# *A Study on the Production and Discrimination of Alveolar Stops in EFL students*

by

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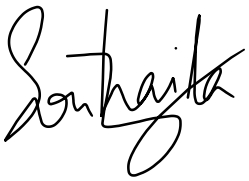
**Signature of Author** 

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*This research paper is dedicated to my family – especially my parents –, my friends, and all the people that have supported me throughout this journey.*

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## ABBREVIATIONS

AmE: American English

BrE: British English

EFL: English as a Foreign Language

ELF: English as a Lingua Franca

ELT: English Language Teaching

GTM: Grammar Translation Method

L2: Second/Foreign Language

RP: Received Pronunciation

TEFL: Teaching English as a Foreign Language

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## Abstract

Pronunciation in teaching foreign languages tends to be disregarded in classrooms. The aim of this paper is to analyze which of the two methods implemented in the treatment (implicit or explicit) is more efficient to teach pronunciation to young students whose L1 is Catalan or Spanish. The subject matter is the flapping sound in EFL students, an allophonic variation of alveolar stops. The participants were split into two groups to complete a reading, where their ability to identify and produce the flapping sound would be analyzed. The same text was given to them after the instruction to study which of the two approaches helped improvement of the aspect studied. The results obtained revealed that none of the two methodologies was more effective than the other, but they both helped students in a different aspect. Explicit methodology helped students identify the flapping, and implicit methodology helped them accurately produce the sound. Thus, pronunciation should not be neglected in ETL classrooms as it is useful for students to enhance their language mastery.

Keywords: *EFL, flapping, pronunciation, allophonic variations, explicit approach, implicit approach*

# 1. Introduction

## 1.1. Theoretical background

Learning a foreign language implies learning different aspects of that language as they differ from the L1: learning new grammar rules, new vocabulary, new syntactic constructions, new morphology rules, and sometimes, even a new alphabet. However, there are some aspects of language that tend to be left aside; very few times students are introduced to the pragmatics of the L2 to understand language in context, which is very relevant in order to master the target language. Another aspect of language that is not given the attention it should is pronunciation: students are introduced to new sounds and English, in this case, is a language with a high variety of phonetic sounds that do not exist in other languages.

### 1.1.1. English as a lingua franca

Undoubtedly, the English language has become of great importance, as it is used as the vehicular language in many fields, such as in government, media, and education (Crystal, 2003). It has achieved the status of an international language since it is the first option that people from different countries choose to use when communicating and exchanging information; an example can be tourists asking about the address of a place, chances are that they use English to communicate if they do not know the L1 of the country they are visiting. Thus, it has received the status of *lingua franca*, which is defined in *Britannia* as a language that is "used as a means of communication between populations speaking vernaculars that are not mutually intelligible". However, English is not the only *lingua franca* as there have been different languages used for exchanging information for people from different cultural and linguistic backgrounds: Latin used to be a *lingua franca* during

the Roman Empire, and more recently, during the American colonial Empire, *pidgin* languages were created to communicate as well.

### 1.1.2. Factors that affect pronunciation of L2

It is a truth that not all students of a foreign language acquire the same amount or quality of knowledge in a specific period of time, and that is because not all people learn in the same way. There are a number of factors that affect language learning, and if focusing on pronunciation, the most notable can be the age of the learner, their level of motivation, and the amount of exposure to the target language.

#### 1.1.2.1. Age

This is often the factor that influences second or foreign language learning about which more research has been done. It is asserted that children are more talented than adults when learning or acquiring an L2 in general terms, and this theory is supported by the Critical Period Hypothesis. This theory states that during the so-called Critical Period it is easier to learn an L2 because after this period the human brain nervous system starts losing its flexibility and the learning becomes more difficult (Singleton, 2007). Therefore, it is generally stated that the acquisition of a foreign language pronunciation is more difficult for adult learners than it is for young learners, and children achieve better pronunciation.

#### 1.1.2.2. Motivation

Motivation is a major factor that influences learners in their EFL learning, but there is not only one type of motivation but two, depending on the reason behind their learning and what drives them to do so. If a learner is interested in learning a foreign language and they make that decision because they find it enjoyable and interesting, then we talk about intrinsic motivation (Legault, 2016), and students are thought to perform better when they

are intrinsically motivated. However, when the reason is beyond their personal preferences and they feel somehow obligated in order to communicate in a certain community or obtain a position in a job, then we talk about extrinsic motivation. This may be an issue when achieving pronunciation because the student may seek proficiency in communication and may focus on other aspects of the language rather than pronunciation.

#### 1.1.2.3. Exposure to the L2

The environment where the student acquires the target language is also of big relevance. A distinction should be made between naturalistic and formal environments, given that the former gives the learner access to gain more input and exposure to more real language. This tends to happen when the student is learning a second language rather than a foreign language. The formal environment is oftentimes the learning setting or the classroom, where students have limited exposure and less immersion in the target language. All in all, the type of exposure to the L2 is key to determine the students' evolution, process, and final achievement of language mastery.

### 1.1.3. Importance of teaching pronunciation

EFL teachers (as well as other teachers of foreign languages), often focus more on teaching aspects like lexicon and grammatical rules, which is important indeed. However, if proficiency wants to be achieved, all language aspects should be taken into consideration and taught, including pronunciation; this way learners achieve mastery in the L2, enhancing all language skills, but they also improve and grow their self-confidence.

Some people argue that it is licit to keep one's L1 pronunciation as part of their identities, others that age makes pronunciation proficiency difficult, as young students are supposed

to achieve it better than older students, others argue that as long as the message is conveyed with coherence and accuracy, pronunciation stands back. But truth is that poor pronunciation may hinder comprehension and intelligibility, especially with EFL learners as English is a language where mispronouncing a word just by changing a phoneme may lead to confusion: saying *I went with Tim* is not the same as *I went with (my) team*, as the vowel sounds in *Tim* /ɪ/ and *team* /i/ differ and suppose a change in meaning.

Thus, improvement in communication requires including pronunciation in L2 lessons. Good command of grammar, vocabulary richness, and proficiency in pronunciation do not only help L2 production but also comprehension. In order to become proficient in communication, students should be taught how the target language is spoken by real speakers (Harmer, 2005), by receiving a good quantity and quality of input and being immersed to it as much as is feasible.

As to what aspects of pronunciation should be taught, it is needed to consider the students' L1 and raise awareness of the differences in sounds between one's L1 and L2. Students must be introduced to new sounds because not all languages work the same way, and some languages have sounds that do not exist in one's L1. Taking English as an example, spelling does not correspond to sounds, as one specific sound may correspond to different spellings (/u/ may be spelled *oo* as in *moon*, *u* as in *student*, *o* as in *two*, *ew* as in *flew*, *ui* as in *fruit*, or *ue* as in *blue)*, and on the opposite, one specific spelling may correspond to different sounds depending on the context (*a* may sound as a schwa /ə/ as in *a*gain, /ɔ/ as in *tall*, /ɑ/ as in *want*, /æ/ as in *cat*, /e/ as in *p*a*ge*, and /ɛ/ as in *a*ny).

It is important to consider the introduction of phonemic charts in pronunciation classrooms so students get acquainted with the phonemic symbols and compare them with their L1, being aware of the differences in sounds. For instance, /ð/ does not exist as a

sound per se in Spanish, but in some contexts, it is used in speech as in the second instance of “d” in the word *dedo* /ˈdeðo/.

Apart from the phonemic chart, contrasts between sounds should also be taught for students to be cognizant of the importance of this aspect of language, seeing that changing one sound for the other may lead to words with a completely different meaning. For example, the difference between /ʃ/ and /tʃ/ as in *wash* and *watch* or *cash* and *catch* is pertinent to be taught. Together with this, working with minimal pairs is also useful and helpful for students to distinguish between the different sounds in English, by taking perception tests to teach students listening comprehension.

### 1.1.4. Pronunciation problems of Spanish learners of EFL

As mentioned before, all the different aspects of a language should be internalized for a speaker to learn how to use spontaneous language, which is fundamental for the learner to become proficient in the target language. Spanish is a Romance language, which means that it shares linguistic rules with languages like Catalan, French, Romanian, or Italian; some of these rules may be related to grammar, such as the verb inflections, to pronunciation, as the vowel sounds are similar in number (except for French), and to syntax. However, English is a Germanic language, and the rules significantly differ from the Romance languages. This means that whenever a native speaker of a Romance language starts learning a language that derives from a different linguistic family, they must critically learn how that language works, and learn about completely different and new rules. Spanish speakers learning EFL pronunciation should be conscious of the different consonant and vowel sounds, but also of different suprasegmental aspects that are related to how the words are intoned rather than how they are uttered.

