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TRABAJO DE FIN DE GRADO

The Assimilation of Features of Connected Speech in
ESL Students

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ABSTRACT

With this fieldwork study, I have managed to assess the degree to which a group of twenty ESL students incorporate certain features of connected speech in their oral speech production. An American collaborator was used as a model, in order to make comparisons between hers and the productions of the Spanish students. The results reached have exceeded my expectations, taking into account that even the native participant did not produced the 100% of the proposed features. It could be concluded that the production of Spanish students has exceeded expectations.

Keywords: ESL – Connected Speech – Coalescence – Assimilation – Elision – Linking

Durante este trabajo de campo se trató de comprobar si un grupo de veinte estudiantes de inglés como segunda lengua incluían en sus pronunciaciones determinados ejemplos de fenómenos del habla conectada. Para ello, se tomó como modelo a una estudiante americana, para así poder realizar una comparación entre este modelo y las producciones de los estudiantes españoles. Los resultados obtenidos han superado mis expectativas, teniendo en cuenta que ni siquiera la estudiante americana ha realizado el 100% de los ejemplos propuestos. Se podría concluir que la producción de los estudiantes españoles ha sido muy satisfactoria.

Palabras clave: Inglés como segunda lengua – Habla conectada – Coalescencia – Asimilación – Elisión – Enlace

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1. INTRODUCTION

This study attempts to assess the degree of assimilation of connected speech features in students of English as a second language. This project is divided into four different parts. Firstly, the features to be analyzed during the experimental phase will be explained, and some examples of each of them will be provided for clarification purposes. Secondly, the phonetic fieldwork will be described in depth. This second part will be divided into four sections: (1) the description of the fieldwork itself, (2) the objectives for which this research has been designed, (3) the type of participants required to participate in it, and (4) the analytic procedures involved in the task. Thirdly, the paper continues with the analysis of the data collected during the experiment and the explanation of the results. Fourthly there will be a discussion section in which the problems encountered during the realization of the exercises will be discussed, as well as some possible solutions. Results will be discussed and considered against the initial aim of the fieldwork. Finally, a general conclusion about the fieldwork study carried out and its results will be drawn.

1.1 Main hypothesis

The main goal of this fieldwork study is to see whether and how students of English as a second language perform different selected features in connected speech while reading a set of pre-designed sentences. I will compare the performance of ESL students with an American model, in order to ascertain the differences between both samples. The main hypothesis is that participants will not perform as many connected speech features as the native model.

1.2 Explanation of the different phenomena

Before explaining the parameters of the fieldwork study, the different features selected for analysis must be briefly characterized. For this exercise, only four processes have been selected in order to reduce the field of analysis to manageable proportions and focus on more specific and not too general cases, which will facilitate the execution of the

experiment. The processes of *coalescence*, *assimilation*, *elision* and *linking* have been selected to this end

1.2.1 Coalescence

Coalescence, in the words of R.L. Trask is “the phonological process in which two segments occurring in sequence in a single linguistic form combine into a single segment, usually one exhibiting some characteristics of both of the original segments.” (Trask, 1996: 77) Therefore, the process involves the merger of features from two different segments into a single one which is different but shares some of the articulatory features of the substituted ones. An example of this process could be the following one: *I got you* /aɪ 'gɔ:t ju/. The sound /t/ at the end of the first word can merge with the /j/ sound at the end of the last word, which would merge as the sound /tʃ/, which would result in the pronunciation of *I got you* as /aɪ 'gɔ:tʃu/.

1.2.2 Assimilation

Phonetic assimilation is a process by which the articulation of a segment changes in order to facilitate the transition to or from another segment. Typically, the modified segment is articulated with some of the phonetic features of an adjacent one. An example of this assimilation process would occur in a phrase like: *good girl* /gʊd 'gɜ:l/. Here, the alveolar plosive /d/ when placed before a velar consonant /g/, accommodates to the latter, acquiring a velar closure. The result of this union would be the pronunciation of both segments as /g/ /gʊg'gɜ:l/, or rather /gʊ'ggɜ:l/ (Trask, 1996: page:36)

1.2.3 Elision

Elision can be defined as "any of various processes in which phonological material is lost from a word or phrase." (Trask, 1996: 129) In this case, our fieldwork study focuses on elision in connected speech, as we find it, for example, in: *I thanked Peter* /aɪ ˌθæŋkt 'pi:tər/. The sound /t/ in /'θæŋkt/ is lost, and the present and past forms of the verb are neutralized. *Neutralization* can be defined as “the disappearance, in a particular position, of a contrast between two or more segments which is maintained in other

positions.” (Trask, 1996: 239). The pronunciation resulting from this process would be /aɪ ˌθæŋk ˈpi:tər/□ And, as result, the past form –I thanked Peter– and the present form –I thank Peter– become homophonic expressions.

