

Relationship between lexical frequency and vocabulary acquisition: how to acquire a language

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ABSTRACT

Vocabulary acquisition and language learning are very dynamic process in which many factors are in play. One of these is lexical frequency, which refers to how much frequently a word is uttered in a language. As such, it can be said that the more a word is present in a language, the easier it is to be acquired. In this study, we tried to find the relationship between lexical frequency and vocabulary acquisition in the process of learning a first and second language. The results of this study showed that there is indeed a relation between how frequently a word is used in a language and how quickly it is learned. Consequently, focusing on frequently used vocabulary might aid in the process of learning a language. However, it was found that it is difficult to choose a reliable frequency list that would give an accurate picture of a language. Frequency lists might vary depending on the context, although most still resemble each other in content. Additionally, although it has been demonstrated that frequency plays a big role in language learning, foreign language instruction has yet to catch up with lexical frequency in the classroom.

KEYWORDS: Lexicon; Lexical competence; vocabulary; foreign language.

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Relación entre el léxico y la adquisición de vocabulario: cómo adquirir un idioma

RESUMEN

La adquisición de vocabulario y el aprendizaje de idiomas son procesos muy dinámicos en los que intervienen muchos factores. Uno de ellos es la frecuencia léxica, que se refiere a la frecuencia con que se pronuncia una palabra en un idioma. Así pues, puede decirse que cuanto más presente esté una palabra en un idioma, más fácil será su adquisición. En el presente estudio se ha tratado de encontrar la relación entre la frecuencia léxica y la adquisición de vocabulario en el proceso de aprendizaje de un primer y un segundo idioma. Los resultados de este estudio demostraron que existe efectivamente una relación entre la frecuencia con que se utiliza una palabra en un idioma y la rapidez con que se aprende. Por consiguiente, centrarse en el vocabulario de uso frecuente podría ayudar en el proceso de aprendizaje de un idioma. Sin embargo, se comprobó que es difícil elegir una lista de frecuencias fiable que dé una imagen exacta de un idioma. Las listas de frecuencias pueden variar según el contexto, aunque la mayoría de ellas siguen pareciéndose entre sí en cuanto a su contenido. Además, aunque se ha demostrado que la frecuencia desempeña un papel importante en el aprendizaje de idiomas, la enseñanza de idiomas extranjeros todavía no ha alcanzado la frecuencia léxica en el aula.

PALABRAS CLAVE: Léxico; competencia léxica; vocabulario; idioma extranjero

INTRODUCTION

Any language learner worth their salt already knows that in every language there are words that repeat more than others and appear all the time. This occurrence indicates that there are some words that may be more important than others to learn. This occurrence is what we call “Lexical frequency” and is the main topic of what this paper will be about.

In this article we will take a closer look to this lexical frequency and the effects it has in vocabulary acquisition, as well as its practicality in learning languages. For the research of this topic we have taken a literature review article approach, in which we have compiled a list of authors such as Massaro (2016) or El Morabit (2020). Getting information and opinions from scholars and authors with expertise in their fields we have created this article with the intent to explore the importance of studying the lexical of languages and how they intervene in the process of learning a language. We consider this to be an important topic to explore because it can improve our understanding in how we view the process of learning a new language, as well as giving us more knowledge and tips on how to learn and teach a foreign language.

Even though there has been research done on how people learn new languages, and how vocabulary is an important element in this learning process. There has not been many on the relationship of lexical frequency and vocabulary acquisition and how it

is related to learning a foreign language or giving some tips on how to implement the element of lexicon more effectively.

METHODOLOGY

For this literary review, the primary source for data and research information were other scientific articles found in Google Scholar, as well as ResearchGate. The legitimacy of the sources was decisive in choosing what articles to use, favoring primary sources and peer-reviewed articles. The process of finding other research projects that pertained to the research goal of this article included searching through key words and concepts such as: lexical frequency, vocabulary acquisition, L1 and L2 language learning, and vocabulary selection. We wanted to express the implications of lexical frequency in the acquisition of both the mother tongue and foreign language, and what other factors drive those two processes.

When researching L1 acquisition, we focused primarily on parental input, as well as linguistic and cognitive conditions that drive language acquisition during the early years of life. On the other hand, L2 acquisition involved a more pedagogical approach, as the acquisition of a foreign language and its studies about frequency are mostly classroom related. For the latter, pedagogical processes were also considered, to demonstrate whether frequency was considered in didactic practices, and whether they influenced second language learning.