#### 1.1.4.1. Consonant sounds

In many instances, if speakers find it difficult to produce a sound, what they may do is use the closest sound from their L1. For instance, /h/ does not exist in Spanish, so students when having to pronounce words with initial "h", they often use the closest sound for them, which tends to be /x/. For this reason, Spanish learners of EFL are likely to say *hello* as /xə'lo/ instead of /həˈlo/, as the initial sound in *Javier*.

Another sound that may suppose a challenge to Spanish learners of EFL is the voiced fricative /v/, as Spanish speakers do not make any distinction between "b" and "v" in spelling. They do not differ voiced "s" from voiceless "s" either, therefore, /z/ does not exist in Spanish (only in some contextual instances as in *riesgo*, or in other varieties like Colombian); however, it does exist in Catalan. For this reason, Spanish learners of EFL often misplace /z/ with a /s/. Regarding postalveolar fricatives, neither /ʃ/ nor /ʒ/ exist in a language like Spanish – at least in Castilian Spanish; however, this is one of the sounds that characterize Argentinian and Uruguayan dialects of Spanish.

As for the allophonic variations, some typical errors of Spanish speakers when learning English are related to alveolar stops, seeing that learners fail to pronounce aspirated sounds. However, this may prevent them from achieving a fluent native-like accent but does not hinder intelligibility.

Another issue that is most found is the mispronunciation of initial clusters in English, that is, initial *sp-*, *spr-*, *st-*, *sn-*, *str-*, and so on. In Spanish, such combinations of two or more consonants together in the onset of a word do not exist, and learners' tendency when learning English is to add a vowel before the cluster. This happens with English words that are used in Spanish too, such as *stop*, where learners would add an extra sound (an

"e-") and say /ˈestop/ (Swan, 94). Other examples are *Spain* pronounced /esˈpein/, *stripe* pronounced /esˈtraip/, *spring* as /esˈpring/, or *snail* as /esˈneil/.

#### 1.1.4.2. Vowel Sounds

For Spanish speakers who learn English as a foreign language, one of the biggest challenges is learning the vowels. In Spanish, only five vowels exist with their corresponding five vowel sounds, but in standard AmE these five vowels have fourteen different vowel sounds. Getting acquainted with the different sounds is not enough as there are several aspects to consider, such as the tense of a vowel (if a vowel is tense it means that it can appear in final position, and if it is lax it means it cannot), roundness (*/u/, /ʊ/, /o/, /ɔ/,* and */ɝ/* are considered rounded vowels), and position in the vowel chart (from high to low and from front to back, considering the position of the tongue). As mentioned before, English is not a language with a sound-spelling relationship: in Spanish, *variación* is pronounced just as it is written, but in English, *variation* is not pronounced /ˌvariˈation/ but /ˌvɛriˈeʃn̩/. Also, English has more examples of homophones (at least two words that have the same pronunciation but different spelling: *see, sea, cee*), and homographs (a word that may have several different pronunciations such as *close*, which can be pronounced either /ˈklos/ or /ˈkloz/).

Another element to consider when learning English pronunciation is the several dialectal variations: that is, depending on the variety or dialect of English that is being spoken, the pronunciation is different. The sound /æ/ in AmE turns to be /ɑː/ in BrE in some contexts, especially preceding fricative sounds: "a" followed by an "-s" in *glass*, is /ˈglæs/ in AmE but turns to be /ˈglɑːs/ in some varieties of BrE. This should be contemplated to study so students can understand other varieties of the target language and enhance comprehension.

Spanish speakers do not make a distinction between short and long vowels. In English, vowels may vary in pronunciation depending on the voice of the following sound, that is, if a vowel is followed by a voiced consonant, the vowel becomes slightly longer in pronunciation. Take the words *proof* and *prove*, where the first one /ˈpruf/ has a somewhat shorter vowel than in the second one /ˈpru:v/. Apart from this, Spanish only has /i/ and /u/ whereas English has a short /ɪ/ and a long /i/ (*fill* vs *feel*), and a short /ʊ/ and a long /u/ (*pull* vs *pool*).

#### 1.1.4.3. Suprasegmental aspects

However, pronunciation is not only about phonetic symbols and sounds, but it also composes suprasegmental aspects such as stress, intonation, and rhythm. To start with, it should be mentioned that a dichotomy between intonational and tonal languages should be made. English is an intonational language, which differs from tonal languages in that pitch does not affect the meaning of the lexis, that is, changing the pitch does not mean altering the meaning of the word. However, in Chinese different words that are equal at a segmental level may have different meanings if they are different at a suprasegmental level, that is, if they are pronounced with a different pitch.

Apart from being an intonational language, English is also a stressed-timed language, and it differs from syllable-stressed languages in that the syllables do not always have the same length. This is often a problem for Spanish native speakers as Spanish is a syllable-stressed language, where all the syllables have the same length. The consequence here is that Spanish speakers do not differ weak from strong forms, especially in the case of vowels, which makes them use strong forms for all the vowels, ignoring the weak forms such as the schwa /ə/. Thus, it is common that English native speakers perceive Spanish

(or speakers of other European languages) learners as “unenthusiastic or bored” (Swan, 96) when speaking English, as they narrow their pitch notably.

### 1.1.5. Alveolar stops

As previously mentioned, English is a language where phonemes do not always correspond to one sound, as happens in Spanish or Catalan, but sometimes certain phonemes can have different sounds.

Consider the alveolar stops in the English phonetic system, which happen to be both alveolar and dental in Spanish and Catalan: some EFL students with Spanish or Catalan as their L1 struggle when pronouncing these sounds, especially /t/. The reason behind it might be this difference in the place of articulation, especially in front position. In phonetics, certain sounds go through some phonological processes that result in different sounds in specific contexts, as mentioned before. For this case, some processes affect alveolar stops /t/ and /d/, such as flapping, glottalization, and even deletion (the last two only happen with /t/ sound).

#### 1.1.5.1. /t/

This is the voiceless alveolar stop sound, and it shares the same manner and place of articulation with its voiced equivalent /d/. This sound /t/ has a number of forms that may confuse non-native speakers of English; depending on the variation of English a person is learning, the /t/ can have certain variations in specific contexts. If we focus on American English, depending on the context where it is found in a word, it will have different features as to how it should be pronounced.

#### 1.1.5.1.1. Aspirated and unaspirated /t/

Aspirated /t/ means that the sound is produced by a release of air, and it is found when it is the first sound in a stressed syllable, as in the following examples: *tennis* ['tʰɛnɪs], *tender*, ['tʰɛndɚ], and *attorney* [ə'tʰɔrni]. Contrarily, unaspirated or unreleased /t/ is found on the onset of unstressed syllables as in *tonight* [tə'naɪt̚] and *country* ['kʰʌntri], in contexts of *s+t* as in *stone* ['ston], and in final position as in pot ['pʰɑt̚ ], cat ['kʰæt̚ ], and plate ['pʰl̥et̚ ].

#### 1.1.5.1.2. Glottalization

This phonological process only affects the voiceless alveolar stop /t/ and it happens when this sound is replaced by a complete closure or narrowing of the vocal folds or glottis (by a glottal stop /ʔ/). For glottalization to occur, the voiceless alveolar stop must be found in the following contexts:

(a) in initial position of an unstressed syllable,

(b) preceded by a vowel, and

(c) followed by a syllabic /n/ or /r/.

The words *button* ['b̥ʌʔn̩] and *Britain* [ˈb̥rɪʔn̩] exemplify this process of glottalization, and it is not only found in AmE but also in some BrE varieties such as RP, Scotland, Ipswich, and Cardiff (Eddington & Taylor, 2009).

#### 1.1.5.1.3. Deletion

As well as glottalization, deletion only affects the /t/ sound; however, this process is the one where the alveolar stop is weakened the most, as the /t/ disappears completely. The contexts in which /t/ must be found for it to be deleted are the following:

(a) in initial position of an unstressed syllable,

(b) preceded by a /n/, and

(c) followed by a vowel.

