very fast  
 c. a long way  
 d. to your house

13. **game**: I like this **game**.  
 a. food  
 b. story  
 c. group of people  
 d. way of playing

14. **cause**: He **caused** the problem.  
 a. made  
 b. fixed  
 c. explained  
 d. understood

15. **many**: I have **many**.  
 a. none  
 b. enough  
 c. a few  
 d. a lot

16. **where**: **Where** did you go?  
 a. at what time  
 b. for what reason  
 c. to what place  
 d. in what way

17. **school**: This is a big **school**.  
 a. where money is kept  
 b. sea animal  
 c. place for learning  
 d. where people live

18. **grow**: All the children **grew**.  
 a. drew pictures  
 b. spoke  
 c. became bigger  
 d. cried a lot

19. **flower**: He gave me a **flower**.  
 a. night clothes  
 b. small clock  
 c. beautiful plant  
 d. type of food

20. **handle**: I can't **handle** it.  
 a. open  
 b. remember  
 c. deal with  
 d. believe

21. **camp**: He is in the **camp**.  
 a. sea  
 b. place outside where people enjoy nature  
 c. hospital  
 d. building where people sleep

22. **lake**: People like the **lake**.  
 a. area of water  
 b. very young child  
 c. leader  
 d. quiet place

23. **past**: It happened in the **past**.  
 a. before now  
 b. big surprise  
 c. night  
 d. summer

24. **round**: It is **round**.  
 a. friendly  
 b. very big  
 c. very quick  
 d. with no corners

#### Section 2

1. **maintain**: Can they **maintain** it?  
 a. keep it like it is  
 b. make it larger  
 c. get a better one than it  
 d. get it

2. **period**: It was a difficult **period**.  
 a. small set of questions  
 b. time  
 c. thing to do  
 d. book

3. **standard**: Her **standards** are very high.  
 a. the back under her shoes  
 b. test scores  
 c. cost of something  
 d. level of how good she wants things to be

4. **basis**: This was used as the **basis**.  
 a. answer  
 b. resting place  
 c. next step  
 d. main part

5. **upset**: I am **upset**.  
 a. strong  
 b. famous  
 c. rich  
 d. angry

6. **drawer**: The **drawer** was empty.  
 a. box that goes in and out for clothes  
 b. place to keep cars  
 c. place used to keep things cold  
 d. animal house

7. **pub**: They went to the **pub**.  
 a. place where people drink and talk  
 b. place that keeps money  
 c. large building with many shops  
 d. building for swimming

8. circle: Make a **circle**.

- a. rough picture
- b. space with nothing in it
- c. round shape
- d. large hole

9. pro: He's a **pro**.

- a. person who has the job to find important secrets
- b. stupid person
- c. person who writes articles
- d. someone who is very good at doing something and is paid to do it.

10. soldier: He is a **soldier**.

- a. person who works in business
- b. person who studies at school
- c. person who works with wood
- d. person who fights in a war

11. result: They were waiting for the **results**.

- a. right time
- b. questions
- c. money
- d. effects of something

12. resist: They **resisted** it.

- a. made it work again
- b. looked at it twice
- c. thought hard about
- d. acted against

13. lend: She often **lends** her books.

- a. lets people use them
- b. draws inside them
- c. cleans them
- d. writes her name on them

14. refuse: She **refused**.

- a. went back
- b. thought about something
- c. said no
- d. stayed late

15. speech: I enjoyed the **speech**.

- a. type of presentation
- b. very fast run
- c. short piece of music
- d. type of hot food

16. pressure: They used too much **pressure**.

- a. money
- b. time
- c. hard pushing
- d. bad words

17. refer: She **referred** to him.

- a. supported him
- b. let him go first
- c. talked about him
- d. answered him

18. army: They saw the **army**.

- a. black and white animal
- b. place where books are kept
- c. person who lives nearby
- d. people who protect a country

19. knee: Take care of your **knee**.

- a. small child
- b. part of your leg

- c. plan for spending money
- d. something that is yours

20. rope: He found a **rope**.

- a. thick and strong string
- b. something used to make holes
- c. strong box for keeping money
- d. metal tool used to climb up high

21. brand: This is a good **brand**.

- a. dance party
- b. first try
- c. place to wait for others
- d. name of a company

22. seal: They **sealed** it.

- a. fixed it
- b. closed it tightly
- c. looked at it carefully
- d. opened it quickly

23. warn: They were **warned**.

- a. pushed away
- b. welcomed inside
- c. told about bad things
- d. led into war

24. reserve: They have large **reserves**.

- a. things kept to use later
- b. machine for making bread
- c. money from other people
- d. group that runs a company

### Section 3

1. restore: It has been **restored**.

- a. said again
- b. given to a different person
- c. given a lower price
- d. made like new again

2. compound: They made a new **compound**.

- a. agreement between two people
- b. thing made of two or more parts
- c. group that works together
- d. guess based on past experience

3. latter: I agree with the **latter**.

- a. man from the church
- b. reason given before
- c. second one of two things
- d. answer to the spoken question

4. pave: It was **paved**.

- a. stopped quickly
- b. divided into many parts
- c. given gold edges
- d. covered with a hard surface

5. remedy: We found a good **remedy**.