In the process of reviewing and analyzing the chosen articles, we tried to focus on vocabulary acquisition in both first and second languages, and what role and importance played lexical frequency in these processes. Additionally, we looked for other factors that were significant, and how they relate and interact to lexical frequency. We also looked for information that would refute the importance of lexical frequency or give it a different perspective that would be worthy of consideration.

Word frequency and l1 acquisition.

Word frequency is influential from the start in the acquisition of the first language. Children begin producing their first words within the first months of their life: it is a slow process, and children tend to increase their vocabulary within a rate of a few words each month. Increase in vocabulary is apparent after six months and reaches an average of about 570 words at two and a half years old. Despite the large numbers of token words which a child might find from adults in their environment, they show selectiveness towards certain words. The most common words are nouns associated with real life objects. After 200 words approximately, they start adding verbs and adjectives more frequently than before (Goodman, Dale, & Li, 2008).

Many factors influence L1 vocabulary acquisition during the first years, although lexical frequency is the most consistently influential (Massaro, 2016). The role of frequency is significant both in the words themselves and in the size of parental input. Parents who provide a richer and bigger linguistic input generally result in their child developing his vocabulary earlier, and in a bigger quantity (Snow & Weizman, 2001). In terms of the word themselves, some categories of words are learned earlier than others, such as concrete verbs and nouns. Despite those

factors, most of the words that are uttered by children seem to coincide with frequency of exposition. (Massaro, 2016).

Vocabulary acquisition during early age also has categorical implications that must be considered. In the studies of Goodman, Dale, & Li (2008) hypothesized that, regardless of semantic category, the frequency of occurrence of a word was the dominating factor in the time and order of acquisition. They used the CHILDES (Child Language Data Exchange System) database, which collects around 3.5 million token words from child and parent speech transcripts and the CDI (Communicative Development Inventories) to select 567 words for the study. They subdivided the words in 6 lexical categories: common nouns; people words; verbs; adjectives; closed class; and miscellaneous words. They found out that nouns and verbs were acquired the fastest, despite being the least frequent initially. On the other hand, closed class nouns were the last to be acquired, despite being the most frequent in speech. Nonetheless, they found that within these categories, the more frequently a word was uttered, the faster it was learned. However, the importance of semantic categories decreased with age, while the input frequency influence remained stable.

In a similar study, Massaro (2016), also using the CHILDES and CDI databases, established three ratings for words and how they are related to age of acquisition and the role of parental input frequency. These are iconicity, or the relationship between meaning and the symbolic form of the word; imageability, or how well can a word be represented with a real life image; and difficulty of articulation, or how easy it is to pronounce a word or sound in the language. It was found that words that had a higher rating of iconicity and imageability (mostly nouns and verbs), as well as a lower difficulty of articulation, were learned the earliest. He also mentions that those parameters become less relevant as the child gets older. Longobardi, Rossi-Arnaud, Spataro, Putnick, & Bornstein (2015) mention in their studies of child directed speech in Italian mothers during playtime, that children were more akin to learn nouns than verbs during the first 2 years of their life. In this case, 24 mothers were recorded during playtime sessions and the transcript of their conversations were used as a database. The children acquired nouns that were frequently used by their mothers and that also had a material representation that the child could perceive, such as toys or other objects.

On the other hand, Ota & Green (2013) refer more specifically to phonological acquisition in vocabulary. In these studies, it was found that vocabulary acquisition at an early age was also influenced by phonological properties such as number of phonemes and types of consonant clusters; frequency influence was less relevant at an early age when certain phonological properties have not been mastered yet by the child. When children get better at phonological production, then frequency starts to play a bigger role. Therefore, it could be argued that vocabulary acquisition is also influenced by the cognitive capacities of a child at an early age, which become less influential as time goes by; a word that might not be very frequent in use can nonetheless be learned earlier because it is better represented in the real world (like nouns and verbs). Closed class words, while much more frequent, and are more

abstract and more difficult to understand for a child. As the child develops cognitively, these factors might become irrelevant, while the role of frequency remains decisive.

Word frequency and l2 acquisition

Lexical frequency is also a very influential factor in the acquisition of a second language. However, the process is different from the acquisition of a first language, as the second language learner does not depend on parental input for language development. Instead, most second language acquisition is done in pedagogical environments and others that are foreign in nature. Nonetheless, the role of frequency is still relevant, because humans still respond to frequency and pattern whether we are learning our mother tongue or a foreign one. Frequent words also prove to be both the most used (and thus heard) and also the most useful for a foreign language learner to use to communicate with speakers if the target language (Kartal & Sarigul, 2017).

