

## EFL UNIVERSITY STUDENTS' PRODUCTION OF ENGLISH WORDS CONTAINING SILENT LETTERS

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**ABSTRACT:** This article studies English as a foreign language (EFL) students' production of English words that contain silent letters. The difficulties faced by Spanish native speakers when pronouncing words with silent letters in English have not been deeply studied. The study was conducted in a Costa Rican public university with 46 EFL students during one semester. Students were recorded while reading a set of given sentences that included silent letters. Then, three raters evaluated students' pronunciation using a checklist. Data suggests that 1) around one-fourth of students have significant problems with the pronunciation of words with silent letters, 2) particular pronunciation rules prove more challenging for native Spanish speakers, 3) certain words negatively affect students' performance. These results are consistent with the literature surveyed. Students' scores suggest that the pronunciation of silent letters has not been adequately approached in pronunciation courses. These results should promote a curricular change where silent letter rules are progressively and systematically incorporated.

**KEYWORDS:** silent letters, speech education, language instruction, higher education

### *PRODUCCIÓN DE PALABRAS EN INGLÉS QUE CONTIENEN LETRAS MUDAS POR PARTE DE ESTUDIANTES UNIVERSITARIOS DE ILE*

*RESUMEN:* Este artículo estudia la producción de palabras que contienen letras mudas en inglés por parte de estudiantes del inglés como lengua extranjera (ILE). Las dificultades que enfrentan los hablantes nativos del español al pronunciar palabras con letras mudas en inglés no ha sido ampliamente estudiada. El estudio se llevó a cabo en una Universidad pública de Costa Rica con 46 estudiantes ILE durante un semestre. Cada estudiante fue grabado mientras leía una serie de oraciones dadas que incluían letras mudas. Luego, tres evaluadores midieron la pronunciación de cada estudiante usando una lista de cotejo. Los datos sugieren que 1) alrededor de un cuarto de los y las estudiantes tienen problemas significativos con la pronunciación de palabras con letras mudas, 2) las reglas

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*de pronunciación particulares demuestran ser más complicadas para hablantes nativos del español, 3) algunas palabras afectan negativamente el desempeño de los y las estudiantes. Estos resultados son consistentes con la literatura consultada. Los resultados sugieren que la pronunciación de las letras mudas no ha sido abordada adecuadamente en los cursos de pronunciación. Estos resultados deben promover cambios curriculares donde las reglas de letras mudas se incorporen progresiva y sistemáticamente.*

*PALABRAS CLAVE: letras mudas, educación del habla, instrucción del lenguaje, educación superior*

## 1. INTRODUCTION

In terms of language learning and language production, people often regard pronunciation as evidence of language mastery. When someone mentions that they know or are learning a second language, others usually request them to say something in the target language. For the untrained ear, somebody's pronunciation may seem excellent, but academic contexts pose greater demands on speakers' language production. Of the many pronunciation features, silent letters frequently receive scant, if any, attention. Although not all books devoted to teaching English pronunciation for adults leave silent letters aside, some of them, for example, *English Pronunciation Made Simple* (Dale & Poms, 2005), *Clear Speech* (Gilbert, 2017), *Pronunciation Pairs* (Baker & Goldstein, 2008), and *Sheep or Ship* (Baker, 2006), to name just a few, pay little or no attention to this component. Therefore, students do not become aware that some letters should not be pronounced depending on specific linguistic contexts.

Several studies have shown the importance pronunciation plays in language learning. However, research on the production of words that contain silent letters, especially by Spanish speakers, has been less satisfactory. The present research paper explores EFL university students' accuracy when pronouncing said words, paying particular attention to silent consonants. Since similarities exist between Spanish and English in terms of silent letters, some silent consonants and all silent vowels do not form part of this study. This topic deserves attention since it is generally believed that the focus of pronunciation language courses should be the production of segmentals and suprasegmentals, leaving aside a proper study of exceptions and silent letters.

The findings of this study will directly benefit two groups. On the one hand, the university and its language curriculum will obtain insights into students' pronunciation, leading to the explicit inclusion of more pronunciation contents. On the other hand, these changes will benefit students, as they will have materials, activities, and guides that are more concrete and tailored to improve their pronunciation more holistically. Having a clear pronunciation helps students not just in academic contexts but also in their future jobs. Understanding to what extent students omit the pronunciation of silent letters may influence how language courses are organized and how activities are planned.

This paper is divided into six sections. The introduction presents some background information and states the importance of silent letters in second language contexts. The literature review defines the core concepts concerning silent consonants' pronunciation

and describes some previous related research. The methods section specifies the study design and describes the participants, materials, and procedures the paper includes. The results section details the significant findings related to the research objective through descriptive statistics. The discussion section contains the main results of the study. Finally, the conclusion discusses the main results regarding previous research and offers perspectives for future work and recommendations based on the results.

