أثير المقطع الصوتي على قراءة الكلمات الإنكليزي دراسة تطبيقية على طلاب اللغة الإنكليزية في جامعة حماة

طالبة الدراسات العليا: أحلام العبد الله

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الملخص

تبحث الدراسة الحالية في تأثير تكرار المقطع الصوتي على قراءة الكلمات الإنكليزية. تتضمن طلاباً سوريين من مستوى متقدم في قسم اللغة الإنكليزية في جامعة حماة. تقترح الباحثة أن الطلاب السوريون يواجهون صعوبات في قراءة بعض الكلمات الإنكليزية، خاصة الجديدة منها وغير المتكررة، ما قد يؤثر على مقدرتهم على التعرف عليها وعلى طلاقة قراءتهم ومدتها. تستخلص الدراسة بعض النتائج الرئيسة مثل أنه يتم التعرف على الكلمات ذات المقطع الصوتي الابتدائي الأكثر تكراراً بشكل أسرع من ذوات المقطع الابتدائي الأقل تكراراً. بالإضافة إلى أن الطلاب يميلون خطأ إلى قراءة بعض الكلمات على أنها كلمات مختلفة تماما عندما تبدأ هذه الكلمات بمقطع صوتي متكرر كثيراً. ختاماً، توصي الباحثة بتركيز المناهج السورية على مهارات القراءة، بالإضافة إلى التركيز على أهمية الاستماع أكثر إلى المتحدثين الأصليين لتشكيل حصيلة كلمات أكبر للوصول إلى قراءة أكثر طلاقة.

الكلمات المفتاحية : قراءة، المقطع الصوتي، تكرار المقطع الصوتي، عدد المقاطع الصوتية، طلاقة، مقطع صوتي ابتدائي

Syllable Frequency Effect on Reading English Words

An Applied study on Students of English at Hama University

Abstract

The present study investigates syllable frequency effect during English words reading. It involves advanced Syrian students at the Department of English at Hama University. The researcher suggests that Syrian students face difficulties in reading some English words, especially new and infrequent ones, which may affect their ability of identifying these words and their fluency of reading and its duration. The study concludes some main results such as words with higher frequency initial syllables were named faster than low frequency first syllables. In addition, students tend to read some words wrongly as totally different words when those words begin with a high frequent initial syllable. Finally, the researcher recommends the Syrian curriculums to focus on reading skills in addition to focusing on the importance of more listening to native speakers in order to form and increase the students' vocabulary of English words towards a more fluent reading

Key words: Reading, syllable, syllable frequency, number of syllables, fluency, initial syllable.

Introduction

Among languages, English has invaded all spheres of life. The status, function and spread of this language around the world are, undoubtedly, impressive. Due to this, no other language has got such a position. Actually, English is the most spread language in the worlds of internet, scientific researches, academic and occupational strips. It is, furthermore, the official language of many academic fields like medicine, science, engineering, and other domains. As a result of this vast spread, many learners choose English as their second language and well as many countries have specified instructional curriculums in order to teach English, as in the case of Syria.

English language learning and teaching is a messy process in the sense that classroom experience and acts are completely different from one another. So, it is this diversity that creates obstacles to both learners and teachers as in the process of learning a new language. In addition, according to Brown (2000), because learning a new language is a challenging process that requires much effort, it is crucial that learners should be aware of the reasons underlying any difficulty they encounter while learning.

The reasons why some students fail to attain effective reading accuracy and fluency by the time they leave primary school have been debated over decades. In the last few years, reading fluency has been especially emphasized in the area of reading as a relevant skill in a computer society, which requires the abilities to read well and quickly. In studies such as Akyol et al. (2014), where reading skills are tackled in detail, it is reported that observed reading problems stem from two main factors. One

factor is the readers' basic decoding skills of converting written materials into speech. The other factor is the linguistic knowledge and skills that they possess with regard to comprehending the language they have been reading. From this perspective, it is possible to say that reading problems emerge either because of readers' limited decoding skills, as well as their limited linguistic knowledge and skills, or because of limitations that surface in both skills simultaneously. Furthermore, Spear-Swerling (2013) suggests that another likely cause of reading difficulties is directly related to the student's inability to decode long, multisyllabic words. In fact, some studies such as Goswami (2003) have suggested that reading difficulties in a transparent language are related to speed more than to accuracy in decoding. More importantly, Toste et al. (2017) prove that poor decoders, even those who can decode simple syllable words, have a difficult time with multisyllabic words. However, as Cunningham (1998) describes, most of the new words have two or more syllables.