- a. way to fix a problem
- b. place to eat in public
- c. way to prepare food
- d. rule about numbers

6. bacterium: They didn't find a single **bacter**

- a. small living thing causing sickness
- b. plant with red or orange flowers
- c. animal that carries water on its back
- d. thing that has been stolen and sold to a shop

7. behavior: Look at her **behavior!**

- a. people who have come to listen
- b. the way she acts
- c. large amount of money
- d. small land with water around it

8. fuel: Do you have any **fuel?**

- a. material used to make energy
- b. a drug that stops pain
- c. clothing used to keep you warm
- d. a material put in walls to keep heat inside

9. silk: It's made of **silk.**

- a. smooth and soft cloth
- b. hard black wood
- c. animal fur
- d. very light metal

10. conceive: Who **conceived** the idea?

- a. told it to others
- b. explained it
- c. thought of it first
- d. said it was bad

11. legend: It is now a **legend.**

- a. building for keeping old things
- b. thing that is always done
- c. story from the past
- d. event that happens regularly

12. impose: This was **imposed.**

- a. completely changed
- b. in the middle of other things
- c. made to look like something else
- d. forced to happen by someone in power

13. solution: There is no **solution.**

- a. time
- b. support
- c. problem
- d. answer

14. celebrate: We have **celebrated** a lot recently.

- a. found something for the first time
- b. seen many new places
- c. worked very hard
- d. had a lot of parties

15. independence: He has too much **independence.**

- a. freedom from outside control
- b. time by himself
- c. physical strength
- d. feeling of being better than others

16. tunnel: We need a **tunnel** here.

- a. way through or under something
- b. long piece of wood or metal to hold
- c. mark on paper to show a short space
- d. piece of material to cover a window

17. reward: He got a good **reward.**

- a. things said about him by others
- b. someone to help him in the house
- c. money or gift for the things he did
- d. large group of people to listen to him

18. review: The committee **reviewed** the plan.

- a. examined it carefully for a decision

b. agreed to allow

- c. made more just like it
- d. threw it away

19. mode: The **mode** of production has changed.

- a. type
- b. speed
- c. attitude
- d. amount

20. personnel: I don't like the **personnel** there.

- a. type of chair that folds
- b. machine that controls the heat
- c. people who work there
- d. person who owns a company

21. competent: She was very **competent.**

- a. very fast
- b. made angry easily
- c. able to do things
- d. easily hurt

22. devastate: The city was **devastated.**

- a. made beautiful for a special occasion
- b. separated from the rest of the world
- c. suffered great damage
- d. made dirty by small animals

23. constituent: This is an important **constituent.**

- a. building
- b. agreement
- c. idea
- d. part

24. weave: She knows how to **weave.**

- a. make cloth
- b. join pieces of metal together
- c. make people think something
- d. trick people

#### Section 4

1. patience: He has a lot of **patience.**

- a. ability to wait
- b. free time
- c. faith in God
- d. knowledge

2. strap: She broke the **strap.**

- a. promise
- b. top
- c. plate
- d. belt

3. weep: He **wept.**

- a. finished school
- b. cried
- c. died quickly
- d. thought deeply

4. haunt: The house is **haunted.**

- a. full of decorations
- b. allowed to be used for money
- c. completely empty
- d. full of ghosts

5. cube: I need one more **cube.**

- a. pin
- b. box
- c. cup
- d. postcard

6. peel: Shall I **peel** it?

- a. let it sit in water for a long time

- b. take the skin off it
- c. make it white
- d. cut it into thin pieces

7. distress: He felt **distressed**.

- a. unwanted
- b. satisfied
- c. unhappy
- d. energetic

8. depart: She **departed** yesterday.

- a. went away
- b. said no
- c. went down a hill
- d. got worse

9. romance: They had a short **romance**.

- a. difference of opinion
- b. holiday away from home
- c. serious discussion
- d. love relationship

10. ambition: He has no **ambition**.

- a. strong desire to do well
- b. ability to understand people's feelings
- c. ability to make new things
- d. enjoyment of life

11. dash: They **dashed** over it.

- a. ran quickly
- b. walked slowly
- c. fought bravely
- d. looked quickly

12. drown: People have **drowned** here.

- a. eaten outside
- b. died in water
- c. dug a hole
- d. cut down trees

13. originate: It **originated** here.

- a. grew very well
- b. changed shape
- c. remained
- d. first started

14. leaf: He touched the **leaf**.

- a. part of a plant
- b. soft shoe
- c. top of a bottle
- d. glass window

15. amateur: She is an **amateur** player.

- a. someone who plays for fun, not money
- b. player who replaces other hurt players
- c. player representing her country
- d. ball-sports player

16. evacuate: They were **evacuated**.

- a. moved to another place for safety
- b. searched for guns or knives
- c. frightened suddenly
- d. made to look like criminals

17. exert: Don't **exert** yourself!

- a. praise too much
- b. hurt yourself
- c. work too hard
- d. give yourself everything you want

18. marble: It was made of **marble**.

- a. hard stone
- b. hard wood

- c. soft metal
- d. soft cloth

19. diminish: It has **diminished**.

- a. become dark
- b. become less in size
- c. become cloudy
- d. grown colder

20. sheriff: The **sheriff** was friendly.

- a. pilot
- b. housekeeper
- c. policeman
- d. teacher

21. monarch: They saw the **monarch**.

- a. army group
- b. gate
- c. king or queen
- d. criminal

22. plunge: It **plunged**.