## 2. LITERATURE REVIEW

Some research has been conducted to describe students' production of words that contain silent letters. Although the literature covers a wide variety of contexts, this review will focus on four major themes directly related to this paper's scope. These themes are the definition of silent letters, silent letter instruction, silent letter omission by non-native Spanish speakers, and silent letter omission by Spanish speakers. When possible, research on speakers from a variety of language backgrounds has been taken into account.

### 2.1. *Defining Silent Letters*

To provide a broader perspective of silent letters, some definitions are at stake. First, some languages are described as more phonetic, or having a phonemic-orthography, when its pronunciation and written alphabet (or graphemes) markedly correspond (Juan-Checa, 2017). Compared to English, Spanish is more, but not wholly, phonetic. Matthews (2014) mentions that “over differentiation [is] the failure, in acquiring a second or foreign language, to suppress distinctions that are made in one's first or native language” (p. 282). These differences make pronunciation harder for students, as they tend to rely on their native language to extrapolate pronunciation rules in their second language (L2). As Shariatmadari (2020) mentions, “It's not easy to erase the default settings of your own speech without a great deal of practice, as those who have undergone dialect coaching or try to speak like a native in a foreign language know” (p. 185). In other words, by following their native language set of rules, second language learners may tend to mispronounce words, omit sounds that should be pronounced, or pronounce graphemes that should be omitted when speaking.

In this sense, silent letters can be defined as graphemes that should not be articulated in any form (Bishop, 1986; Celce-Murcia, Brinton & Goodwin, 2010; Gómez & Sánchez, 2016; Rey, Ziegler, & Jacobs, 2000). Sometimes, these silent letters are represented as a null sign  $\emptyset$  (Matthews, 2014). In English, silent letters fall into two broad categories: vowels and consonants. As mentioned before, because of their particular features and considering the similarities and differences between English and Spanish, this study focuses on most silent consonants but not silent vowels. Silent consonants often appear in digraphs, which are sequences of two letters representing one phoneme; for example, the *sh* in *share* represented as /ʃ/. Experts also consider sequences of letters where one letter is silent as digraphs (Akmajian, Farmer, Bickmore, Demers, & Harnish, 2017; Celce-Murcia, Brinton & Goodwin, 2010; Matthews, 2014).

For the present study's purposes, silent consonants are defined as graphemes that appear in digraphs and are not pronounced (Celce-Murcia, Brinton & Goodwin, 2010). This definition leaves out silent vowels (e.g., *mute*, *biscuit*) or silent consonants that appear in isolation (e.g., *honor*, *ballet*). The following rules summarize each case:

1. Silent B: The grapheme *b* in speech is usually realized as the sound /b/. However, when the grapheme *b* is followed by *t* (e. g. *doubt*) or preceded by *m* (e. g. *climb*), it is sometimes silent.
2. Silent C: The grapheme *c* in speech is usually pronounced /s/ or /k/, but when the letter *c* appears before *e*, *i*, or *y* and follows *s* (e. g., *scissors*), it is silent. If the letters *c* and *k* are together (e. g. *clock*), the letter *c* is silent.
3. Silent D: The grapheme *d* in speech is pronounced /d/ except in *adj* (e.g. *adjective*) or *dge* (e.g. *judge*) combinations. In those cases, the letter *d* is usually silent.
4. Silent G: When followed by the grapheme *n* (e. g. *benign*) or *m* (e. g. *paradigm*), the letter *g* is usually silent.
5. Silent GH: In the combination *ght* (e. g. *delight*), the *gh* does not sound. The letters *gh* are sometimes silent at the end of words (e. g., *sleigh*).
6. Silent L: In the combination *alm* (e. g., *calm*), the letter *l* becomes silent. In the combination *lk* (e. g. *chalk*), the letter *l* becomes silent only if the preceding vowel is pronounced as /ɔ/ or /ou/. Some *lf* (e. g., *behalf*) and *ld* combinations (e. g. *should*) are realized without pronouncing the letter *l*.
7. Silent N: If the letter *n* follows *m* (e. g. *column*), the letter *n* sometimes becomes silent.
8. Silent S: When the letter *s* occurs between letters *i* and *l* (e. g., *island*), it becomes silent in speech.
9. Silent T: Silent letter *t* frequently occurs in *tch* (e. g., *stretch*) or *stle* combinations (e. g. *hustle*).
10. Silent W: In the combination *wr* (e. g., *write*), the *w* is silent.

Adapted from: Bishop (1986), Celce-Murcia, Brinton & Goodwin, (2010), and Eide (2012)

Even after leaving vowels and isolated consonants, Spanish speakers must focus on ten rules that may hinder their communication. As stated before, books or language courses do not always address these rules adequately or leave them entirely aside. More information on how students deal with these linguistic features is necessary to lessen their pronunciation gaps.

## 2.2. Silent Letter Instruction

In the last years, a growing body of research has been conducted on teachers' beliefs and pronunciation practices. Nevertheless, a limited number of studies have directly

addressed instructors' perspectives on the teaching of silent letters. The following illustrates the most remarkable theory on the subject among those that have dealt with this aspect.

