

**Enhancing English Vocabulary Acquisition of Colombian High School Students
Through Vocabulary Learning Techniques, Mobile Apps,
and Web 2.0 Technologies**

José Norman Abreu Avellaneda

Advisor

Dina Esperanza Bonilla Gómez

Universidad Nacional Abierta y a Distancia - UNAD

Escuela Ciencias de la Educación - ECEDU

Licenciatura en Lenguas Extranjeras con Énfasis en Inglés

2022

Specialized Analytical Summary

Title	Enhancing English Vocabulary Acquisition of Colombian High School Students Through Vocabulary Learning Techniques, Mobile Apps, and Web 2.0 Technologies
Author(s)	José Norman Abreu Avellaneda
Editorial	Universidad Nacional Abierta y a Distancia
Date	June 8, 2022
Keywords	English Vocabulary, Strategies, Methods, Apps, Web 2.0
Description	Monograph
Sources	18 Books, 3 University Theses, 2 Magazine Articles, 55 Scientific/Academic Journals, 40 Scientific Studies, 2, Dictionaries, and 22 Web Articles.
Contents	Esta es una monografía que busca investigar y analizar diferentes estrategias, métodos, técnicas, aplicaciones móviles y herramientas web para aprender palabras en inglés, con el fin de ayudar a los maestros de las escuelas públicas secundarias de Colombia a mejorar el proceso de adquisición de vocabulario y así mejorar el nivel de inglés de los estudiantes, lo cual les permitirá mejores oportunidades laborales y académicas, y mejorará las relaciones

	<p>comerciales de Colombia con otros países del mundo. La necesidad de investigar dichas herramientas parte de los bajos niveles de inglés obtenidos por los estudiantes en las pruebas Saber 11 a través de los años, y de la baja calificación en bilingüismo dada a Colombia en el Índice de Competencia en inglés (EF EPI) que indican la necesidad de encontrar mecanismos para facilitar el aprendizaje del inglés. Este trabajo se enfoca en el proceso de adquisición de vocabulario como pilar en el aprendizaje del inglés, y como objetivos, se propone analizar y compilar información que permita a los profesores y estudiantes conocer más acerca de las herramientas que pueden usar para aprender vocabulario en inglés de forma efectiva, además de presentar las ventajas y retos que estas herramientas presentan para el estudiante y el maestro, de modo que pueda servir para orientar al educador en su utilización en el aula. La monografía también busca, por medio de tres ejemplos, presentar actividades de aprendizaje de vocabulario en inglés que integren las herramientas estudiadas con el fin de mostrar a los profesores de inglés cómo pueden implementar e integrar estas herramientas para mejorar el vocabulario y nivel de inglés de los estudiantes de secundaria.</p>
Research Line	Bilingüismo en la educación a distancia mediada por tecnologías
Conclusions	<p>Luego de un análisis cualitativo de la literatura académica y científica sobre las estrategias, métodos, técnicas, aplicaciones móviles y herramientas web para el aprendizaje de vocabulario en inglés, se puede deducir que estos mecanismos ciertamente permiten la efectiva adquisición de vocabulario,</p>

	<p>llevando al mejoramiento del nivel de inglés de los estudiantes, lo cual se basa en los estudios y experimentos que se realizaron con cada una de las herramientas investigadas que demuestran su efectividad, y que han sido descritos en este trabajo. Este descubrimiento permite dar respuesta a la pregunta de investigación de esta monografía sobre si los mecanismos anteriormente mencionados permiten mejorar el nivel de inglés de los estudiantes de secundaria en Colombia, mejorando así sus habilidades en el idioma inglés. Adicionalmente, luego de la compilación de la información sobre las herramientas de aprendizaje y la formulación de tres actividades de aprendizaje de vocabulario que integran estas herramientas, se puede concluir que los objetivos definidos para esta monografía se han sido cumplidos.</p>
Advisor	Dina Esperanza Bonilla Gómez

Dedication

I dedicate this work to my mother Martha Patricia Avellaneda, for all her love and support and for encouraging me to persevere through difficult times and for listening to me when I needed someone to talk to, to my brother Carlos Ivan Abreu who inspired me to pursue my dream of becoming a teacher, to my Sister Carol Abreu and my niece Susan Camila for their love and care.

I love you all.

Acknowledgements

I want to express my gratitude for the development of this monograph to everyone who in one way or another helped me accomplish this desired goal. First, I thank my family for their unconditional support throughout the years, and all my teachers at UNAD for nurturing me professionally with their knowledge and advice. To my tutors Juana Valentina Rozo and Dina Esperanza Bonila for their great support, counseling, and feedback, which has allowed me to complete this work, and to the *Universidad Nacional Abierta y a Distancia* (UNAD) and its supporting community for allowing me to become an English Teacher. Many thanks.

Resumen

El aprendizaje del inglés es una prioridad para muchos sistemas de educación en el mundo debido al estatus del inglés como lengua internacional de comunicación. Hablar inglés hoy en día le permite a la gente de diversas culturas interactuar, abre oportunidades a las personas y contribuye al desarrollo económico de una nación. Es por eso que el Ministerio de Educación Nacional (MEN) busca promover el aprendizaje del inglés a través de currículos y planes, sin embargo, debido al bajo nivel de inglés de los estudiantes de secundaria, estimado en A2 (Semana 2020) el objetivo no se ha cumplido, por lo tanto, los maestros deben encontrar maneras de mejorar el inglés de los estudiantes. Además, autores como Nation y Waring (1997) y Arévalo y Diaz (2016) han demostrado un vínculo entre el vocabulario y las competencias en inglés, y Nation (2001) ha establecido un umbral de 2000 palabras para hablar inglés y de 9000 palabras para la comprensión de lectura. En consecuencia, el principal objetivo de esta monografía es investigar estrategias, métodos, aplicaciones móviles y herramientas web para aprender vocabulario y presentar sus principales características y retos para que los maestros las implementen en las aulas y las compartan con sus estudiantes y así impulsar el aprendizaje del inglés. Luego de una profunda investigación se estableció que métodos The Keyword Method, The Direct Translation and L1-L1 pairing, The Pictorial Method, Graphic Organizers, The Vocabulary Self-Collection Strategy, The 4 Strands, y Contextual Learning, y aplicaciones móviles como Memrise, Duolingo, WordUp, y Busuu promueven el aprendizaje del inglés y pueden servir a los maestros para alcanzar el objetivo de mejorar el inglés de sus estudiantes si ellos las usan en las actividades diarias en la escuela.

Palabras Clave: Inglés, Vocabulario, Estrategias, Métodos, Aplicaciones Móviles, Herramientas Web, TIC

Abstract

English proficiency is a top priority in many education systems around the world due to the status of English as the international language for communication. Speaking English today allows people from different cultures to interact, opens opportunities for individuals, and contributes to a nation's economic development, because of this, in Colombia the Ministry of Education (MEN) promotes English learning through national plans and curricula, however, due to the low English proficiency of public high school students in Colombia near graduation, estimated as an A2 level (Semana, 2020), the objective has not been reached yet, therefore, teachers need to figure out ways to help students improve their English level. What is more, there is a direct relationship between vocabulary knowledge and general English proficiency noted by authors like Nation and Waring (1997) and Arévalo and Diaz (2016), with Nation (2001) estimating a 2,000 words threshold necessary to speak English as a second language and another of 9,000 words for reading comprehension. Consequently, the main aim of this monograph is to investigate web tools, mobile apps, strategies and methods for English vocabulary learning and present their main characteristics and challenges for teachers so that they implement them in the classrooms and share them with their students to boost their English skills, Following thorough scrutiny of the reviewed literature, it was established that methods like The Keyword Method, The Direct Translation and L1-L1 pairing, The Pictorial Method, Graphic Organizers, The Vocabulary Self-Collection Strategy, The 4 Strands, and Contextual Learning, and apps like Memrise, Duolingo, WordUp, and Busuu promote vocabulary learning and can help teachers achieve the aim of improving their students' English proficiency through vocabulary learning if they are used in the everyday English learning activities at schools.

Keywords: English, Vocabulary, Strategies, Methods, Mobile Apps, Web Tools, ICT.

Table of Contents

List of Tables	12
List of Figures	13
List of Appendices	14
Introduction	15
Significance of the Study	16
Statement of the Problem	19
Objectives	22
General Objective.....	22
Specific Objectives.....	22
Literature Review	23
Glossary.....	25
The Influence of Vocabulary on English Language Learning	30
Previous Studies on Vocabulary Learning Strategies	32
Methods and Strategies for Vocabulary Learning.....	33
The Mnemonic Keyword Method	33
Direct Translation and L1-L2 pairing	34
The Pictorial Method	36
Graphic Organizers and The Word Mapping Technique	37

	10
The Vocabulary Self-Collection Strategy	40
The Four Strands in Vocabulary Learning	42
Learning vocabulary in Context	44
Web Tools	47
YouGlish	48
Linguee	48
ToPhonetics.com	49
Kahoot	49
Vocaroo	50
Mobile Apps	52
Memrise	53
Duolingo	55
WordUp	57
Busuu	59
Three Activities to Implement in the Classroom with VLS and ICTs	62
Using the VSS in combination with Duolingo or Memrise:.....	62
Using Translation Techniques with Contextualization and WordUp:	62
Using the 4 Strands and Web Tools:.....	63
Methodology	64

	11
Results and Discussion	68
Contributions to Previous Research	70
Pedagogical Implications.....	71
Limitations of the Study	73
Conclusions and Recommendations	74
References	76

List of Tables

	Page
Table 1. Vocabulary Learning Mechanisms and Researchers	65

List of Figures

	Page
Figure 1. The Word Map Graphic Organizer	38
Figure 2. Percentage of researchers investigated for each Vocabulary Learning Mechanism....	66

List of Appendices

	Page
Appendix A: Types of Graphic Organizers	97
Appendix B: Graphic Organizers for the Vocabulary Self-Collection Strategy	99
Appendix C: List of Useful Web 2.0 Tools for English Learning	100
Appendix D: Graphic Interfaces of Android Mobile Apps for English Learning	102

Introduction

The low English scores obtained by Colombian high-school students on the state knowledge test Saber 11 and the low ranking of Colombia in the English First's English Proficiency Index (EF EPI) reveal the students' low English level upon high school graduation, despite the efforts made by the Colombian government through the National Bilingualism Plan (PNB). This reality has had a negative impact on the students' professional and academic opportunities, and the country's global competitiveness. Since vocabulary acquisition is one of the main aspects of learning a foreign language (Prabha & Abdul Aziz, 2020, citing Asgari & Bin Mustapha, 2010), and due to the boom of Information and Communication Technologies (ICT) and the presumed efficacy of Vocabulary Learning Strategies, Methods, and Techniques (VLS), the question is whether these technological and pedagogical tools can effectively improve the vocabulary learning process of Colombian high school students, leading to the improvement of their English skills. This monograph intends to answer this question with the scrutiny and analysis of several quantitative and qualitative studies, experiments, and surveys that expose whether these tools are indeed effective for vocabulary acquisition, therefore, benefiting students and teachers with relevant information about the tools they can use for effective vocabulary learning and helping teachers achieve the goal of improving students' English proficiency, meanwhile helping students become autonomous in their vocabulary learning process.

Significance of the Study

Vocabulary knowledge is a key aspect of learning a language and for students of English as a Second Language (ESL), learning it is “one of the most daunting tasks to do” (Schmitt, 2000, p.4). Although research on vocabulary acquisition and its effects on language proficiency is not abundant, some studies have shown the influence of vocabulary knowledge on specific English skills like listening, speaking, and reading. According to Chang (2007), vocabulary learning has a positive effect on the listening skills of students. Moreover, Arévalo and Diaz (2016) showed that vocabulary learning can help ESL students improve their speaking skills. Furthermore, Mehrpour and Rahimi (2010) demonstrated that students are likely to increase their reading comprehension if they expand their vocabulary.

When it comes to the relationship between vocabulary size and English proficiency, Nation (2001) established a threshold of 2,000 words necessary for a good level of speaking, and another of 9,000 words for reading comprehension, which indicate a direct relationship between vocabulary size, and speaking/reading. Regarding productive skills, a student would certainly struggle to express meaning effectively with a limited lexicon since “there is an important relationship between students’ vocabulary level and their ability to speak English” (Arévalo et al., 2016, p.52).

What is more, according to Huckin and Coady (1999) increasing the vocabulary of students enhances their reading skills and in turn, reading facilitates the acquisition of high-frequency words through frequent encounters with L2 words (Schmitt, 2000). Concerning listening skills, not only do students need to develop them by listening to audio and watching videos in L2 but also, they need to broaden their vocabulary by learning the English words that

are most frequently used in conversation. According to Nation (2006), it takes about 6,000 words for listening comprehension.

Furthermore, Wilkins (1972) and Nation (1990, 2001) believe that vocabulary learning is critical for learners to be able to express meaning in L2 with Nation believing that vocabulary size is a high predictor of proficiency. Thus, based on the effects of vocabulary on general English skills, it seems necessary to take more time and effort to focus exclusively on the students' vocabulary acquisition, and for that reason, it is advantageous to learn more about the strategies, methodologies, and ICT tools that can assist students with the challenging task of learning vocabulary.

Consequently, considering how important internet-based technologies are in our lives today, it seems beneficial to exploit the possibilities and advantages that technologies like web tools and mobile apps can offer to vocabulary learning. These tools provide communication, interactivity, multimedia capabilities, and time and space flexibility, consequently, they are the ideal tools for vocabulary acquisition. This is in line with Agca & Özdemir's (2013) research study, where students that used mobile apps for learning words, showed a significant increase in vocabulary knowledge.

Regarding vocabulary learning strategies, methodologies, and techniques, two studies have addressed this subject in the Colombian high school context, inspiring the necessity to further investigate these tools for vocabulary acquisition. The first one is a study by Ibarra and Ortega (2018) where students with working memory deficits were trained to use vocabulary learning techniques like graphic organizers, keywords, paraphrasing, and memory aids, reporting working memory improvements after the treatment. The second is a study by Siatoba, Forero,

and García (2014), where students of English at an NGO used visual and contextual strategies for vocabulary learning, as well as notetaking and student-teacher interactions and after taking a post-test, they demonstrated a positive vocabulary increase. Based on the positive results of these studies it is pertinent to make a deeper investigation into vocabulary learning strategies, methods, and techniques that can help enhance the vocabulary acquisition process in public schools.

And for these reasons, high school Colombian Teachers should benefit from the information on the characteristics, advantages, and challenges of ICT and VLS explored in this monograph that they can use to help their students learn vocabulary efficiently, aiming to produce a positive impact on the students' overall English skills.

Statement of the Problem

The worldwide growing influence of English creates a necessity for English proficiency in countries that seek to become globally competitive. According to the National Ministry of Education known in Spanish as Ministerio de Educación Nacional (MEN), the low English proficiency of students puts high pressure on developing countries like Colombia to improve the English communicative and overall skills of their high school students (MEN, 2006). In consequence, policies, and programs to teach English as a second language in Colombia have been met with unsatisfactory results, especially because “teachers in public schools struggle to accomplish lessons and comply with policy reforms” (Valencia, 2006, p. 13).

This fact is evident in the scores of the state test called *Prueba Saber 11* managed by the Colombian Institute for the Development of Higher Education (ICFES) which reveals the low English proficiency of many test-takers. Between 2017 and 2019, only 3% of the students obtained a high score in English while only 27-36% of the students obtained intermediate scores, 49-50% got low scores and 12-21% got the lowest scores of all.

Furthermore, the global ranking of the English First’s English Proficiency Index (EF EPI) places Colombia at number 77 out of 99 countries regarding English proficiency (2020), an exceptionally low position (in 2021 it was placed #81 out of 112). This is a matter of concern from an economic perspective since it limits the country’s trading opportunities and hinders its development of tourism. Additionally, the demand for English speakers has increased due to the global market economy which requires an English-speaking labor force. On top of that, bilingual personnel are required because of commercial and diplomatic relationships with English-speaking countries like the US, Canada, and the EU (Sanchez, 2013). Furthermore, students with

low English levels have difficulties finding professional and academic opportunities at home and abroad whereas those with good English communicative skills have better salaries and more job opportunities, which is why, English proficiency has been linked to human and economic development (EF EPI, 2020) and for this reason, it is necessary to find ways to enhance English education in Colombia, and in this way, improving people's living conditions and prompting the nation's economic boom.

Roldán (2016, p. 14-15) identifies some problems with the teaching strategies in Colombian high-school classrooms, for instance, in high schools English is treated as any other subject in the curriculum and not as a tool for communication, and also, there is the fact that some teaching strategies and materials are outdated and do not consider the students' culture of origin and context. Additionally, Colombia does not invest enough resources to improve English teaching, believing that English can be improved solely by allocating more hours for teaching (Roldan, 2016).

An important reason for the underachievement of students is failing to identify their learning styles and motivations which could be addressed by exploiting the potential of ICTs as learning tools in the classroom. Regarding the teaching strategies in Colombian classrooms, they are mostly structuralist and grammar-oriented, and they neglect the process of vocabulary acquisition, maybe because the role of vocabulary development in the enhancement of English skills is ignored. Teachers spend more time on teaching grammar rules, spelling, and pronunciation than they do helping students learn vocabulary, communicative skills, reading comprehension, and listening.

Considering the problems that the public education system in Colombia is facing regarding high school students' English proficiency, the main question is:

Will information regarding vocabulary learning strategies, methods, mobile apps, and web tools be useful for teachers to help their students increase their vocabulary and improve their English skills?