1. Syllable Frequency Effect

Before reviewing the literature on syllable frequency effect on visual word recognition, it is important to consider how the phonological syllable is defined.

It is generally understood that each phonological syllable is composed of at least a vowel sound. Furthermore, the phonemes occurring at the beginning or end of an individual syllable must also be able to begin or end English words, respectively. Roach (2000: 70) states that "syllables are usually described as consisting of a center which has little or no obstruction to airflow and which sounds comparatively loud:

before and after the center, there will be greater obstruction to airflow". Knight (2012) refers to obligatory constituent of any syllable as nucleus, and it implies the center of a syllable. The consonant that precedes it is called onset, while the one that follows the nucleus is coda. Consequently, a vowel is the major component of any syllable, and there will not be a syllable without the existence of a vowel.

Previous studies, such as Perea et al. (1998), have examined the role of syllable units, then the frequency of individual syllables might have an impact on naming words and recognition times. In Spanish word recognition literature, such as in Garcia –Albea (1998), words with high frequency syllables have been found to be named faster than words with low frequency syllables. Utilizing pseudo words, Carreiras et al., (2004) manipulated the frequency of the first and second syllable while controlling for lexical stress and bigram frequency. These authors have found a facilitative naming effect of syllable frequencies only for the first syllable: That is, words with higher frequency initial syllables were named faster than low frequency first syllables.

Other Spanish studies such as Carreiraset al. (1993), have also investigated the syllable frequency effect on silent reading. Using lexical decision, these studies have generally found that words with high frequency syllables produce longer response times and higher error rates than words with lower frequency syllables, for both high and low frequency words. These researchers claim that the syllable frequency effect is inhibitory in lexical decision because words with higher frequency syllables activate more word candidates with the same syllables than words with lower frequency syllables. Since a larger neighborhood results in longer

latencies, the correct identification of words containing higher frequency syllables would be delayed.

While there is evidence to suggest that syllable frequency effects in visual word recognition are reliable for French and German, and there is a large amount of support for syllable frequency effects in Spanish. Anyhow, their occurrence in English has received much less attention. A study by Macizo et al., (2007) examined syllable frequency effects on naming and lexical decision in English by performing multiple regression analyses on data for disyllabic words. Their results from English naming tasks were similar to the Spanish studies; they showed facilitation for naming latencies with words that had higher first and second syllable frequencies after word frequency and word length were entered in a stepwise regression. They also found a facilitation effect of syllable frequency in lexical decision, which is opposite to the effect that occurs in Spanish studies. These authors claimed that if lexical candidates are indeed activated via syllabic units during word recognition, it does not happen rapidly enough to cause inhibitory effects for lexical decision in English. Instead, English readers may recognize whole words based on their spelling before syllabic neighbors can be activated.

Although syllable frequency effects in English have been found with a variety of tasks (e.g., number of syllables, illusory conjunction, syllable priming), conflicting results have been obtained. Carreiras, et al. (2004) consider the effects of stress assignment and of syllable frequency in reading aloud may allow us to better articulate the operations involved in the phonological-to-phonetics interface, the rather neglected and oversimplified component of reading models. Both stress priming and syllable frequency are assumed to affect the latest stages of reading process, when readers (a) spell out segmental and metrical

information and (b) plan the articulation of the word, with syllable frequency affecting the word's phonetic encoding.

Most of the evidence supporting the syllable as a functional unit while reading in Spanish has been obtained in experiments that manipulated syllable frequency. Carreias (1993) has found that reading times for words embedded in texts were negatively related to the positional frequency of their syllables. The positional syllable frequency was a token recount of the number of times that a syllable appears in a particular position in a word (first, second, etc.), in a corpus of printed Spanish.