A study by Bodorík (2017) surveyed "Slovak teachers' opinions about teaching English pronunciation to non-native learners" (p. 157). The paper examined several pronunciation errors: sound substitution, incorrect stress, and pronunciation of silent letters, among others. The study included 90 non-native teachers of English with an average teaching experience of 13.74 years. Using a survey research design, Bodorík (2017) reached three main conclusions. First, 97.8% of participants consider teaching pronunciation as very important or important, and more than 70% of teachers claim to work on pronunciation regularly. Second, teachers listed circling silent letters third among the different teaching techniques, only after listening and repeating and matching words with appropriate sounds. Despite this, the pronunciation of silent letters ranked third again in types of pronunciation errors, after incorrect placement of stress and phoneme /ð/ for /d/, /tʃ/ substitution. In sum, although teachers understand the importance of pronunciation (and silent letters in particular) and devote time to it, students still struggle when pronouncing words that contain silent letters.

In a similar study, Zhang (2018) examined "ESL teachers' perceived level of self-efficacy in pronunciation instruction, perceived level of language and pronunciation proficiency, and level of pronunciation instruction knowledge" (p. 2). A particular aspect under examination was teachers' confidence when teaching silent letters. By employing a survey design, the researcher gathered information from 169 teachers currently teaching in Canada. In terms of confidence in teaching silent letters, 165 participants (83.8%) either agreed or strongly agreed when asked about their confidence in teaching silent letters. In a follow-up analysis, Zhang (2018) found that out of 153 native English teachers, 128 (83.7%) felt confident when teaching silent letters. Similar results were obtained when examining non-native English teachers. In this case, out of 44, 37 (84.1%) affirmed feeling confident when teaching silent letters. As can be seen, teachers do not only understand the importance of teaching silent letters; they also consider themselves capable of teaching silent letters.

On the side of Romance languages, researchers, such as Buss (2016), have found similar results. This research investigated Brazilian EFL teachers' beliefs and practices regarding pronunciation. The study comprised 60 participants who completed an online survey. Among the research findings, the author mentions how teaching silent letters ranks as the fourth more worked feature, only after problematic sounds, suffixes, and word stress. Unlike Bodorík (2017), no specific activity focused on silent letters, although some more general activities could address this topic to some extent.

This review summarizes the main findings in terms of silent letter instruction. The main results suggest that teachers consider the topic relevant, devote time to it, and often employ strategies and activities to improve students' pronunciation of words containing silent letters. Some evidence presented here also points to the difficulty silent letters represents for ESL students whose native language does not follow the same pronunciation features as English.

### 2.3. *Silent Letters in other Languages*

In recent years, research about English words containing silent letters and how they are produced or perceived has received some attention (Brown, 2018; Ranbom & Connine, 2011). Since languages present internal variation in terms of pronunciation, three main studies were selected for this section. The languages under analysis share one common feature: they are more phonetic than English.

One such study was conducted by Pospíšilová (2014). The author describes how silent letters represent a completely new concept for Czech learners accustomed to direct grapheme-to-phoneme correspondences from their mother tongue. The study's primary purpose was to assess the "ability of Czech learners of English to pronounce selected words with silent letters" (p. 6). The study included two groups of Czech speakers who were learning English as a second language. To collect data, the researcher designed a short text that contained words with silent letters. Each student read the text individually in a separate room while being recorded. Data indicates that "24,51% of the target words were pronounced incorrectly" (p. 28), which roughly represents one-fourth of all target words. Words with silent *b*, silent *h*, silent *p*, and silent *l* were the most problematic. As can be seen, silent letters represent a significant problem for second language learners of English. The phonological rules they have internalized from their native language negatively influence their performance in the target language.

Along the same lines, Ababneh (2018) also states that Arab students often "pronounce words as they are spelled" (p. 253) since Arabic is also a more phonic language (Farrah & Halahlah, 2020). Their research sought to identify "the pronunciation errors made by Saudi students in pronouncing words of problematic nature to Arabs in general" (p. 244). Among those errors, the study included the pronunciation of words containing silent letters by 50 Arab students divided into two groups. The first group belonged to an English major, while the second group belonged to a non-English major. Using a pronunciation sheet as input, the researcher collected, categorized, and analyzed all language errors. Findings suggest that students in both majors face difficulties when pronouncing words with silent letters. Although students in the English major outperformed students in the non-English major, the two groups found the omission of the /b/ sound in "debt" and /gh/ sound in "dough" troublesome. These results also show how students whose native language does not contain many silent letters may be at a linguistic disadvantage when communicating orally.