Objectives

General Objective

To research different vocabulary learning methods, strategies, web 2.0 tools, and mobile apps that can be employed by public high school teachers in Colombia to facilitate students' English vocabulary acquisition and enhance their English skills.

Specific Objectives

To examine information related to methods, strategies, web tools, and mobile apps for vocabulary learning.

To present the facts and challenges of the methods, strategies, apps, and web tools used for language and vocabulary learning.

To exemplify the implementation of the vocabulary learning mechanisms through sample classroom activities.

Literature Review

English education in our country has become one of the top priorities for the Colombian Government's MEN due to its implications for the nation's socio-economic development and global competitiveness (Estrada, Mejía, and Rey, 2016). The introduction of the General Law of Education – Law 115 of 1994 marked the beginning of a formal plan for English proficiency in Colombia. One of the objectives for secondary education in section 3rd, article 21, literal 1 of the law is described as: “The comprehension and ability to express oneself in a foreign language” and due to the essential role of English in the world, it is the foreign language primarily taught in the Colombian public schools. In addition, English teaching has become relevant in the country due to institutions like the British Council, which has had a presence in our country since 1939 teaching and promoting English ever since. Additionally, due to the global influence of the United States after World War II and the adoption of English as an international language for business, trading, and education worldwide, English is today the world's lingua franca (Orjuela, 2018).

Consequently, through the release of the National Bilingualism Plan (PNB), the Colombian government is attempting to elevate high school students' English proficiency level to B1 (low-intermediate) nearing graduation (MEN, 2006, p.3), using as reference the Council of Europe's Common European Framework of Reference for Languages (CEFR). The B1 proficiency level is described in the CEFR as the level in which subjects can describe experiences, events, and provide personal information, understand routine topics about home, school, work, traveling, and produce texts on familiar subjects and topics of interest (Common Reference Levels, Table 1 - CEFR 3.3). Following the CEFR standards, the government has

designed and distributed a handbook called *Suggested English Curriculum for Colombia* known in Spanish as *Currículo Sugerido de Inglés para Colombia* with guidelines and teaching goals for English educators, and a description of the proficiency levels and language competencies and skills to be attained in each grade.

Despite the efforts made by MEN towards English development in schools, the students' mean proficiency is still below the desired level, notably for high school students upon graduation. The underachievement of students in English is observable in the scores of a national leaving high school test *Pruebas Saber 11* conducted by ICFES. According to the magazine *Semana* (2020), the test results from 2020 report an average English score of 46.9, equivalent to A2 on the CEFR scale, a low English level.

Additionally, a comparative analysis between 2017 and 2019 of the *Prueba Saber 11* test results (ICFES, 2019) shows that about 41.6% of the students do not have enough language skills to introduce themselves, ask simple questions, or provide information like their address, personal data or understand basic language input. Between 2017 and 2019 an average of 90.2% of students scored below B1 which is an alarming number from the point of view of the PNB's English goals for high school graduates.

Furthermore, in the global English ranking of countries, issued by EF-EPI, Colombia has been placed #77 out of 99 countries in English proficiency worldwide in 2020 and #81 out of 112 countries in 2021. These are exceptionally low positions and lower than in previous years (it was placed #60 in 2018 and #68 in 2019), and in South America, Colombia is in 17th place among 19 countries (year 2020). This makes Colombia a country with poor levels of English proficiency in the region.

Glossary

Following are the definitions of the technical terminology used throughout this document that will help the reader better understand the information about vocabulary learning strategies, methods, techniques, mobile apps, and web tools presented herein.

Vocabulary: This refers to a set of words within a particular language that speakers of such language know and use for communication (Hatch and Brown, 1995 p.1). Nevertheless, the concept of a word must be defined and delimited to understand what it means to learn vocabulary, what is implied in the process of vocabulary learning, and how much vocabulary must an English learner know to read, write, and communicate effectively in English.

Word Root, Lexeme, Inflections, and Derivatives: According to Schmitt (2000), a word is an item that represents meaning which can be made up of one or multiple parts as in the case of phrasal verbs or compound nouns. In addition, a single word can have different meanings. Moreover, a lexeme represents the meaning of a vocabulary item regardless of its parts, plus, different lexemes can represent the same meaning. (Schmitt, 2000, p. 2). In many languages, a single word takes different forms when affixes or morphemes are added. This change starts from a base word or root which is the part that remains unchanged. Schmitt (2000) describes two main categories of change: Inflections and derivatives. He explains inflections as the change of a word from its root into different forms using suffixes or prefixes that indicate the person, number, gender, voice, mood, tense, case, etc., and derivatives as words that derive from the same word root which contain other morphemes, words, or affixes that change its type or category.

Word Family: A word family comprehends a group of words that derive from a common root, having a similar form and meaning. A word family includes all the derivative forms and

inflections of a base word. It is assumed that a learner can infer the meaning of a word if they know the meaning of any other word from the same family (Nation and Bauer, 2020).

Receptive and Productive Vocabulary Knowledge: Nation (1990) describes two forms of vocabulary knowledge: Receptive Vocabulary Knowledge and Productive Vocabulary Knowledge. The receptive knowledge of a word, according to Nation, is the ability to identify a word from text or speech (Language Input) through the auditory or visual senses. On the other hand, productive knowledge of vocabulary takes place when various aspects of a word are recalled (e.g., the word's meanings, collocations, frequency, appropriateness, usage) and then used in speaking and writing (Language Output). The degree of knowing a word receptively or productively depends on how deep one knows a word's meanings, characteristics, and particularities (Vocabulary Depth).

Vocabulary Depth: Stæhr (2009) defines vocabulary depth as the level at which a learner knows a word and "how well words are organized in the learner's mental lexicon" (p. 579). For Stæhr, vocabulary depth is the knowledge of different dimensions of a word, like its spelling, pronunciation, semantic relationships, grammatical patterns, relation to other words (synonyms, antonyms), collocations, etc. Moreover, Nation (1990) thinks that each dimension can be known to different degrees, and this determines the level of vocabulary depth, which according to Nation, is complex to measure.

Vocabulary Breadth: This is the number of words a subject knows, taking into consideration the knowledge of at least one meaning of a given word. Most research dealing with vocabulary size has considered word families as a unit of counting on the assumption that individuals can easily identify a word if they know a word from the same family, basing it on the

fact that “[the] mind groups the members of a word family together” (Schmitt, 2000 p. 2 citing Tyler and. Nagy 1989).

Imageability of Words: This expression refers to the ease with which a word can be represented visually in the mind accordingly to what it represents, which in the case of concrete nouns like “house” or “cat” is easier than with words like “although” or “however” (Paivio, Yuille, & Madigan, 1968).

Information and Communication Technologies (ICT): ICTs comprehend all the internet-based applications and systems, as well as the underlying infrastructure that makes it all possible. ICTs provide instant communication, multi-user interaction, and multimedia capabilities, which are accessed from a computer or smartphone, supported by an enormous infrastructure (Pratt, 2019). All these elements comprise ICTs, although the term ICT is frequently used to mean the software used on web browsers and mobile devices, therefore, this meaning will be used in this work.

Web 2.0 tools: Perez-Salazar, G. (2011) describes Web 2.0 tools as applications hosted on the World Wide Web which provide services that allow their users to interact with each other, share documents, and collaborate, among other things. Some are based on the Content Management System or CMS model allowing users easy access, editing, and publishing of digital content. Additionally, Lee & McLoughlin (2010), explain how Tim O'Reilly used the term Web 2.0 to talk about the evolution of web applications that provide a particular service, assist with a particular task, or allow the creation of communities such as social networks, blogs, wikis, online interactive games, and learning websites.

Mobile Device Application or App: An App, as defined by the Merriam-Webster

dictionary, is “an application designed for a mobile device” like smartphones and tablets. They are exclusively created for mobile devices, excluding computers and laptops. These applications are used to execute a specific task, provide services, for playing games, and to perform bank transactions, etc. They include multimedia features like video, images, audio, user interaction, instant communication, file sharing, and countless other features.

Multimedia: Multimedia is digital content created exclusively for use on a computer or mobile device and it shows information in the form of video, graphics, audio, and text in a structured way. The Cambridge dictionary defines multimedia as “a combination of moving and still pictures, sound, music, and words, especially in computers or entertainment”

Digital Tools: Digital tools are internet-based applications such as websites, online games, mobile apps, and online digital resources that allow you to complete a task, play games and puzzles, read books and newspapers, communicate with others, and learn something, depending on the purpose of the tool. According to Haelermans (2017), digital tools as an element of ICTs, are valuable software applications to be used in classrooms by teachers under their guidance.

Freemium: This term refers to a modern business model in which a set of services are offered for free whereas more specialized features are only available for paying subscribers. Collins Dictionary. (n.d.).

Approach: An approach refers to the perspective educators have of teaching and learning, based on their personal beliefs, experiences, and principles. An approach is used to conceive the way teaching and learning should occur in the classroom, by which methods and teaching styles, and under which principles. According to Fenstermacher and Soltis (2004), a

teaching approach guides the classroom activities and helps teachers use engaging ways of presenting the subject matter to the students and customize teaching materials according to their abilities and knowledge. Some approaches conceive the relationship “teacher-student”, others the “subject-student” relationship, and others consider number (individual or group learning).

Approaches are also described as theoretical views on learning that determine the types of methods and techniques that should be used to help students learn. (British Council n.d.) Examples of approaches are The Teacher-Centered Approach, The Learner-Centered Approach, The Constructivist Approach, and The Inductive-Deductive Approach.

Method: Teaching methods can be defined as “a set of principles, procedures or strategies to be implemented by teachers to achieve the desired learning in students” (Westwood 2008, preface section, citing Liu and Shi, 2007). Westwood (2008) describes methods as a set of teaching principles, beliefs, and theories about learning which are determined by the subject matter to be taught. Furthermore, The British Council defines methods as the “practices and procedures that a teacher uses to teach” (British Council n.d.). These practices and procedures include the learning activities, materials, strategies, and techniques and the way they are used, based on a teacher’s beliefs, principles, and the theories on education that come from a teaching approach. Examples of methods are The Teacher-Center Method, The Project-based Method, The Task-based Method, The Flipped Classroom, The Content-Focused Method, The Learner-Center Method, and The Direct Method).

Learning Techniques: Learning techniques are described by Pozo (1990) as learning mechanisms within teaching strategies such as the tricks employed to develop specific cognitive abilities. Moreover, the authors Dunlosky, Rawson, Marsh, Nathan, and Willingham (2013) in

their work *Improving Students' Learning with Effective Learning Techniques* review a series of techniques, which are presented as concrete activities to achieve specific learning goals. They described, for instance, the techniques of writing summaries, using keywords to memorize verbal material, highlighting and underlining portions of text, forming mental images of text materials, etc. It is important to note that the term *Technique* is sometimes used interchangeably with *Method* in research papers and articles. Examples of learning techniques are Mind Mapping, Brainstorming, Self-learning, Gamification, Quizzes, and Keyword mnemonics.

Strategy: Strategies are the planning of steps, activities, resources, and procedures to solve a problem or achieve a particular goal. They are not to be followed exactly as planned since they can be modified on the go for practicality. According to Schmeck (1988), strategies are a sequence of procedures and steps taken for the achievement of a learning objective. Schumaker & Deshler, (1992) describe strategies as the organization and use of skills to engage in tasks to achieve a learning goal.

The Influence of Vocabulary on English Language Learning

In the field of vocabulary learning, the works of Paul Nation and Norbert Schmitt stand out for their quality and are often referenced in the literature. Nation and Schmitt have written about the nature of vocabulary learning, and the vocabulary size necessary to write, speak, read, and understand a second language. In his work *Vocabulary in Language Teaching* (2000), Schmitt establishes a threshold of approximately 2,000 English words that are necessary for basic interaction with native speakers, citing authors such as Schonell, Meddelton, and Shaw (1956), and Meara (1995). Other threshold estimates in Schmitt's work are the number of words needed to read (between 3,000 and 5,000 according to Nation and Waring, 1997), and to speak at the

same level as a native speaker (from 15,000 to 20,000 words). These thresholds suggest a direct relationship between vocabulary size and language proficiency.

On the other hand, Nation (2007) in his work *The Four Strands*, describes a strategy to foster vocabulary acquisition and grammar, where vocabulary acquisition is considered essential for the development of skills like speaking, fluency, reading, and writing. Furthermore, according to Nation (2001 p. 20-21), after learners have acquired most of the high-frequency vocabulary, they need to use vocabulary learning strategies to learn low-frequency words on their own, as teachers cannot teach such an extensive vocabulary in the classroom, thus, learning strategies would help students increase their vocabulary and develop their language skills. What is more, Nation and Laufer (1999) designed a well-known vocabulary size test to measure the amount of receptive vocabulary knowledge.

Other researchers such as Nasir, Manan, and Azizhan (2017) have demonstrated the direct relationship between vocabulary size and English proficiency testing students' English proficiency and measuring vocabulary with Nation's 1999 test. Stæhr (2008) demonstrated a positive correlation between vocabulary size and reading, listening, and writing skills, where a particularly high correlation was found between reading and vocabulary size. Furthermore, Stæhr describes how the study participants who mastered the 2,000-word level performed exceptionally well in all the activities carried out in the experiment. Additionally, Ünaldı and Yüce (2021) showed a relationship between vocabulary size and grammar which in turn influenced critical thinking. Based on these findings it is safe to say that vocabulary size has an impact on learners' English proficiency and skills, therefore, measures to help them increase their vocabulary seem crucial for L2 development. Some measures that can be taken to help students acquire

vocabulary are teaching them vocabulary learning strategies and encouraging them to use mobile apps and web tools for English vocabulary learning.

Previous Studies on Vocabulary Learning Strategies

A study by Ghalebi, Sadighi, & Bagheri (2020), surveyed the different vocabulary learning strategies used by EFL students from BA and Ph.D. programs. The researchers classified the strategies as Affective Strategies, Memory strategies, Metacognitive Strategies, Cognitive Strategies, and Linguistic strategies. The study revealed that memory strategies were the most frequently used among students due to the popularity of rote-memorization in learning, followed by cognitive strategies. The researchers concluded that learners from different academic degrees preferred different vocabulary learning strategies, where metacognitive strategies were preferred by post-graduate students whereas BA students preferred Memory and Cognitive strategies to learn vocabulary. Ghalebi et al. (2020) also suggested that teachers need to teach students “how to use effective vocabulary learning strategies to learn more efficiently when they build their vocabulary skills” (p. 9)

Another study on vocabulary learning strategies was conducted by Nie & Zhou (2017) where by applying the case study methodology, three participants were evaluated, and through a qualitative interview, it was determined that the students prefer to use metacognitive strategies in combination with cognitive and meditation strategies to achieve great learning results as opposed to only using one strategy. It was also determined that the most common strategy used by the students were the metacognitive strategies and specifically, the strategy of selected attention. (The strategies evaluated by Nie & Zhou (2017) were Advance Organizers, Selective Attention, Self-Monitoring, Self-Evaluation, Repetition, Resourcing, Practice, Transfer, Translation,

Inferencing, Elaboration, Reading, Keywords, Grouping, Cooperation, and Self-Stimulation).

Methods and Strategies for Vocabulary Learning

The Mnemonic Keyword Method

The Keyword Method (KWM) is a technique in which words from a foreign language are memorized using native language words as cues, based on their similarities in sound or spelling and associated utilizing a mental picture, phrase, or rhyme that integrates the native and foreign word. This is done to help learners remember a foreign word using their knowledge of a native word and a mental and/or aural memory. Take, for instance, the English word “soap” which translates in Spanish as Jabón. A Spanish native could use the similar pronunciation of the Spanish word “Sopa” (meaning soup) and the English word “Soap” and imagine a dish of soup with a bar of soap in it and make the association. Now, if the same subject needed to learn the word for “table” (mesa in Spanish), the subject could imagine a table made of planks (or “tablas” in Spanish), using the similarity in spelling between the two words.

Effectiveness: The effectiveness of the KWM was proven by Atkinson and Rough (1975) in a study where subjects who learned Russian words using the KWM through computer software scored higher in subsequent posttests than those who use another method, with an advantage ratio of 1.5:1. The subjects also experienced longer word retention after one month of the experiment which suggests that the KWM promotes vocabulary learning and long word retention. Additionally, Shapiro and Waters (2005), citing Mastropieri (1990), argue that the KWM helps students with learning disabilities memorize words more efficiently than traditional methods.

Challenges and Facts

Mental picturing and Imageability of Words: when it comes to the imageability of words and the KWM, Shapiro & Waters (2005) demonstrated in a within-subjects experiment that the imageability of words plays a crucial role in the method's success regarding word recall, as words with a high-imageable value (e.g., concrete words like *cheese* or *bed*) were recalled better than abstract words (e.g., *wisdom*, *envy*) by the subjects after being treated with the Keyword Method (Dacian, 2014). What is more, Hall (1988) determined that for learning low imageable words, rote learning was more effective than the KWM. Moreover, according to a study by Dolean (2014), the KWM did not help university students recall vocabulary more easily than other methods perhaps due to the advanced level of English of university students, thus, this suggests that the KWM is not effective for students with an advanced English level.