This process of deletion can be illustrated in the words *twenty* ['tʰʍɛni] and *internet* ['ɪnɚˌnɛt̚ ]. Also, this is considered an optional process for most speakers as they control it better than glottalization or flapping (Romero & Riera, 2014).

#### 1.1.5.1.4. Flapping

Unlike the previously explained processes, this particular feature affects both alveolar stop sounds /t/ and /d/, and it consists of substituting them for a flap /ɾ/ sound. The flap sound appears as an allophonic variation often found in some dialects of English: it is most common in General American English, Australian English, New Zealand English, and Southern British English. This process of flapping is thought to be an "articulatory weakening or reduction" (Romero & Riera, 2014:104) of the alveolar stops, but it is not as marked as the glottal stop and deletion. This dialectal sound consists of a fast movement of the tongue tip against the alveolar ridge, and it can be found in the following contexts:

(a) in initial position of an unstressed syllable,

(b) preceded by a vowel or a /r/, and

(c) followed by a vowel.

Notice the words *metallic* [məˈtʰælɪk̚ ] and *metal* ['mɛɾəɬ], where the first one does not show a flapping because it does not meet the rule (1), as the /t/ is in initial position of a stressed syllable and therefore is aspirated. However, the second example applies to all the rules, and therefore as the /t/ is found as the initial sound of an unstressed syllable, follows the vowel /ɛ/ and is followed by a schwa, the /t/ becomes flapped. But this sound is not limited within a word, but it also occurs across words, such as in "far to go" (['fɑr

ɾə ˈg̊o]). The context (2) mentions that the flapping may be followed by a /r/ sound, and this sound followed by a /ɾ/ may make the transition slightly harder to produce: “butter” [ˈ b̥ʌɾə˞], “order” [ˈɔrɾə˞], and “daughter” [ˈd̥ɔɾə˞].

### 1.1.6. Methodologies

There exist different methodologies as to how to teach and each of them was developed in a different historical framework. Some of these are more effective than others, but there is no thing such as “best teaching methodology” because the choice of one or another depends on several factors. According to Scrivener (2002), focusing on language learning, these factors mostly depend on what the teacher believes about “what language is, how people learn, and how teaching helps people learn” (p. 38). These factors that should be taken into consideration before choosing a teaching methodology might be age, personality, students’ level and learning style, teachers’ teaching style, and availability of resources. It might be an issue when a lot of students with mixed abilities are encountered in one class, as the teacher has many individual factors to consider; a possible solution might be using an eclectic approach where students receive different teaching methods simultaneously.

However, as mentioned in previous sections of this paper, pronunciation is a field of language that has been neglected in classrooms for years, or, at least, given insufficient attention. Teachers prefer to focus on grammatical rules and vocabulary teaching, and this may be the main reason for the lack of scientific study on the English pronunciation teaching. Nonetheless, when pronunciation is taught, it tends to be done in a less technical way: it is usually more of listening and producing sounds. But pronunciation it is more than that, as students should be given the sound system characteristics to internalize them and compare them with their L1 sound system. It might be easier to be taught the sounds

characteristics so learners can understand the steps that should be taken to produce a sound that is not in their own sound system.

#### 1.1.6.1. Intuitive-imitative approach vs. analytic-linguistic approach

There are two main approaches in teaching pronunciation of a foreign language, and the difference lies in the way the information is presented to students and what attitude they have towards pronunciation learning.

The intuitive-imitative approach depends on to what extent the learner is able to intuitively recognize a sound, internalize it, and produce it. As well as students acquire other aspects of a language by being exposed to it, this approach helps students acquire pronunciation in the same way. As a means to achieve better results, students need to have good models, that is, native speakers of the target language, audio tapes, recordings, or videos (Jam & Adibpour, 2014).

On the other hand, analytic-linguistic approach helps students analyze the language as they study it in a more analytical way: they become aware of the linguistic parts of a language, that is, morphology, syntax, and lexicon because they are given "explicit information on pronunciation" (Jam & Adibpour, 2014), and they take advantage of this knowledge to teach efficient language. This approach also uses tools to maximize the learning, which can be transcriptions and vocal charts to help achieve good pronunciation.

#### 1.1.6.2. Grammar-Translation Method

As its origins date back from the teaching of classical Latin and Greek, the Grammar-Translation Method is the most traditional approach in language teaching. It is characterized by using the L1 as the vehicular language in instructions, and the focus falls into grammatical rules, L2 to L1 translation, enhancement of reading and writing skills, and little or no emphasis on speaking and listening skills. It is a teacher-centered method

seeing that students only receive the instruction, but the active role is performed by the teacher (Qing-Xue, 2007). However, this approach does not help so much students' ability to use communicative language for they are taught to memorize rules: thus, the focus is put on the theory but not on practice.

#### 1.1.6.3. Direct Method

This is a method that helps students learn a language similar to how children acquire their L1 (Romero, 2022). It was created as a reaction to the Grammar Translation Method, being against the exclusive use of the native tongue and translation in the lessons. This approach was born to focus on communication or learning in the L2, and no use of the L1 or translation is implemented in the classroom because students are encouraged to be immersed in the target language. However, there might be a reluctance of teaching abstract ideas only by using the target language. With a view to teaching grammar, the inductive method is implemented for students to deduce the grammar from examples: for example, teachers show a picture and they let students deduce the grammar before proceeding with the teaching. One of the differences with the GTM is that in this particular approach students have the active role and language is considered to be a means of communication. The materials used in the teaching are visuals such as objects or pictures.

#### 1.1.6.4. Audiolingual Method

This method was created in the United States around the 1940s. Language learning is thought to be habit-forming, and through these, students memorize and repeat the information in order to reinforce the learning. Language is translated into stimulus and response (Qing-Xue, 2007), and there is a big focus on pronunciation, listening, and speaking skills. The learning is carried out through blocks, from more simple to more

difficult aspects, and grammatical rules are not explicitly taught but learnt inductively through examples. With this approach, students listen to dialogues and recordings, and through repetition and drilling, they acquire the second or foreign language. Mimicry and memorization are key elements of this method as videos and recordings are used for students to internalize the information and produce the language. Other linguistic tools such as phonetic transcription are introduced as there is an awareness of the sound system. However, while students enhance oral skills, there is a poor ability to use communicative skills in real-life conversations.

#### 1.1.6.5. Communicative Approach

In this method, the student's role is not limited to listening to theory explanation, but they participate in the classroom and practice the language to enhance their communicative skills. The focus shifts to communication as the main objectives are to achieve proficient speech and the ability to use conversational skills. Learners do not only learn about theory language but also about meaning, and contrarily to audiolingual, this method exposes students to real-life situations, enriching fluency in the target language and the receptive and productive skills. As students are encouraged to communicate, the goal is not to achieve native-like proficiency in accent. Overall, students "develop linguistic competence and communicative competence" (Qing-Xue, 2007:71).

Scrivener (2002) distinguishes between two types of communicative approach: strong and weak. The main difference is that strong communicative approach is composed of high interactive activity which helps students learn language more efficiently, but weak communicative approach lacks interactive activity, and instead, there are activities based and focused on enhancing speaking and listening skills.

#### 1.1.6.6. Task-based learning (TBL)

This is a variant of the communicative approach, and its teaching is characterized because it "cycles around the preparation for, doing of, and reflective analysis of tasks" (Scrivener, 2002:39). These tasks are mostly related to real-life situations, and there is no need for explicit instruction (Rahimpour, 2008), as the method itself is highly interactive and focuses on carrying out tasks or activities.

#### 1.1.6.7. Silent Method

In this approach neologized by Gattegno, the role of the instructor becomes being silent in the classroom by observation of the students' evolution. The active role and autonomy are performed by students, and in order to communicate with them, teachers use body language by gesticulation and facial expressions (Romero, 2022). In general terms, this approach becomes easy if it is implemented with objects, and its main objective is to provide students with fluency in the L2. When implemented with pronunciation teaching, the aim is to produce the language sounds through objects and visual tools, which tend to be charts with sound-color correlation, where each color refers to one specific sound (see *Figure 1*), reinforcing the multisensory association. In the following example, it can be seen that the red color corresponds to the sound /i/, the light orange to the sound /r/, and the light blue to /l/.