Bassetti and Atkinson (2015) examined the pronunciation of silent letters in Italian, which belongs to the same Romance family as Spanish. The authors assert that "despite burgeoning evidence that the orthographic forms (spellings) of second language (L2) words affect L2 learners' pronunciation, little is known about the pronunciation of known words in experienced learners" (p. 67). Their study comprised 14 Italian native-speaking high-school learners of English. At the time of the study, they had been taking English lessons for more than 11 years. Their paper focused on the "orthographic effects on the pronunciation of L2 English words in instructed learners" (p. 67). The researchers analyzed four significant aspects: the pronunciation of silent letters, vowel spelling and vowel duration, the pronunciation of the past tense inflection -ed, and the production of homophonic words. About silent letters, the researchers used

word-reading and word-repetition tasks. The researchers presented students with the same series of 37 words on a computer screen to collect data. After hearing stimuli, students' responses were recorded and then analyzed by a trained phonetician. Results show that "on average, each of the eight target words was pronounced with an added phone by 85% of participants in the reading-aloud task, and by 56% in the word-repetition task" (p. 73). The evidence suggests that silent letters are a significant cause of mispronunciation among ESL students.

As previously described, students from several linguistic backgrounds encounter difficulties with how sounds should be pronounced and when some sounds should be omitted. As Spanish, these languages have orthographic systems that somewhat resemble their phonological systems. Therefore, English poses a significant challenge that is not always justified.

#### 2.4. Silent Letters in Spanish

Since this study focuses on silent letters that often cause Spanish speakers problems, some silent consonant sounds and vowels are not considered here. In the case of the grapheme *h*, this sound will not be examined since it does not pose a problem for Spanish speakers. In this sense, according to the Real Academia Española (Real Academia Española & Asociación de Academias de la Lengua Española, 2009, 2014), although the grapheme *h* was pronounced as the aspirated /h/ in Spanish before the mid-XVI century and remains in foreign words (e.g., *hamster*) and some minor Spanish dialects, it currently does not represent any sound (translated by author). Therefore, rather than pronouncing the grapheme *h*, students learning English may try to silence some of the graphemes that should be pronounced in English, such as saying *tis* instead of *these* or *tose* instead of *those*. Concerning the letter *p*, Spanish omits this grapheme in the same cases English does (e.g., *psychology-psicología*). In the word *psicología*, even dropping the *p* would be valid (i.e., *sicología*) in Spanish (Real Academia Española & Asociación de Academias de la Lengua Española, 2009, 2014). Therefore, this similarity between languages does not present a pronunciation boundary for ESL, Spanish-speaking students.

As we have seen, students from various non-English languages struggle with the pronunciation of words with silent letters. Compared to English, "Spanish is also a more phonetic language, which means that the orthography is quite similar to the sounds it represents" (Juan-Checa, 2017, p. 454). Therefore, the difficulties encountered by native speakers of Spanish may be different from those of other languages. This section intends to describe what scholars have found in terms of silent letters in English by native Spanish speakers.

To date, there is limited research examining Spanish native speakers' pronunciation of words containing silent letters. However, Mompean and Fouz-González (2016) explored how Twitter could improve students' pronunciation of difficult English words. One of the so considered difficult words was words containing silent letters. To gather data, they worked with 16 native Spanish EFL students. Students were given an oral pre-test and a questionnaire to describe their e-routine. Then, during a month, the researchers sent students Tweets containing rules about silent letters and other pronunciation features. After this intervention, students were given a follow-up test

and another questionnaire about their experience. Results revealed that “performance with items featuring silent letters (with a gain rate of 83.8%) was better than with items featuring lexical stress patterns (73.5%), which was in turn higher than with items featuring grapheme-phoneme correspondences (65.1%)” (p. 179). On the one hand, these results suggest that students’ initial pronunciation performance regarding silent letters was deficient. On the other hand, research on silent letter performance proves essential since teachers and stakeholders can design activities, procedures, and curricular changes in a more informed fashion.

Only one other study has been found that examines Spanish native speakers’ pronunciation of words containing silent letters. Sánchez Ruiz and López Cirugeda (2014) conducted a study that examined Spanish-speaking students’ problems with English pronunciation. Using notes and recordings, the researchers compiled a list of the most common errors made by B1 students in oral examinations. After examining 84 students who took the oral exam, the researchers concluded that “the main difficulties seem to concentrate on pronunciation, grammar, fluency and the persistence of L1 as a means of communication” (p. 139). In terms of pronunciation, errors were divided into suprasegmentals and segmentals, where silent letters rank second after phoneme substitution. Sánchez Ruiz and López Cirugeda (2014) also mention that “general results in B1 oral examinations are not satisfactory” (p. 139) since they have been studying English for several years. This study also supports the claim that silent letters pose a difficulty that seems to surpass most students. The struggle reflected in this research will undoubtedly be transferred to out-of-class experiences, harming students’ communication process when using English.