Direct Translation and L1-L2 pairing

L1-L2 pairing of words is a technique that consists of learning a foreign word by pairing it with a native word that is its direct translation so that the learner makes the direct association between the two words and their meaning. The L1-L2 pairing technique has been discouraged in recent years in favor of approaches such as the Communicative Approach and the Audio-Lingual method in which L2 is used exclusively (Melita, 2012), nevertheless, using direct translation to learn L2 words can be beneficial for beginners and pre-intermediate learners who according to Prince (1996) and Al-Musawi (2014) usually resort to L1 translations to understand the meaning of foreign words, hence, this strategy could help beginners learn vocabulary in a way that is familiar to them.

Effectiveness: A study by Camo and Ballester (2015) proved that when students used direct translation pairing through video clips, flashcards, and short stories they recalled 77% of the words in comparison to students of a control group who did not use L1-L2 pairing and only recalled 44% of the words, showing the efficacy of this method and what is more, students relying on L1 direct translations demonstrated faster word recall times. Furthermore, when Alroe and Reinders (2015) replicated a study by Prince (1996) that proved the superiority of direct translation over contextualized learning, they found the opposite, yet they concluded that using contextualized learning with direct translation led to higher vocabulary gains than using just contextualized learning which confirms the efficacy of using direct translation and L1-L2 pairing.

Challenges and Facts

Native Language Interference: According to Wang (2014), beginners' first language influences positively their acquisition of a second language in what is known as Language Positive Transfer, as beginners tend to rely on their native language to learn a foreign language, especially in the beginning, however, there are occasions when L1 causes learners to make mistakes and have mix-ups with L2 words, that could derive from things like false friends, cognates, the closeness between L1 and L2, or native language bias that makes learners believe they can use the L2 in the same way they use their native language. When such a negative influence is received from the native language (Negative Transfer), according to Wang (2014) it hinders the learning of a second/foreign language.

Learner Proficiency: According to Krashen (1992) using L1 in teaching EFL helps beginners understand target language input and vocabulary instruction, helping the learning

process, however, this strategy is not suitable for intermediate and advanced learners who can and should rely more on their knowledge of L2 for word learning and language instruction.

The Pictorial Method

The pictorial method consists of using images as a mnemonic device to learn words. Images that can be used include photographs, paintings, drawings, illustrations, comic and cartoon-like images, black and white sketches, 2D and 3D digital images, etc. They can be used in digital form or printed on paper. According to Shapiro and Waters (2005), images are valuable resources to keep learners interested and produce effective learning through visual memory. Furthermore, Watcharee (2017) recommends using more realistic images for vocabulary learning to be effective.

Effectiveness: The pictorial method was tested in a within-subjects study by Bates and Son (2020) using the direct translation technique as the initial treatment, and pictures (Simplified Pictorial Representation or SPR) as the second treatment where after a series of posttest, the vocabulary learned with the SPR was recalled more times than the vocabulary learned by L1 word, plus, a qualitative questionnaire applied by Bates and Son showed that 95.9% of the subjects enjoyed more learning with images than with L1 words, with 55.1% reporting that using images made words easier to understand than L1 words, and 44.9% expressing that using images to learn words was easier. These results demonstrate the positive effects of using pictures to learn foreign vocabulary.

Challenges and Facts

Word Imageability: According to Nelson & Schreiber (1992) as cited by Bates and Son (2020), a big challenge while using this strategy is to find the appropriate images to represent

abstract words (e.g., *argument* or *decision*), which could be a difficult and time-consuming task for teachers and learners and thus discouraging. In the case of abstract words that are not clearly understood with images, it would be better to resort to using a mnemonic technique or direct translation to study their meaning.

Types of Images Used: Regarding the type of images used to learn words, Watcharee (2017) demonstrated that using realistic images, images with L1 translations embedded in them, and drawings to learn words is more effective to teach words than clip arts and cartoonish images, therefore the type of image used to study words matters and more realistic images should be considered. Furthermore, According to Dunlosky, Rawson, Marsh, Nathan, and Willingham (2013) when images contain outstanding elements that distract the learner and disrupt the memorization of a word, it hinders its acquisition, thus teachers need to use clear images that appropriately illustrate the word for effective vocabulary acquisition.

Graphic Organizers and The Word Mapping Technique

Graphic organizers (GOs) are diagrams used to represent ideas that revolve around a specific topic and explain their relationships utilizing connectors and dividers (e.g., arrows, lines), and with this, build a conceptual framework (Coburn, 2003). GOs are generally used to introduce a topic, allowing teachers to organize, summarize, highlight, and hierarchize its key aspects so that the information presented is clear, simple, and easily understood.

Advantages of Using Graphic Organizers: According to Dau (2015), learning with GOs provides opportunities for critical thinking and independent learning, and facilitates the meaningful acquisition of knowledge, and citing Bromley, DeVitis, & Modlo (1995), Dau (2015) explains how with GOs information is represented as a structure that makes the information clear

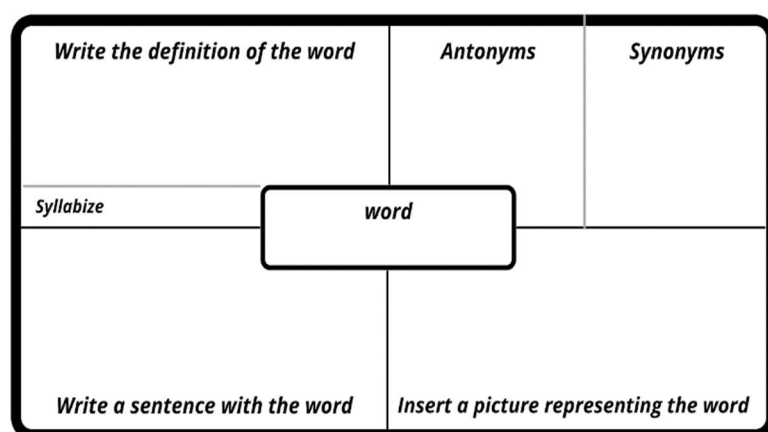
and concise. What is more, Dau (2015) citing Hall (2008) and Bauer (2006) describes how ideas can be graphically interconnected in a GO in order to show their relationships, similarities, and differences, which leads to a deep understanding of the presented topic. Furthermore, Dau describes how pictures and drawings can also be used to aid the students to remember the information in the GO more easily (Chamot and EI-Dniary, 1999 as cited by Dau, 2015).

There are plenty of graphic organizers that can be used to learn English vocabulary, such as The Comparative/Contrastive Map, Comparative-Contrasting Matrix / Word Structure Chart, The Spider Web Map, and The Word Map. (*See Appendix A to appreciate the visual design of each of these graphic organizers*)

Word Map: The Word Map Graphic Organizer is a diagram that contains sections in which different dimensions of a word are described, and it is practical to present a new word in detail. This GO can easily be made into a flashcard for students to study.

Figure 1.

The Word Map Graphic Organizer



Source: Author

Effectiveness: The Word Mapping GO has been tested in studies by Karendra, Nurweni, and Suka (2017) and Qomariyah, and Nafisah (2020), who demonstrated its efficacy in vocabulary acquisition, and reported that with it, students study vocabulary actively and enjoyably. Concerning abstract words which are difficult to learn with pictures or keyword strategies, Karendra, et al. (2017) demonstrated that learners who used GOs succeeded in learning both concrete and abstract words with the same level of success, making GOs an excellent alternative to learning abstract vocabulary.

Challenges and Facts

Previous Knowledge of the Presented Information: Graphic organizers, according to Karendra, et al. (2017), require that the teacher uses information already familiar to the learner to introduce a new word, which limits the resources and materials that can be used, however, this would help learners to understand the topic using their background knowledge.

Familiarity with the GO: In order to effectively use GOs, students must learn how to complete them and know their learning purpose. According to Sutapa and Susilowati (2016), in their experiment, teachers had to instruct the students how to use the Word Map organizer more than once to make sure they used it correctly, which shows that students still need instructions for the GOs even if they seem easy to use and intuitive.

Classroom Implementation: When using GOs in the classroom, Dau (2015) suggests that teachers show the GOs to the students, and encourage them to participate in class to complete them, making them use their background knowledge and helping them understand the purpose and design of the graphic organizers. Once a learner understands how to use GOs, they can complete them on their own to study vocabulary.

The Vocabulary Self-Collection Strategy

The Vocabulary Self-Collection Strategy or VSS was introduced by Haggard (1982) and consists of encouraging students to collect foreign words from sources such as magazines, newspapers, books, videoclips, etc., and registering them in a notebook to then be studied and rehearsed through multiple activities. To guarantee long-term retention of the collected vocabulary, teachers need to make sure that students have multiple expositions to it through frequent practice, which can be done in the form of writing assignments, essays, discussions, reading sessions, and by reviewing the lists of words on their vocabulary diaries periodically (Antonacci et al., 2015).

Haggard, for instance, had her students work in groups of five to collect words they found in a reading exercise which they later shared during class by writing them on the blackboard along with their definition, the source from where they came, and a reason for learning them, followed by a class discussion to “clarify and extend the words’ meaning” then an official list was made to practice the vocabulary collected and plan word practice activities (Haggard, 1982, p. 635). Words can also be registered in a graphic organizer designed for the VSS as shown by Antonacci, O’Callaghan, & Berkowitz, (2015). *See Appendix B.*

Among the advantages of the VSS, Antonacci et al. (2015) mention the encouragement of autonomous learning and word consciousness, which helps “deepen students’ understanding of words, promote their interest in new words, and offer them a strategy to identify and learn new and fascinating words” (p. 26). Antonacci et al. (2015) also mention how beneficial the VSS is when used in the *Content and Language Integrated Learning approach* (CLIL). Furthermore, The VSS promotes collaborative learning, as shown in a study by Raungsawat and Tipamas

(2021) where students reported how by using the VSS they engaged in active teamwork and collaboration.

Effectiveness: In a between-subjects study by Yeung (2002), the VSS was tested against the Grammar-Translation method, used as a control group treatment, and after a delayed posttest, the group that used the VSS obtained higher word retention rates than the control group, evidencing the VSS effectiveness in ensuring long retention of words. Rahman & Santoso (2019) also tested the VSS and concluded that it helps increase the vocabulary of students significantly, supporting the claim that the VSS promotes vocabulary development and acquisition.

Challenges and Facts

Self-Engagement: The VSS is a learner-centered strategy that aims to foster autonomy, which according to Masoudi (2017), requires a degree of commitment and independence on the part of the learners to willingly collect and study new words, so for students who are too dependent on the teacher or are accustomed to a teacher-centered approach, the strategy might feel daunting. Teachers should accompany these students throughout the process and create opportunities for them to express their doubts, ask questions or express the difficulties they are having with any of the proposed activities.

Activity Planning and Student's English level: According to Waro (2019), planning activities for the VSS can be time-consuming for teachers and warns that since critical thinking is required, the VSS strategy might not be suitable for young learners for whom the activities in the VSS might be challenging or unduly advanced for their L2 level.

The Four Strands in Vocabulary Learning

The Four Strands approach in vocabulary learning was proposed by Paul Nation (2007), a linguist who believes that students need to know vocabulary learning strategies to be autonomous in their vocabulary development. The Four Strands approach consists of studying words by engaging in equally balanced activities such as *Meaning-Focused Input* activities, where students have direct exposure to L2 (e.g., through reading or listening), *Meaning-Focused Output* activities in which students use the target language to express themselves (e.g., writing, speaking), *Focus on FormS* activities (Language-Focused activities), where the emphasis is put on the conscious learning of vocabulary (e.g., spelling, pronunciation, meaning, collocations, grammar, etc.), and *Fluency* activities where students practice the target language by having conversations with their schoolmates (Nation, 2007).

To promote language practice, Nation (2007) designed the '4/3/2' strategy which consists of having students speak about a topic with their classmates, taking turns to speak and using the target words, first for 4 minutes, then with other classmates for 3, then rotating classmates once again and speaking for only 2 minutes. Nation (2007) believes that by focusing on these types of activities and allocating equal time for them during each lesson, students could gain vocabulary productively, and retain it for a long time.

Regarding language input activities such as readings, the texts used should contain a vocabulary that the students can understand at a rate between 95% to 98% so that they do not get frustrated or overwhelmed trying to understand the reading, harming the learning activity itself (Laufer, 1992, Schmit, 2000 as cited by O'Hógain, 2012). Additionally, O'Hógain, (2012)

believes the language output activities should include storytelling, conversation, and writing activities with topics and vocabulary familiar to the students.

Advantages

Communicative Skills: The 4S approach involves practicing the four main English skills (speaking, writing, reading, listening), conscious learning, and fluency practice, therefore it targets multiple language skills which makes this approach suitable for developing communicative skills in students.

Long-Term Retention of Vocabulary: The 4S approach helps students retain their vocabulary for a long time by engaging in several activities where they practice and rehearse the target words, which according to Nation & Yamamoto (2012), promotes longer retention of words the more time students spend rehearsing them. For this approach to be successful, word reviewing activities should take place with some span between them to ensure long retention of vocabulary (This method is known as *Spaced Repetition*).

Effectiveness:

The 4S strategy was tested in an experiment by O'Hógain (2012), where students from Barcelona engaged in word-matching games and quizzes, the making of a presentation, the recording of a video, and a speaking practice activity using Nations' '4/3/2' strategy. The conclusion drawn from the post-tests is that students who studied with the 4S strategy learned up to 5 times more words than the students who only engaged in Focus on FormS activities. The 4S students also used the target vocabulary more frequently in the self-made videos compared to the control group, which indicates that the strategy can produce higher vocabulary acquisition than if only Focus on FormS activities are used for vocabulary instruction.

Challenges and Facts

Selection of Reading Material and Activity Planning: As O'Hógain (2012) mentioned, the vocabulary used in the activities must be familiar to the students for the 4S to be fruitful.

According to Nation and Yamamoto (2012) teachers also need to make sure that the material is appropriate to the students' English level and that the activities facilitate multiple encounters with the target words, promote vocabulary practice, and develop the 4 main language skills equally. This creates a challenge for teachers who must find English texts that fit the appropriate vocabulary threshold and include the vocabulary that the students need to learn, besides balancing the 4 English skills. Teachers could resort to editing texts to make them simpler to read and include the target vocabulary.

Teaching Styles: For teachers accustomed to a teacher-centered approach, using the 4S can be confusing since according to Nation and Yamamoto (2012) in the 4S strategy the role of the teacher changes from giving direct instruction on grammar, spelling, and pronunciation to creating the material, planning the activities, selecting the vocabulary items to be learned, and creating opportunities for students to use the vocabulary. This change of roles requires teachers to change the way they plan their lessons and choose the material.

Learning vocabulary in Context

This strategy consists of using real-life activities through which students can infer the meaning of unknown words and see how these words are used to convey meaning in a real context, therefore, students learn best how to use the words and can recall them easier. According to Godwin-Jones (2008) "Contextualized encounters are likely to enhance the chances of retention, as words and expressions are used in meaningful, and therefore, more memorable ways"

(Godwin-Jones, 2008, p.2). Even though contextual learning is perceived as incidental, especially in L2 reading activities, learning vocabulary in context can also be done consciously by controlling the vocabulary of the texts and practicing it with additional activities, and when vocabulary is learned consciously through extensive reading, incidental learning of vocabulary increases. (Blachowicz and Fisher, 2004).

Extensive Reading: Reading texts extensively can be used for contextual vocabulary learning; however, the selected texts require that the language and topic used are familiar to the reader so that they can understand the texts and rely on their background knowledge to infer the meaning of unknown words from context (Krashen and Terrell, 1983).

Guessing Words from Context: Mart (2012) citing Nation and Coady (1988) lists a series of steps to guess words from context which are I. Establish the syntactic function of a word or part of speech. II. Determine the context in which the word is used by interpreting the whole sentence. III. Analyze the context of the surrounding sentences and their relationship to the sentence in which the word is used. IV. Thinking of possible meanings of the word that make the sentence coherent, and V. Look up the meaning of the word.

The C(2)QU Strategy: This strategy was used in an experiment by Blachowicz and Fisher (2000), and it relies on the contextual inference of words. The student is first exposed to a sentence with an unfamiliar word (C1) and asked to guess the possible meanings of it by analyzing the meaning of the sentence. Then a second clue is given using a second sentence (2nd contextual clue or C2) and then, the meaning is clarified, and the student is asked a question about the word, like for instance, comparing it with a similar word or asking the student for a similar or opposite word (Q). Finally, the student must use the word in a coherent sentence (U).

This strategy helps students study words fully in context and helps them rely on their background knowledge, so it is ideal for intermediate and advanced students.

The Cloze Procedure: This procedure consists of replacing words within short texts with blanks that the learner must fill in. The learner must be able to understand most of the vocabulary in the passage to infer meaning contextually. Patterson (2012) suggests removing every 7th word except in the initial and final sentences so that the main points of the text can still be understood. This procedure has been used to test the reading skills of non-native English speakers by Patterson, (2012) and to measure the complexity of texts for native English speakers by Taylor (1953) as cited by Patterson (2012). As mentioned by Patterson (2012), many studies support the use of the strategy to improve reading comprehension (Jonz 1990, Farhady and Keramati 1996 as cited by Patterson, 2012).

Effectiveness: Bakhtiarvand (2008) demonstrated in an experiment that students who guessed words from context cues within readings remember more words than students who used a different strategy, implying that by guessing from the context in extensive reading, subjects are more likely to remember the vocabulary learned.