Since the positional syllable frequency is the factor we are interested in, it will be referred to as "syllable frequency" (SF henceforth). Similar results were obtained in other studies using lexical decision task such as Álvarez, et al. (2000), words with high-frequency syllables produce longer reaction times (RTs) than words having low-frequency syllables. Similar counterintuitive results have also been found in English although associated to the frequency of letter clusters rather than SF. Carreiras et al. (1993) have used a large dictionary of SF in Spanish to select the experimental items. In their first experiment, using a lexical decision task, they have found clear SF effects, both in disyllabic and tri-syllabic words. Again, words having high-frequency syllables produced longer RTs than words with low-frequency syllables.

Furthermore, Seidenberg (2017) has found reliable effects of word frequency and, more important, reliable effects of SF (after controlling for bigram frequency). However, it is important to mention that the syllable-frequency effect was bigger for low-frequency words. In addition, SF was significant in pseudo words producing an inhibitory effect as well, while bigram frequency was

not. Carreiras et al. (2004) have concluded that syllables are access units in visual word recognition in Spanish (and perhaps in other languages with a clear syllabic structure). High-frequency syllables would activate a larger set of lexical candidates (or syllabic neighbors) than low-frequency syllables. They have presumed that it takes more time to select a word from a large set than from a small one. Thus, it will take longer to select a word with high-frequency syllables than a word with low-frequency syllables. The mechanism of mutual inhibition among activated word nodes would provide, according to the authors, an accurate account of the results.

Similarly, Carreiras et al. (2004) have found inhibitory masked-priming effects when prime and target shared the initial syllable compared with a control condition. Additionally, the effect is clear only when the prime is of higher frequency than the target. According to the authors, the explanation of such result is that high-frequency primes produce lexical inhibition over its syllabic neighbors of lower frequency.

2. Statement of the Problem

The acquisition of a second language involves the development of four skills: listening, speaking, reading and writing. Reading skills must therefore be considered a significant component of foreign language teaching. However, English programs in Syria do not emphasize the development of reading skills. The primary emphasis throughout the English departmental programs of Syrian universities is English literature, which focuses upon literary content rather than language skills. This curricular design has given the teaching of the language skills a low priority. It has been assumed that university students, after years of study,

would already have a good command of English. Consequently, as Barakat (1985) argues, students face enormous difficulties reading English. Thus, students go to universities with inadequate command of English even though they studied it for six years with no remedial program to deal specifically with this inadequacy. Difficulties are then compounded when these students return to the classroom as English teachers who possess limited abilities to effectively use English. As a result of pedagogic and technological inadequacies, students in English Departments who choose English as their teaching field are inadequately trained to serve as language models in the classrooms. This practice creates a vicious cycle in which English teachers with inadequate language skills themselves, using no audiovisual support equipment to provide-fluent language models, graduate students with limited English language skills. In other words, English Department programs in Syrian schools and universities do not emphasize the development of language skills, especially the reading skills.

3. Objectives of the Study

In the Syrian Arab Republic, English plays an important role as the dominant second language. Although Arabic functions as the official language, English occupies the position of the principal foreign language in the educational curriculum of the preparatory, secondary and university levels. Although other languages such as French, German, and Russian are also taught, government records indicate that most students select English as their second language. Thus, teaching of English emerges as a major task to be performed by the educational system in Syria. Actually, the main aims of teaching English are language development. It enables students to understand spoken English, speak English, read English

and write perfect. Undoubtedly, English is a direct medium of acquiring knowledge of modem arts, science, technology and humanities. It is also important for politicians, scientists, doctors, engineers, educationists, businessmen and research workers.

Reading fluency is another key component requiring assessment. According to Whalon et al. (2009), fluency refers to the student's ability to read with speed, accuracy, and expression or prosody. Chard et al. (2002) propose that many students who lack skill in the area of fluency face an inability to read sight words and phrases quickly or to decode text fluidly. This lack of automaticity, or smooth, natural transformation of text to oral language, may impede working memory for individuals reading without fluency, thereby exhausting brain resources and preventing comprehension. Students who are able to decode and recognize high frequency sight words within a passage of text with automaticity are fluent readers. Furthermore, fluency is essential for students to accomplish tasks involving reading in a timely fashion and is related to comprehension. Manset-Williamson et al. (2005) assume that the ability to read with fluency becomes even more crucial, as curricular demands increase as students move to higher grade levels and literacy tasks become a core component of access to curriculum across content areas (eg., science, history, language arts).