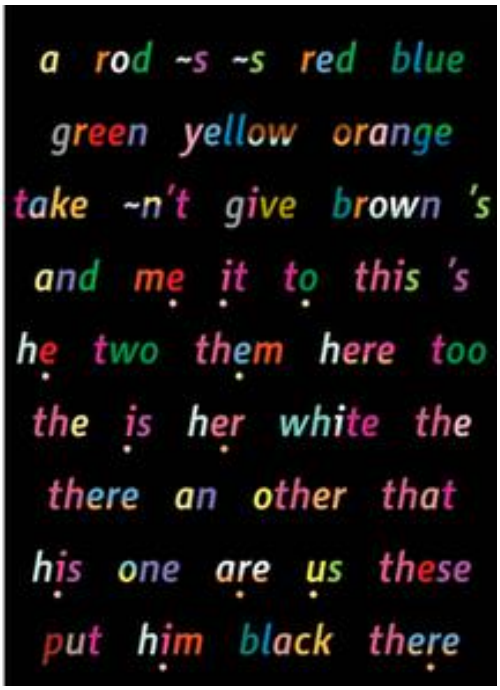



*Figure 1 (from Wikipedia)*

While *Figure 1* shows the sounds in context and with examples, *Figure 2* is an example of a Fidel chart that pictures all the different spelling possibilities for each sound, which corresponds to a different color (Romero, 2022).

*Figure 2 (from Wikipedia)*

#### 1.1.6.8. Explicit teaching

This is a strategy used to teach language by introducing the topic and explaining the context, the when, why, and how, of what is being taught. The teacher focuses on technical aspects for students to internalize the theory before putting it into practice, which makes it a more *overt* methodology.

Students consciously learn the language, the formal aspects, grammar, and theory while they conduct activities to practice what has been learnt. The activities become more formal and students may find it easy to take theoretical exams, but putting all the knowledge into practice may be difficult for them, which can affect their fluency improvement. This approach of teaching pronunciation in particular is not found very often in second language learning classrooms as the formal aspects tend to be left aside.

#### 1.1.6.9. Implicit teaching

This type of instruction focuses on imitation, and it is less clearly or explicitly explained: the instructor gives the information and students assimilate it. The activities used in this type of teaching are more dynamic, and, depending on the aspect that is being taught, activities become more interactional. In pronunciation, teachers may use repetition of certain sounds, listening to music, watching videos, and even tongue twisters. Contrarily to the explicit approach, in this case, students absorb the information unconsciously as in their L1 acquisition by the observation, repetition, and practice stimulus.

## 1.2. Objectives of the study

This research project is aimed to address one of the allophonic variations that alveolar stops can have in English, the flapping, and its production in EFL students with Spanish/Catalan as their L1. The reason behind this choice is that EFL students often struggle with the pronunciation of the target language, as it is an aspect that tends to be

neglected in teaching. Therefore, this study seeks to analyze and establish any difference between explicit and implicit instruction for pronunciation, as well as EFL students' ability to identify and produce the flapping sound in context. The data collected will work to prove to what extent the following hypotheses are true through the following research questions.

### 1.3. Research questions

***RQ 1:*** *To what extent do EFL students distinguish flap sound /ɾ/ from /r/ sound?*

***RQ 2:*** *How can an explicit teaching methodology help EFL students improve mastery of flapping in AmE?*

### 1.4. Hypotheses

***H1:*** *Native Spanish/Catalan speakers struggle to produce the flap sound when learning English as in their L1 this sound is a type of /r/ and in English it is an allophone of /t/.*

***H2:*** *Explicit teaching can help students master flapping because they are introduced to the rules and technical aspects.*

## 2. Method

### 2.1. Design

In order to answer the previous research questions, an experimental study was conducted with students of EFL. This is aimed to be an experimental design between two groups of students, where each group was exposed to a different type of instruction. The lesson students receive aims to help students improve any pronunciation mistake related to the flapping.

Students were divided into two groups: the control group formed by students who were taught the flapping sound in an implicit way, and the experimental group formed by students who received the instruction in an explicit way. The experimental group is on which the hypotheses are based, and the results obtained will confirm or refute the hypothesis that pronunciation needs to be taught in detail. Students were also analyzed in terms of proficiency in the pronunciation aspect in question, and the results should show in the posttest that they identify the flap sound and know how to pronounce it.

## 2.2. Participants

The research was implemented with 17 students (N=17) that are learning English as a foreign language at a concertada school in Reus (Col·legi Sant Pau). They are bilingual speakers of at least Spanish and Catalan, and there are some who belong to a different cultural background (Morocco). They are fourth graders aged between 9 and 10 years old. These students are assigned in two research groups: the experimental group (N=9) and the control group (N=8). They are not equal across genders in both groups: 67% boys and 33% girls for the experimental group and 62,5% boys and 37,5% girls for the control group. However, this factor, as well as their nationality or age, was not analyzed, as what counts is their instruction regardless of any other secondary factor.

They learn English at school, and the lessons are conducted only in English, except for some instruction for difficult activities or games, which are given in Catalan. Students have one weekly hour devoted to English pronunciation where they are exposed to a specific sound and learn about it. However, in English regular classes students struggle to pronounce many basic words. Even though the variety of English that can be found in the school coursebook is BrE, the teacher uses AmE to communicate with the students.

Also, most of them are highly exposed to this variety due to the amount of time they dedicate to listening to music or watching videos, movies, or series in AmE.

## 2.3. Procedure

The tests were fulfilled in three days: the first day was devoted to the pretest, which consisted of a perception test and the pre-lesson recording of students reading a short text. The second day was devoted to the instruction of the experimental group and posttest recording of them reading again the short text. As for the instruction of the control group and their posttest recording, they took place on the third day. At the very end, students were asked to complete a questionnaire on the third day too.

The experiment started with a perception test that consisted of a short game and a warm-up activity where students would activate their perception skills: they were given a set of minimal pairs, words with and without the flap sound (e.g., *hi<u>r</u>ing* vs. *hi<u>d</u>ing*, *ea<u>rr</u>ing* vs. *ea<u>t</u>ing*, *be<u>rr</u>y* vs. *Be<u>tt</u>y*). This perception test helped the instructor identify to what extent students could distinguish between the /r/ and /ɾ/. First students lined up in the middle of the class and seven different words were written on the blackboard, some with instances of /r/ and some with instances of /ɾ/. Then the words would be uttered individually out loud, and if students thought they are pronounced that way, they would jump to their right, but if they thought they were mispronounced, they would jump to their left. Most students jumped to the right of the line when the word uttered contained an "r" in the spelling, such as *moral*. However, if the word uttered was written with a "*t*" or a "*d*", such as *city*, the majority of the students would immediately jump to the left, which means that they relate the spelling "*t*" and "*d*" with a /t/ and /d/ in speech. It was only in two instances where most students jumped to the right when the word was written with a *t*, and it was with the words *city* and *Betty*. After that, they were given a worksheet with the seven

different minimal pairs: *hiring-hiding, earring-eating, berry-betty, moral-model, Siri-city, barrel-bottle, a fire in the town-a fight in the town*. Some selected items from each minimal pair would be uttered out loud, and students would have to decide which word they were hearing. Once finished, all the words were uttered together so students could revise. Afterwards, students were asked to raise their hand if they thought the correct answer was the one on the left column, and after them, the ones that thought it was the one on the right column would raise their hand. As a result, most students matched only the first column, where all the words contained the *r* in spelling. When they were told the correct answer, both sets of each pair were read again out loud, and students were asked if they could see any difference; and indeed, they saw a difference. They were asked to repeat the words pair per pair, all together. Then they watched a video (https://youtu.be/G0EeUW0-9gw) to acquire some general knowledge about British and American vocabulary and pronunciation.

After that, students from both groups took a pretest reading a short paragraph out loud while they were recorded individually. This paragraph contained different instances of flapping with nearly all the contextual possibilities (double "*t*", double "*d*". single "*t*", "*t*" preceded by an "*r*", and across words). After this, students were grouped and received the instruction on the flap sound, but each group was taught in a different methodology.