In sum, the studies reviewed in this section underline the importance of silent letters for non-native speakers of English. English language teachers claim to devote time to pronunciation and silent letters in particular. However, students from different linguistic backgrounds often fail to pronounce these words correctly—students whose first language is Spanish face a similar burden. Therefore, a study of this nature may contribute to the field of pronunciation and help ease the pronunciation of silent letters by raising awareness on the issue.

### 3. METHOD

#### *3.1. Participants*

After visiting several classes of Costa Rican students taking a fourth-year, oral course from an English as a second language major, a personal electronic mailing list of 46 students willing to participate was created. The participants were chosen since they are about to graduate and have taken all oral courses in the program. The list included every student who agreed to participate in the study. All students are native speakers of Spanish.



### 3.2. *Materials*

Due to the nature of the study, three main materials were used. First, the researcher created 12 original sentences for students to read (see Appendix 1). In total, students dealt with ten silent letter rules, with five words per rule. As words with silent letters are very particular, two university teachers, including one English native speaker, revised the sentences to make them sound as natural as possible. Then, these sentences were pilot-tested with ten students with the same affiliation as the target population. Second, the recording took place in an office with optimal lighting and sound conditions. The microphone used had a dual capsule design, a three-pattern switch (cardioid, cardioid with -10dB PAD gain control, and Omni), and a 6-bit/48kHz bit depth/sample rate with an added pop filter to guarantee the best possible recording quality. Finally, the researcher designed a color-coded checklist to evaluate students' pronunciation.

### 3.3. *Procedure*

This study used a quantitative, experiment-based study design. Initially, the researcher visited each class and requested students to participate. A printed, written consent was created and distributed. The consent described the project as a pronunciation study, without disclosing its particular focus: silent consonants. This consent was also sent to students electronically. The time for the appointments varied according to students' preferences; however, students participated individually. As the students arrived at the office, they read a written paper with instructions. Once started, they were coded with a previously assigned number. Students recorded their sentences and, if needed, could correct themselves. In case of a correction, only the last word pronounced was taken into account. The estimated time to complete the entire process was 15 minutes.

After the recordings were appropriately named with students' codes and stored in an online shared folder, they were listened to and processed by three raters. The first rater was the researcher, who holds a master's degree in Applied Linguistics at Universidad de Costa Rica. The second rater was a native English speaker with a master's degree in Applied Linguistics at Universidad de Costa Rica. A third rater, an English native speaker and retired teacher, solved any disagreement between the two raters. When the two raters disagreed on the pronunciation of any of the words that included a silent letter, this third rater intervened to reach a consensus. Each perceived incorrect pronunciation was scored 0, while each perceived correct pronunciation was scored with a 1. The maximum possible number of points (absolute correct omission of all silent consonants) was 50.

## 4. ANALYSIS OF THE RESULTS

Data analysis was conducted in four distinct steps using descriptive statistics. First, a brief profile of students and the words used were presented. Then, a summary of the results was calculated. In a subsequent analysis, silent consonant pronunciation rules were ranked according to the results obtained. Finally, a list of the most problematic words was analyzed.

Of the 46 students who participated in the study, 28 (60.87%) were females, and 18 were males (39.13%). Overall, 38 students (82.61%) reported their age as being between 20 and 25, three (6.52%) were between 30 and 35, two (4.35%) were between 36 and 40, and two (2.66%) were under 20. Three participants (6.52%) did not state their age. All students were native speakers of Spanish, and English was their second language.

In terms of the words used, Cambridge's Vocabulary Profile (2020) classifies said words according to the CERF, as shown in Table 1.

Word List	Tokens	Percentage
A1	3	6.00%
A2	5	10.00%
B1	9	18.00%
B2	12	24.00%
C1	3	6.00%
C2	2	4.00%
Unlisted	16	32.00%

Table 1. *English Vocabulary Profile (Raw data and percentages)*

Source: *Produced by the author based on data gathered through students' answers using Text Inspector (2021)*

Note: *The total number of tokens corresponds to all the words included on each list. Every word counts as a token.*

This profile indicates that 32 tokens (64%) correspond to words that students should already know by the end of their major. Only two words (4%) might be beyond students' grasp. Some words cannot be profiled since they do not belong to any of the CERF lists. The complete list of words with their corresponding band can be found in Appendix 2. It should also be noted that 22 (44%) words are cognates with Spanish. However, although this may guarantee that students know the meaning of the word, it provides no advantage in terms of pronunciation. On the other hand, pronouncing cognates with such dissimilar pronunciations may be detrimental to students.

Students final scores fluctuated considerably. Figure 1 summarizes students' results in the test.