1.2.4 Linking

Linking is a process by which certain sounds are included in the pronunciation, usually between syllables, in order to ease inter-segmental transition and to avoid cacophonies or confusion. In this fieldwork study, different types of linking are going to be analyzed. In the process of linking-*r*, we consider “the /r/ which surfaces before a following vowel in words which have lost their historical final /r/ in isolation”; in the case of intrusive-*r*, we are looking for “an /r/ which is automatically inserted after any of /ɑ:/, /ɔ:/, /ɜ:/ or /ə/ or after a centering diphthong when one of these occurs before a vowel.” (Trask, 1996: 209) Another example of linking could be the linking semivowels /j/ and /w/. These two consonants occur between two words when they are pronounced one after the other in connected speech.

In vocalic junctures where the first word ends in /i:, ɪ, i, eɪ, aɪ, oɪ/, a slight linking [j] may be heard between the two vowels. Similarly, a linking [w] may be heard between a final /u:, ʊ, ou, au/ and a following vowel. (Gimson, 1994: 264)

An example of the process of linking could be: *the idea of* /ði aɪˈdi:ə əv/. In this case, it occurs that between the first sound /ə/ and the second sound /ə/ it is included a linking sound in order to make the pronunciation easier for the speaker. The resulting pronunciation of this phrase would be /ði aɪˈdi:ə^rəv/.

1.3 Antecedents of this research

Before starting the development of this fieldwork, a research on other fieldworks or experiments related to this same aspect of connected speech was made. The topic of connected speech in ESL students has not been studied in depth. After a search in the main databases from the University of Valladolid, I have found no records of this fieldwork.

However, some authors have tangentially treated the topic of connected speech in relation to ESL students.

Edda Farnetani and Alice Faber have compared the coordination of tongue and jaw in words pronounced in isolation and in words within the connected chain in Italian. As a definition of the main idea, “*this study investigates the positions of the tongue body and the jaw in the production of Italian vowels /i/ and /a/ in different phonetic, prosodic and utterance contexts*” (1992: 401). This project has the aim of assessing the coordination between the two articulators in some different processes.

Kramer et al. have studied the acoustic properties of connected speech, in particular of subharmonics.

The relationship between rough voice quality and the presence—and amount—of subharmonics in connected speech material in a group of 35 male and 35 female speakers with voice pathology. (A Study of Subharmonics in Connected Speech Material, 2003: 29)

They reached the conclusion that there are no significant differences regarding the subharmonics of both male and female speakers, with the exception of modal fundamental frequency.

In their treatment of connected speech, Howard, Wells and Local state:

Connected speech is also qualitatively different from single words, in terms of its phonology and therefore its phonetics. Connected speech is more than just a string of individual target segments joined together in series, since each segment is liable to influence the segments that surround it. (2009: 583)

As I could see, nobody ever tried to study the degree of assimilation of the processes of connected speech previously explained (coalescence, assimilation, elision, linking) in ESL students. Actual speech is almost never a speech of isolated words, but usually chained words. Being able to fluently join words together is a skill that will determine the degree of perfection perceived in speakers of English as a second language. However, measuring the degree of assimilation of these features is not a simple matter.

2. METHODOLOGY

In this section of the essay you will be able to see which was the main objective of development of this fieldwork, and different characteristics of it, such as the profile of participants required, the development and creation of the activities, the data collection process, etc.

2.1 Main objective of the experiment

I have designed a specific protocol with the aim of comparing the execution of specific connected speech features between Spanish native students of English as a second language and English native speakers. The main objective of this experiment is to compare the pronunciation of ESL (English as a Second Language) students and the pronunciation of an American native, in order to verify whether the former have learned to incorporate these features in their oral speech production. The recordings of an American student, who volunteered to cooperate with the project, have been taken as a yardstick in order to compare it with the Spanish students' recordings.