Explicit teaching was conducted with the experimental group, and the main aim was to introduce the flap and explain how it is produced, how it words, in what contexts it is used, and so on. As for implicit teaching, this was carried out with the control group, and students were not given many theoretical details: they were limited to imitating. If they struggled to produce this sound, they would recur to the sound system of their L1 and find the closest sound to the flap. For example, Catalan/Spanish speakers have a soft /r/ in the sound system, so if they were given the word *oughta* ['ɔɾə], they could compare it to the

Catalan word for “hour”, which is *hora* (pronounced ['ɔɾa]). Once finished, the results obtained from the posttests were analyzed to determine how explicit instruction may help students command the flapping.

Once the implementation was completed, students were given the same text to read individually, where they would be recorded again. The last activity consisted of a Likert-scale questionnaire with six questions to evaluate their experience from 1 to 5: three of these questions were related to the methodology used and the amount of knowledge that students considered they gained, and the other three were related to their evaluation, to ease of the materials provided and to the level of enjoyment.

## 2.4. Data collection instruments and materials

In order to conduct this research paper, scores in two fields were chosen to be analyzed: effectiveness of implicit or explicit instruction and ability to recognize in context and produce the flapping. The resource to which students got access is a text for them to read (see *Appendix B*), a phone to record the children reading the text before and after the treatment, and worksheets for the perception test before the lesson. Excel was used for data manipulation, and the different documents were transferred to JASP for analysis and obtaining of the results for the perception test, the pretest, the posttest, and the questionnaire.

## 2.5. Data analysis

There were two types of data: recordings and tests. The recordings were divided into two sets: one taken before the instruction and another one taken after the instruction. The recordings were chosen to register the participants’ reading because it is a useful way in which the researcher can have access to them afterwards as many times as necessary to conduct the analysis. An accurate identification and production of the flapping was

considered correct if it was pronounced appropriately (if a student identified the sound but struggled to produced it, the instance was not considered correct). There were also two different tests: a perception test to get acquainted with the participants' level of pronunciation knowledge and a postquestionnaire to know the participants' opinion on the experiment.

## 2.6. Statistical analysis

With a view to conduct a statistical analysis, three independent samples *t*-tests were used to compare the results obtained in both groups: one for the perception test, one during the pretest recording, and another one during the posttest recording. Two different paired samples *t*-tests were used to compare the results obtained in the pretest and posttest in both groups. From these analysis, descriptive statistics and a visual graph were also obtained.

### 2.6.1. Pre-test

For the pretest, the data obtained from the perception test and the data obtained from the first recordings (before the instruction) were run statistically through an independent sample t-test by considering *p*-value, through a descriptive statistics grid for each test (considering the Standard Error of the Mean, the Minimum and Maximum scores, the mean, the mode, and the median), and through a visual graph. Both pretests were aimed to compare the results obtained from the experimental group and the ones obtained from the control group.

### 2.6.2. Post-test

The first RQ enclosed the aspect of identifying and producing the flapping and there have been two different paired samples t-tests: one comparing the results obtained by students in the pretest and the posttest from the experimental group, and another one comparing

the same results from the control group. They analyzed students' ability to identify and properly produce the flapping and their evolution from the beginning to the end.

For the second RQ, one independent sample t-test has been conducted to analyze the results obtained from the recordings after the lesson, to compare the control group and experimental group recordings. Both groups were analyzed at two points in time, before the treatment and after the treatment. The independent sample t-test was illustrated with its respective descriptive grids and illustrations.

#### 2.6.3. Questionnaire

After the posttests conducted with both groups, a questionnaire (Appendix C) was carried out to evaluate students' level of knowledge and motivation. The results of the questionnaires were analyzed quantitatively.

# 3. Results

## *3.1. Pretest results*

### *3.1.1. Perception test*

A total of 17 students completed this test and the results were calculated out of 7 points (one point per correct answer). The words from the column of flapping that were most selected were *Betty* and *city*. For both groups, the minimum was 42.86% which corresponds to 3 points correct out of 7, and the maximum was 71.43% which corresponds to 5 points out of 7. The mean is 52.38% for the experimental group and 53.57% for the control group, which shows little difference between the two groups (see *Table 1*). Regarding the mode, this is the result for both groups as most of students have obtained the same result; it gives a value of 42.86%, which equals to 3 instances correct.

*Table 1. Descriptive Statistics on Perception Test*

| | Scores | |
|---|---|---|
| | **experimental** | **control** |
| **Valid** | 9 | 8 |
| **Missing** | 0 | 0 |
| **Mode** | 42.860 | 42.860 |
| **Median** | 42.860 | 50.000 |
| **Mean** | 52.382 | 53.573 |
| **Std. Deviation** | 12.371 | 12.662 |
| **Minimum** | 42.860 | 42.860 |
| **Maximum** | 71.430 | 71.430 |

The results of this perception test concluded that there was statistically no big difference between both groups as for perception of the flapping sound. This can be supported by the *p*-value of 0.84 (see *table 2*) and the negative *t*-value of -0.19.

*Table 2. Independent Sample T-Test on Perception Test*

| | **t** | **df** | **p** |
|---|---|---|---|
| **Scores** | -0.196 | 15 | 0.847 |

***Note.*** **Student's t-test.**

### *3.1.2. Pretest*

The results were analyzed in an independent sample t-test to evaluate the level of students in general. There were 7 points, that is, seven instances of flapping; however, there was an eight instance different from the rest: most of the instances were found within words, but this specific case was a flapping across words (*thought her*, [ˈθɔɾ ɚ]). For this particular instance, none of the students identified and produced it right. The results were analyzed out of 100%, which corresponds to the seven instances correctly identified and produced.

Most students of both groups obtained a 0 because they did not identify nor produce the flapping, and the highest score were 42,86% for experimental group (which corresponds to 3 correct out of 7, and only one student got it right), and 28,57% for control group (which draws a total of 2 correct instances). The mean out of 100 points is 9.52% for experimental group and 10.71% for control group (see *Table 3*), which concluded that both groups performed in equal terms the reading and identification of the flapping sound, even though the results are low. The standard deviation is 15.97% for experimental group and 12.66% for control group. *Figure 3* shows in a more visual way that there is no big difference between both groups results, but that the results are pretty low.

*Table 3. Descriptive Statistics on Pre-Test*

| | **Scores** | |
|---|---|---|
| | **experimental** | **control** |
| **Valid** | 9 | 8 |
| **Missing** | 0 | 0 |
| **Mode** | 0.000 | 0.000 |
| **Median** | 0.000 | 7.140 |
| **Mean** | 9.523 | 10.713 |
| **Std. Deviation** | 15.972 | 12.662 |
| **Minimum** | 0.000 | 0.000 |
| **Maximum** | 42.860 | 28.570 |

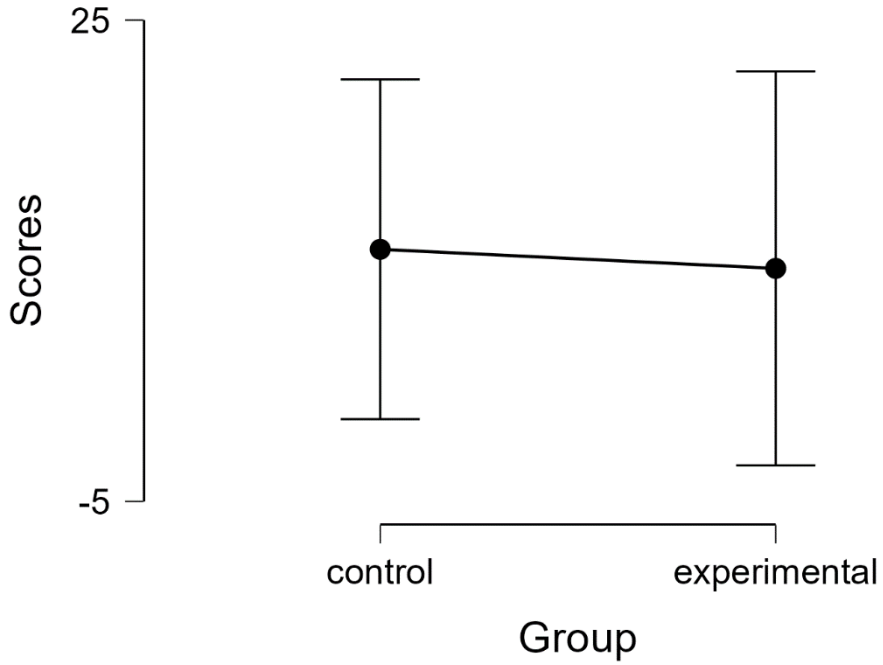
The results of the independent sample *t*-test for this specific section allude to no underlying difference, given the fact that there is a *p*-value of 0.86.