- a. danced around
- b. was made quiet
- c. dropped suddenly
- d. stayed still

23. mourn: They **mourned** for several years.

- a. performed on the street
- b. felt very sad
- c. worked hard
- d. used their money carefully

24. fragile: These things are very **fragile**.

- a. special
- b. hard to find
- c. popular
- d. easily broken

#### Section 5

1. scrub: He is **scrubbing** it.

- a. cleaning
- b. repairing
- c. worrying about
- d. drawing pictures

2. dinosaur: The children were pretending to be **dinosaurs**.

- a. people who look for gold
- b. small people that fly
- c. animals that make fire
- d. animals that lived a long time ago

3. nun: We saw a **nun**.

- a. small worm
- b. big accident
- c. woman who serves her religion
- d. strange light in the sky

4. compost: We need some **compost**.

- a. strong support
- b. mental help
- c. strong material that is used for building
- d. soil used to help the garden

5. miniature: It is a **miniature**.

- a. small version of something
- b. brick house
- c. very small living creature

d. detailed plan for a building

6. crab: Do you like **crabs**?

- a. small sea animals
- b. hard thin salty bread
- c. original copy of a piece of music
- d. insect which sings and jumps

7. vocabulary: You will need more **vocabulary**.

- a. words
- b. skills
- c. money
- d. gums

8. corpse: The **corpse** was found in the park.

- a. large and deep cup
- b. mobile phone
- c. artist's hat
- d. dead body

9. rove: He is **roving**.

- a. getting drunk
- b. traveling around
- c. making a musical sound with his lips
- d. working hard using his body

10. divert: The rivers were **diverted**.

- a. made to move in a different way
- b. given bridges
- c. made very dirty
- d. made wider and deeper

11. trench: They looked at the **trench**.

- a. mountain
- b. long hole
- c. pile of trash
- d. beautiful sight

12. technician: She is a **technician**.

- a. man with magical abilities
- b. person who works with and fixes machines
- c. doctor who cares for young children
- d. person who is good at music

13. query: I have a **query**.

- a. headache
- b. large amount of money
- c. question
- d. good idea

14. mug: This **mug** needs a wash.

- a. big cup
- b. old car you like
- c. clothes worn under other clothes
- d. area in front of the door where rain and wind cannot reach

15. static: It's **static** at the moment.

- a. not popular
- b. demanded by law
- c. often said
- d. not moving or changing

16. slaughter: We read about the **slaughter** in the paper.

- a. problem
- b. scientific research
- c. killing
- d. sports event

17. spider: We caught the **spider**.

- a. disease that gives red spots
- b. small animal with eight legs
- c. small public bus
- d. oily fish

18. circus: We went to the **circus**.

- a. place for people who love God
- b. traveling company of entertainers
- c. place where people run races
- d. music group

19. sofa: He bought a **sofa**.

- a. soft seat for two or more people
- b. cutting machine
- c. long pipe for putting water on the garden
- d. a small car with four wheels that a baby can ride in while someone pushes it

20. logo: They have a pretty **logo**.

- a. tree with red fruit
- b. reception
- c. picture or word that represents a company
- d. a holiday home

21. commemorate: We must **commemorate** his actions.

- a. remember something or someone
- b. pretend to agree with something
- c. protest against something
- d. say good things about him

22. crook: They were **crooks**.

- a. people who are not honest
- b. people who work at hospitals
- c. people who cannot walk
- d. people who design buildings

23. volt: How many **volts** were used?

- a. large envelope for business letters
- b. something used to add flavor to food
- c. units measuring electrical power
- d. material that attracts other metals

24. warfare: Modern **warfare** is frightening.

- a. crime
- b. dancing
- c. fighting
- d. pollution

#### Section 6

1. concept: This is a difficult **concept**.

- a. legal agreement
- b. idea about what something is
- c. way of doing things
- d. a written explanation of a law

2. similar: These articles are **similar**.

- a. about a certain thing
- b. of great quality
- c. easy to understand
- d. close to the same

3. item: The next **item** is very important.

- a. thing on a list
- b. question sheet
- c. meeting of people
- d. way something looks

4. component: Each **component** is very important.

- a. set of ideas which support something
- b. flat part that sits on top of another
- c. small part of something bigger
- d. the person you work with