2.2 Fieldwork design

I have designed a number of activities or exercises that implied the probable execution on the part of the students of all of the four previously selected features of connected speech. To do this, the characteristics of the different phenomena were deeply studied and it was necessary to find suitable examples for creating exercises. As mentioned previously, the idea of the experiment is to see if participants are able to incorporate the phenomena within a sentence. For this reason, the exercise will consist of different sentences in which several examples of *coalescence*, *assimilation*, *elision* and *linking* are included.

To do this, it was carried out an investigation both online and in various books and essays related to these issues in order to find different examples that might be included in this project. Once selected those examples, they were introduced into different sentences, to create an environment of connected speech. The sentences resulting from this process can

be found in Annex II (page 25). These sentences are theoretical rather than recordings from real conversations, and, given the non-compulsory of most of the features considered, there is no guarantee that the native speaker will execute all them at all.

For example, here you have a sentence which is included in the exercise: “Could you please close the window? The temperature in the room is too low.” In this case, we can find two different examples of features of connected speech: coalescence (kədʒʊ) and linking (,temprətʃə^rɪn). The problem with these examples is that we cannot assure that the American model is going to produce them, since none of them are mandatory. But, theoretically speaking, both examples would be well produced both if the features are included in the pronunciation or not. Hence it has been decided to include them in the exercise.

A second activity was included with the purpose of assessing the perceived level of pronunciation proficiency of the participants. A text of about 120 words extracted from an entrance examination to the University of the course 2012-2013 was selected. Participants were asked to read the text in a natural and relaxed way, and an assessment was made considering both the speed and quality of the execution. The American collaborator was asked to hear the resultant recordings and to score them. The selected text can be found in Annex I (page 25). Before starting the recordings, each participant was asked to fill in a questionnaire with some data of interest which will be later used in order to extract relevant conclusions (see section Fieldwork Development, page 14)

2.3 Participants

A specific participant profile was previously settled. An important criterion for participant selection was that they should have a relatively advanced level of spoken English, and language knowledge, as well as specific training in English phonetics. I decided to create this profile as I thought that students with lower levels of English acquisition will not incorporate any feature of connected speech. So it is logical that, if the objective of the fieldwork is to check the assimilation of these features, we will focus on

those students most likely to include them in connected speech, those with a higher level of English.

On the other hand, although the pronunciation of vowels and consonants is widely treated in many courses and manuals, aspects of connected speech generally receive less treatment. So it is easy to wonder whether students with a certain level of English have learned or not to make a natural and automatic use of them.

Therefore, the collaboration of students who attend third or fourth year of the degree in English Studies was requested for the realization of this experiment, since it is assumed that students who attend these courses have the knowledge and skills mentioned above. Third and fourth years of the degree usually have around a hundred students, so I decided to choose a significant number of participants for the analysis. The group should not be too broad, so that the handling of the tools was not too complicated; therefore it was decided to select 20 students (not including the American collaborator), since it was considered a large enough group for the development of the fieldwork.

Not only students from the University of Valladolid were recruited, but also students from other universities. Specifically, ten students were selected from the University of Valladolid, six students from the University of Salamanca and four students from the Autonomous University of Madrid. This decision is due to the fact that academic programs in these universities are different from each other, and therefore the knowledge acquired by these students would be also different. It was considered that this fact could be interesting when evaluating the language level of each participant.

Another important criterion for recruitment is whether they have participated in an Erasmus program or not. This is due to the fact that those who have participated in this kind of program have been involved in a completely different environment of their native language, and they have been integrated in an environment whose language was not Spanish. Therefore, these students might be supposed to have a more natural and relaxed pronunciation than students who have not enjoyed the Erasmus experience.

2.4 Fieldwork development

The first question proposed when starting this fieldwork was the environment where samples of audio of the participants were going to be collected. For this particular fieldwork, I decided to work exclusively with audio recordings. Taking into account the analysis of some of these features of connected speech (especially the linking-w), it would have been very useful the use of video recordings. However, I believed that video recording could introduce an inhibiting factor in the more timid participants and I did not have the opportunity of working with hidden cameras. Therefore, the video recording was discarded and left for future approaches to the subject.

From that moment, I began to look for any application or computer program which would both record audios and also be able to edit and modify them. After a deep search, I decided to choose the Cool Edit 2.0 program as it offered a wide variety of functions to edit audio files, and it proved to be much more complete than the usual Audacity program, as it allows the spectrographic study of the speech. Apart from the spectrographic study of the sound, I used Cool Edit 2.0 to make the recordings, filtering out ambient noise, and maximize the clarity and audibility of the material that was later analyzed.