*Table 4. Independent Sample T-Test for Pretest*

| | **t** | **df** | **p** |
|---|---|---|---|
| **Scores** | -0.169 | 15 | 0.868 |

***Note.*** **Student's t-test.**

*Figure 3. Illustration on pretest*




## *3.2. Posttest results*

### *3.2.1. Independent sample t-test to compare both groups*

Considering the tests taken after the treatment, an independent t-test to compare the results obtained in both groups to compare if one treatment helps getting better results.

*Table 5* shows an average value of 52.37% for experimental group and 35.71% for control group. The middle value, that is, the median for experimental group was 57.14% and for control group was 42.85%. The mode, that is, the result obtained more times, is 57.14% for experimental group, which equals to four correct instances of flapping. However, for control group, the result obtained the most by students is 0%, and this happens to be the same value obtained as a minimum for both groups. However, in the experimental group, only one student did not identify and produce the flapping sound, and obtained a 0% in the posttest, but for the control group, more students got 0% points (a total of three students out of 8). However, the maximum score is 100% for experimental group, but

85.71% for control group, which means that the student or students that obtained the maximum points only failed in one instance as they obtained 6 instances out of 7.

*Table 5. Descriptive Statistics on Post-Test*

| | | Scores | |
|---|---|---|---|
| | | **experimental** | **control** |
| **Valid** | | 9 | 8 |
| **Missing** | | 0 | 0 |
| **Mode** | [a] | 57.140 | 0.000 |
| **Median** | | 57.140 | 42.855 |
| **Mean** | | 52.379 | 35.712 |
| **Std. Deviation** | | 31.135 | 33.283 |
| **Minimum** | | 0.000 | 0.000 |
| **Maximum** | | 100.000 | 85.710 |

**[a] More than one mode exists, only the first is reported**

The results concluded that there was no statistically big difference between both groups as a *p*-value of 0.3 was assumed (see *Table 6*).

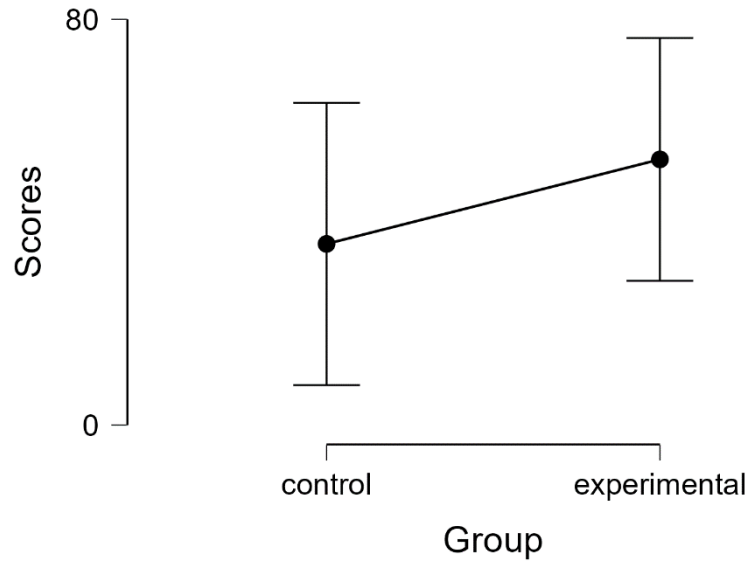
*Table 6. Independent Sample T-Test for Posttest*

| | **t** | **df** | **p** |
|---|---|---|---|
| **Scores** | -1.067 | 15 | 0.303 |

***Note.*** **Student's t-test.**

Considering *Figure 4*, the illustration undoubtedly illustrates that none of the groups have surpassed the other. Therefore, the assumption that explicit instruction can help pronunciation teaching better than implicit instruction is false.

*Figure 4. Descriptive plots on post test*




### *3.2.2. Paired sample t-test to compare both groups.*

*Experimental group*

*Table 7* illustrates that there is a mean value of 9.52% over 100 in the pretest and 52.37% in the posttest. This shows that the results increased notably, as students performed better in identifying and producing the flapping after the treatment. Regarding the mode and the median, the values are the same for both pretest and posttest, 0 for pretest (0 instances) and 57.14 for posttest (4 instances). In the pretest, a total of 6 students obtained 0, and in the post test a total of 4 students obtained the result of producing 4 instances. This is closely related to the minimum and maximum scores over 100: the minimum is 0 for both tests, before and after the treatment received. Nevertheless, there is more divergence in the maximum scores, as in the pretest the highest result obtained is 3 instances of flapping, which equals 42.86%, in the posttest the highest result, as mentioned and analyzed previously in the independent t-test comparing both groups, the maximum score is 100.

*Table 7. Descriptive Statistics on Experimental Group Paired T-Test*

| | pre-test | post-test |
|---|---|---|
| **Valid** | 9 | 9 |
| **Missing** | 0 | 0 |
| **Mode** | 0.000 | 57.140 |
| **Median** | 0.000 | 57.140 |
| **Mean** | 9.523 | 52.379 |
| **Std. Deviation** | 15.972 | 31.135 |
| **Minimum** | 0.000 | 0.000 |
| **Maximum** | 42.860 | 100.000 |

As illustrated in Table 8, the results show notable differences between the pretest and posttest obtained by the results of the experimental group, as there is a p value of <.001, which alludes to high evidence that statistical difference exists. The results also illustrate a negative t value of -5.69.

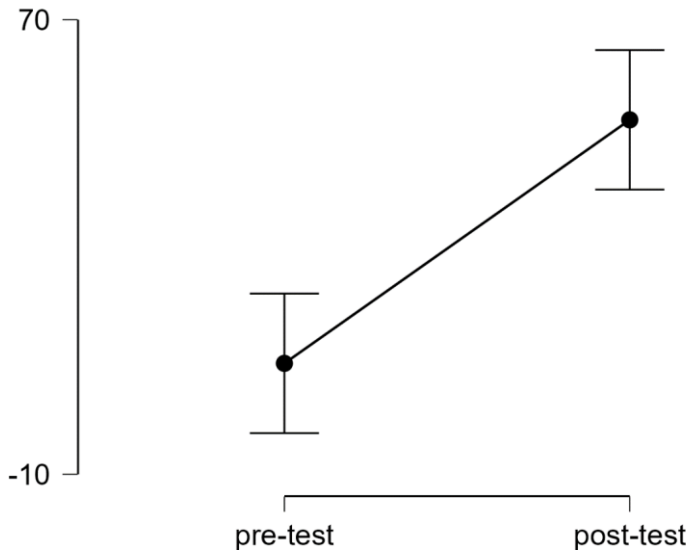
*Table 8. Experimental Group Paired Sample T-Test*

| Measure 1 | | Measure 2 | t | df | p |
|---|---|---|---|---|---|
| **pre-test** | - | post-test | -5.692 | 8 | < .001 |

***Note.*** **Student's t-test.**

*Figure 5* clearly shows the notable difference between the results obtained in the pretest and the posttest. It can be clearly stated that the students have outperformed in the reading, identifying and producing the flapping sound.