Challenges to Extensive Reading and Contextual Learning

Reluctant Readers and Complex Vocabulary: According to He and Green (2012) when students do not read habitually, extensive reading becomes challenging for them, and complex vocabulary can further discourage them from reading. To tackle this, teachers need to nurture the students' reading habits, provide texts with suitable vocabulary, and eliminate distractions during reading activities. (He and Green, 2012).

Teacher's Role and Activity Planning: He and Green (2012) think that when teachers are used to a teacher-centered teaching style, they can be reluctant to use contextual strategies, especially extensive reading where teachers need to know the reading material to answer questions students might ask during the execution of the activities. Selecting the material that provides sufficient context for students to infer the meaning of words is time-consuming and even more so if teachers design the materials themselves.

Web Tools

Web 2.0-based tools help teachers support their teaching activities within and beyond the classroom due to their flexibility, accessibility, and availability. ICT technologies, as explained by Díaz and Jansson (2011) provide students with opportunities to study conversations and texts in the target language, practice their grammar and vocabulary, listen to language samples, and make their own recordings. Due to these features and more, web tools are enticing, useful, and necessary to assist students with any learning task so it is vital that teachers become aware of them, understand them, and encourage their students to use them to facilitate their language learning process. Indeed, ICT Tools, according to Malinee and Thennavan (2020), are now relevant in the classrooms, and if used in combination with traditional methods (*Blended-Learning Approach*), they can enhance students' language development. In addition, Malinee and Thennavan (2020) think that web tools promote autonomous learning, and "broaden the spaces and opportunities" to learn in and outside the classrooms, allowing social interactions, collaboration, "communication, assessment, submission [of activities] and feedback" (p. 3-4) which can transform the traditional classroom and revolutionize the way the students learn. (*See Appendix C for a complete list of web tools used for English learning*).

Following is a list of Web 2.0 tools widely used for English vocabulary learning:

YouGlish

This is a website on which students can look up a word to check its pronunciation as it is used in *YouTube* videos by native speakers. Apart from the pronunciation of words, students can see how the word is used in a sentence and learn it contextually, contributing to English vocabulary acquisition and pronunciation. According to Fu & Yang (2019), YouGlish helps students improve their oral skills and pronunciation of English words, whilst they acquire knowledge about the word's usage, learning it meaningfully, thus promoting self-directed learning.

Furthermore, Prastyo, Dharmawan, & Amelia, (2022) reported that students perceived that the web tool helps them improve their English pronunciation and increases their motivation for learning new words. Fu & Yang (2019) highlight the necessity to implement, however, a feature to explicitly teach the grammar rules related to the word that is being searched, as this would be beneficial to users.

Linguee

This web tool is a translation repository that collects Spanish texts with their English translations, extracted from bilingual websites, therefore, when students look up a word, they can see how it is translated into different English texts, which can differ based on its context and different meaning nuances. According to Alonso (2013), the comparisons of texts in Spanish and their English translations help users make decisions about the correct translation of a word in the appropriate context. Furthermore, Alonso (2013) explains how this repository uses automation to track and select corpus of texts, filtering direct translation, but it also poses challenges as the

content on the web does not follow the quality standards of printed texts and publishing, which means that the information cannot live up to editorial standards.

ToPhonetics.com

This online resource helps students discover the pronunciation of an English word in American or British English by providing a recording of the pronunciation of the words, and it also displays the IPA transcription for a better understanding of the pronunciation. According to Yusuf (2019), when students used the site to study pronunciation, they felt that they could easily pronounce the words afterward and they reported that the web tool was easy to use. Moreover, Riza & Kawakib (2021) point out the advantages of studying IPA transcriptions as students can correct their mispronunciations when they see how the phonology of a word is constituted, thus, the ToPhonetics web tool can assist students in correcting their mispronunciation by providing IPA transcriptions along with recordings, where students can appreciate which sound each IPA character represents, although students who are still not familiar with IPA have to rely solely on the recordings available, thus they do not get to exploit this feature for pronunciation practice.

Kahoot

This site allows teachers to create interactive games that are engaging to students and allow them to complete trivia and quizzes related to any subject. This tool can be easily used to make quizzes on English vocabulary and grammar, and according to Toma, Diaconu, & Popescu (2021), Kahoot motivates students to learn, highlighting its interactivity and gamification features that the students find easy to use, therefore, students can be motivated to practice English vocabulary with Kahoot quizzes as it is an amusing platform for formative assessment. What is more, Ismail, Sa'Adan, Samsudin, Hamzah, Razali, & Mahazir (2018) describe how the

tool's gamification feature is key to the students' positive perception of it and how the tool allows teachers to transmit knowledge effectively.

Nevertheless, Toma et al. (2021), warn of the necessity of teacher supervision when students are using this tool for learning as students might need assistance when they have questions to avoid wrong answers that can lead to confusion.

Vocaroo

Vocaroo is a voice recording tool that can be used for English learning and vocabulary acquisition. Students can record their voices and share the recordings through a link, or they can download the mp3 file of the recording. In a study by Butarbutar (2022) the Vocaroo tool was used to improve the speaking skills of students with positive results, concluding that the tool can be easily used for asynchronous instruction where students can practice their pronunciation and speaking skills. Therefore, the tool is easily adaptable for learning English vocabulary if students create recordings of sentences where the word is used.

Advantages of Web Tools

Emotional-Motivational Drive: Students, according to a research review by Luo (2013), feel motivated towards using web tools for learning, citing authors such as Ernest et al., 2012; Gebhard, 2012; Kessler, 2009; Liou and Peng, 2009; Martinez, 2012; Román-Mendoza, 2009. Luo also describes a positive attitude of students toward web tools integration with traditional classroom teaching as reported by Antenos-Conforti (2009), and Armstrong and Retterer (2008), as cited by Luo (2013).

Ease of Use, Flexibility, and Accessibility: Web tools can be user-friendly, as shown in a study by An and Williams (2010), in which students working with web tools in learning

activities expressed that they were easy to use. Web tools are also flexible as they can be updated and improved as opposed to static content from textbooks and offline multimedia material (An and Williams, 2010). Furthermore, the accessibility of web tools is one of their prominent features, depending on internet availability, however, according to Dooley, Jones, and Iverson (2012), internet geographic coverage continues to grow globally as does the use of web-based applications like YouTube and web blogs making web tools more accessible and popular every day.

Collaboration and Sense of Community: According to An and Williams (2010) web 2.0 tools allow collaboration and interaction between users which can contribute to the formation of learning communities and the sharing of learning resources, characteristics which Luo (2013) points out along with the benefits of using Wikis and blogs.

Learning Enhancement: Students can develop their language skills beyond the limits of classroom instruction with web tools which according to Luo (2013) can help them develop their reading skills through blogs and wikis, and their writing skills by means of social media and blog posting. Luo also describes how web tools like YouTube and web blogs enhance learning by promoting metacognitive learning, self-learning, and discovery, citing authors like Hafner (2011) and Kessler (2010). Furthermore, Web tools' multimedia capabilities, according to Mullamaa (2010), provide opportunities for "developing speaking skills" and developing English listening skills through video and audio resources (p. 41).

Challenges of Web Tools

Teachers' lack of Tech Skills: Some teachers might feel misapprehension towards using tools they do not know how to use themselves and they might resist incorporating them into their classrooms. (Antenos-Conforti, 2009; McBride, 2009; Reinhardt, 2011 as cited by Luo, 2013).

Students' Learning Styles: For students who are accustomed to traditional instruction and respond better to a kinesthetic type of learning, using these tools might not be appealing enough, as some teachers fear, according to Richard, Jack, and Renandya (2008) as cited by Maridueña (2019).

Distractions: According to Luo (2013) distractions like social media and games can hinder the learning process and reduce the effectiveness of web tools in the classroom.

Access to the Internet: Some schools in Colombia still lack internet service or have poor Wi-Fi connections, or do not have computers and tablets to allow students to use the internet for education, besides, students themselves might not all own a cellphone or computer at home, therefore, implementing web tools in schools can become very challenging in impoverished communities. According to Peñalosa (2016), even if internet access is growing in Colombia, it has not taken place evenly among regions which means that some schools and homes in our country still lack internet access, making the use of web tools for education impossible in those regions.

Mobile Apps

Since the arrival of mobile technologies, mobile apps for learning have been increasingly used and researched for their contributions to language learning, some of which Burston (2013) has summarized, listing a considerable number of experiments and case studies that provide evidence for their effectiveness in different academic fields, including language learning and their

implementation in classrooms. According to Morgana & Kukulska-Hulme (2021), citing Burnside & Mullenburg (2012); Aw Yong, Anderson & Chigeza (2013); Newman & Newman (2014), learning with mobile apps allows students to collaborate, learn from experience, and in context. These characteristics lead to meaningful learning, making mobile apps convenient and useful for effectively learning English vocabulary and grammar. This learning approach is known as Mobile Learning or M-Learning. This type of learning, according to Kukulska-Hulme & Taxler (2007) provides opportunities for students and teachers to interact, even if they are not in an actual classroom but at different locations so learning can take place from any place. Following is a description of some of the most relevant mobile apps for English vocabulary learning with their advantages and challenges:

Memrise

Created in 2010, it is one of the most popular learning apps among learners with over 60 million users from 189 countries according to its website (<https://www.memrise.com/>). It comes as a freemium app and a website. It is regarded in online reviews as a highly effective vocabulary learning tool (Gupta, 2021)

Main Characteristics

Access: Users can log into the app with their Google or Facebook account or by creating their own account. Upon logging in for the first time, users must select the language they want to learn. Unfortunately, there is no placement test, therefore, users must indicate their English level and skip lessons one by one.

Features and Teaching Methodology: According to Fisher (2021b), the app uses images and audio in flashcards as memory aids and direct translations to create meaningful connections

between the L1 and L2 words. Furthermore, Swabey (2017) noticed that the app relies on spaced repetition techniques and explains that vocabulary items are introduced first, and then rehearsed through multiple-choice questions and writing exercises. Moreover, Repetition is done through two types of activities: Classic Review which uses flashcards and short videos, and Speed Review with fast multiple-choice questions. McAlpine (2020) highlights that the app provides a feature called “Learn with natives” where native speakers pronounce a sentence with the target word on a short video clip. (To appreciate this and other mobile apps’ visual appearance, see *Appendix D*)

Effectiveness: The spaced repetition strategy used by Memrise has been proven effective for word retention in a study conducted by Chukharev-Hudilainen and Klepikova (2016) and in a qualitative study by Abarghoui and Taki (2018) where it was shown that the app motivates and engages students more than traditional instruction. Furthermore, Nuralisah and Kareviati (2020) demonstrated that the app helps users increase their vocabulary, reporting that users kept a positive attitude towards its use. According to Nuralisah et al. (2020) “Using this application in class is an effective way to increase the interest of students who are learning vocabulary” (p. 2). Furthermore, Cristiano (2021) highlights the authentic material used in the app, including the short video clips where native speakers pronounce words and sentences, which can train the ears and develop the accent and pronunciation of the app users.

Challenges

Lack of personalized images: The images shown in the app help memorize words, however, more personalized images would be preferred to increase mental encoding and insure successful word-meaning associations (Nushi and Eqbali, 2017).

Content Selection: Intermediate and advanced students who want to move forward cannot skip lessons according to Memrise Review (2020) which could be discouraging for advanced users who might give up using the app due to this disadvantage.

Flashcards' lack of context: According to Cristiano (2021) the flashcards used in Memrise do not provide enough context for words with multiple meanings which can lead to incomplete vocabulary learning.

Lack of Productive Language Practice: The app does not provide opportunities for users to practice their productive skills by writing or speaking as noted by Cristiano (2021).

Users' perceptions: The app's activities, according to Rosydah (2018) can be repetitive due to monotonous language drills.

Duolingo

Created in 2009, Duolingo is an app that uses a freemium model and has a website platform for learning with additional features. It currently offers more than a hundred languages to an estimated 500 million users as of 2021 according to its website (<https://www.duolingo.com/>).

Main Characteristics:

Access: Similar to Memrise, Duolingo allows using Facebook and Google to log in as well as through the creation of a new account with an email.

Language Level Assessment: Unlike Memrise, Duolingo allows users to take a placement test and configures their lessons accordingly.

Features and Teaching Methodology: The app's layout, according to Huynh, Zuo, Long & Iida (2016) relies on gamification which is enticing and appealing to young learners.

Moreover, Munday (2015) describes the app layout as a tree of circular icons that give access to

a specific lesson that must be completed for the next lesson to be enabled. Upon completion of the lessons, a trophy is awarded. Duolingo lessons use flashcards with sentences accompanied with clip art/cartoonish images that teach grammar patterns or introduce a new word, and some have an audio recording. According to Nushi and Egbali (2017), the app activities consist of direct translation, matching L1 words to L2 words, rearranging sentences, filling blanks in sentences, and listening exercises, in addition, the app provides speaking exercises through speech recognition. The app relies heavily on direct translation which “helps learners to relate new knowledge to old knowledge, reduces learning anxiety, promotes noticing and metalinguistic awareness” (Cook, 2010 as cited by Nushi et al., 2017 p. 96). The app also uses the spaced repetition strategy employing a sophisticated algorithm that controls multiple vocabulary encounters (Munday, 2015).

Effectiveness:

Regarding the app’s performance, Cavus and Ibrahim (2009) as cited by Munday (2015) reported that students enjoyed learning with the app more than from textbooks. Munday (2015) also noted that the spaced repetition strategy used by the app makes word learning more effective, concluding that the app “promotes self-directed learning” and “enriches the classroom experience” (p. 97). What is more, Nushi and Egbali (2017) tested the app in online lessons as opposed to face-to-face lessons using only traditional methods and, in the end, the students in the online lessons had more vocabulary and grammar gains than the group in the face-to-face lesson who did not use the app.

Challenges

Weird Sample Sentences: Users complain about the occasional display of weird sample sentences that do not make sense, even when they are grammatically correct. This fact is discussed in articles such as *A review of Duolingo: is it really worth your time?* (n.d.), and by Aromiekim (2021). Inaccurate literal translations into the mother tongue are also reported by Munday (2015).

Oral Competency: As reported by Finardi, Leão, and Amorim (2016) the app falls short in developing communicative skills due to its lack of opportunities for oral interactions. Meanwhile, Nushi and Equbali (2017) list the use of short sentences and unnatural sentence recordings as Duolingo's drawbacks that limit the users' conversational skills. Furthermore, in an article from The New York Times, Ravenscraft (2021) warns that apps like Duolingo do not have features that improve language fluency or provide opportunities to speak in different contexts to achieve a C1 level, although he still thinks these apps can still help beginners reach a low-intermediate level (B1-CEFR).

Advanced Levels and Limited Content: The learning content can be limiting for high-intermediate and advanced students who report not finding activities challenging enough for them that can teach them advanced vocabulary, that is why Munday (2015) suggests that the app is more suitable for beginners and low intermediate students than for advanced learners.

WordUp

WordUp is a vocabulary-building app created by Geeks Ltd, (Geek Foundation, London) with an official site at <https://www.wordupapp.co/> (to not be confused with other apps that bear the same name). The app, according to *Course Lounge* (2021) has won many awards and has a unique

way of teaching words in contextualized real-life situations using short video clips from movies, TV shows, and text from social media, etc., focusing on the “20,000 most commonly used words” presented in order of importance and frequency (Course Lounge, 2021).

Main Characteristics:

Word Level Assessment: The WordUp mobile app focuses exclusively on building up vocabulary after estimating the users’ vocabulary knowledge gaps (unknown vocabulary) and from there, presenting an array of words to learn based on their importance and frequency of use.

Teaching Methodology: The app presents one word at a time, showing its different definitions, and providing sample sentences with an image for each of its meanings. Apart from definitions, the app displays a set of short texts from social media, news articles, short video clips, and audio excerpts where the word is used in context to help learners understand each word’s nuances and meanings. The app’s algorithm cleverly displays a word several times using the *Spaced Repetition* method to ensure retention, thus, a word is shown for review with a frequency that diminishes over time until the app’s algorithm considers the word has been learned and removes it from the review list. On top of this, the app can easily be used as a definitions dictionary due to a built-in word search feature. The app also promotes conscious vocabulary learning by offering additional features that promote contextual learning, visual learning, and incidental grammar learning and it provides a system of notifications to create habits and remind users of their daily lessons. (Maenza, and Gajić, 2020).

Effectiveness: In a qualitative study by Disalva and Ezhil (2020), the WordUp application was used to help students of hotel management from India improve their productive vocabulary and enhance their speaking fluency. After using the app, most of the hotel

management students did increase their productive vocabulary and many of them reported having more fun while using it for vocabulary learning than with other methods.

Advantages: Disalva et al. (2020) list a series of advantages that come with WordUp like the fact that it creates self-awareness in the word learning process, and that it displays words according to their level of importance and frequency of use for the sake of word relevance and fast language learning. Additionally, Disalva et al. (2020) reports that the app uses realistic images which helps students with a visual learning style to effectively memorize words and their meanings and that the app presents words in diverse contexts through language samples in text and video clips while displaying multiple meanings of each word.

Disadvantages: According to the review made by Maenza, and Gajić (2020) and Disalva and Ezhil (2020), the app does not provide opportunities for speaking or pronunciation practice due to the lack of features that allow user interactions, nor does the app provide forums to discuss meanings and share information like the ones seen on Duolingo. Moreover, according to Maenza et al. (2020), the app might be more suitable for intermediate students than for beginners as it focuses more on advanced and low-frequency vocabulary (Maenza, et al., 2020, p.109), although advanced beginners can benefit from it as well if they have a basic level of L2 to understand the examples provided in the form of texts and videos.