The role of frequency also goes beyond the background of the language learner. Kartal & Sarigul, (2017) mentions a study of 24 adult EFL learners of Arabic, Japanese, Persian and Spanish backgrounds who were administered listening, writing, reading, speaking and imitating tasks, to measure the acquisition of morphemes in English. The result of the study showed that the order of acquisition replicated the one established by Gordon (1973) in first language acquisition, with the morpheme -ing being the first to be acquired, and also the most common in the English language. Kartal & Sarigul (2017) also mentions similar results in regard to the acquisition of phonetics, vocabulary and constructions, noting about the latter that constructions are also easier to learn when they are more frequent.

The importance of reading

Reading is very relevant to the acquisition of vocabulary beyond the most frequent words in the spoken language, as well as providing the most common way of collecting and measuring frequency of vocabulary through the written word. Nevertheless, there are other factors that play a part in the incidental acquisition of vocabulary through reading. Context is very important, as Teng (2016) mentions in his study. He found out that the more informative a context is, or how explicit the meaning of an unknown word is, the easier it was to be acquired through repeated encounters in a text. ON the other hand, words that were in a less informative context were harder to acquire.

i Heidari-Shahreza & Tavakol (2012) also mentions the influence of L1 lexicalization, which refers to a difference of expressing concepts with words between L1 and L2 in a study of 90 L1 persian EFL learners. Non lexical words were harder to acquire in terms of meaning and usage, although both lexical and non-lexical words were greatly helped by how many times they were in a text.

Both Teng (2016) and i Heidari-Shahreza & Tavakol (2012) mention that, while there is no exact number of exposure a word might need to be learned, they agreed that between 7-10 times of exposure seems to be ideal to learn a new word. However, as

we have seen, these can also be influenced by other factors. They also mentioned the use of graded readers that would provide learners with enough context to better acquire vocabulary.

Lexical availability and acquisition of language

A different approach from word frequency has been proposed mainly by researchers in the field of Spanish as a Foreign Language, lexical availability. Although not ignoring completely the frequency lists and corpora, lexical availability leans more towards the actual use of a word rather than its statistical repetition and adopts a focus on the thematic characteristics of the vocabulary. Therefore, lexical availability relies on the mental lexicon of a person, rather than the written or oral production from which word frequency lists are based. The mental lexicon is itself activated through a cue based on an specific topic (i.e clothing or jobs). Lexical availability word lists focuses mainly on nouns, verbs and adjectives which carry high semantic content meaning, while word frequency have as the most common words the functional words or closed class words like pronouns. (Kalan, 2017)

The idea of focusing on specific and actual use of the vocabulary started in the 1950s with French teachers who saw that, despite using a “basic” list of words based on frequency, they could empirically perceive that there was still a lot of words that were not included and that were very common for a French speaker. Recently, this topic has been covered by Spanish academics in search of a pan Hispanic word list that would fix the vast differences in vocabulary from the different Spanish speaking countries (Bartol, 2013)

Vocabulary selection

So the question arises in regards to what vocabulary should be used outside of the word frequency lists which are the goal of a foreign language speaker (around 2000 tokens or 5000 word families) (Kalan, 2017). The CEFR, as cited in (Bartol, 2013) mentions 4 possible ways for vocabulary selection:

- Words that are crucial to the communicative process according to the learners’ need, as well as the cultural intricacies of the target language
- Using frequent words both in general lists and in more thematic lists.
- Using authentic texts and teaching about all the words
- Allowing the student to develop organically a vocabulary of interest without previously planning a vocabulary list

There is also the most straightforward vocabulary selection in regard to teaching language for specific purposes. For example (Santos, 2017) mentions that learning a language for studying economics, the words that should be learned must be words related to the science of economics and related words. She also mentions that the core vocabulary selected should be based on the context of the student, like their level of proficiency, age and cultural knowledge.