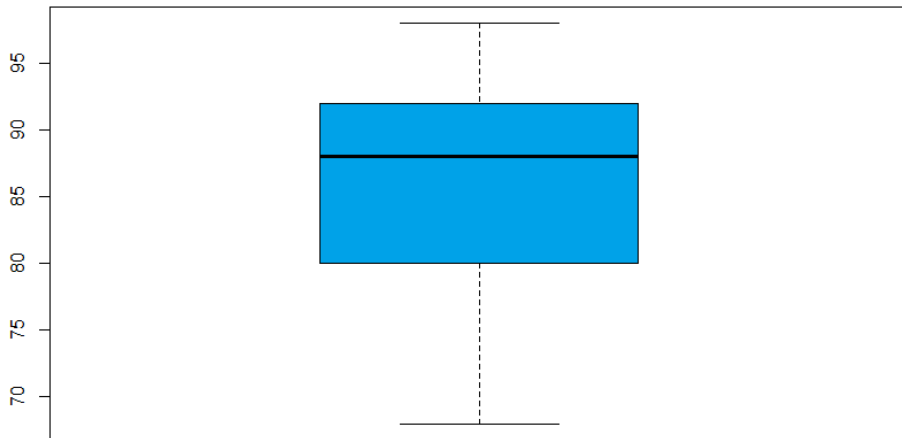


Figure 1. Score distributions corresponding to the whole sample

Source: Produced by the author based on data gathered through students' answers

Note:  $N = 46$ ;  $Min. = 6.8$ ;  $Max. = 9.8$ ;  $\bar{X} = 8.63$ ;  $SD = 7.53$ ;  $Mod = 9.2$ ,  $Med = 8.8$

Taking the whole test into account, the data show that students' performance is quite acceptable but highly variable. However, the data distribution suggests that some students still perform poorly when pronouncing words with silent letters. Results show that, although about 75% of the population obtained a grade of 8 or above, the people in Q1 still face many difficulties in terms of silent letters. It is worth noting that two students would not pass the test in the BA program.

In terms of rule difficulty, the study included 50 words containing silent letters. On average, students pronounced 38.64 (82.21%) words correctly. However, some silent consonants proved to be difficult for students. Table 2 illustrates the results of all silent consonants studied.

Type of Silent Sound	Average Raw Data	Average Percentage
Silent D	44.2	94.04
Silent W	42.4	90.21
Silent N	41.2	87.66
Silent B	40.8	86.81
Silent G	38.8	82.55
Silent T	37.8	80.43
Silent C	37.6	80.00
Silent L	36.2	77.02
Silent GH	35.2	74.89
Silent S	32.2	68.51

Table 2. Ranking of Silent Letter Rules (Raw data and percentages)

Source: Created by the author based on data gathered through students' answers

Findings for the pronunciation of words containing silent letters can be subdivided into three main groups. The first group represents Silent D and W. The results show that, on average, students do well and have a good grasp of the rules and their realization. The second group is composed of Silent N, B, G, T, and C. In this case, some students seem to be mispronouncing words with silent letters. To some extent, we can assert that they have not mastered the rules or fail to omit the silent letters despite knowing the rules. Finally, Silent L, GH, and S pose the most significant difficulties for students. In these three cases, in particular, more students seem to have trouble with these rules.

Although most students pronounced some words correctly (e.g., *descend*, *ridge*, *gnome*, *design*, and *palm*), they experienced considerable difficulty with some particular words. Table 3 summarizes the words that students mispronounced the most.

Words	Average Raw Data	Average Percentage
Folks	36	78.26
Calf	34	73.91
Doughnuts	32	69.57
Isle	32	69.57
Debts	30	65.22
Salmon	30	65.22
Fastened	29	63.04
Aisle	27	58.70
Thighs	25	54.35
Diaphragm	23	50.00
Yacht	12	26.09
Debris	8	17.39

Table 3. *Most Difficult Words Containing Silent Letters (Raw data and percentages)*

Source: Created by the author based on data gathered through students' answers

The words presented here did not reach an 80% pronunciation rate, which would be the minimum expected considering students' years of study. This means that around one-fourth (24%) of the words under study cause problems for students. Some words in particular (i.e., *diaphragm*, *yacht*, and *debris*) were mispronounced by half or most of the students. This complements what was discovered in Table 1: most problematic words correspond to Silent L, GH, and S rules.

## 5. DISCUSSION

Results from the data analysis indicated significant variability among students and within silent letter rules. In terms of general test results, findings are, to some extent, similar to the ones found in the studies examined in the review of the literature (Ababneh, 2018; Mompean & Fouz-González, 2016; Pospíšilová, 2014; Sánchez &

López, 2014). Scores support the idea that students do find silent letters problematic. This does not mean that all students have problems with all silent letter rules. However, considering the number of years studying English and the specific pronunciation courses taken, having one-fourth of students mispronouncing words is unacceptable. As previously discussed, since students are about to graduate, they should demonstrate mastery of at least 64% of the words, taking into account the words not included in the CEFF lists.

The results also support the idea that not all silent letter rules challenge students in the same way. In general, data suggests that when designing materials and activities, language teachers should pay more attention to Silent L, GH, and S rules. Explanations about these rules should also be more frequent and explicit so that students become aware of the sound omission in each case. Also, recycling of these rules should be more periodical and according to the requirements students display. Therefore, silent letter rules with lower results should be re-studied more frequently than those where students perform better. Finally, although not all words have a minimal pair where the letter is indeed pronounced, teachers and language institutions should prioritize those words that may cause communication breakdowns because of minimal pair sets (e.g., *island* vs. *Iceland*, *sighed* vs. *sighted*).