The next step was to make appointments with the participants in order to collect their recordings. This part of the process was needed to be done individually and in a place isolated from noise or any interference to capture the best possible voice of the participants. Therefore, a classroom at the university was requested, where making such recordings without interruptions, and participants were called individually to carry out the exercise.

Each participant was given the two parts of the exercise. First, they were asked to read a 120-word text that was going to be assessed and scored by the American collaborator. Then they were asked to read the sentences designed with the embedded connected speech features. Participants were given some time so they could become familiar with and fully understand the text and the sentences. Also, all participants were given the chance to practice their pronunciation several times before initiating the recording.

After rehearsing several times both the text and the sentences, a version of them was recorded by each participant. However, participants were not given any information about the topic under research, thus they were not be coerced into performing features of connected speech if it was not because they themselves would include them in their everyday speech. Participants were told that the practice simply consisted in reading both things in a natural and relaxed way, as if it was a conversation with a native speaker, because this was, understandably, a desired aspect of the fieldwork: that the pronunciation was as natural as possible.

Before starting the recordings, participants were told that mistakes during recording were normal and expected, and that the chosen software for recording would allow the researchers to eliminate mistaken fragments, so that they could always repeat the sentences as many times as they would consider necessary. Participants recorded the text in the first place, and then the sentences. They were given two options, to record sentence and making a small pause between them, or to record all of them in a continuous way. Most participants chose the option of making a small pause between sentences, probably as a strategy for better controlling the task and reducing the number of mistakes.

Participants were encouraged to ask any questions concerning pronunciation to the test conductor; however, although we confirmed the pronunciation of certain words and sound, we never gave any information concerning connected speech. Having chosen the second recording option –i.e. pausing after each sentence– most of the participants, it was easier to correct mistakes made during the pronunciation of sentences, since sentences that participants considered badly pronounced were allowed to be recorded again.

At the end of the recordings, participants were asked to fill in a small form with diverse data concerning the phonics skills they had acquired until that moment and to check the level of contact with the language that each participant had. To do this, they were asked to assess the phonetic knowledge that they thought they had (being 1 very poor and 5 expert.) They were also asked to calculate the number of hours they usually spend reading in English and, being a phonetic project, more specifically reading aloud. Another question

related to the contact of the participants with the language was the number of hours that they watch television in English, both with and without subtitles. With the collection of this data, I tried to calculate the number of weekly hours of exposure to English that each participant habitually has, as this influences learning and acquiring a correct pronunciation. This information would be relevant when obtaining final conclusions, seeing the level of involvement of each participant with the language that is analyzed in this project. The forms completed by participants can be seen in Annex III (page 27).

The native collaborator was also asked to record the sentences, also giving her some time to read these sentences beforehand and to rehearse them at length before making the final recording. Once prepared, she was offered the two possibilities previously offered to the rest of participants, to make the recording sentence by sentence, pausing between them, or to record all of them continuously. In this case, she chose the option of recording all the sentences without any pause. All recordings, both of the American and the Spanish students, can be found in Annex V (CD).

Once the recording of the model was done, she was asked to assess and score the Spanish participants' recordings of the text. She was asked to take into account some different aspects: quality of reading, fluency, accuracy, comprehension, speed, intelligibility, naturalness, etc. These aspects would determine which participants were actually very comfortable with the language and who was not. The assessment was made in an individual way; the American collaborator listened to each recording also individually, and once completed the audio playback she started with the scoring of each participant's recording. This scoring was made in a Likert type of scale, being 1 very poor, and 5 excellent.

2.5 Data processing

Recordings were digitally processed in order to filter background noise to improve their quality as much as possible. For this Cool Edit Pro 2.0 was used. Once finished this process an exhaustive analysis of each of these audio files started.