Another possibility of vocabulary selection during the first stages of second language acquisition is the reliance of words that have a high level of concreteness and context, such as words for animals and words related to the school environment. Catalán & Dewael (2017) mentioned in a study with elementary EFL learners of Spanish background responded better and had a better assimilation of concrete words like nouns and verbs than to more abstract and emotional words like Love and Hate, while older adolescents students had a better response personal words related to family and personal relationships. This shows the importance of context and identity, as well as real life feedback in the acquisition of vocabulary, besides the statistical recollection of word uttered in the target language

It is important to note that vocabulary acquisition is not a monolithic process and, in spite of frequency being the most consistent and influential factor, this is due to its statistical nature which leaves out the more specific cultural intricacies that are also important for the development of language. A word frequency focused acquisition of language would allow the learner to interiorize the functional grammatical words, which in turn makes both comprehension and contextual vocabulary acquisition easier. On the other hand, lexical availability and vocabulary selection allows the learner to express himself better in specific contexts and make the new language a more personal experience.

Lexical frequency and vocabulary

As shown throughout this paper, lexical frequency plays a very important role in the learning of a language, going from acquiring the language itself to mustering the necessary elements to speak. Now it is necessary to see how lexical frequency and vocabulary acquisition is heavily tied in the process of learning a language.

El Morabit (2020) conducts a study asking why students in Morocco find it so hard to learn English as a foreign language. Here he claims that this is because of the poor vocabulary focus in the teaching process in the universities. Claiming that since students did not have a rich lexicon, they tend to do very poorly in reading comprehension tests and lack the words necessary to speak in speaking tests. To accomplish this, he conducts a test to measure vocabulary in his own university taking a sample of 106 students while also doing a textbook analysis of the different books students use to learn English as a foreign language. During this study El Morabit notices similar cases around the world thanks to a study done by Tang (2007). In this study done in Hong Kong, Tang takes two school's performances in EFL and compares them. During this study it is found that the "better school" has a bigger emphasis in the study of vocabulary. With an average of 3400 words. While the "worse school" has only a vocabulary of around 1800 words. It can be noted then, that the focus on vocabulary learning can be taken as an indicator on how well the learning process of EFL is going.

The importance of a rich lexicon is a factor that matters in any language-learning process, not only English. In a study done in North Carolina by Godev (2009), she determines that in the textbooks used to teach Spanish, the vocabulary they offer is insufficient for the goals they set. So, when students take reading comprehension

task they usually fail. This reflects how some books cited, like Puntos cover around 78% of the words that appear in the text. And while it is important that texts have new and unknown words for learners to discover, the books do not proceed with a pedagogical outlook to cover the needs of the students. In conclusion we can see how the lack of vocabulary in language other than English hinders the process of learning said language too.

In the last work cited by Godev (2009) the author notices how these books studied (puntos, dicho, arriba, etc) all set a goal that is not in line with the goals set in the classroom by the teacher. While usually, in class, the goal would be to acquire at least one-thousand words, the books put a goal much higher, having around four-thousand and five-hundred words as the goal. If we cannot have the process of learning align with the goals, these goals will always be unreachable because it simply does not apply to reality. In conclusion, it has been seen how important it is and how clear the connection is between vocabulary acquisition and the learning of a second language.

Dimensions of lexical competence

In his book, Henriksen (1999) explained more about the vocabulary development by proposing a three-dimensional model that explains how the lexical competition is made. This were:

- Partial-to-precise knowledge,
- Depth of knowledge, and
- Receptive-to-productive dimension.

The first dimension, partial-to-precise knowledge, speaks of the amount of knowledge of the individual's vocabulary, focusing on the student's path from basic word recognition through various stages of partial knowledge to the required level of understanding, i.e. precise, resulting from the increase in the student's vocabulary.

The second dimension, depth of knowledge, speaks of the relationship that words have with other words in the same lexicon. This may be a paradigmatic relationship (relationship between an element and those that could replace it in another context in the same chain) or syntagmatic (relationships of meaning that each linguistic sign maintains with the other signs of different grammatical category).

The third dimension, the receptive-to-productive dimension, speaks of the level of the domain of knowledge of the lexicon shown by the individual through his or her capacity for both understanding and production. Receptive vocabulary refers to the ability to understand a lexical element, while productive vocabulary implies the ability to use a lexical element in production