Besides, students do not have problems with all the words in a particular group. Although a clear tendency exists, certain words cause more mispronunciation than others do. Once again, teachers should consider these results to design activities and create materials that tackle these pronunciation features. Another possible recommendation to improve students' pronunciation is to incorporate more words that students find challenging and include more read-aloud activities. Doing so guarantees that each individual will see the words more often and receive feedback even when the words are not pronounced. An appropriate combination of direct and incidental vocabulary approaches seems essential in terms of words with silent letters and pronunciation.

There are several limitations to the study. First, the study did not control for anticipatory coarticulation or epenthesis. According to Matthews (2014), coarticulation is "the simultaneous or overlapping articulation of two successive phonological units" (p. 62). While epenthesis is a "process or change in which two successive sounds are separated by an intervening segment" (p. 125). This means that sometimes, distinguishing whether students produced an extra /d/ in *adjective* (saying /'æddʒ.ɛk.tɪv/ instead of /'ædʒ.ɛk.tɪv/ may be more difficult). Except by perceived clarity and force, raters may not always know to what degree students pronounced a /d/ when moving from /æ/ to /dʒ/, for example. Another potential limitation was the context given to students. Although all efforts were taken to create clear sentences, the number of words with silent consonants reduces the chances of having linguistic contexts that are more natural. Further analysis could replicate the study with words in isolation and transcriptions to diminish this effect. However, this would only provide information about the phonological rules and not if or how they transfer into actual speech production.

## 6. CONCLUSION

This study provides strong evidence that students may still mispronounce words with silent consonant letters despite years of studying English. In general, data suggests that 1) an important segment of the population has significant problems with the pronunciation of words with silent letters, 2) particular pronunciation rules cause more significant difficulties for native Spanish speakers, 3) specific words are mispronounced more often by all students despite how frequent the words appear in the language.

Further, this study provides data that will contribute to the current understanding of silent consonants and pronunciation in general. In particular, findings dealing with Spanish speakers' pronunciation of words with silent letters are scarce. This study hopes to contribute to curricular changes that gradually and systemically incorporate all pronunciation features, paying attention to exceptions and not only to the pronunciation of specific sounds.

As mentioned earlier, one possible limitation emerges from coarticulation and epenthesis. Although these linguistic features do not seriously interfere with the findings, future research should consider replicating this or other studies considering phonetic transcriptions. This will not reflect pronunciation but will provide visual information about how students perceive pronunciation rules in their heads. On the other hand, future research may include all silent sounds, including certain silent consonants that were not part of this study. Silent vowels may allow researchers to compare results across languages in a direct way. Finally, a qualitative approach where students and teachers are asked about perceptions and beliefs about pronunciation in general and silent letters, in particular, could provide relevant insights into the field of pronunciation.

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## 8. REFERENCES

- ABABNEH, I. 2018. English pronunciation errors made by Saudi students. *European Scientific Journal, ESJ*, 14(2): 244.
- AKMAJIAN, A., FARMER A. K., BICKMORE L., DEMERS R. A. & HARNISH R. M. (Eds.). 2017. *Linguistics: an introduction to language and communication* (Seventh edition). Massachusetts: The MIT Press.
- BAKER, A. 2006. *Ship or sheep? An intermediate pronunciation course* (3rd ed). Cambridge, Cambridge University Press.
- BAKER, A. & GOLDSTEIN S. 2008. *Pronunciation pairs: an introduction to the sounds of English* (Ed.). Cambridge, Cambridge University Press.