5. compensate: The government should **compensate** the farmers.  
 a. give something good to balance something bad  
 b. stop them from joining a group  
 c. find where they are  
 d. bring them together
6. professional: She wants to be a **professional** musician.  
 a. someone who stays at home  
 b. someone who gets paid to play  
 c. someone on a list  
 d. someone known by many people
7. external: They worried about the **external** damage.  
 a. not known  
 b. outside  
 c. based on facts  
 d. following
8. clause: Please fix that **clause**.  
 a. part of a sentence  
 b. something you are trying to do  
 c. large picture  
 d. small object
9. migrate: The animals began to **migrate**.  
 a. work together  
 b. move together to a different place  
 c. come together as a group  
 d. change together
10. priority: That is our **priority**.  
 a. deal between two people  
 b. most important thing  
 c. something that has been printed  
 d. person who comes next
11. reverse: Try it in **reverse**.  
 a. the other direction  
 b. the way things are arranged  
 c. with the correct sound  
 d. at the correct time
12. arbitrary: Her decision was **arbitrary**.  
 a. not chosen for a reason  
 b. necessary for success  
 c. not able to be changed  
 d. good enough for a purpose
13. mutual: The feeling was **mutual**.  
 a. easy to understand  
 b. fully developed  
 c. the same between two people  
 d. kept under control
14. alternative: Is there an **alternative**?  
 a. another choice  
 b. thing to do  
 c. something to say  
 d. activity with many people
15. colleague: That is my **colleague**.  
 a. something that people talk about  
 b. plan of things to do  
 c. person you work with  
 d. piece of writing
16. legal: Is this meeting place **legal**?  
 a. based on the law  
 b. free to be used  
 c. easy to see  
 d. important to someone
17. site: He looked for a better **site**.  
 a. basic part of something  
 b. opinion about the price  
 c. place where something is  
 d. something brought from another country
18. institute: We must **institute** new changes.  
 a. get with effort  
 b. control with laws  
 c. begin or create  
 d. search for
19. retain: How will the club **retain** its members?  
 a. mix them together  
 b. help them develop  
 c. help them work together  
 d. keep them
20. phase: This is one **phase** of the new system.  
 a. list of things in a special order  
 b. short part of a process  
 c. range of levels  
 d. rule that controls what something is
21. pursue: This year she will **pursue** the group's goals.  
 a. try to get  
 b. change  
 c. check over time  
 d. make easier
22. recover: The men **recovered** their strength.  
 a. showed other people  
 b. used for a reason  
 c. said that they know  
 d. got back
23. diverse: Having **diverse** information is important.  
 a. with no mistakes  
 b. very small amount  
 c. able to be changed  
 d. having different types
24. hierarchy: This **hierarchy** is very common.  
 a. set of ideas a group has  
 b. group with people at different levels  
 c. dangerous material  
 d. popular way of dressing
25. distort: The image is **distorted**.  
 a. having more than one meaning  
 b. exactly the same as something else  
 c. has a badly changed shape  
 d. from recent times
26. accumulate: He **accumulated** many friends.  
 a. understood the value  
 b. got more and more  
 c. said good things about  
 d. became the same as

27. abandon: He **abandoned** the project.

- a. used it for his own gain
- b. controlled in a clever way
- c. stopped working on it
- d. made it as small as possible

28. rigid: These rules are **rigid**.

- a. how good something is
- b. happening at the same time
- c. continuing for a limited time
- d. not able to be changed

29. notwithstanding : **Notwithstanding** John's feelings, Allison went to France.

- a. without knowing
- b. giving back in the same way
- c. because of
- d. not being stopped by

30. perspective: You have a good **perspective**.

- a. events that happen again and again
- b. way of seeing things
- c. group of people you know
- d. how other people see you

**Source:** McLean, S., & Kramer, B. (2015). The creation of a New Vocabulary Levels Test. *Shiken*, 19(2), 1-11.



## Appendix 2. Reading Comprehension Test (RCT)

### READING COMPREHENSION TEST

#### PART 1: messages with comprehension questions

**Instructions:** Students will choose the closest option to the meaning of the AD. Only one option is correct.

"There are certain inappropriate phrases that instantly change the way people see you," Dr Bradberry said in a LinkedIn article. But avoiding these phrases is more difficult than you think.

1.

- A. Inappropriate phrases are difficult
- B. Avoiding inappropriate phrases is difficult, but you need to do so.
- C. There are more inappropriate phrases than you think.

Everyone knows that life isn't fair. Saying "it's not fair" suggests that you think life should be fair, which makes you look immature and naive.

2.

- A. Saying "it's not fair" makes you look ridiculous
- B. Saying "it's not fair" is used by everyone
- C. To suggest a fairer life, you have to say "it's not fair"

When someone asks you to do something or thanks you for doing something, and you tell them "no problem", it suggests that their request should normally be a problem.

3.

- A. If you say "no problem" people will thank you a lot.
- B. Normally a problem comes after saying "no problem"
- C. If you did a favour, avoid saying "no problem" in order to be polite.

If you say that something only "takes a minute", people will think that you rush your tasks. If you're literally not going to complete the task in 60 seconds, then say that it 'won't take long'.

4.

- A. If you say "it takes a minute" you should do it in 60 seconds
- B. Saying "it takes a minute" helps you to do your tasks faster.
- C. It's better to say "it won't take long" if you don't delay doing something

The phrase "I'll try" sounds weak and suggests that you don't have much confidence. Be confident in your capabilities. Say you will do it or offer to do something different.

5.

- A. If someone asks you to do something, always offer to do something different.
- B. Saying "I'll try" can show you are not sure about yourself. Do it or suggest another option
- C. If you are not confident in doing something, say "I'll try it"

The last thing anyone wants to hear at work is someone complaining about how much they hate their job. This is bad for the morale of the group and you will look like a negative person.

6.

- A. An irritating phrases at work is "I hate this job." If you use it, you will be a bad influence on the work team.
- B. Anyone at work wants to hear someone complaining about their job. This phrase will be negative for your appearance
- C. Being a negative person is bad for group morale.



**READING COMPREHENSION TEST**  
**PART 3: Long text with comprehension questions**

**Instructions:** Students will read the article "Self-driving cars." For each question, choose the best option. Only one answer is correct.