Busuu

Busuu is an app for Android and iOS launched in 2020, offering languages such as English, Spanish, French, German, and Italian. The company is a partner of McGraw Hill, and its official website is <https://www.busuu.com/>

Main Characteristics

Language Level Assessment: Busuu allows taking a placement test from which it creates lessons from the users' estimated level.

Learning Features: The app offers up to 12 languages with modules that start from level A1 to B2 offering between 12 and 20 lessons (Nushi and Jenabzadeh, 2016). Each lesson relies on flashcards with recordings, short video clips, and exercises to introduce words and grammar, which are revisited in later activities. A community of learners is also present in the app.

According to Nushi et al. (2016), Busuu's claim of a language learning community is based on the feature that allows users to get feedback on their written or spoken answers from native speakers who can answer with a recorded or written note and can also score your answers with stars (from 1 to 5) which is one of the most interesting features on this app. Another interesting characteristic of the app is that the recordings and video clips in the lessons are spoken by natives, which sound very natural, unlike the recordings used by other apps that sound robotic and unnatural (Nushi et al., 2016). Meanwhile, the system of reminders that the app offers helps users remember taking their lessons and create habits to use the app regularly.

Methodology: The app teaches words and phrases in the learner's target language (Nushi and Jenabzadeh, 2016). Busuu provides activities that focus on language drills and audio-lingual strategies influenced by behaviorism which include flashcards and dictation activities to learn and review vocabulary and grammar (Shibata, 2020). Other activities present in the app's lessons include filling in blanks and completing missing letters in words, rearranging words, and multiple-choice questions, listening activities, and sentence writing activities. There is also the possibility of getting pronunciation feedback from native speakers. What is more, the app's behaviorist approach makes users aware of their mistakes so that they can correct them as many

times as they need. According to Shibata, citing Beatty (2010), when students get answers wrong, they are exposed to the same question repeatedly until they get the answer right, learning by rote repetition and correction of behavior.

Effectiveness: The Busuu app was tested in a study by Vesselinov, Grego, Tasseva-Kurktchieva, and Sedaghatgoftar (2021) where students enrolled in a Spanish course used it for over 16 hours and by the end, the student's oral skills improved about 42% after using the app. With the app, language skills can be developed quickly, since according to Vesselinov et al. (2021, p. 19) "on average, Busuu users will need 22.5 hours of study to cover the requirements of one college semester of Spanish" indicating that the app can help achieve those requirements in just a month or two. Regarding the students' motivations to learn, the app, according to Citrayasa (2019), motivated some students enough to use it outside the classroom in their free time to boost their English knowledge and they reported that the app "challenged them to keep learning and not giving up" (p. 89)

Challenges

Lack of Language Practice: According to Shibata (2020) the app does not develop "practical language skills" in students, making the app more appropriate to be used as a prop for English lessons (Shibata, 2020 p. 200) thus, students need to find opportunities outside the app to practice the language.

Development of Social Skills: Due to the lack of interaction and meaning negotiation with other speakers of the target language the app does not develop social skills (Shibata, 2020).

Free Version Limitations: The free version does not allow users to take more than one lesson a day and it does not offer a variety of exercises which could bore some users as described

by Nushi et al. (2016) which is a deterrent for advanced and highly motivated students who wish to take more than one lesson per day.

Three Activities to Implement in the Classroom with VLS and ICTs

Using the VSS in combination with Duolingo or Memrise:

This vocabulary learning activity for beginners integrates Duolingo or Memrise and the Vocabulary Self-collection Strategy (VSS). Duolingo and Memrise have similar designs and functionalities so either app can be used by students to collect new words and sentences. As an initial step students collect words from the apps and register them with their respective translations in a vocabulary notebook. As a second step, students share their words in class, and a final list of words is created with the guidance of the teacher, and with this list, the teacher creates a series of activities, like for instance, writing a short story for the students to read, or elaborating a series of fill-in-the-blanks, puzzles, word-matching, and translation exercises. As a third step, the students work in teams on activities that require the use of the vocabulary in the list, like writing a short story, fairy tale, or fable, or building some sample sentences using the words, providing alternative examples, and allusive images or illustrations. Alternatively, the students can elaborate flashcards with the vocabulary using the Word Map graphic organizer.

Using Translation Techniques with Contextualization and WordUp:

This activity is for pre-intermediate and intermediate students. The first stage of the activity is to have students read a story or newspaper article that includes a fair number of unknown words. The students must use the WordUp mobile app to look up words and mark them to be learned later (using the feature in the app that allows this). In the next stage, students must build sample sentences using each of the words in a poster and present them to the class. The posters must

include the translation of the sentences and a drawing or image for each one must be included. Then, the teacher creates an activity based on the Cloze Procedure using the readings from the previous stage and the words presented in the posters as a source. The Cloze Procedure activity consists of showing the readings again but with the words collected by the students missing from it, where instead blank spaces appear. Students must fill in the blanks individually as an assessment activity.

Using the 4 Strands and Web Tools:

The activity is designed for intermediate and high-intermediate students. First, students must watch a YouTube video with a topic of interest. The video must have English subtitles in case the students need to use them and should not be longer than 6 minutes (*The Easy English* YouTube Channel is of significant help for this activity). The students must collect the words they find in the video, translate them using *WordUp*, *Google Translate*, or *DeepL Translate*, and then watch it a few more times until they understand the conversations therein well enough. For the second part of the 4S, the students must write a summary of the video using the vocabulary they encountered in the video. For the third part, the students must discuss the video and the teacher will act as a moderator. Students must prepare at least one question for one of their classmates and during the discussion, they must ask each other these questions. For the Focus on FormS part of the 4S, the students need to practice the unknown vocabulary collected from the videos using *WordUp* or *YouGlish.com*.

Methodology

The present paper is a descriptive monograph with a qualitative research design. The data needed for this paper is of a qualitative kind, and as a consequence, the data was collected from diverse research papers and scrutinized to present the information to the reader, discuss the findings, and draw the corresponding conclusions.

To fulfill the goal of this monograph, information related to vocabulary learning strategies, methods, android mobile apps, and web tools was consulted in online repositories and libraries and consisted of research papers, case studies, experiments, theses, surveys (primary sources), monographs, scientific journals, magazines, and articles (secondary and tertiary sources), and additionally, unknown concepts found in the literature were consulted in digital encyclopedias and academic-oriented websites, and some information on ICTs was consulted on weblogs and online reviews for lack of more reliable sources. As the information was found, it was classified in folders by topic, and the titles were listed on a Microsoft Excel matrix, along with details about the papers, such as their author(s), year of publication, type of research, and the authors' findings and conclusions. Upon a thorough reading of the literature, the information considered relevant was registered in the matrix to be analyzed qualitatively and compiled, drawing from them the findings and conclusions that serve to answer the research question proposed in this paper.

The results and conclusions found in the literature that answer the research question derive from in-between subjects and within subjects' experiments, for which data was collected via questionnaires and posttests and analyzed with statistical tools like the *T-Test* and the *ANOVA* test.

Table 1.*Vocabulary Learning Mechanisms and Researchers*

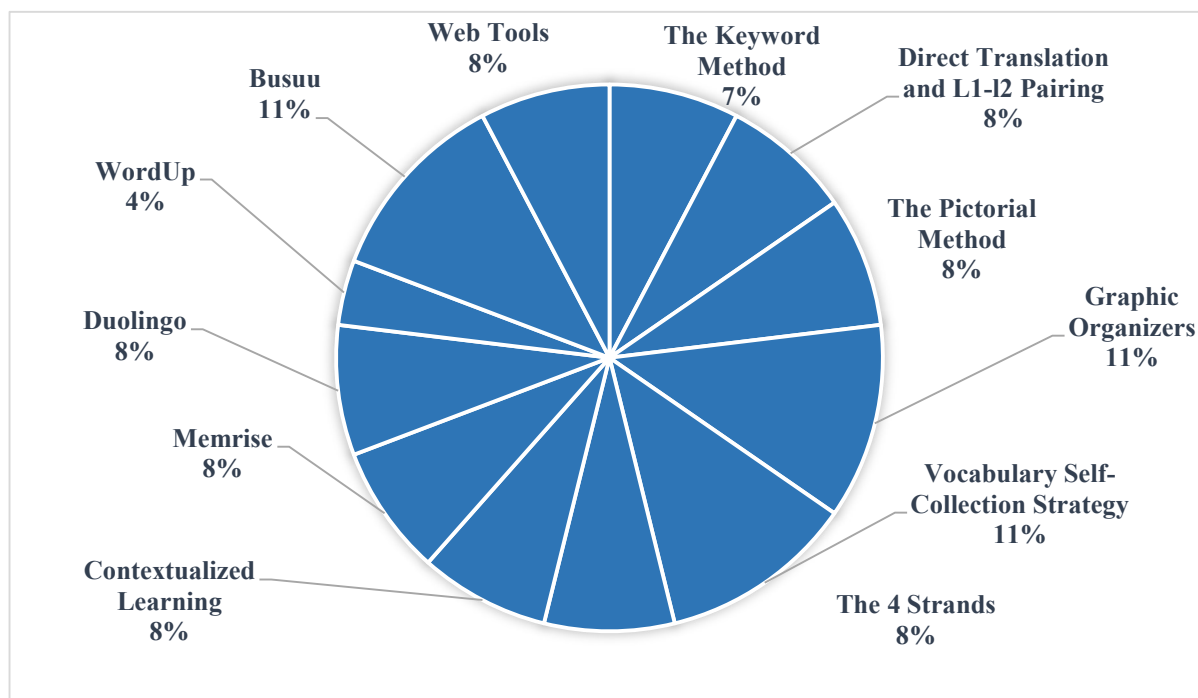
Vocabulary Learning Mechanism	Researchers Who Tested Their Effectiveness
Methods	
The Keyword Method	Atkinson and Raugh (1975); Shapiro and Waters (2005)
Direct Translation and L1-L2 pairing	Camo and Ballester (2015); Alroe and Reinders (2015)
The Pictorial Method	Bates and Son (2020); Watcharee (2017)
Graphic Organizers	Dau (2015); Karendra, Nurweni, and Suka (2017); Qomariyah, and Nafisah (2020)
Strategies	
Vocabulary Self-Collection Strategy	Antonacci, O'Callaghan, and Berkowitz (2015); Yeung (2002); Rahman & Santoso (2019)
The 4 Strands	Nation and Yamamoto (2012); O'Hógain (2012)
Contextualized Learning	Blachowicz and Fisher (2004); Bakhtiarvand (2008)
Mobile Apps and Web Tools	
Memrise	Chukharev-Hudilainen and Klepikova (2016) Nuralisah and Kareviati (2020)
Duolingo	Munday (2015); Nushi and Egbali (2017)
WordUp	Disalva and Ezhil (2020)
Busuu	Shibata (2020); Vesselinov, Grego, Tasseva-Kurktchieva, and Sedaghatgoftar (2021); Citrayasa (2019)
WebTools	An and Williams (2010); Luo (2013)

Source: Author

Table 1 above shows a list of vocabulary learning mechanisms selected for review from academic literature and the researchers who provided evidence of their effectiveness through scientific experiments and surveys and following is a chart that shows the percentage of research studies for each vocabulary learning mechanism that attest to their effectiveness.

Figure 2.

Percentage of Research Studies Consulted for Each Vocabulary Learning Mechanism



Source: Author

This monograph is a qualitative research paper, described by Guest, Namey, & Mitchell (2013) as a research design to study a phenomenon from which only data different than numerical/ordinal can be collected and studied (as opposed to quantitative research), therefore, the analysis is done by subjective, interpretative observations, considering personal experiences,

behaviors, and world views, and describing the qualities and characteristics of an entity or phenomena, instead of measuring variables and studying their relationships as in a cause-and-effect scenario. Thus, qualitative information is analyzed by its characteristics, and can be codified, and categorized to make inferences and generalizations. This type of research is typically used in fields such as philosophy, psychology, anthropology, sociology, and education as they deal directly with human beings and their complexities which are not quantifiable.

Furthermore, this monograph is a descriptive investigation, also known as diagnostic investigation, where according to Cardona-Arias (2015), a phenomenon is investigated in-depth to directly expose its reality. For Alban, Arguello, & Molina (2020), a descriptive investigation has as its goal to describe the fundamental aspects of a phenomenon that help understand its behavior and structure. Since a deep investigation of vocabulary learning strategies, methodologies, mobile apps, and web tools was conducted in this monograph in order to describe their main characteristics and challenges, leading to a better understanding of these tools for vocabulary acquisition and English proficiency, the investigation done can be classified as a descriptive one.

Results and Discussion

The qualitative analysis of the researched scientific literature proved that indeed, vocabulary learning strategies, methods, android mobile apps, and web tools, enhance vocabulary learning and English proficiency, and consequently, this finding answers the research question from this paper and is in line with Nation's (2006) and Wilkins's (1972) hypothesis that vocabulary size is a contributing factor in the development of overall English skills. This finding is deduced from the positive results regarding vocabulary acquisition that the reviewed pedagogical and technological mechanisms yielded in the research papers that were analyzed. (See Table 1 in the Methodology section).

Furthermore, additional inferences from the results can be made that are useful for teachers. For instance, the results indicate that the Keyword Method and the Pictorial Method, two methods that rely on images and visualization, are more suitable to learn concrete words like nouns, adjectives, and verbs than to learn abstract vocabulary as concrete words have a higher imageability, meaning that they can be easily visualized or represented graphically (Paivio, Yuille, & Madigan, 1968), therefore, these methods are more appropriate for beginners and pre-intermediate learners who need to learn more basic and concrete words. In contrast, Direct Translation and L1-L2 pairing do not rely on the imageability of words and therefore, this method seems to be an alternative to learning abstract vocabulary, however, as Wang (2014) warns, using L1 should be discouraged as proficiency in L2 is gained, and for this reason, this method should only be tried with/by beginners and low-intermediate students.

Concerning Graphic Organizers, it seems like learners from all levels can learn vocabulary with them, however, they could be challenging for beginners who might struggle to

complete and understand GOs due to their language limitations (Sutapa and Susilowati, 2016). In addition, GOs can be used to successfully learn abstract words which are difficult to learn with other methods like the Keyword Method or the Pictorial Method, consequently, GOs are a suitable alternative to learning this type of vocabulary (Karendra et al., 2017).

Furthermore, The Vocabulary Self-Collection (VSS) and Contextualized Learning strategies provide learning activities that can benefit students from all levels provided that the materials and activities chosen are appropriate for their L2 level, for instance, using Extensive Reading as a strategy for contextualized learning could be challenging for novice learners who do not have a good command of the language and who might have difficulties understanding the readings, in which case the Cloze Procedure can be used as an alternative due to its simplicity. As for the 4 Strands strategy, as it requires language production and the comprehension of language input, it seems more appropriate for intermediate and advanced students, thus, in order to use it with beginners and low-intermediate students, language input and output activities must be simple, short, and suitable for their level.

Additionally, because of their use of contextualization, which provides meaningful learning without depending on the imageability of words, it can be assumed that the VSS, Contextualized Learning, and the 4S Strategy can help students learn both concrete and abstract vocabulary.

Concerning Language Learning apps, the literature reveals that mobile apps like Memrise, Duolingo, and Busuu rely on similar activities that use images, audio recordings, and flashcards, and consist of translation, word matching, filling in blanks, multiple-choice questions, listening, etc., some of which are behaviorist and passive. Moreover, these apps rely on methods

like *Rote Repetition*, *Direct Translation*, *Language Drills*, and *Spaced Repetition*. Based on the type of activities and methodologies employed by these mobile apps as well as the levels of L2 they teach, it can be assumed that they benefit novice learners more and can help them reach a pre-intermediate level (B1 – CEFR), however, due to these apps' limitations regarding speaking and writing activities, they fall short in developing learners' communicative and productive skills (Ravenscraft, 2021), yet they help beginners learn the basics of vocabulary and grammar that they need to reach an intermediate level of L2 and they also teach both concrete and abstract vocabulary. Additionally, the information found on the WordUp app suggests that it can be suitable for all kinds of learners, as it provides features like translation and contextualization of words using examples and pictures. WordUp can be especially beneficial to help pre-intermediate and intermediate learners acquire advanced vocabulary to reach a higher level of L2 and to learn concrete and abstract vocabulary.

In short, after examining quantitative and qualitative studies on mobile apps, it could be established that students enjoy learning vocabulary with mobile apps and that these apps are indeed effective, to some degree, for vocabulary learning. As for web tools, they offer specific features like translation, pronunciation, listening, etc., which makes them handy for all kinds of learners and can be used in a wide variety of activities.

Contributions to Previous Research

This monograph provides a new insight into the existing knowledge on vocabulary learning strategies contributed by Ibarra and Ortega (2018), and Siatoba, Forero, and García (2014) and it has to do with the analysis of the main characteristics of vocabulary learning strategies, methods, and ICTs, the type of vocabulary that they can teach (concrete or abstract), and their language-

level suitability, three aspects which would guide teachers in the implementation of vocabulary learning mechanisms in the classroom, the last two aspects being valuable unexpected findings of the analysis. With the presentation of the facts, advantages, and challenges of these mechanisms, the L2 level they can target, and the type of vocabulary they can teach, teachers can be well-informed about which mechanisms they can use for specific learners, language levels, and learning objectives and find solutions to cope with their challenges and shortcomings.