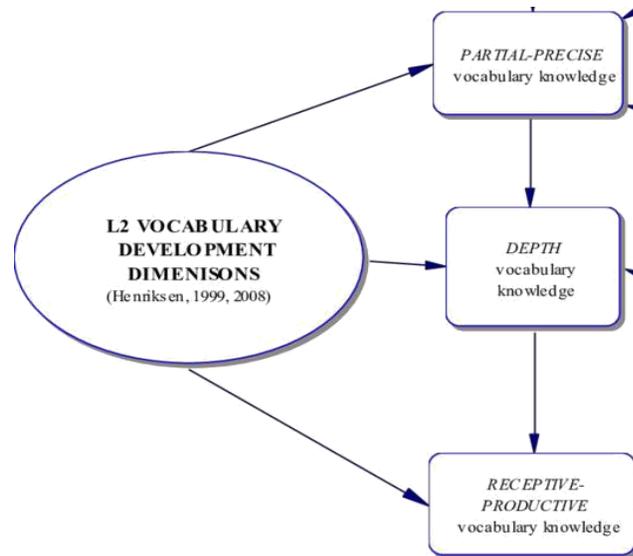


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Meara (1996) proposed only two dimensions of the lexicon competition: the size of the vocabulary and the organization, in other words, how words relate to each other. Meara (1996, p. 15) pointed out that this two-dimensional framework had the advantage that its dimensions were rather "independent" of the contributing elements and did not therefore require "a detailed understanding of how individual lexical elements work". Meanwhile, Qian (2002) in one of the most recent researches on the subject and basing his theory on the models mentioned above proposed another four-dimensional framework that has the size of the vocabulary, the depth of the knowledge of the vocabulary, the lexical organization and the automaticity of the receptive-productive knowledge.

Lexicon and vocabulary in teaching spanish as a foreign language. Why is it important?

Now it will be discussed what can be done when it comes to teaching vocabulary in Spanish as a foreign language, as well as to why is important to know, and how to use that knowledge.

Firstly, it is necessary to understand that every language is dynamic, meaning that it is subject to change. That being said, according to "Temas para la educación" (2010) the Spanish language has around 8000 words. Most high school students will know about 5000 words. In those 5000 words is where we find the standard Spanish vocabulary. To teach Spanish, it is a must to work within that framework, while also understanding that this "standard" can vary depending on the environment. Given that some words are more relevant in different realities for people. It is important to note then, that even if languages tend to change, they have a standard framework that can be used to teach it.

Temas para la educación (2010) recommends on how to teach vocabulary correctly, and basically they give us 2 tools to use while teaching. The dictionary and word play. The dictionary is to be used with limitations, according to the article, but very

frequently so that it becomes a tool in the student's learning process. The usage of the dictionary should also be accompanied by wordplay, so that the class don't get tired of the dictionary and can use the vocabulary they gathered in a more fun way for them. Meaning that teachers have tools to implement while teaching Spanish vocabulary, but this tools must be used sparingly and complementary. Accordingly, Alvar (2004) mentions that when it comes to teaching, we must ask 3 questions. "What to teach, when to teach, and how to teach". For the purpose of this research we will be focusing on the first question, "what to teach". This might be a little hard to answer at first, since it is not easy to know the frequency of usage of words. The dictionary might be a good tool when it comes to content with so many words it has, but it is not meant to tell us what words are more important to know. Thankfully, now exist something called a "dictionary of frequency". Now it is possible to know what to teach.

But why is all of this important when it comes to teaching Spanish? Well, Alvar (2004) does tell us. While citing the works of Thorndike he explains that it is important because this way we can know the importance or relevance certain words hold in the language, therefore helping us identify what words are important to teach, at what levels should they be taught and when. Also helping avoid the subjectivity when it comes to teaching vocabulary, so we do not teach what we think is important, but rather what is considered important under the framework of the standard. It is clear then, the importance of knowing what to teach and the tools at our disposal.

Now we can see the importance of knowing about the lexical frequency in Spanish, why it is important and how we should apply it.

CONCLUSION AND DISCUSSION

As shown throughout this work, we have analyzed what is lexicon, its dimensions, and the importance of it when it comes to the learning process of a foreign language. Our review demonstrates that vocabulary acquisition can be a way to measure progress when it comes to mastering a language and goes as far as to give tips and mention some tools to make it more effective. Also, it is explored the nature of language and its dynamics, how important is to select the standard vocabulary to learn and how this standard can change over time and place.

It has been known for quite some time now that vocabulary is one of the integral parts of learning a language and that teaching it is very important. Sadly there has not been a big expansion on the topic and the interest of teaching vocabulary has been put aside for other models when it comes to teaching languages, such as the grammar-translation approach. In this way we believe our research helps to bring forth the importance of vocabulary acquisition and even bring some tools and tips, like the "dictionary of frequency", so that teachers can incorporate it to their roaster of teaching materials.