Is your drive to work a waste of time? Maybe you hate driving or don't have a license? The solution: self-driving cars. Carmakers have been talking about these for years and have made many predictions about when the necessary computer technology will be ready.

There are six levels of technology that can do some or all of the driver's work. At the lowest levels, the driver controls the car, and the computer helps with parking or staying in a lane. This technology is already in use. At the higher levels, the driver is free to work or sleep, and the computer is fully in control although with a speed limit.

Some people predict that this technology won't be available for many years. It's the middle levels, where a person and a computer both drive the car, which we may see on our roads soon. The question we all want to ask is: are self-driving cars safe? Actually, they might prevent thousands of accidents, although there is a danger that drivers could become too confident about the technology.

Self-driving cars will have other effects. They will probably be better for the environment, as a computer drives a car more efficiently than a person. Self-driving cars may replace taxis. The biggest winners are likely to be some disabled people who don't have a driver's license or older people who have lost confidence in driving on busy roads.

**14. Carmakers have...**

- A. speculated a lot about when self-driving cars will be ready
- B. set a specific date when self-driving cars will be ready
- C. been thinking about including computer technology in today's cars

**15. At the first levels**

- A. The driver is an assistant to the car
- B. The driver is the main controller of the car
- C. These levels are not in use yet

**16. At the higher levels, the driver can...**

- A. Help the car with parking or staying
- B. Control the speed while driving
- C. Do other activities, such as taking a nap.

**17. Some people estimate that...**

- A. Self-driving cars are going to be ready soon
- B. Self-driving cars will be possible but in many years
- C. Self-driving will never be available

**18. Self-driving cars will...**

- A. have positive consequences on car accidents and for disabled people
- B. Affect the drivers' role while driving
- C. Be favourable for the environment since they consume less gas

## READING COMPREHENSION TEST

### PART 4: Long text with comprehension questions

**Instructions:** Students will read the article "Stop using difficult-to-guess passwords." For each gap, choose the best word to fill the spaces. Only one answer is correct.

**'Complex passwords aren't usually frustrating for attackers, but they make daily life much more difficult for users,' the agency warns**

In a new document, the company gives guidelines to keep people safe and they stopped \_\_\_\_\_(19) that "complex passwords are 'stronger'". Now, they recommend that people simplify their approach.

19. A) to say / B) saying / C) say

The GCHQ gives a number of tips \_\_\_\_\_(20) people who work in IT as well as normal users. They warn people to change their default passwords and to make sure that accounts can't be accessed if they're under attack. They also say that people \_\_\_\_\_(21) avoid storing passwords as plain text files because other people can read these files.

20. A) for / B) to / C) by      21. A) have to / B) should / C) has to

The organization also warns against the problems of "password overload". That is what happens \_\_\_\_\_(22) people create too many complex passwords that they can't remember. They have to write them down, and so the passwords become unsafe.

22. A) when / B) where / C) why

People often use complicated passwords because organizations have rules about the complexity \_\_\_\_\_(23) passwords. For example, they must be a certain length or include special characters. Instead, companies should allow people to use their own, \_\_\_\_\_(24) passwords.

23. A) on / B) in / C) of      24. A) simpler / B) more simple / C) complex

## READING COMPREHENSION TEST

### PART 5: Text with gaps

**Instructions:** Complete the text "Expensive taste" with ONE word in each space

Diners believe a meal is tastier if it's more \_\_\_\_\_(25) according to academic research in the United States.

People \_\_\_\_\_(26) eat expensive food notice that it's tastier \_\_\_\_\_(27) the same meal offered at a \_\_\_\_\_(28) price, a Cornell University study showed. The researchers concluded that the \_\_\_\_\_(29) can manipulate our taste and how we feel about eating.

The study looked at the eating habits of 139 people in an Italian restaurant. The price of the \_\_\_\_\_(30) was set by the researchers at either \$4 or \$8 for the all-you-can-eat meal.

**ANSWER SHEET**

Name:  
Class:  
Age:

<p><b>Instructions</b> Use a <b>PENCIL (B or HB)</b>. Rub out any answer you want to change with an eraser.</p> <p><b>For Parts 1, 2, 3 and 4:</b> Mark <b>ONE</b> letter for each answer. For example: If you think A is the right answer to the question, mark your answer sheet like this:</p>	<p><b>For Part 5:</b> Write your answers clearly in the spaces next to the numbers (25 to 30) like this:</p> <div style="text-align: center;"> <span style="font-family: monospace; font-size: 1.2em;">ENGLISH</span> </div> <p>Write your answers in <b>CAPITAL LETTERS</b>.</p>
---	---

Part 1			
1	A	B	C
2	A	B	C
3	A	B	C
4	A	B	C
5	A	B	C
6	A	B	C

Part 2			
7	A	B	C
8	A	B	C
9	A	B	C
10	A	B	C
11	A	B	C
12	A	B	C
13	A	B	C

Part 3			
14	A	B	C
15	A	B	C
16	A	B	C
17	A	B	C
18	A	B	C

Part 4			
19	A	B	C
20	A	B	C
21	A	B	C
22	A	B	C
23	A	B	C
24	A	B	C

<b>Part 5</b>	Do not write below here		Do not write below here
25		25	1 0
26		26	1 0
27		27	1 0
28		28	1 0
29		29	1 0
30		30	1 0