Additionally, the fact that vocabulary learning strategies happen to have a positive influence on vocabulary acquisition, as found during the analysis, agrees with the previous findings made by Ibarra and Ortega (2018), and Siatoba et al. (2014) which reinforces the belief that using vocabulary learning strategies enhances vocabulary acquisition.

On the other hand, this monograph contemplates the combined use of learning strategies, methods, mobile apps, and web tools for vocabulary learning by presenting three vocabulary learning activities that show how ICTs can be combined with strategies and methods in vocabulary learning activities, which is an innovative approach.

Pedagogical Implications

Due to the low English level of Colombian high school students upon graduation, improving their English skills has become a crucial goal that needs to be addressed for the sake of the country's economic development and the improvement of students' opportunities and quality of life (MEN, 2006), therefore, the information presented in this paper comes in handy for teachers to achieve such goal.

Consequently, if teachers use the reviewed vocabulary learning mechanisms with their students and teach them how to use these mechanisms for autonomous vocabulary practice,

students will learn vocabulary more effectively and improve their English skills. This is important to address the problem of low English proficiency of public high school students in Colombia, nevertheless, improving the English skills of students by increasing their vocabulary is only possible if students are motivated to learn vocabulary, and if additional work on grammar and language practice is done since grammar and communicative skills are also needed to achieve L2 proficiency (Adwani & Shrivastava, 2017).

The information presented here, therefore, is relevant for teachers and will help them exploit the benefits of ICTs, vocabulary learning strategies, and methodologies to achieve their vocabulary teaching goals, and with additional grammar and language practice, students will improve their English proficiency.

Moreover, considering the importance of vocabulary acquisition in language proficiency, and the vast number of words in the English language, vocabulary teaching becomes vital for L2 proficiency. Nevertheless, it is impossible to teach all the English vocabulary in class, therefore, teachers need to instruct students how to use strategies, methods, and ICT tools themselves to learn vocabulary, become autonomous learners, and improve their language skills, thus, this information becomes useful for English vocabulary development.

Finally, the strategies and methodologies reviewed in this monograph are not being suggested as a replacement for any teaching strategy or approach that teachers currently use in schools and their only purpose is to be used as tools for teachers who can adapt them to their activities and teaching styles. Hopefully, the scientific support of the learning mechanisms provided in this paper will convince educators to use them as part of the regular classroom activities for vocabulary learning.

Limitations of the Study

Economic and Technical Aspects of implementing ICTs: This study does not contemplate the economic resources of public schools in Colombia or their technological obstacles to implementing ICTs in the classrooms, nor this study considers the internet coverage across the country or its availability in public schools, due to its focus being on the effectiveness of the tools for vocabulary learning rather than their economic or technical implications which are also important to consider but are beyond the scope of this paper.

Availability of Critical Research: Finding relevant information that addresses the weaknesses and challenges of strategies and methods was laborious as most of the literature reviewed focuses on statistical analyses of vocabulary gains after using the vocabulary learning mechanisms rather than on the specific disadvantages of these mechanisms, therefore, this information was sometimes obtained from a unique research study, which indicates that there is not enough research about some of these vocabulary learning mechanisms.

Biases in Research: Finding adequate and reliable research studies on mobile apps like Duolingo, Memrise, and Busuu was difficult as many were biased towards the tools, presenting extraordinary results on vocabulary learning but failing to describe their shortcomings and methodology flaws. Due to the unavailability of quality research and at times the lack of research, online reviews had to be considered as sources of information, which are not reliable enough to be considered as evidence but provide a clue on the downsides and shortcomings of the language learning apps.

Conclusions and Recommendations

A thorough qualitative analysis of the literature on vocabulary learning strategies, methodologies, web 2.0 tools, and android mobile apps led to the compilation of useful information about these tools and the highlighting of their main characteristics and challenges, and subsequently, three classroom activities that integrate these tools were proposed, and since the objectives of this monograph were to present useful information about vocabulary learning tools to enhance Colombian high school students' vocabulary learning and exemplify the implementation of these tools through classroom activities, it can be concluded that the goals set for this monograph have been fulfilled and that this information is indeed helpful for educators and students, as it sheds light on the advantages and challenges of vocabulary learning mechanisms which can guide teachers in their implementation and adaptation in the classrooms, plus, experiments providing evidence of the effectiveness of these tools in enhancing vocabulary acquisition were also described, which serve to answer the research question of the monograph, confirming that these tools in fact help enhance vocabulary learning and English proficiency.

Consequently, as recommendations for future research, it is crucial to put these methodologies, strategies, mobile apps, and web tools to the test in overarching quantitative studies that analyze their impact on the development of English proficiency and fluency, using a sizable sample and rigorous instruments to collect information, as some of the existing research relies on small samples from which generalizations can hardly be made. Additionally, quantitative research on the combined use of strategies, methods, mobile apps, and web tools would provide valuable information for their implementation in Colombian public schools.

Finally, further research is needed to determine the technical and economic implications for the implementation of these learning mechanisms in public high schools in Colombia and to have a broader look into these mechanisms concerning the general English education in Colombia including private schools.

References

- A review of Duolingo: is it really worth your time? (n.d.). Cambridge Coaching. Retrieved from: <https://blog.cambridgecoaching.com/learning-a-foreign-language-a-review-of-duolingo>
- Ab Manan, Nor & Azizan, Noraziah & Nasir, Nur. (2017). Receptive and Productive Vocabulary Level of Diploma Students from a Public University in Malaysia. *Journal of Applied Environmental and Biological Sciences*. 7. 53-59.
- Abarghoui, M.A., & Taki, S. (2018). Measuring the Effectiveness of Using "Memrise" on High School Students' Perceptions of Learning EFL. *Theory and Practice in Language Studies*. <https://www.academypublication.com/issues2/tpls/vol08/12/25.pdf>
- Adwani, Priya & Shrivastava, Sanjay. (2017). Analysis of Factors Affecting Second Language Acquisition. *International Journal of Social Sciences and Management*. 4. 158. 10.3126/ijssm.v4i3.17247. https://www.researchgate.net/publication/318740287_Analysis_of_Factors_Affecting_Second_Language_Acquisition
- Agca, Ridvan & Özdemir, Selçuk. (2013). Foreign Language Vocabulary Learning with Mobile Technologies. *Procedia - Social and Behavioral Sciences*. 83. 10.1016/j.sbspro.2013.06.147.
- Alban, G. P. G., Arguello, A. E. V., & Molina, N. E. C. (2020). Metodologías de investigación educativa (descriptivas, experimentales, participativas, y de investigación-acción). *RECIMUNDO. Revista científica mundo de la investigación y el conocimiento*, 4(3).

- Al-Musawi, N. M. (2014). Strategic Use of Translation in Learning English as a Foreign Language (EFL) among Bahrain University Students. *Comprehensive Psychology*.
<https://doi.org/10.2466/10.03.IT.3.4>
- Alonso, Elisa. (2013). Lingües y las nuevas formas de traducir [Lingües and the New Ways of Translating]. *Skopos: revista internacional de traducción e interpretación*. 2. 5-28.
- Alroe, Michael & Reinders, Hayo. (2015). The role of translation in vocabulary acquisition: A replication study. *Eurasian Journal of Applied Linguistics*. 1. 39-58.
 10.32601/ejal.460588.
- An, Yunjo & Williams, Kevin. (2010). Teaching with Web 2.0 technologies: Benefits, barriers and lessons learned. *International Journal of Instructional Technology & Distance Learning*. 7.
- Antonacci, P., O'Callaghan, C. M., & Berkowitz, E. (2015). *Developing content area literacy: 40 strategies for middle and secondary classrooms*. SAGE.
[https://books.google.com.co/books?id=ZZVGBQAAQBAJ&lpg=PP1&ots=r7L9q-VbEz&dq=Antonacci%2C%20P.%2C%20O'Callaghan%2C%20C.%20M.%2C%20%26%20Berkowitz%2C%20E.%20\(2015\)&lr&pg=PR7#v=onepage&q=Antonacci,%20P.,%20O'Callaghan,%20C.%20M.,%20&%20Berkowitz,%20E.%20\(2015\)&f=false](https://books.google.com.co/books?id=ZZVGBQAAQBAJ&lpg=PP1&ots=r7L9q-VbEz&dq=Antonacci%2C%20P.%2C%20O'Callaghan%2C%20C.%20M.%2C%20%26%20Berkowitz%2C%20E.%20(2015)&lr&pg=PR7#v=onepage&q=Antonacci,%20P.,%20O'Callaghan,%20C.%20M.,%20&%20Berkowitz,%20E.%20(2015)&f=false)
- Arévalo, M. and Díaz, E. (2016). *The relationship between students' vocabulary level and the speaking ability in 8th grade courses at Colegio Nuestra Señora de Fátima*. Universidad del Norte. Bogotá, Colombia.

- Aromiekim. (2021, October 24). Duolingo vs. babbel: Which Best serves your language learning needs? FluentU Language Learning. <https://www.fluentu.com/blog/duolingo-vs-babbel/>
- Atkinson, R. C., & Raugh, M. R. (1975). An application of the mnemonic keyword method to the acquisition of a Russian vocabulary. *Journal of Experimental Psychology: Human Learning and Memory*, 1(2), 126–133. <https://doi.org/10.1037/0278-7393.1.2.126>
- Bakhtiarvand, Morteza. (2008). The Effect of Contextual Guessing Strategy On Vocabulary Recognition in Reading Comprehension texts of Iranian EFL Junior High school students.
https://www.researchgate.net/publication/234154921_The_Effect_of_Contextual_Guessing_StrategyOn_Vocabulary_Recognition_in_ReadingComprehension_texts_of_Iranian_EFLJunior_High_school_students
- Bates, James & Son, Jeong-Bae. (2020). English vocabulary learning with simplified pictures. 24. 1-20.
- Bauer, L., & Nation, P. (2020). Word families. doi:10.26686/wgtn.12560408.v1
- Blachowicz, C. L. Z. and Fisher, P. 2000. Vocabulary instruction. In Barr, R., Mosenthal, P., Pearson, P. S. and Kamil, M. (Eds.) *Handbook of Reading Research, Volume III*. White Plains: Longman
- Blachowicz, C. L., & Fisher, P. R. (2004). *Vocabulary Lessons*. EDUCATIONAL LEADERSHIP. Published.
http://www.educationaleader.com/subtopicintro/read/ASCD/ASCD_352_1.pdf

- Brayman, B. [Brook Brayman]. (2012, October 9). Compare and Contrast Graphic Organizer Demo [Video]. YouTube. <https://www.youtube.com/watch?v=4AlbiX-6mCM>
- British Council. (n.d.). Approach. TeachingEnglish. <https://www.teachingenglish.org.uk/article/approach>
- Burston, Jack. (2013). Mobile-Assisted Language Learning: A selected annotated bibliography of implementation studies 1994-2012. *Language, Learning and Technology*. 17. 157–224.
- Butarbutar, Ranta. (2022). How does Technology Vocaroo Improve Students' Speaking Ability? A Study from Learner, Teacher, and Researcher's Perspective. 1635-1640.
- Camó, Aïda & Pladevall Ballester, Elisabet. (2015). The Effects of Using L1 Translation on Young Learners' Foreign Language Vocabulary Learning. *Elia*. 15. 109-134. 10.12795/elia.2015.i15.06. https://www.researchgate.net/publication/297653279_The_Effects_of_Using_L1_Translation_on_Young_Learners'_Foreign_Language_Vocabulary_Learning
- Cardona-Arias, Jaiberth Antonio (2015). Ortodoxia Y Fisuras En El Diseño Y Ejecución De Estudios Descriptivos. *Revista Med*, 23(1),38-49. [fecha de Consulta 27 de Abril de 2022]. ISSN: 0121-5256<https://www.redalyc.org/articulo.oa?id=91043954005>
- Chukharev-Hudilainen, Evgeny & Klepikova, Tatiana. (2016). The effectiveness of computer-based spaced repetition in foreign language vocabulary instruction: A double-blind study. *CALICO Journal*. 33. 334-354. 10.1558/cj.v33i3.26055. <https://files.eric.ed.gov/fulltext/EJ1143520.pdf>

- Citrayasa, Vinindita. (2019). JUNIOR HIGH SCHOOL STUDENTS' LIVED EXPERIENCES OF LEARNING ENGLISH USING BUSUU. *Indonesian EFL Journal*. 5. 85. 10.25134/ieflj.v5i2.1900.
https://www.researchgate.net/publication/334649066_JUNIOR_HIGH_SCHOOL_STUDENTS_LIVED_EXPERIENCES_OF_LEARNING_ENGLISH_USING_BUSUU
- Coburn, Daniel. (2003). Using graphic organizers. *Science Scope*, 27(1), 46-48.
- Collins Dictionary. (n.d.). Citation. In collinsdictionary.com dictionary.
<https://www.collinsdictionary.com/dictionary/english/freemium>
- Congreso de Colombia. (8 de febrero de 1994) Ley General de Educación. [Ley 115 de 1994].
DO: 41.214.
- Council of Europe. (2001). Common European framework of reference for languages: Learning, teaching, assessment. Cambridge, U.K: Press Syndicate of the University of Cambridge.
- Cristiano, M. (2021, October 17). The Ultimate MEMRISE review: Benefits for free users, disappointments for subscribers. *FluentU Language Learning*.
<https://www.fluentu.com/blog/memrise-review/>
- Dau, Duy Lich. (2015). *Graphic Organizers – Effective Tools for Teaching Vocabulary*.
- Díaz Larenas, C. H., & Jansson Bruce, L. (2011). El aprendizaje del inglés y el uso de tecnologías: percepciones de estudiantes y profesores de inglés del nivel secundario chileno. *Matices en Lenguas Extranjeras*, (5), 1–37. Recuperado a partir de <https://revistas.unal.edu.co/index.php/male/article/view/44697>

Dictionary Cambridge. (n.d.). Citation. In dictionary.cambridge.org.

<https://dictionary.cambridge.org/dictionary/english/multimedia>

Dolean, Dacian. (2014). Using the keyword method in the classroom: Is the interacting imagery necessary?. *System*, 45, 17–26. 10.1016/j.system.2014.04.003.

Dooley, J. Allyson., Jones, S. C. & Iverson, D. (2012). Web 2.0 adoption and user characteristics. *Web Journal of Mass Communication Research*, 42 (June), online.

Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013). Improving Students' Learning with Effective Learning Techniques: Promising Directions From Cognitive and Educational Psychology. *Psychological Science in the Public Interest*, 14(1), 4–58. <https://doi.org/10.1177/1529100612453266>
<https://pcl.sitehost.iu.edu/rgoldsto/courses/dunloskyimprovinglearning.pdf>

Education First, 2020, EF English Proficiency Index A Ranking of 100 Countries and Regions by English Skills,
https://www.ef.edu/assetscdn/WIBIwq6RdJvcD9bc8RMd/legacy/___/~~/media/centralef.com/epi/downloads/full-reports/v10/ef-epi-2020-english.pdf

Ef.edu. 2016. EF English Proficiency Index - A comprehensive ranking of countries by English skills. <http://www.ef.edu/epi/>

Estrada Velasco, J. A., Mejía Montiel, J., & Rey Velásquez, J. A. (2016). Bilingüismo en Colombia: economía y sociedad. *Ploutos*, 5(2), 50–58. Recuperado a partir de <https://journal.universidadean.edu.co/index.php/plou/article/view/1491>

- Fenstermacher, G. D., & Soltis, J. F. (2004). *Approaches to teaching* (4th ed.). New York: Teachers College Press. <http://www.daneshnamehicsa.ir/userfiles/files/1/6-%20Approaches%20To%20Teaching-Fourth%20Edition.pdf>
- Finardi, Kyria & Leão, Roberta & Amorim, Gabriel. (2016). Mobile Assisted Language Learning: Affordances and Limitations of Duolingo. *Education and Linguistics Research*. 2. 48. 10.5296/elr.v2i2.9842
- Fisher, S. (2021b, November 4). Trying to Learn a New Language? Download One of These Free Mobile Apps. *Lifewire*. <https://www.lifewire.com/the-7-best-free-language-learning-apps-1357060>
- Fu, Jo Shan & Yang, S.-H. (2019). Exploring How YouGlish Facilitates EFL Learners' Speaking Competence. 1176-3647.
- Fu, Jo Shan & Yang, S.-H. (2019). Exploring How YouGlish Facilitates EFL Learners' Speaking Competence. 1176-3647.
- Ghalebi, Seyyedeh & Sadighi, Firooz & Bagheri, Mohammad. (2020). Vocabulary learning strategies: A comparative study of EFL learners. *Cogent Psychology*. 7. 10.1080/23311908.2020.1824306.
- Godwin-Jones, R. (2018). Contextualized vocabulary learning. *Language Learning and Technology*. 22. 1-19.
- Guest, G., Namey, E. & Mitchell, M. (2013). *Qualitative research: defining and designing*. In *Collecting qualitative data* (pp. 1-40). SAGE Publications, Ltd, <https://dx.doi.org/10.4135/9781506374680>, G., Namey, E. & Mitchell, M. (2013).

Qualitative research: defining and designing. In *Collecting qualitative data* (pp. 1-40).