This study draws upon students' and teachers' attention to the role of the frequency of syllables that play during reading English words. This is done throughout studying the difficulties and problems that face students during reading words. It, moreover, sheds light upon some implications that may develop reading abilities of Syrian students and here lies the importance of this

study. Clearly there are many educational benefits to students when reading strategies are combined. Students are encouraged to sense free reading in a natural and social environment .Such environment will provide students with motivation for reading and comprehending as well.

In other words, this research aims at the following purposes:

1- Pinpointing the difficulties students encounter at the Department of English of Hama University during reading English and highlighting if the syllable has an effect in this process.
2- Highlighting how much the students depend on the initial syllable frequency in recognizing the words they read.
3- Highlighting the importance of reading more and listening to native speakers of English to build up a correct pronunciation of words that are read, the thing which strongly and positively affects reading fluency and comprehending correctly what is read.
4- Suggesting practical and useful implications for students and readers of English to improve their reading.

4. Research Hypotheses

Hypothsis (1): Students tend to read new and infrequent words as syllable by syllable.

Hypothsis (2): Students read the frequent words instantly depending on their reserved lexicon.

Hypothsis (3): Students wrongly read some words as other different words when they face a high- frequent initial syllable.

5. Research Questions

In order to investigate the previous hypotheses, the researcher attempts to answer specific questions in her study, which are the following ones:

Question (1): Has the frequency of syllables an effect during reading the English words?

Question (2): Do students read new and infrequent words as a whole without delays and errors in identifying words?

6. Methodology

The methodology of this study includes the participants, instruments and procedures.

7.1. Participants

The experiments are going to include advanced Syrian learners from Hama University; Faculty of Arts and Humanities, Department of English. The subjects are university students with an average age of about 18 to 25 years old, receiving English as a second language. Students descend from different governorates and areas and all of them speak Arabic as a native language. Twenty heterogeneous students of all years participated in the test, five students from each year, ten of the students are females and 10 are males. At first, the students were selected randomly from each year for the study, where there were students with a good ability to read English in order to be able to complete the tests and gather suitable information and data from the research sample.

7.2. Instruments

Depending on previous researches and studies, a time recording test is applied in the study. This experiment is a time recording of the speed and duration of the participants' readings of certain words in order to fulfill the goals of the study. The experiment's stimuli are two lists of English words; the first list contains 20 frequent words, and the other has 20 infrequent words for the students. All of the frequent words are taken from the books and courses the students study. In addition, all of the words are chosen randomly from the currently studied words by the participants. The total number of the words is 40; they are written on A4 sized paper in Arial font.

7.2. Procedure

After the researcher has asked the permission from each group of students, she began the experiment. Prior to the implementations, conversations were held with all the students and they were told briefly about the purpose and the content of the study. After this short conversation, the study was carried out individually in a separate room, only with the students who volunteered to join. The participants were asked to read the words of the given lists aloud in an un-speeded naming task. As participants read, they were recorded. Recording was obtained with the experimental software 'Adobe Audition' using the microphone of a Lenovo laptop. Each participant's recording was saved as a separate wave file entitled with the name of the participant. The duration of reading each word for the participants was written on lists organized for this purpose as follows:

7.3. Data Analysis Procedure

According to their year of study, the researcher divided the participants into four groups, five students in each group. Using the experimental software 'Adobe Audition', the researcher listened to the recordings of words reading for each student and analyzed the given data. She calculated the duration of each word. According to this, test data were analyzed by calculating the means of reading each word for each student in the year, then an overall mean of duration was calculated for each set of words; frequent words and the infrequent words.

8. Results

The next table shows students overall means of all words' reading duration for each year of study:

	First year students	Second year students	Third year students	Fourth year students
Frequent words	0.01.21[1]	0.01.29	0.01.36	0.00.92
Infrequent words	0.02.13	0.01.86	0.01.22	0.01.63
Total mean	0.01.67	0.01.57	0.01.29	0.01.27

Table (1): "Overall means of students' Reading Duration"

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[1] This statistics shows that first year students spend a mean of zero minutes, one second and twenty one milli-seconds in reading the frequent words.