Source: Linguahouse.com. (2022). KET exam template

### Appendix 3. Experts' validation reports



UNIVERSIDAD  
TÉCNICA DE  
COTOPAXI



Carrera de  
Pedagogía de los  
Idiomas

TECHNICAL UNIVERSITY OF COTOPAXI  
PEDAGOGY OF THE NATIONAL AND FOREIGN LANGUAGES MAJOR  
EXPERT VALIDATION FORM

1. Research instrument data:

**Author(s):** Dylan Vinicio Berrones Cevallos & Carlos David Palate Colcha.

**Instrument:** Reading Comprehension Test (RCT)

**Objective:** To measure reading comprehension skills in EFL students.

2. Evaluator Identification

**Names and surnames of the evaluator:** María Fernanada Aguaiza Iza

**ID number or identity:** 0503458499

**Fourth level or postgraduate degree:** Master's degree in Applied Linguistics to Teaching English as a Foreign Language

**Senescyt Registration Number:** 1020-2021-2354184

**Current institution of the workplace (Position and Institution)**

Professor at the language center at the Technical University of Cotopaxi

**Phones:** 0979202566

**email:** [maria.aguaiza9@utc.edu.ec](mailto:maria.aguaiza9@utc.edu.ec)

3. Evaluation

**Instruction:** In the answers of the Likert-type scales, please mark with an X the answer chosen from among the five options presented below:

1 = Strongly Disagree

4 = Agree

2 = Disagree

5 = Strongly Agree

3 = Neither agree nor disagree

Criteria	1	2	3	4	5
<b>Content</b>					
a) The instrument presents clarity and consistency in its content to respond to the instrument's purpose.					X
b) The items on the instrument can elicit responses which are stable, definite, consistent and not conflicting.					X



c) The originality of the author's content gives added value to the instrument.					X
d) The writing presents the qualities expected for the level of training (appropriate writing, vocabulary, spelling, conceptual clarity, etc.).					X
e) The instrument is interesting such that participants will be induced to respond to it and accomplish it fully.					X
<b>Structure</b>					
f) It is properly structured and argued in relation to the practices of the discipline to which it belongs.					X
g) The items and their alternatives are neither too extensive nor limited in their content.					X
h) The design or format of the instrument is technically and systematically sound.					X
<b>Organization</b>					
i) The instrument is not too short or long enough that the participants will be able to answer it within a given time.					X
j) The graphic material that accompanies the texts (images of all kinds and tables) is relevant, clarifies and adds value in all cases.					X
<b>Feasibility</b>					
k) The instrument constitutes a valid, current and relevant contribution to the area of knowledge in which it is registered.					X





**UNIVERSIDAD  
TÉCNICA DE  
COTOPAXI**



**Carrera de  
Pedagogía de los  
Idiomas**

l) Are the scores/grades dependable measures of the intended performances on the assessment tasks constructs?					X
m) Rate the effectiveness and actuality of the ideas and/or information presented in the instrument.					X

**4. Comments and recommendations for the author(s)**

.....

.....

.....

.....

.....  
**MSc. María Fernanda Aguaiza Iza**  
**Evaluator Signature**  
**I.D 0503458499**





UNIVERSIDAD  
TÉCNICA DE  
COTOPAXI



Carrera de  
Pedagogía de los  
Idiomas

### VALIDATION REPORT

The undersigned, María Fernanda Aguaiza Iza,  
with identity card No. 050345849-9, whose profession is English Teacher  
with a Master degree, currently working as English Teacher  
at the Universidad Técnica de Cotopaxi institution.

I hereby certify that I have reviewed for validation purposes the Instrument **Reading Comprehension Test**, which will be applied to a sample of 40 pre-service English teachers from seventh-cycle at the Technical University of Cotopaxi.

After making the pertinent observations, I can make the following observations.

	DEFICIENT	ACCEPTABLE	GOOD	EXCELLENT
Items congruence				X
Breadth of content				X
Items writing				X
Clarity and precision				X
Relevance				X

Date: July 20th, 2022

  
.....  
MSc. María Fernanda Aguaiza Iza  
Evaluator Signature  
I.D 0503458499



**TECHNICAL UNIVERSITY OF COTOPAXI  
PEDAGOGY OF THE NATIONAL AND FOREIGN LANGUAGES MAJOR  
EXPERT VALIDATION FORM**

**1. Research instrument data:**

**Author(s):** Dylan Vinicio Berrones Cevallos & Carlos David Palate Colcha.

**Instrument:** Reading Comprehension Test (RCT)

**Objective:** To measure reading comprehension skills in EFL students.

**2. Evaluator Identification**

**Names and surnames of the evaluator:** Nataly Monserrat Romero Mayorga

**ID number or identity:** 0503615726

**Fourth level or postgraduate degree:** Master's degree in Applied Linguistics to Teaching English as a Foreign Language

**Senescyt Registration Number:** 1020-2021-2354192

**Current institution of the workplace (Position and Institution)**

English teacher and area coordinator at Darío Guevara Highschool

**Phones:** 0992795968

**email:** [monserrat.romero@educacion.gob.ec](mailto:monserrat.romero@educacion.gob.ec)

**3. Evaluation**

**Instruction:** In the answers of the Likert-type scales, please mark with an X the answer chosen from among the five options presented below:

1 = Strongly Disagree

4 = Agree

2 = Disagree

5 = Strongly Agree

3 = Neither agree nor disagree

Criteria	1	2	3	4	5
<b>Content</b>					
a) The instrument presents clarity and consistency in its content to respond to the instrument's purpose.					X
b) The items on the instrument can elicit responses which are stable, definite, consistent and not conflicting.					X
c) The originality of the author's content gives added value to the instrument.	X				



d) The writing presents the qualities expected for the level of training (appropriate writing, vocabulary, spelling, conceptual clarity, etc.).					X
e) The instrument is interesting such that participants will be induced to respond to it and accomplish it fully.					X
<b>Structure</b>					
f) It is properly structured and argued in relation to the practices of the discipline to which it belongs.					X
g) The items and their alternatives are neither too extensive nor limited in their content.					X
h) The design or format of the instrument is technically and systematically sound.					X
<b>Organization</b>					
i) The instrument is not too short or long enough that the participants will be able to answer it within a given time.					X
j) The graphic material that accompanies the texts (images of all kinds and tables) is relevant, clarifies and adds value in all cases.					X
<b>Feasibility</b>					
k) The instrument constitutes a valid, current and relevant contribution to the area of knowledge in which it is registered.					X
l) Are the scores/grades dependable measures of the intended performances on the assessment tasks constructs?					X
m) Rate the effectiveness and actuality of the ideas and/or information presented in the instrument.					X



#### 4. Comments and recommendations for the author(s)

The test is suited to be administrated to students in a university level of education. The topics in the texts are clear and provide enough difficulty and dimensionality to evaluate the underlying ability of students in what concerns to reading comprehension. The number of items is appropriated to avoid tiredness and confusion to the reader. The instructions are well explained and the researchers might easily get the information by using a sheet of answers. I suggest to be aware when using abbreviations and initialisms in the texts that might produce an increase of wrong answers in the test.

.....  
MSc. Nataly Monserrat Romero Mayorga  
Evaluator Signature  
I.D 0503615726


**VALIDATION REPORT**

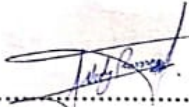
The undersigned, Romero Mayorga Nataly Monserrat  
with identity card No. 0503615726 whose profession is English Teacher  
with a Master's degree, currently working as English Teacher  
at the Darío Guevara Highschool institution.

I hereby certify that I have reviewed for validation purposes the instrument Reading Comprehension Test, which will be applied to a sample of 40 future seventh-cycle English teachers at the Technical University of Cotopaxi.

After making the pertinent observations, I can make the following observations.

	DEFICIENT	ACCEPTABLE	GOOD	EXCELLENT
Items congruence				✓
Breadth of content				✓
Items writing				✓
Clarity and precision				✓
Relevance				✓

Date: July 20th, 2022

  
.....  
**MSc. Nataly Monserrat Romero Mayorga**  
**Evaluator Signature**  
**I.D 0503615726**

#### Appendix 4. Excerpts about readings used to create the vocabulary test

1. Dr. Travis Bradberry, the co-founder of the testing and training company TalentSmart, said that stupid remarks and words can damage your career.
2. "There are certain phrases that instantly change the way people see you," Dr. Bradberry said in a LinkedIn article. But avoiding these phrases is more difficult than you think. The 10 career killers you shouldn't say at the office are:
  3. "It's not fair"  
Everyone knows that life isn't fair. Saying "it's not fair" suggests that you think life should be fair, which makes you look immature and naive.
  4. \_\_\_\_\_ 2  
When someone asks you to do something or thanks you for doing something, and you tell them "no problem", it suggests that their request should normally be a problem. Instead, you should show people that you're happy to do your job. Say something like "It was my pleasure" or "I'll be happy to take care of that."
  5. \_\_\_\_\_ 3  
These passive phrases instantly make you sound less credible. Even if you have a great idea, they suggest that you don't have much confidence. So try to avoid them. And, if you really don't know something, say, "I don't have that information right now, but I'll find out."
  6. \_\_\_\_\_ 4  
If you say that something only takes a minute, people will think that you rush your tasks. If you're literally not going to complete the task in 60 seconds, then say that it 'won't take long'.
  7. \_\_\_\_\_ 5  
Just like the word 'think', 'try' sounds weak and suggests that you don't have much confidence. Be confident in your capabilities. If you're asked to do something, either say you will do it or offer to do something different. But don't say that you'll try because it sounds like you won't try very hard.
  8. \_\_\_\_\_ 6  
You shouldn't make negative remarks about a co-worker. If your remark is true, everybody already knows it, so you don't need to say it. There will always be rude or incompetent people in any workplace, and everyone probably knows who they are. If you can't help them work better or fire them, then bad-mouthing them will only make you look bad.
  9. \_\_\_\_\_ 7  
If you use this phrase, your boss will think that you are only interested in doing the minimum amount of work required. If your boss asks you to do something that you feel is inappropriate for your position, you should complete the task. Later, schedule a conversation with your boss to discuss your role in the company and whether your job description needs an update.
  10. \_\_\_\_\_ 8  
It's never a good idea to blame other people. If something went wrong, explain what happened in an objective way and let your boss and co-workers decide who is responsible. When you start pointing fingers, you will make people nervous. Some people will avoid working with you, and others will blame you first when something goes wrong.
  11. \_\_\_\_\_ 9  
People don't like to hear "I can't" because they think it means that you don't want to do something. If you really can't do something because you don't have the necessary skills, you need to offer a different solution. For example, instead of saying "I can't stay late tonight," say "I can come in early tomorrow morning. Will that work?"
  12. \_\_\_\_\_ 10  
The last thing anyone wants to hear at work is someone complaining about how much they hate their job. This is bad for the morale of the group and you will look like a negative person.  
  