SAGE Publications, Ltd, <https://dx.doi.org/10.4135/9781506374680>

Gupta, V. (2021, November 10). Memrise Review — Is it Worth or Waste of time? Study

French Spanish. <https://www.studyfrenchspanish.com/memrise-review/>

Haelermans, C. (2017). *Digital tools in education on usage, effects, and the role of the teacher.*

Stockholm: SNS Förlag.

Haggard, M. R. (1982). The vocabulary self-collection strategy: An active approach to word learning. *Journal of Reading*, 26, 203-207.

http://darianrivera.weebly.com/uploads/3/8/4/2/38427247/vocab_self-collection.pdf

Hatch, E., & Brown. S. (1995). *Vocabulary, Semantics, and Language Education.* New York:

Cambridge University Press.

He, M., & Green, C. F. (2012). Challenges in implementing Extensive Reading in Shanghai senior high schools. *Extensive Reading World Congress Proceedings*, 1, 34-36.

<https://erfoundation.org/proceedings/erwc1-He-Green.pdf>

Huckin, T. and Coady, J. (1999) *Incidental Vocabulary Acquisition in a Second Language.*

Studies in Second Language Acquisition, 21, 181-193.

<http://dx.doi.org/10.1017/S0272263199002028>

Huynh, Duy & Zuo, Long & Iida, Hiroyuki. (2016). Analyzing Gamification of “Duolingo” with Focus on Its Course Structure. 10.1007/978-3-319-50182-6_24.

https://www.researchgate.net/publication/310623230_Analyzing_Gamification_of_Duolingo_with_Focus_on_Its_Course_Structure

Ibarra Santacruz, D., & Martínez Ortega, D. (2018). Can working memory strategies enhance

English vocabulary learning? *HOW*, 25(2), 29-

47. <https://doi.org/10.19183/how.25.2.410>.

<https://www.howjournalcolombia.org/index.php/how/article/view/410/475>

Instituto Colombiano para la Evaluación de la Educación ICFES (2020).

<https://www.icfes.gov.co>

Ismail, M. E., Sa'Adan, N., Samsudin, M. A., Hamzah, N., Razali, N., & Mahazir, I. I. (2018,

December). Implementation of the gamification concept using KAHOOT! among

TVET students: An observation. In *Journal of Physics: conference series* (Vol. 1140,

No. 1, p. 012013). IOP Publishing.

Jacqueline Maridueña Macancela. (2019). Websites as support tools for learning the English

language. <https://doi.org/10.5281/zenodo.3240648>

Jumpspeak | Speak Spanish from day one. (2021, January 21). Jumpspeak.

<https://www.jumpspeak.com/blog/memrise-vs-duolingo-review>

Karendra, R., Nurweni, A., & Suka, R.G. (2017). The Implementation of Word Mapping

Strategy to Increase Students' Vocabulary Mastery at the First Grade Students of SMA

N 1 Rumbia Lampung Tengah.

Koletnik, Melita. (2012). Learning Vocabulary through Translation. *Scripta manent*. 7.

[https://www.researchgate.net/publication/236954170_Learning_Vocabulary_through_](https://www.researchgate.net/publication/236954170_Learning_Vocabulary_through_Translation)

[Translation](https://www.researchgate.net/publication/236954170_Learning_Vocabulary_through_Translation)

- Krashen, S. D., & Terrell, T. D. (1983). *The Natural Approach: Language Acquisition in the Classroom*. Hemel Hempstead: Prentice Hall International English Language Teaching
- Kukulka-Hulme, A, Taxler, J (2007) *Designing for mobile and wireless learning*. In: Beetham H and Sharpe R (eds) *Rethinking Pedagogy for a Digital Age: Designing and Delivering e-Learning*. London: Routledge, pp. 180–192.
- L.M, H.H., Sutapa, Y.G., & Susilowati, E.Y. (2016). *The Use Of Word Mapping Technique In Teaching Vocabulary*. Department of Languages and Arts Education, FKIP Universitas Tanjungpura, Pontianak
- Laufer, Batia & Nation, Paul. (1999). A vocabulary-size test of controlled productive ability. *Language Testing - LANG TEST*. 16. 36-55. 10.1191/026553299672614616.
https://www.researchgate.net/publication/249869895_A_vocabulary-size_test_of_controlled_productive_ability
- Lee, M. J., & McLoughlin, C. (Eds.). (2010). *Web 2.0-based e-learning: Applying social informatics for tertiary teaching: Applying social informatics for tertiary teaching*. IGI Global.
- Luo, Tian. (2013). *Web 2.0 for Language Learning: Benefits and Challenges for Educators*. *International Journal of Computer-Assisted Language Learning and Teaching*, 3. 1-17. 10.4018/978-1-4666-5942-1.ch055.
https://digitalcommons.odu.edu/stemps_fac_pubs/17
- Maenza, Neda & Gajić, Tijana. (2020). *Wordup Mobile Application – an Entertaining Form of Perfecting Your English Vocabulary*. 105-110. 10.15308/Sinteza-2020-105-110.

https://www.researchgate.net/publication/346453248_Wordup_Mobile_Application_-_an_Entertaining_Form_of_Perfecting_Your_English_Vocabulary

Malinee, V & Thennavan, Senthamarai. (2020). THE USE OF WEB 2.0 TOOLS IN ENGLISH FOR SPECIFIC PURPOSE: A BLENDED LEARNING APPROACH IN ENGLISH LANGUAGE TEACHING. *Journal of Shanghai Jiaotong University (Science)*. 16. 703-716.

Mart, Ç.T. (2012). Guessing the Meanings of Words From Context: Why and How. *International Journal of Applied Linguistics and English Literature*, 1, 177-181.
https://www.researchgate.net/publication/271027273_Guessing_the_Meanings_of_Words_From_Context_Why_and_How

Masoudi, Golfam. (2017). The Effect of Vocabulary Self -Selection Strategy and Input Enhancement Strategy on the Vocabulary Knowledge of Iranian EFL Learners. *English Language Teaching*. 10. 32. 10.5539/elt.v10n8p32.

McAlpine, E. (2020, December 30). Memrise is a language learning app that rises above the rest. *CNN Underscored*. <https://us.cnn.com/2020/12/30/cnn-underscored/memrise-language-learning-app-review/index.html>

Mehrpour, Saeed & Rahimi, Mohammad. (2010). The impact of general and specific vocabulary knowledge on reading and listening comprehension: A case of Iranian EFL learners. *System*. 38. 292-300. 10.1016/j.system.2010.01.004

Mejía-Mejía, Susana. (2016). ¿Vamos hacia una Colombia bilingüe?: Análisis de la brecha académica entre el sector público y privado en la educación del inglés. *Educación y*

Educadores, 19(2), 223-237. <https://doi.org/10.5294/edu.2016.19.2.3>
http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0123-12942016000200003

Memrise Review- Pros, Cons & Pricing. (2020). Home of Languages.

<https://www.homeoflanguages.com/memrise-review/>

Merriam-Webster. (n.d.). Citation. In Merriam-Webster.com dictionary.

<https://www.merriam-webster.com/dictionary/>

Mineducación (2019). Informe Nacional de Resultados del Examen Saber 11° 2019.

Ministerio de Educación. Colombia.

<https://www.icfes.gov.co/documents/20143/1711757/Informe+nacional+de+resultados+Saber+11-2019.pdf/01cca382-1f24-aefd-a3ef-0d04d2e6108d?version=1.0&t=1608776793757&download=true>

Ministerio de Educación - MEN (2006) Estándares Básicos de Competencias en Lenguas

Extranjeras: Inglés. Retrieved from:

https://redes.colombiaaprende.edu.co/ntg/men/archivos/Referentes_Calidad/Estandares_basicos_de_competencias/Estandares_Basicos_Compentencia_en_Lenguas_Extranjeras_%20Ingles.pdf

Morgana, V., & Kukulska-Hulme, A. (Eds.). (2021). Mobile assisted language learning across educational contexts. Routledge.

Mullamaa, Kristina. (2010). ICT in Language Learning - Benefits and Methodological

Implications. International Education Studies. 3. 10.5539/ies.v3n1p38.

- Munday, Pilar. (2015). The case for using DUOLINGO as part of the language classroom experience. RIED. Revista Iberoamericana de Educación a Distancia. 19. 10.5944/ried.19.1.14581.
https://www.researchgate.net/publication/284517271_The_case_for_using_DUOLINGO_as_part_of_the_language_classroom_experience
- Nation, I. S. P. (1990). Teaching and learning vocabulary. New York: Heinle and Heinle
- Nation, I. S. P. (2001). Learning vocabulary in another language. Ernst Klett Sprachen.
<https://doi.org/10.1017/CBO9781139524759>
- Nation, P. and Waring, R. (1997) Vocabulary Size, Text Coverage and Word Lists. In: Schmitt, N. and McCarthy, M., Eds., Vocabulary: Description, Acquisition, and Pedagogy, Cambridge University Press, Cambridge, 6-19.
https://www.lex tutor.ca/research/nation_waring_97.html
- Nation, P., & Yamamoto, A. (2012). Applying the Four Strands to Language Learning.
https://openaccess.wgtn.ac.nz/articles/journal_contribution/Applying_the_four_strands/12552020/1/files/23373002.pdf
- Nation, Paul. (2006). How Large a Vocabulary Is Needed for Reading and Listening? Canadian Modern Language Review-revue Canadienne Des Langues Vivantes - CAN MOD LANG REV. 63. 59-81. 10.1353/cml.2006.0049.
- Nation, Paul. (2007). The Four Strands. Innovation in Language Learning and Teaching. 1. 2-13. 10.2167/illt039.0.

- Nie, Yongwei & Zhou, Li (2017). A study of vocabulary learning strategies used by excellent English learners. *Research on Modern Higher Education*. 4. 101-106.
10.24104/rmhe/2017.04.02010.
- Nuralisah, Ai & Kareviati, Evie. (2020). THE EFFECTIVENESS OF USING MEMRISE APPLICATION IN TEACHING VOCABULARY. *PROJECT (Professional Journal of English Education)*. 3. 494. 10.22460/project.v3i4.p494-500.
https://www.researchgate.net/publication/343174634_THE_EFFECTIVENESS_OF_USING_MEMRISE_APPLICATION_IN_TEACHING_VOCABULARY
- Nushi, Musa & Eqbali, Mohamad. (2017). Duolingo: A mobile application to assist second language learning. *Teaching English with Technology*. 17. 89-98.
https://www.researchgate.net/publication/313572795_Duolingo_A_mobile_application_to_assist_second_language_learning
- Nushi, Musa & Jenabzadeh, Homa. (2016). Busuu: A Mobile App. *The TESL Reporter Journal*. 49. 30-38.
https://www.researchgate.net/publication/312021435_Busuu_A_Mobile_App
- Orjuela, Y. (2018) *Caracter Motivacional en el Aprendizaje de una Lengua Extranjera*. Maestría en Educación. Universidad Católica de Manizales.
- O'Hógain, B. (2012). Teaching and learning vocabulary: putting The Four Strands to the test.
- Paivio, A., Yuille, J. C., & Madigan, S. A. (1968). Concreteness, imagery, and meaningfulness values for 925 nouns. *Journal of Experimental Psychology*, 76(1, Pt.2), 1–25.
<https://doi.org/10.1037/h0025327>

- Patterson, W.D. (2012). A Reexamination of Cloze Procedure in the Teaching and Testing of English as a Foreign Language. <https://docplayer.net/41184256-A-reexamination-of-cloze-procedure-in-the-teaching-and-testing-of-english-as-a-foreign-language.html>
- Peñalosa, Hector. (2016). Determinantes del acceso a Internet en Colombia. *ÁNFORA*. 21. 21-36. 10.30854/anf.v21.n37.2014.21.
- Perez-Salazar, G. (2011). La Web 2.0 y la sociedad de la información. *Revista mexicana de ciencias políticas y sociales*. 56. 57-68. 10.22201/fcpys.2448492xe.2011.212.30400.
- Pozo, J. I. (1990). Estrategias de aprendizaje. En C. Coll, J. Palacios y A Marchesi (Comp.). *Desarrollo psicológico y educación, II. Psicología de la Educación*. Madrid: Alianza.
- Prabha, Thashwinny & Abdul Aziz, Azlina. (2020). Effectiveness of Using Poly Category Mind Map for Vocabulary Development. *Arab World English Journal*. 11. 214-231. 10.24093/awej/vol11no2.15.
- Prastyo, Y. D., Dharmawan, Y. Y., & Amelia, S. F. (2022). Student's Perceptions on the Implementation of Youglish in Learning English Pronunciation at English Department . *Lectura : Jurnal Pendidikan*, 13(1), 42-54. <https://doi.org/10.31849/lectura.v13i1.92>
- Pratt, M. K. (2019, July). Definition of ICT (information and communications technology, or technologies). TechTarget. <https://searchcio.techtarget.com/definition/ICT-information-and-communications-technology-or-technologies>
- Prince, P. (1996) Second language vocabulary learning: The role of context versus translation as a function of proficiency. *The Modern Language Journal*, 80, 478–493.

- Qomariyah, Siti & Nafisah, Bq. (2020). Word Mapping in Students' Vocabulary Mastery. *Jo-ELT (Journal of English Language Teaching) Fakultas Pendidikan Bahasa & Seni Prodi Pendidikan Bahasa Inggris IKIP*. 7. 31. 10.33394/jo-elt.v7i1.2736.
- Rahman, Muhammad & Rinaldi, Rendi & Santoso, Iman. (2019). THE USE OF VOCABULARY SELF-COLLECTION STRATEGY TO IMPROVE STUDENTS' VOCABULARY MASTERY. *PROJECT (Professional Journal of English Education)*. 2. 194. 10.22460/project.v2i2.p194-200.
https://www.researchgate.net/publication/337246943_THE_USE_OF_VOCABULARY_SELF-COLLECTION_STRATEGY_TO_IMPROVE_STUDENTS'_VOCABULARY_MASTERY
- Raungawat, Nuntiporn & Chumworatayee, Tipamas. (2021). The Effects of Vocabulary Self-Collection Strategy Instruction on Thai EFL Undergraduate Students' Vocabulary Knowledge and Perceptions. *Arab World English Journal*. 12. 253-269.
 10.24093/awej/vol12no1.18.
- Ravenscraft, E. (2021, March 17). 500 Days of Duolingo: What You Can (and Can't) Learn From a Language App. *The New York Times*.
<https://www.nytimes.com/2019/05/04/smarter-living/500-days-of-duolingo-what-you-can-and-cant-learn-from-a-language-app.html>

Resultados Icfes 2020: ¿Cómo les fue a los jóvenes y en qué se rajaron? (2021, February 25).

Semana.com. <https://www.semana.com/educacion/articulo/resultados-icfes-2020-como-les-fue-a-los-jovenes-y-en-que-se-rajaron/202134/>

Riza, A., & Kawakib, A.N. (2021). Utilizing the Phonetic Transcription of IPA (International Phonetic Alphabet) to Avoid EFL Students Miss-Pronunciation.

Roldán, A. (2016). Obstáculos en el Aprendizaje del Inglés como Lengua Extranjera en Dos Grupos de Población Bogotana. Universidad Francisco José de Caldas, Facultad de Ciencias de la Educación
<https://repository.udistrital.edu.co/bitstream/handle/11349/6611/Rold%ElnS%ElnchezGuiomarAndrea2017.pdf;jsessionid=C25010D2A8A06654708C58BAC5DB7ACB?sequence=1>

Rosydah, Elly Cholifatur (2018) Improving student's mastery of Irregular Verb by using Memrise application at the tenth grade of MAN Sidoarjo. Undergraduate thesis, UIN Sunan Ampel Surabaya.

Sanchez, A. (2013). Bilingüismo en Colombia. Economía y Región. Vol 7. No. 2. Cartagena.
<https://revistas.utb.edu.co/index.php/economiayregion/article/view/52/37>

Schmeck, R.R. (1988). Learning Strategies and Learning Styles. New York: Plenum Press.

Schmitt, N. (2000) Vocabulary in Language Teaching. Cambridge University Press,
Cambridge. <http://assets.cambridge.org/052166/0483/sample/0521660483wsn01.pdf>

Schmitt, Norbert & Schmitt, Diane. (2020). Vocabulary in Language Teaching.
10.1017/9781108569057.