The overall mean of first year students was (0.01.67 milliseconds). Contrasting this mean with that of the other years shows that it was the slowest. This may be due to the lack of practicing reading in contrast with the participants of the next years. In fact, first year students tend to read rapidly without giving enough consideration to the correctness of reading and words' pronunciation. There was a student who read the whole infrequent words wrongly. Some of the students even wanted to withdraw from the test. They, moreover, had problems in pronouncing some phoneme combinations like ' ʃıǽ' was read as 'sıǽ' in the word 'artificiality', and 'ju:' was pronounced as 'ʌn' in the word 'university'.

Second year students' total mean was better than the mean of the first year participants of a mean about (0.01.57 milliseconds). It was noticed that some students tend to prolong some syllables during word reading in order to have some time to be sure about the pronunciation of the next syllables. Moreover, some students read words wrongly even after repeating it a second time. Like the first year students, they also faced problems in pronouncing some phonemes. Like, for example, some of the participants read the word 'dictionary' as 'dıʃənrʌi', 'creativity' was sometimes read as 'si:rtivəti', and some students pronounced the phoneme 'e' at the end of the words 'illustrate' and 'favorite'. In addition, it was noticed that many students repeated the first syllable of some words many times before continuing reading the rest of syllables of those words, like repeating the syllable 'per' in the word 'persecution'.

Third year students' overall mean was (0.01.29 milliseconds), it shows that their performance was better than that

of the preceding years. Anyhow, they had some problems during words reading. Some students tend to read some words as totally different ones due to the speed reading. One student has read the word 'brightright' as 'brighten'. In addition, some syllables were read as totally different syllables like reading 'mandatory' as ' moundatory'. Moreover, some students used ' Eeeh' during reading words which refers to their hesitation and that they tried to have time to decode before reading. This, anyhow, increases the duration of their reading. Some students, on another hand, pronounced some words as Arabic pronunciation, for example, the word ' television' was twice read as ' telıvızju:ən'.

The overall mean of fourth year students was (0.01.27 milliseconds). This highlights that they were the fastest in reading the given words. Like what happened with the rest years, fourth year students' goal was to read as fast as they could because they were targeted to compare their competence with those of the other years. Anyhow, their reading was a way more correct than the others.

Finally, some points were shared in all of the participants' performances. Students of all years tend to read as fast as possible, as was mentioned, without giving enough attention to the correctness of reading. In addition, the vast majority of participants have not read words as a whole but syllable by syllable. First syllable of most words was repeated many times before continuing reading the rest syllables of the word to have some time to decode. Finally, the students mostly repeated reading each word immediately after reading it for the first time, reading the word in the second time took less duration of time.

Anyhow, the researcher took into consideration only the duration of reading the words for the first time.

9. Discussion

The present research has targeted advanced Syrian students at Hama University- Faculty of Arts and Humanity, Department of English. Firstly, the test results have showed that the participants read frequent words faster than infrequent ones, even if the frequent words have more number of syllables. For example, the word 'mathematical' is read faster than the infrequent word 'alleged'. In addition, the vast majority of students tend to read words syllable by syllable; not as a whole, especially words that have a big number of syllables or the infrequent words. This was clear mostly in the words 'oversimplification', 'disestablishmentarian', 'antidisestablishmentarian', and 'disambiguation'. In most of the given words, the first syllable of the word was read instantly and repeated till the student was able to make sure how the rest of the word is pronounced and decoded, then they continue reading the rest syllables of the word. Repeating the first syllable many times was so clear in words that begin with the high frequent syllable 'over' like 'overwhelming' and 'oversimplification', and the syllable 'un' like the word 'unbelievable', and finally the frequent syllable 'anti' like the word 'antidisestablishmentarian'. Moreover, some students tend to read some words as totally different words when they begin with a syllable that is pronounced like another high frequent syllable. The word 'mandatory', for example, is many times wrongly read as 'mountain'.