- BASSETTI, B. & ATKINSON N. 2015. Effects of orthographic forms on pronunciation in experienced instructed second language learners. *Applied Psycholinguistics* 36(1): 67–91.
- BISHOP, M. M. 1986. *The complete reference book of phonics and spelling: the abc's and all their tricks*. Michigan: Mott Media.
- BODORÍK, M. 2017. Teaching English pronunciation by non-native teachers as seen by Slovak teachers. *Journal of Language and Cultural Education* 5(3): 157–174.
- BROWN, A. (Ed.). 2018. Silent letters. In A. Brown, *Understanding and teaching English spelling*. 1st ed.: 107–112. New York: Routledge.
- BUSS, L. 2016. Beliefs and practices of Brazilian EFL teachers regarding pronunciation. *Language Teaching Research* 20(5): 619–637.
- CAMBRIDGE UNIVERSITY. English Vocabulary Profile Online - American English [on line]. Disponible en: <https://www.englishprofile.org/american-english> [Retrieved 17/07/2020].
- CELCE-MURCIA, M., D. BRINTON & J. M. GOODWIN. 2010. *Teaching pronunciation: a course book and reference guide* (2nd ed). Cambridge: Cambridge University Press.
- DALE, P. & POMS L. 2005. *English pronunciation made simple*. New York: Longman.
- EIDE, D. 2012. *Uncovering the logic of English: a common-sense approach to reading, spelling, and literacy* (2nd ed.). Minnesota: Pedia Learning Inc.
- TEXT INSPECTOR. N.D. RETRIEVED FEBRUARY 8. 2021. From <http://www.englishprofile.org/wordlists/text-inspector>
- FARRAH, M. & HALAHLAH N. 2020. Pronunciation problems among Palestinian English major students in Hebron University. *International Journal of Arabic-English Studies* 20(1): 203–226.
- GILBERT, J. B. 2017. *Clear speech: pronunciation and listening comprehension in North American English*. Cambridge: Cambridge University Press.
- GÓMEZ, M. & SÁNCHEZ T. 2016. English pronunciation for speakers of Spanish: from theory to practice. *Journal of Second Language Pronunciation* 4(1): 168-172. Berlin: Mouton De Gruyter.
- JUAN-CHECA, J.J. 2017. Comparing phonetic difficulties by EFL learners from Spain and Japan. *Fòrum de Recerca* 22: 451-465.
- MATTHEWS, P. H. 2014. *The concise Oxford dictionary of linguistics* (Third edition). Oxford: Oxford University Press.
- MOMPEAN, J. A. & FOUZ-GONZÁLEZ J. 2016. Twitter-based EFL pronunciation instruction. *Language Learning & Technology* 20(1): 166–190.
- POSPÍŠILOVÁ, M. 2014. *Ability of Czech speakers of English to pronounce words with silent letters*. Thesis to obtain a Bachelor in English Teaching.
- RANBOM, L. J. & CONNINE C. M. 2011. Silent letters are activated in spoken word recognition. *Language and Cognitive Processes* 26(2): 236–261.

- REAL ACADEMIA ESPAÑOLA (Ed.). 2014. *Diccionario de la lengua española (Vigesimotercera edición, Edición del Tricentenario)*. Madrid: Real Academia Española.
- REAL ACADEMIA ESPAÑOLA & ASOCIACIÓN DE ACADEMIAS DE LA LENGUA ESPAÑOLA (Eds.). 2009. *Nueva gramática de la lengua española*. Madrid: Espasa Libros.
- REY, A., ZIEGLER J. C & JACOBS A. M. 2000. Graphemes are perceptual reading units. *Cognition* 75(1): 1–12.
- SÁNCHEZ, R. & LÓPEZ I. 2014. Common errors made by Spanish graduate students to be avoided at B1 English oral exams. *Encuentro* 23: 128-141.
- SHARIATMADARI, D. 2020. *Don't believe a word: the surprising truth about language* (First American edition). New York: W. W. Norton & Company.
- ZHANG, B. 2018. *English language Teachers' required knowledge and self-efficacy beliefs about pronunciation instruction*. Thesis to obtain a Master of Arts.



## APPENDIX 1

### Sentences to be Read Aloud

Participant \_\_\_\_\_

1. Folks who are conscious of their debts must have a balanced budget.
2. When wrestling, watch out for your opponent's strong thighs and wrists.
3. They fastened the rope to the wooden **column** at the end of the aisle.
4. Half the jury didn't indict the sovereign for his crimes. The poor wretch implored the judge for mercy.
5. To climb and descend the mountain ridge, activate your diaphragm in advance and make sure to adjust the ropes properly.
6. Autumn is the best season to take a yacht tour around scenic Capri Island.
7. The apostle wrote a solemn and rousing hymn to **condemn** wrongdoing.
8. If you are building muscle from scratch, massage your calf by grabbing it with the palm of your hand and thumb after each exercise.
9. The gnome nestled his head against her shoulder.
10. In the reign of William the IV, a bomb destroyed the bridge and the castle on the isle. There was debris everywhere.
11. Everybody sighed when they saw the devastation left behind by the drought.
12. To be healthy, eat salmon and lamb but avoid doughnuts, design a workout routine that suits your needs, and weigh yourself once a week.

## APPENDIX 2

## Words with CERF Bands

A1	A2	B1	B2	C1	C2	Unlisted
half	autumn	bomb	Adjust	palm	condemn	aisle
wrongdoing	bridge	calf	budget	reign	drought	apostle
wrote	castle	design	column	scenic		debris
	climb	fasten	conscious			diaphragm
	island	judge	debts			doughnuts
		lamb	descend			folks
		salmon	muscle			gnome
		thumb	scratch			hymn
		weigh	sighed			indict
			thighs			isle
			wrists			nestle
			yacht			ridge
						solemn
						sovereign
						wrestling
						wretch

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Note: wrongdoing is classified as A1 because of its pronunciation of the silent sound in *wrong*.

Source: Created by the author based on data gathered through students' answers