*Adapted from The Independent, by Zlata Rodionova, October 14th, 2015*

Source: [Linguahouse.com](http://Linguahouse.com)



## Who's behind the wheel?

### The future of self-driving cars

1. Is your drive to work a waste of time? Maybe you hate driving or don't have a license? The solution: self-driving cars. Carmakers have been talking about these for years and have made many **predictions** about when the necessary computer **technology** will be ready.
2. There are six levels of technology that can do some or all of the driver's work. At the lowest levels, the driver **controls** the car, and the computer helps with parking or staying in a lane. This technology is already in use. At the higher levels, the driver is free to work or sleep, and the computer is fully in control although with a speed limit. Some people predict that this technology won't be available for many years. It's the middle levels, where a person and a computer both drive the car, which we may see on our roads soon.
3. The question we all want to ask is: are self-driving cars safe? Actually, they might **prevent** thousands of accidents, although there is a danger that drivers could become too confident about the technology. Self-driving cars will have other **effects**. They will probably be better for the environment, as a computer drives a car more **efficiently** than a person. Self-driving cars may **replace** taxis; it will certainly be cheaper to run a taxi service if there are no drivers to pay. If self-driving taxis become really popular, then this might **result in** big changes in the number of people who want to own cars. The biggest winners are likely to be some disabled people who don't have a driver's license, or older people who have lost confidence driving on busy roads.
4. The question isn't IF we will see self-driving cars on the roads, it's WHEN we will see them.

Sources: [bbc.co.uk](http://bbc.co.uk); [theguardian.com](http://theguardian.com); [vox.com](http://vox.com)







**THE  
INDEPENDENT**

## Stop using difficult-to-guess passwords, U.K.'s intelligence organization GCHQ recommends

'Complex passwords aren't usually frustrating for attackers, but they make daily life much more difficult for users,' the agency warns

In a new document, the company gives guidelines to keep people safe and they stopped saying that "complex passwords are 'stronger'". Now, they recommend that people simplify their approach.

The GCHQ gives a number of tips for people who work in IT as well as normal users. They warn people to change their default passwords, and to make sure that accounts can't be accessed if they're under attack. They also say that people should avoid storing passwords as plain text files because other people can read these files.

The organization also warns against the problems of "password overload". That is what happens when people create too many complex passwords that they can't remember. They have to write them down, and so the passwords become unsafe.

People often use complicated passwords because organizations have rules about the complexity of passwords. For example, they must be a certain length or include special characters. Instead, companies should allow people to use their own, more simple passwords.

Those simple passwords might consist of just three simple words, for instance. Or people could use password managers — software that generates and then stores the passwords. The passwords can be complex and people will never need to remember them.

"Software password managers can help — they generate, store and even enter passwords when required," the report says. "However, like all security software, they can be hacked and they are an attractive target for attackers."

That second sentence might be of interest to people who want to use the passwords — according to new documents, GCHQ has been attacking security services used by British citizens in order to spy on people more easily.

*Adapted from The Independent, by Andrew Griffin, Friday, September 11th 2015*

Source: [Linguahouse.com](http://Linguahouse.com)

THE  
INDEPENDENT

## Diners believe a meal is tastier if they pay more for it, say researchers

**Taste, the sense of overeating, and guilty feelings can be controlled by the price of food.**

Diners believe a meal is tastier if it's more expensive, according to academic research in the United States.

People who eat expensive food notice that it's tastier than the same meal offered at a lower price, a Cornell University study showed. The researchers concluded that the price can manipulate our taste and how we feel about eating.

The study looked at the eating habits of 139 people in an Italian restaurant. The price of the food was set by the researchers at either \$4 or \$8 for the all-you-can-eat meal.

The people who paid \$8 for the food enjoyed their meal 11% more than people who ate from the "cheaper" buffet, although both ate the same amount of food. Participants who ate from the cheaper buffet didn't enjoy their meal as much. They reported frequent feelings of overeating and felt guilty about filling their plates.

"It's very interesting that prices have little impact on how much we eat, but a big impact on how you feel," said Brian Wansink, a professor at the Dyson School of Applied Economics and Management.

"Simply reducing the price of food at a restaurant changes how customers evaluate and appreciate the food."

He added: "If you want to eat at a buffet, the best thing to do is eat at the most expensive buffet that you can afford. You won't eat more, but you'll have a better experience."

In another experiment, scientists discovered that people who eat in darker places consume 175 less calories than people who eat in bright areas.

Wansink said the study was, "an example of how a really small change can transform how a person interacts with food."

*Adapted from The Independent, by Adam Sherwin, May 4th, 2014*

Expemo

Learn without forgetting!

Scan the QR at the top of Page 1 to review the lesson flashcards with Expemo.

© LinguaHouse.com. Photocopiable and licensed for use in DYLAN VINICIO BERRONES CEVALLOS'S lessons.

2/4

Source: [LinguaHouse.com](http://LinguaHouse.com)