In order to relate the findings of this study to those of other studies, the researcher has highlighted some findings of previous

researches. Furthermore, the reason that this effect is not found with higher frequency words was thought to be because they are read more quickly and are less influenced by spelling-sound consistency. Treiman et al. (1995) showed that English readers preferentially resort to rime units to read monosyllabic words. Furthermore, from his viewpoint, Taft (1979) argues that multisyllabic words are accessed via their first syllable, which has an independent status in the orthographic lexicon. In addition, Carreiras et al. (1993) have found an effect of syllable frequency on lexical decision latencies to visually presented Spanish words. According to Garcia –Albea (1998), words with high frequency syllables were found to be named faster than words with low frequency syllables. In addition, Carreiras et al., (2004) found a facilitative naming effect of syllable frequencies only for the first syllable: That is, words with higher frequency initial syllables were named faster than low frequency first syllables. Carreiras et al. (1993), as well, have found clear syllable frequency effects, both in disyllabic and tri-syllabic words. Again, words having high-frequency syllables produced longer RTs than words with low-frequency syllables. Moreover, Yap et al. (2009) have found an interaction between number of syllables and word frequency such that as word frequency increased, the number of syllables effect decreased. All of these findings, undeniably, go in line with those of the current study that syllables have an effect in reading English an comprehending its words correctly.

On the other hand, some studies highlight findings that may be contrasted with the findings of the current study such as Álvarez, et al. (2000), who have found that words with high frequency syllables produce longer response times and higher error rates than words with lower frequency syllables, for both

high and low frequency words. Similar results are obtained in other studies such as Carreiras et al. (1993) which suggest that words with high frequency syllables produce longer response times and higher error rates than words with lower frequency syllables, for both high and low frequency words. Moreover, Spoehr et al. (1973) have found that report accuracy was higher for one than for two-syllable words that were matched on word length and word frequency.

In other words, this research has concluded and proved some important results and findings like the following:

1. Participants read frequent words faster than infrequent ones, even if the frequent words have more number of syllables.
2. The vast majority of students tend to read words syllable by syllable; not as a whole, especially the infrequent words.
3. The first syllable of the word is read instantly, the rest of the word is pronounced and decoded, and then students continue reading the rest syllables of the word.
4. Students tend to read some words as totally different words when those words begin with a syllable that is pronounced like another different high frequent syllable.
5. Multisyllabic words are accessed via their first syllable, which has an independent status in the orthographic lexicon.
6. Words with higher frequency initial syllables were named faster than low frequency first syllables.

10. Pedagogical implications

The present results have important implications for reading teaching. In particular, the present study makes important points that must be considered in teaching. Reading involves decoding, visual word recognition, and syllable frequency skills have a role during reading comprehension. Reading instruction must therefore consider the acquisition of these distinct reading skills and the importance of increasing both the number of words in a student's vocabulary and the extent of word knowledge for these words. The present results also suggest that a combination of vocabulary enrichment and syllable awareness should be considered along with the teaching of word recognition skills; developmental theory suggests that initial attention be directed toward decoding, with attention shifted to efficient sight-word reading as reading demands increase and decoding proficiency is established.

Accordingly, and depending on the findings and results of this study, the researcher suggests some implications that may improve students' reading and comprehension:

- Considering that reading problems stem from learners' first years of studying, school curricula and syllabi should be reconsidered so that teaching should focus more on language skills.
- Implementing audio- lingual aids which make learning more effective and fruitful in language classrooms.
- Adopting reading techniques that help and encourage students to read new and long words by their own and involve reading new books, stories newspapers and other texts outside their provided curricula along with practicing comprehension questions about what students read in

order to increase the number of words in the students vocabulary and their phonological lexicon.

- Adopting a standardized admission test (written and oral) for English language and literature applicants prior to their acceptance at the Department of English.
- Maximizing the time and marks allocated to the practical lectures, so students provide an outlet for English practice.
- Equipping Faculties of Arts with language laboratories for learners to get access to software materials which help them practice and improve their performance.
- Finding remedial solutions to overcome some fossilized errors or mistakes learners may make.
- Maximizing the marks allocated to students' reading and participation.
- Triggering learners to develop an ear of English by making a habit to listen to native speakers.

11. Recommendations for Future Research

As little research exists in the area of syllable frequency effect on reading comprehension, further research is needed. A much larger study with a bigger cohort could yield some vital information which in effect reduces the incidences of reading difficulty in the middle and primary school. More investigation is needed in the future in order to validate the experimental tasks created in this study. Therefore, the researcher believes that repeating this research with larger sample sizes will enhance the generalizability of the findings. This will enable comparison with the results of this thesis, generalization of the results to other populations and, ideally, development of norms to allow precise

diagnosis. It is also of interest to evaluate the relations between syllable awareness skills and reading skills at different ages, to more fully understand those relations. For instance, it is of interest to evaluate whether syllables play a significant role in reading comprehension for younger children or school students who are with less established decoding and word recognition skills.