*Figure 5. Illustration on Experimental Group Paired Sample T-Test.*




*Control group*

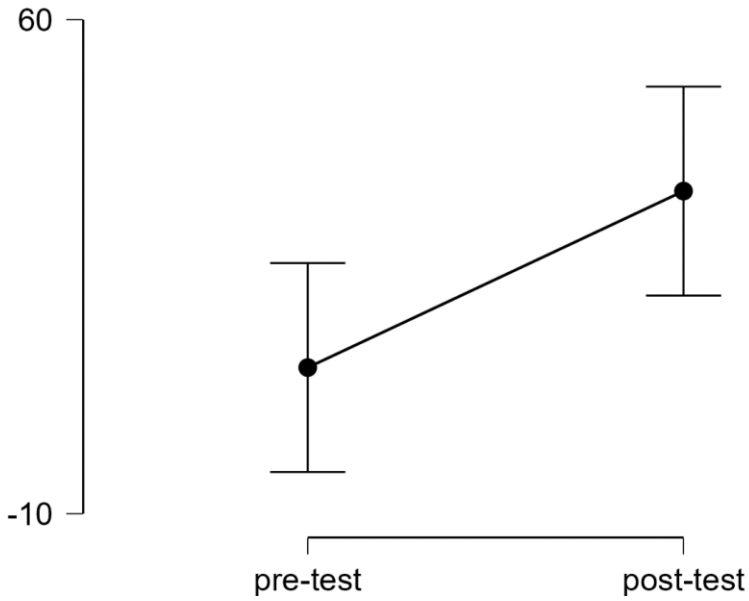
*Table 9* shows that there is a mean value of 10.71% over 100 in the pretest and 35.71% over 100 in the posttest. This shows that, just as the results for the experimental group, the results increased notably, as students also outperformed in the test conducted after the treatment. Considering the mode, it is a result of 0% for both pretest and posttest, as it was repeated 4 and 3 times in the pretest and the posttest respectively. The median obtained increased a lot as in the pretest it was 7.14% and in the posttest 42.85%. The minimum obtained is 0% in both tests, and the maximum is 28.57% in the pretest (2 instances, 2 students), and in the posttest the instances were 6 by one student only, which gives a percentage of 85.71% over 100%. These results can be visually illustrated in *Figure 6*, which shows that the result in the post test is high considerably compared to the pretest.

*Table 9. Descriptive Statistics on Control Group Paired T-Test*

| | | pre-test | post-test |
|---|---|---|---|
| **Valid** | | 8 | 8 |
| **Missing** | | 0 | 0 |
| **Mode** | [a] | 0.000 | 0.000 |
| **Median** | | 7.140 | 42.855 |
| **Mean** | | 10.713 | 35.712 |
| **Std. Deviation** | | 12.662 | 33.283 |
| **Minimum** | | 0.000 | 0.000 |
| **Maximum** | | 28.570 | 85.710 |

**[a] More than one mode exists, only the first is reported**

*Figure 6. Illustration on Control Group Paired Sample T-Test.*




The results obtained between both tests that these students have obtained, as showed in *Table 10*, conclude that a p-value of 0.02 was obtained.

*Table 10. Control Group Paired Sample T-Test*

| Measure 1 | | **Measure 2** | **t** | **df** | **p** |
|---|---|---|---|---|---|
| **pre-test** | - | post-test | -2.824 | 7 | 0.026 |

***Note.*** **Student's t-test.**

## *3.3. Posttest instances of flapping*

*Table 11* shows the different words that were selected as instances of flapping, and the total of students that have identified and produced this sound correctly in each group. For experimental group, the maximum number of students is 9 and for control it is 8. For experimental group, the word that has been identified easier is *Betty*, where only two students didn't say it correctly. And for control group, *Betty* and *city*, both with 5 students correctly identifying it. The word that has been identified the least is *pretty* for both groups, 3 for experimental and 1 for control. However, this value is the same for another word in both groups, for experimental *wedding*, and for control *better*.

***Table 11: Instances of flapping for the posttest***

| | Experimental | Control |
|---|---|---|
| *Betty* | 7 | 5 |
| *City* | 5 | 5 |
| *Wedding* | 3 | 3 |
| *Better* | 5 | 1 |
| *Pretty* | 3 | 1 |
| *Beautiful* | 4 | 3 |
| *Party* | 4 | 2 |

## 3.4. Questionnaire results

As mentioned in a previous section, the results of the students were analyzed quantitatively as they were asked to evaluate the questions on a scale from 1 to 5. The first question was related to the approach used to teach them the aspect in question, and the results for both groups are the following.

For experimental group, as it can be seen, the mean of is approximately the same for all questions except for the fourth question [1], for this one the mean is notably lower 3.3/5 compared to the rest of the questions, which are all over 4.5/5. The minimum also varies significantly in question 4 as the result obtained is a 1/5, followed by a 2/5 related to the amount of knowledge that students have gained during the experiment.

Given the fact that question 4 is the one with higher deviation from the rest of the questions, most students have selected that their level of ease when reading the text before the lesson was 3 over 5, which contrasts with the following related question about the level of ease after the lesson. The results for this specific question are notably higher, as seven students have selected a 5.

***Table 12: Descriptive Statistics for experimental group***

| | **Question 1** | **Question 2** | **Question 3** | **Question 4** | **Question 5** | **Question 6** |
|---|---|---|---|---|---|---|
| **Valid** | 9 | 9 | 9 | 9 | 9 | 9 |
| **Missing** | 0 | 0 | 0 | 0 | 0 | 0 |
| **Mode** | 5.000 | 5.000 | 5.000 | 3.000 | 5.000 | 5.000 |
| **Median** | 5.000 | 5.000 | 5.000 | 3.000 | 5.000 | 5.000 |
| **Mean** | 4.667 | 4.778 | 4.556 | 3.333 | 4.778 | 4.889 |
| **Std. Deviation** | 0.500 | 0.441 | 1.014 | 1.414 | 0.441 | 0.333 |
| **Minimum** | 4.000 | 4.000 | 2.000 | 1.000 | 4.000 | 4.000 |
| **Maximum** | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 |

For control group, the mean obtained from all the results are also approximately similar except for question 4 which deviates notably from the rest of the questions. This is the

[1] The question was “How easy was the text before the lesson”, but what I meant is “How good do you think you did the reading (by identifying and producing the flapping sound) before the lesson”; students were explained what questions 4 and 5 specifically meant.

same case that has been previously seen with the results obtained from the control group (2.8/5). A total of 2 students selected 1, 2 and 5 in the results, which shows a long divergence in the scale. The minimum again is 1/5 for this specific question, and it coincides with the mode (being the value that is repeated more times), but it does not contrast as much as in the previous case. The question that follows this specific one is the one related to the amount of information they have gained (question 3).

***Table 13: Descriptive Statistics for control group***

| | Question 1 | Question 2 | Question 3 | Question 4 | Question 5 | Question 6 |
|---|---|---|---|---|---|---|
| **Valid** | 8 | 8 | 8 | 8 | 8 | 8 |
| **Missing** | 0 | 0 | 0 | 0 | 0 | 0 |
| **Mode** [a] | 5.000 | 5.000 | 5.000 | 1.000 | 5.000 | 5.000 |
| **Median** | 5.000 | 5.000 | 4.500 | 2.500 | 5.000 | 5.000 |
| **Mean** | 4.375 | 4.875 | 4.125 | 2.875 | 4.500 | 4.625 |
| **Std. Deviation** | 0.916 | 0.354 | 1.126 | 1.642 | 0.756 | 0.744 |
| **Minimum** | 3.000 | 4.000 | 2.000 | 1.000 | 3.000 | 3.000 |
| **Maximum** | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 |

**[a] More than one mode exists, only the first is reported**

## 4. Discussion

The purpose of the present study was to evaluate students' ability to perform flapping before and after the treatment and to conclude how explicit methodology helps students better in the aspect of the pronunciation of an L2. Two specific questions were conducted: the first one related to students' attitude towards the flap, and the second one related to teaching methodologies, on how the explicit methodology enhances students' mastery of pronunciation of an L2.

With the perception test, the main reason students selected the first column (words with no flapping) in all of the instances is because they could not differ /r/ from flapping. They could hear the same sound all the time; they were actually confused and were curious about why words like *city* were pronounced ['sɪɾɪ] instead of ['sɪtɪ].

## 4.1. RQ1 answer

In order to solve the first research question, two paired samples t-tests were conducted to compare the pretests and posttests of both groups.

For the experimental group, some students knew when to use the flap sound but mispronounced it with different sounds. Some confused it with an /r/, but what called my attention and was repeated with many students is using the sound /ð/, mostly in the following sounds: *wedding, betty, pretty, and better*. A possible reason for both groups to use this sound in *better* may be that the flap is followed by an r-colored vowel, and this transition from flapping to /r/ may be more challenging for them.