- Schumaker, J. B., & Deshler, D. D. (1992). Validation of learning strategy interventions for students with LD: Results of a programmatic research effort. In Y. L. Wong (Ed.), *Contemporary intervention research in learning disabilities: An international perspective*. New York: Springer-Verlag.
- Shapiro, A. M., & Waters, D. L. (2005). An investigation of the cognitive processes underlying the keyword method of foreign vocabulary learning. *Language Teaching Research*, 9(2), 129–146. <https://doi.org/10.1191/1362168805lr151oa>
- Shibata, Naoya. (2020). [Review] The Usefulness of Busuu Online Courses for Foreign Language Learning. *CALL-EJ*. 21. 197-203.
https://www.researchgate.net/publication/343306161_Review_The_Usefulness_of_Busuu_Online_Courses_for_Foreign_Language_Learning
- Siatoba Navarrete, A., Forero Torres, J. M., & García Forero, J. M. (2014). Impacto de las estrategias de aprendizaje de vocabulario de inglés como lengua extranjera en la Fundación ASE.
https://ciencia.lasalle.edu.co/cgi/viewcontent.cgi?article=1478&context=lic_lenguas
- Stæhr, L. (2008). Vocabulary Size and the Skills of Listening, Reading and Writing. *Language Learning Journal*. 36. 139-152. 10.1080/09571730802389975.
https://www.researchgate.net/publication/249049293_Vocabulary_size_and_the_skills_of_listening_reading_and_writing

- Stæhr, L. (2009). Vocabulary Knowledge and Advanced Listening Comprehension In English As A Foreign Language. *Studies in Second Language Acquisition*, 31(4), 577-607. doi:10.1017/S0272263109990039
- Swabey, M. T. (2017, April 3). Memrise | The Digital Teacher | Cambridge English. The Digital Teacher. <https://thedigitalteacher.com/reviews/memrise>
- Toma, Florentina & Diaconu, Daniel & Popescu, Cristina. (2021). The Use of the Kahoot! Learning Platform as a Type of Formative Assessment in the Context of Pre-University Education during the COVID-19 Pandemic Period. *Education Sciences*. 11. 649. 10.3390/educsci11100649.
- Ünalđı, İ., & Yüce, E. (2021). The Relationship Among Vocabulary Size, Grammar Proficiency, and Critical Thinking Skills of Adult Language Learners. *Adult Learning*, 32(2), 70–78. <https://doi.org/10.1177/1045159520959473>
- Valencia, S. (2006). Literacy practices, texts, and talk around texts: English language teaching developments in Colombia. *Colombian Applied Linguistics Journal*, 8, 7-37. DOI: 10.14483/22487085.170
- Vesselinov, R., Grego, J., Tasseva-Kurktchieva, M., & Sedaghatgoftar, N. (2021). THE BUSUU EFFICACY STUDY, 1–24. http://comparelanguageapps.com/documentation/Busuu_Efficacy_Study_2021.pdf
- Vesselinov, R., Grego, J., Tasseva-Kurktchieva, M., & Sedaghatgoftar, N. (2021). THE BUSUU EFFICACY STUDY, 1–24. http://comparelanguageapps.com/documentation/Busuu_Efficacy_Study_2021.pdf

- Wang, Z. (2014). Review of the Influence of L1 in L2 Acquisition. *Studies in Literature and Language*, 9, 57-60. <https://core.ac.uk/download/pdf/236302799.pdf>
- Waro, C. (2019). The effectiveness of vocabulary self-collection strategy on students' vocabulary mastery (A Quasi-experimental Study at the Tenth Grade of MA Islamiyah Ciputat in Academic year 2019/2020).
- Watcharee, M. (2017) A Case Study Of Learning Vocabulary Through Pictures. Thammasat University.
http://grad.litu.tu.ac.th/assets/public/kcfinder/upload_grad_web/public/7_2017_WATC_HAREE%20PAISART_2-8-61.pdf
- Westwood, P. (2008). What Teachers Need to Know About Teaching Methods [E-book]. ACER Press. https://books.google.com.co/books?id=vd7kjZd_M-EC&lpg=PR3&ots=x3RQCF0tIr&dq=what%20are%20teaching%20methods&lr&pg=PR3#v=onepage&q=what%20are%20teaching%20methods&f=false
- Wilkins, D. A. (1972). *Linguistics in Language Teaching*. Cambridge: MFT Press.
- Xavier, Disalva & Sugantha, E & Mary, Ezhil. (2020). Enhancing vocabulary of the hotel management students to develop the speaking skill through mobile application.
https://www.researchgate.net/publication/341866805_Enhancing_vocabulary_of_the_hotel_management_students_to_develop_the_speaking_skill_through_mobile_application.
- Yeung, S.-F. B. (2002). A comparison of the vocabulary self-collection strategy (VSS) and the current methodology of vocabulary teaching in Hong Kong EFL classrooms.

Yusuf, F. (2019). English Pronunciation Based On The Phonetic Transcription Application

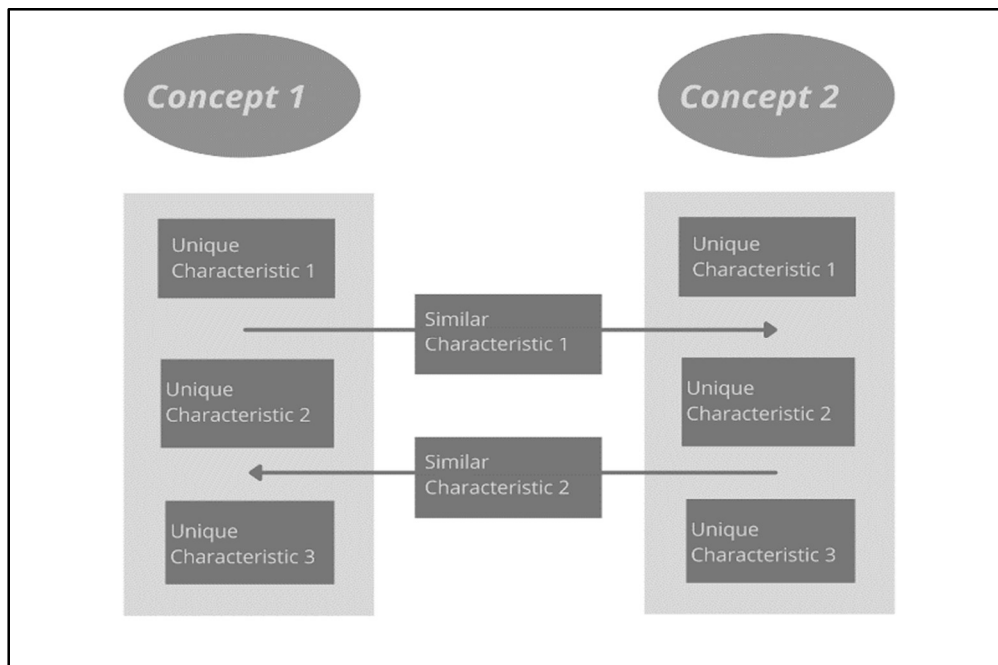
(Study Of Tophonetics.App). English and Literature Journal, 6(1), 60-69.

<https://doi.org/10.24252/elite.v6i1a5>

Appendices





Appendix A: Types of Graphic Organizers

Comparative-Contrasting Map

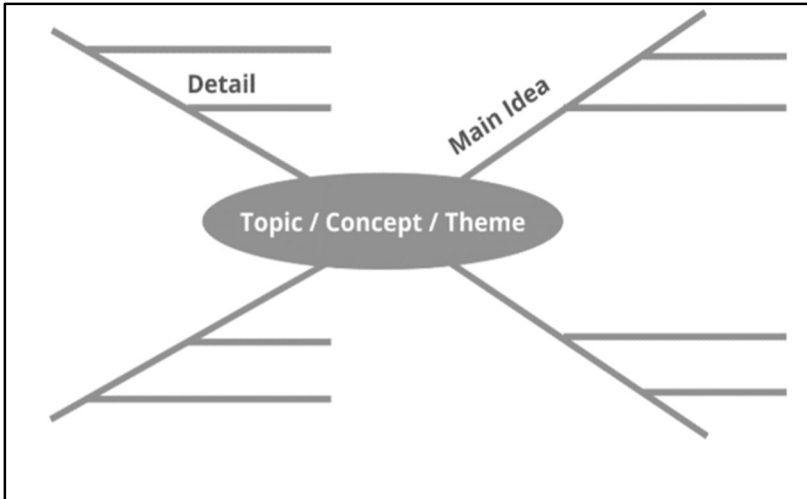


Comparative-Contrasting Matrix / Word Structure Chart

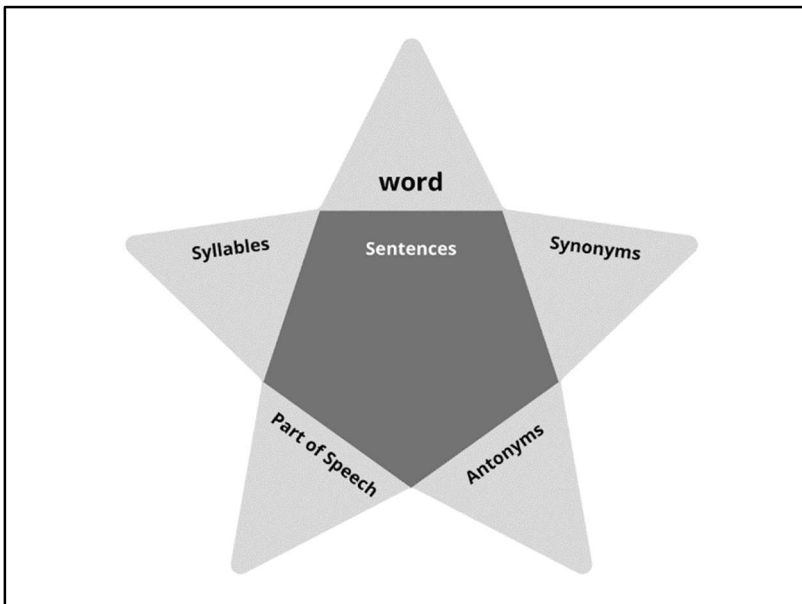
	Concept 1	Concept 2
Attribute 1		
Attribute 2		
Attribute 3		

Polyhedrons: <i>solids with surfaces made up of polygons</i>			
Name:	Critical Attributes:	Real-World Examples:	Sketch:
Rectangular Prism	<ul style="list-style-type: none"> 2 parallel, congruent bases bases are rectangles 6 faces 	box, Rubik's cube, some buildings, bricks	
Triangular Prism	<ul style="list-style-type: none"> 2 parallel, congruent bases bases are triangles 5 faces 	tent, box of Toblerone chocolate	
Name:	Critical Attributes:	Real-World Examples:	Sketch:
Rectangular Pyramid	<ul style="list-style-type: none"> base is a rectangle sides are triangles 5 faces 	Egyptian Pyramids	
Triangular Pyramid	<ul style="list-style-type: none"> base is a triangle sides are triangles 4 faces 	4-sided dice	

Spider Map



Word Star



Appendix B: Graphic Organizers for the Vocabulary Self-Collection Strategy

Vocabulary Self-Collection Organizer		
Name: _____		Date: _____
Topic: _____		Pages: _____
WORD	REASON FOR SELECTION	DEFINITION

(Made by Antonacci, O'Callaghan, & Berkowitz, 2015)

Appendix C: List of Useful Web 2.0 Tools for English Learning

DeepL: This is a translation tool that translates words and whole sentences and provides different translation alternatives. (<https://www.deepl.com/en/translator>)

YouGlish: This web app allows you to find words within YouTube videos and provides the transcription of the videos, plus a dictionary. When you click on a word, a popup window with the word's definition is shown. (<https://youglish.com/>)

ToPhonetics: This is a dictionary that shows you the pronunciation of a word in both British or American accents and provides its IPA transcription to understand its phonetic composition. (<https://tophonetics.com/>)

Learn English – British Council: In this website you can find lessons for free to practice grammar, vocabulary, writing, reading, listening, and speaking skills. There are plenty of grammar lessons on different topics. (<https://learnenglish.britishcouncil.org/>)

BBC – Learn English: This is another website with free lessons to learn grammar, vocabulary, pronunciation, and language skills with additional material for teachers. (<https://www.bbc.co.uk/learningenglish/>)

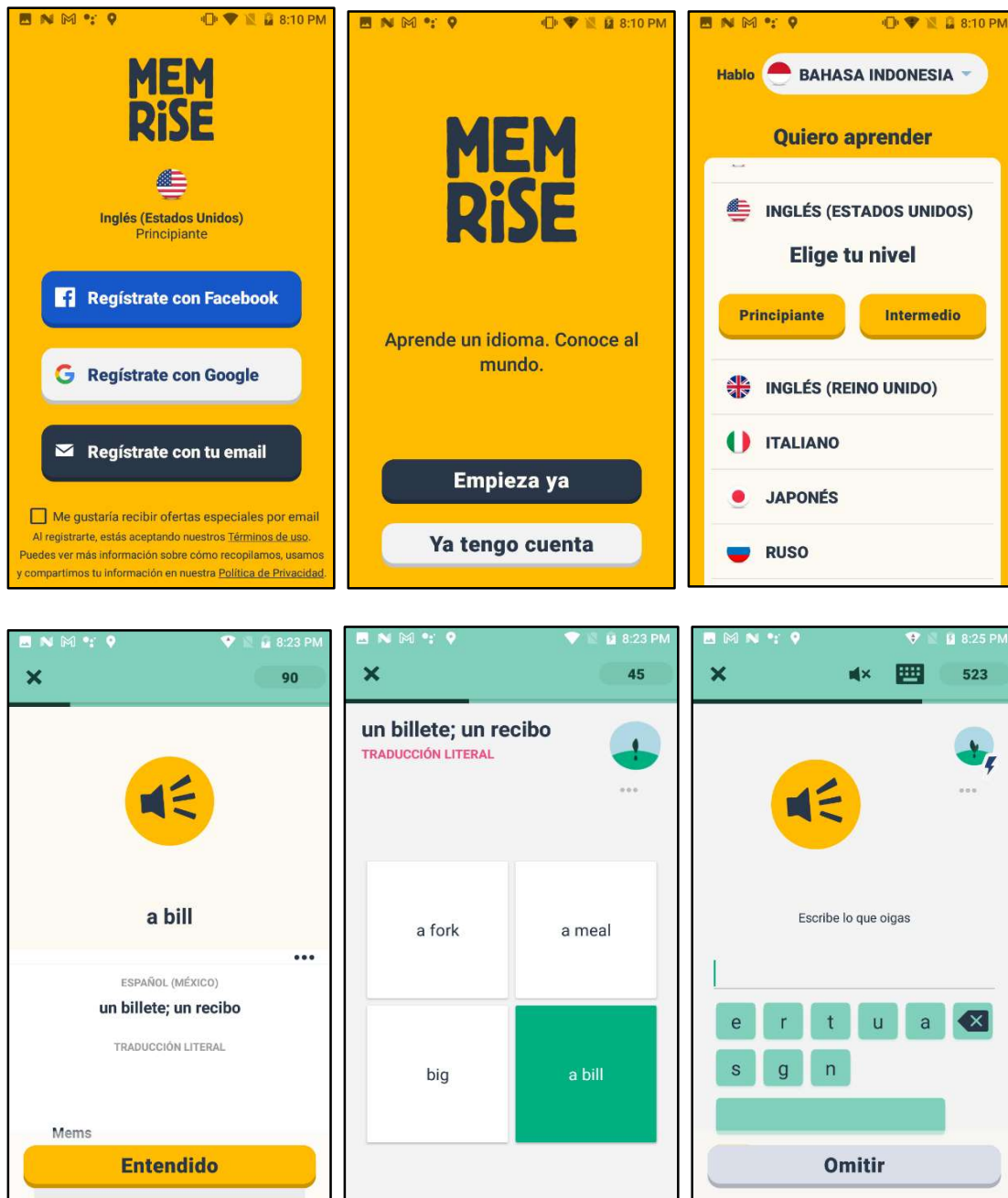
English Grammar: This is a website specialized in grammar topics with additional pdf files available for download (<https://www.englishgrammar.org/>)

VOA News: In this newsletter portal, you can register to receive the latest news via email in simple English for reading practice. (<https://learningenglish.voanews.com/p/5373.html>)

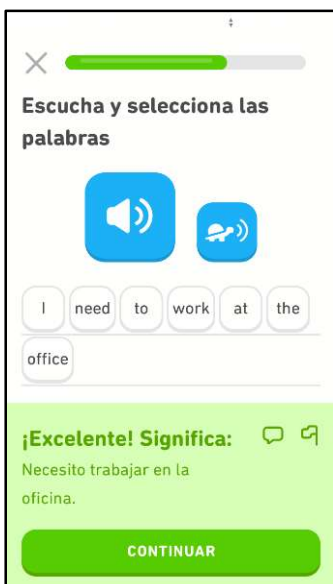
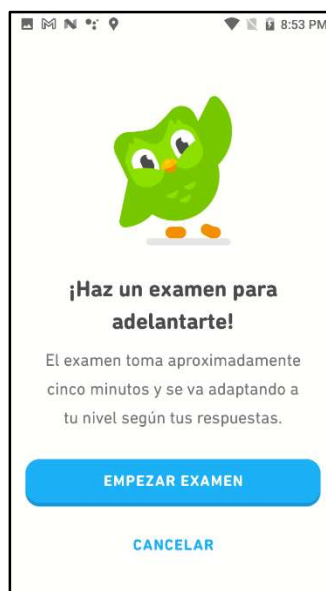
Linguee: This dictionary shows a word in sentences in both your native language and a foreign language, with different examples where you can see its different meanings, contexts, usage, and collocations and have a deeper understanding of it. (<https://www.linguee.com/>)

Appendix D: Graphic Interfaces of Android Mobile Apps for English Learning

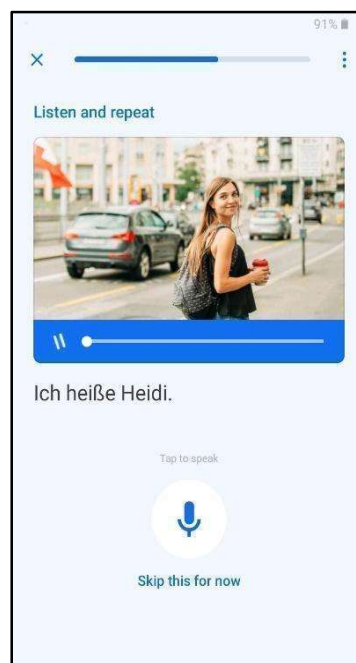
Memrise



Duolingo



Busuu



WordUp