Furthermore, outcomes of this research are bounded by students' reading performances at the word level. Then a future study might be done about syllable role in reading within whole texts given in the recording test, in line with implementing comprehension questions about what is read in those texts. Further research, moreover, can be applied at state and private schools to estimate teachers who might be the sources of reading and pronunciation errors.

References:

- Akyol, H., Çakıroğlu, A., & Kuruyer, H. G. (2014). A study on the Development of reading skills of the students having difficulty in reading: Enrichment reading program. International Electronic Journal of Elementary Education, 6(2), 199-212.
- Álvarez, C. J., Carreiras, M., & De Vega, M. (2000). Syllable-frequency effect in visual word recognition: Evidence of sequential-type processing. Psicológica, 21(2), 341-374.
- Barakat, G. A. (1985). *A Model for Teaching English as a Foreign Language in Syria with Particular Reference to Listening Comprehension (CAI)* (Doctoral dissertation, The University of Texas at Austin).
- Brown, H. D. (2000). Principles of language learning and teaching (Vol. 4).
- Carreiras, M., & Perea M . (2004). Naming pseudowords in Spanish: Effects of syllable frequency. *Brain and Language*, *90*, 393-400.
- Carreiras, M., Álvarez, C. J., & Devega, M. (1993). Syllable frequency and visual word recognition in Spanish. Journal of memory and language, 32(6), 766-780.
- Carreiras, M., Álvarez, C. J., & Devega, M. (1993). Syllable frequency and visual word recognition in

Spanish. Journal
of memory and language, 32(6), 766-780.

- Chard, D. J., Vaughn, S., & Tyler, B. J. (2002). A synthesis of research on effective interventions for building reading
fluency with elementary students with learning disabilities. J*ournal of learning disabilities*, *35*(5), 386-406.
- García-Albea, J. E., Sanchez-Casas, R. M., & Igoa, J. M. (1998).
The contribution of word form and meaning to language
processing in Spanish: Some evidence from monolingual
and bilingual studies. In *Sentence processing: A crosslinguistic perspective* (pp. 183-209). Brill.Gough, Philip B. How children learn to read and why they fail. *Annals of dyslexia, 46*(1) (1996): 1-20.
- Knight, R. A.(2012). Phonetics A course book. USA: Cambridge
Universiy Press. Lahiri, A., & Marslen-Wilson, W. (1991).
The mental representation of lexical form: A phonological
approach to the recognition lexicon. Cognition, 38(3), 245-294.
- Macizo, P. & Van Petten, C. (2007). Syllable frequency in lexical
decision and naming of English, *Reading and Writing*, 20(4), 295-331. New York: Longman.

- Roach, P. (2000). *English Phonetics and Phonology*. USA: University of California.
- Spear-Swerling, L. (2013). A road map for understanding reading disabilities and other reading problems, redux. *Theoretical models and processes of reading*, 412-436.
- Spoehr, K. T., & Smith, E. E. (1973). The role of syllables in perceptual processing. *Cognitive Psychology*, *5*(1), 71-89.

Stanovich, K. E. (1988). The right and wrong places to look for the cognitive locus of reading disability. *Annals of Dyslexia*, *38*(1), 154-177.

- Taft, M. (1979). Lexical access-via an orthographic code: The basic orthographic syllabic structure (BOSS). *Journal of Verbal Learning and Verbal Behavior*, *18*(1), 21-39.
- Toste, J. R., Williams, K. J., & Capin, P. (2017). Reading big words: Instructional practices to promote multisyllabic word reading fluency. *Intervention in School and Clinic*, *52*(5), 270-278.
- Treiman, R., & Zukowski, A. (1990) Toward an understanding of English .
- Whalon, K. J., Al Otaiba, S., & Delano, M. E. (2009). Evidence-based reading instruction for individuals with autism

spectrum disorders. *Focus on Autism and other Developmental Disabilities*, *24*(1), 3-16.

- Yap, M.J., & Balota, D.A. (2009). Visual word recognition of multisyllabic words. *Journal of Memory and Language*, 60, 502-529.