In the experimental group, the word that most students have said correctly is *Betty* (seven students out of nine), that is, only two did not say it correctly: one pronounced it as /'bɛti/ and the other one as /'bɛði/. On the opposite, the words that have been identified the least are *wedding* and *party*, as only three students out of nine said it correctly. In the case of the control group, the words that have been identified correctly by most of students are *Betty* and *city*, as five out of eight students said it correct, and the two that mispronounced them used either a /t/ or a /r/. The words that have been pronounced the least are *better* and *pretty*, which were identified and produced by only one student each.

For control group, /ð/ was also identified in one student's recording, as he pronounced it in *better* as /'bɛðɚ/ instead of /'bɛɾɚ/. There was one other mistake in one student who identified only two instances of flapping but did not get the points correct because he

failed in the production, as he produced a /r/ in the following words: *Betty* and *city* as *berry* and *Siri* respectively.

## 4.2. RQ2 answer

In order to answer the second research question, the independent sample t-test comparing the results obtained in the posttest by the experimental group with the control group were analyzed to conclude the effectiveness of explicit instruction for pronunciation. Students obtained one point (out of seven) for each correct instance, that is, instances where students knew or identified the flap sound but did not produce it correctly were not counted as a point, but the result was noted.

As mentioned in the results section, explicit instruction focuses on explaining the context in which the flapping is used. Both phonemes /t/ and /d/, depending on the context, may be pronounced /t/ or may be affected by different allophonic variations. Students were given an example, the word *better*, so they were introduced to a new sound in English. They were explained when to use it, that is, in unstressed syllables in intervocalic positions or after /r/, and they were also explained that the flapping can be found across words too. As their L1 could not be used, students were explained what an unstressed syllable and vowels are previously to the session.

The posttest conducted with the experimental group showed that students knew the context of use but sometimes struggled to say the flap, some said /r/ and some even said /ð/. Most words with /ð/ are *wedding*, *better*, and *city*, and the one where /r/ was repeated more is *Betty*. If all the instances where they knew when the flap was used were counted, ignoring the fact they said /r/ or /ð/, the results over 7 would have been 2, 7, 5, 7, 6, 3, 4, 5, 7. In this case, no one have got 0 in the identification of the flap: for example, one student correctly identified and produced the flap twice, but if the results also counted the

instances where she said /ð/, because she identified the phenomenon, this result would change to 5. This clearly shows that students knew the context of use, but this lack of repetition reinforcement got them say the closest sound to flap in certain contexts. Therefore, the explicit instruction is necessary when learning pronunciation of EFL because technical teaching helps students be aware of the rules and identify the contexts of use.

However, the instruction used with the control group consisted of providing students with words to repeat, where they were also explained where to put the tip of their tongue in order to effectively produce this sound. I took advantage of the crosslinguistic variation by explaining them that this sound also exists in Catalan. Students performed better in producing the flapping sound but failed in identifying all the contexts of use. There were very few instances where students struggled to say the flap: there were four instances of /r/, an instance of /d/, and one of /ð/. Some students got 0 correct answers: in the treatment they would say the sound correct with examples when repeating individually, but in the context of the text, they would fail to identify and, therefore, produce the sound. Only one of these three people who obtained a score of 0 recognized two instances of flapping: *Betty* and *city*, but they were pronounced with an /r/. Also, if we count the total instances where they identified the flap and said another sound, the results would be as follows: 2, 4, 5, 0, 5, 2, 4, 0.

## 4.3. Questionnaire answer

In order to evaluate students' personal experience regarding their attitude towards the methodology used and the amount of knowledge they have learnt, the ease and their enjoyment, two different individual *t*-tests have been conducted (one for each group). The results obtained from both tests have concluded that students have enjoyed the experience,

found the lessons useful, did not think they would identify the flapping easily before the lesson, and found it easier after the lesson. However, the experimental group is the one whose methodology was found to be easier to follow and more useful, as students have apparently learnt more than the control group. With these results, students' personal opinions confirm that the explicit methodology and focusing on theory helped students better in identifying and producing the flapping sound.

## 4.4. Limitations of the study

The students' level and poor pronunciation in general was an issue because in the posttests I found it difficult to interpret and categorize some instances of "almost" flapping, /r/ and /ð/. The age of students was also an issue because the instruction was conducted in English and probably it was difficult for them to understand everything completely, even though I tried to make it most understandable for them.

The time constraints became an issue as I gave students a deadline for returning the consent papers signed by their parents, but some did not bring them on time. As I could not start the experiment without them, I gave them another week. After that, not all students brought the signed documents, so I had to start the experiment only with the few students who brought it on time. I believe if there were more students and I devoted more lessons to this pronunciation aspect, I could have got better results.

Initially, the text I chose for students to read was longer, but the students' tutor considered that it should have been shortened. Maybe if the text was left as it was, the results would have been different, as there would be more instances of flapping and the results would determine which methodology implemented was more effective.

# 5. Conclusion

In order to achieve effective communication, speaking and listening skills should be accurate and comprehensible, and this includes awareness and excellent use of the grammar, richness in lexicon, proficiency in the use of language and its comprehension, and accurate and intelligible pronunciation. Pronunciation is a field that should be given the same attention and importance as other language aspects in ELT. Pronunciation is not only about segmental issues, that is, how to pronounce single units and combined units, but it is also about suprasegmental aspects: the pitch, the stress, the rhythm, and the intonation are key elements for a learner to sound proficient or to achieve native-like accent.

The students that received explicit instruction in the treatment performed better in recognizing the instances where the flap would be pronounced, even if they failed to properly pronounce it. However, the ones that received implicit instruction found it more difficult to identify the sounds in context but said the flapping better as there were not as many instances of errors as in the control group (errors meaning pronouncing /r/ or /ð/ instead).

Even though there was no group who surpassed the other, students in both groups generally performed better in the posttest, which means that both instructions helped them somehow master this aspect of pronunciation. However, it is clear that further research is needed on this topic, despite the fact that nowadays people receive more exposure to English. This is due to technology and the entertainment industry, as young learners receive more input and become familiar with the different phonetic variations. All in all, teachers should take advantage of this exposure to the target language and give pronunciation the importance it deserves, in order to eliminate the myth that neglects pronunciation as long as the message is conveyed coherently.

# 6. Appendix

## APPENDIX A: Perception test before experiment

Listen. What word are you hearing?

* The words in bold are the ones uttered out loud.

| | |
|---|---|
| ☐ **hiring** | ☐ hiding |
| ☐ **earring** | ☐ eating |
| ☐ berry | ☐ **Betty** |
| ☐ **moral** | ☐ model |
| ☐ Siri | ☐ **city** |
| ☐ barrel | ☐ **bottle** |
| ☐ a fire in the town | ☐ **a fight in the town** |

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## APPENDIX B: text to read in the pretest and posttest

Betty lives in Tokyo, a big city in Japan. Yesterday, her best friend got married, and she thought her red dress for the wedding was better than the green one. She looked very pretty and beautiful. The party was spectacular.

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## APPENDIX C: postquestionnaire

This postquestionnaire has been conducted in the students' L1 (Spanish).

***English version:***

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| **How much did the method facilitate your learning?** | ○ | ○ | ○ | ○ | ○ |
| **How useful was the teaching?** | ○ | ○ | ○ | ○ | ○ |
| **How much did you learn?** | ○ | ○ | ○ | ○ | ○ |
| **How easy was the text before the lesson?** | ○ | ○ | ○ | ○ | ○ |
| **How easy was the text after the lesson?** | ○ | ○ | ○ | ○ | ○ |
| **How much did you enjoy your experience?** | ○ | ○ | ○ | ○ | ○ |

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***Spanish version:***

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| **¿Cuánto te ha facilitado el aprendizaje el método utilizado?** | ○ | ○ | ○ | ○ | ○ |
| **¿Qué tan útil fue la clase?** | ○ | ○ | ○ | ○ | ○ |
| **¿Cuánto has aprendido en la clase?** | ○ | ○ | ○ | ○ | ○ |
| **¿Qué tan fácil fue el texto antes de la clase?** | ○ | ○ | ○ | ○ | ○ |
| **¿Qué tan fácil fue el texto después de la clase?** | ○ | ○ | ○ | ○ | ○ |
| **¿Cuánto has disfrutado de la experiencia?** | ○ | ○ | ○ | ○ | ○ |

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