During the making of this review we have found that there are problems around the world when it comes to teaching a foreign language, such as in Morocco (El Morabit, 2020), Hong Kong (Tang, 2007) , or USA (Godved, 2009), precisely because the lack

of attention to the vocabulary. Creating problems in the confidence of students and usually making them fail to reach the goals proposed, either by books or teachers.

Luckily, with the progress of time there has been more attention put into the topic of vocabulary acquisition. With Spanish teachers seeking to create a pan-Hispanic word list that could create a more accurate and realistic vocabulary goal for student at different levels. As well as recent analysis of materials used, like books, and methodologies practice in universities. Hoping that with these investigations progress can be made in the field.

In the future we will have to be observant on how methodologies and materials change to accommodate the reality of the language learning process and how it can be implemented effectively in the classroom, especially in Ecuador

RECOMMENDATIONS

One of the most significant and persistent issues when it comes to lexical frequency, is to decide which frequency list to use. Most of the linguistic corpora compile only the written text, leaving the spoken form of a language. Written text is also more akin to adult speech than to children speech, so for the latter, different databases should be used. For further research in the field of lexical frequency, there is the need to create a frequency list that would be a better representation of a language

Furthermore, as we mentioned before, there is also an issue with languages that have many dialects, such as Spanish or English. One word that might be familiar to speakers of a language in a specific region might be completely unfamiliar to another speaker or have an entirely different meaning. This is particularly important for teaching a foreign language. Cultural and regional differences should be accounted for in regard to what words are actually used in any given moment, and to give a better focus to second language teaching.

REFERENCES

- Alvar Ezqueberra, M. (2004). La frecuencia léxica y su utilidad en la enseñanza. Universidad Complutense de Madrid (págs. 19-39). Madrid: Centro virtual Cervantes.
- Bartol, J. (2013). DISPONIBILIDAD LÉXICA Y SELECCIÓN DEL VOCABULARIO.
- Catalán, R. M., & Dewael, J.-M. (2017). Lexical availability of young Spanish EFL learners: emotion words versus non-emotion words. *Language, Culture and Curriculum*.
- El Morabit, A. (2020). Evaluating the Lexical Load of the Reading Comprehension Texts in EFL.
- Federacion de eneseñanza CC.OO. de Andalucía. (2010). Adquisición y desarrollo del vocabulario. *Temas para la educación*, 1-5.
- Godved, C. (2009). Word-frequency and vocabulary acquisition: an analysis of elementary spanish college textbooks in the usa. *Revista de Lingüística Teórica y Aplicada*, 51-68.
- Goodman, J., Dale, P., & Li, P. (2008). Does frequency count ? Parental input and the acquisition of vocabulary. *Child Lang*, 515-531.
- i Heidari-Shahreza, M. A., & Tavakol, M. (2012). The effects of repetition and L1 lexicalization on incidental vocabulary. *The Language Learning Journal*.

International Journal of Linguistics and Translation Studies, 42-53.

Journal of Education and Training Studies Vol. 5, No. 6.

Kalan, M. Š. (2017). Lexical Availability and L2 Vocabulary Acquisition. *Journal of Foreign Language Teaching and Applied Linguistics*.

Kartal, G., & Sarigul, E. (2017). Frequency Effects in Second Language Acquisition: An Annotated Survey.

Longobardi, E., Rossi-Arnaud, C., Spataro, P., Putnick, D. L., & Bornstein, M. H. (2015). Children's acquisition of nouns and verbs in Italian: contrasting the roles of frequency and positional salience in maternal language. *Journal of Child Language*, 42(1), 95-121.

Massaro, D. (2016). Multiple Influences on Vocabulary Acquisition:.. INTERSPEECH 2016.

Ota, M., & Green, S. J. (2013). Input frequency and lexical variability in phonological development: a survival analysis of word-initial cluster production. *Journal of Child Language*, , 40(3), 539.

Santos, I. (2017). Selección del léxico disponible: propuesta metodológica con fines didácticos. *Porta Llingarium* .

Snow, E. C., & Weizman, Z. (2001). Lexical Input as Related to Children's Vocabulary Acquisition: Effects of Sophisticated Exposure and Support for Meaning. *Developmental Psychology* Vol. 37 No. 2, 265-279.

Tang, E. (2007). An exploratory study of the English vocabulary size of Hong Kong primary and junior secondary school students. *The journal of Asia TEFL*, 125-144.

Teng, F. (2016). The effects of context and word exposure frequency. *The language learning journal*