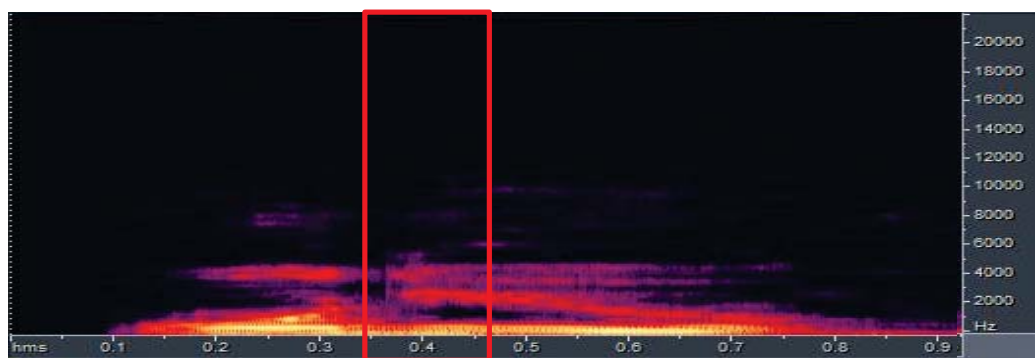
During this analysis, the first thing to do was to locate the examples of features of connected speech described previously included in the sentences: *coalescence*, *assimilation*, *elision* and *linking*. I extracted the segments from the recording of each participant where I could find features of connected speech, in order to compare them. After that, I carried out the same process with the recording of the native collaborator. The fact that she did not introduce specific features is not because they were impractical, impossible or implausible. All pronunciation manuals make clear that it is not mandatory to perform these features. In some cases, there could be alternatives to these processes, for example, instead of producing a linking-j, some native speakers prefer to introduce a glottal stop. Sometimes, it is required that the speaker speaks very fast and very relaxed and colloquially to decide to say /^lgʊg̚.gərl/ instead of /^lgʊd̚.gərl/ for example. What it is clear is that not all native speakers would say /^lgʊg̚.gərl/.

The process of analysis consisted on listening carefully to the isolated segments and verify whether coalescence, assimilation, elision or linking were produced or not. Sometimes, the listening of so fleeting segments did not allow a clear and definitive identification using only the ear. In such cases, I used the tool of spectrographic analysis. This element was of great help because of the quality of the recordings. In many cases, it is not easy for the human ear to distinguish the features of connected speech. And that is why there are tools like X-rays and spectrograms. The audio editing program has an option that allows seeing the spectral and waveform views of the collected recordings.

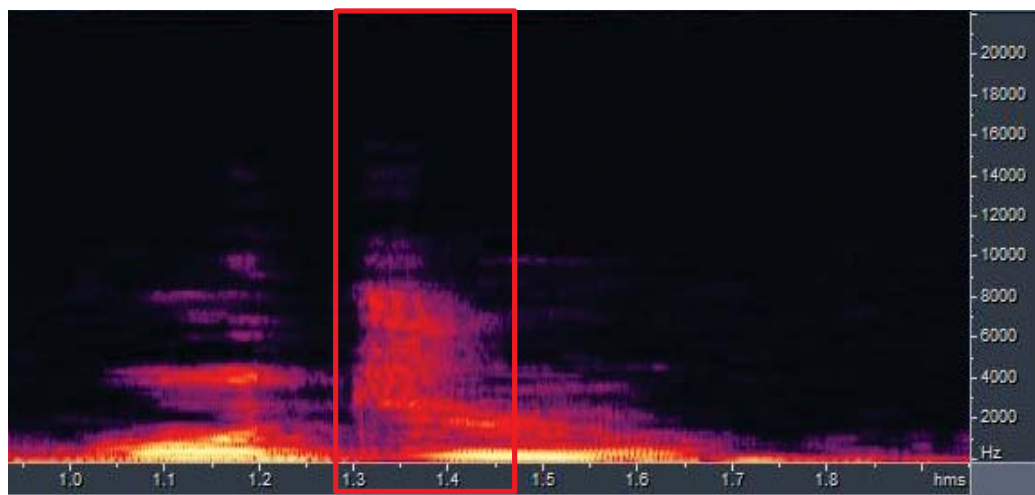
The spectrogram shows three different dimensions of the sound: the time, which is on the bottom horizontal line (abscissa axis or X), the frequencies that make up a particular sound localized in time (ordinate axis or Y), and intensity of each frequency, which is given by the color intensity of the form shown in each time and frequency level. This aspect can be decisive in locating certain cases of *coalescence* or *assimilation*. The following images show the spectrogram of two different examples when reading the same fragment of a sentence (would you /^lwəd jʊ/).

The absence of coalescence in A and its presence in B is recorded as follows. In A, the [d jʊ] section is located between 0.35 (approximately) and 0.5 in time. In B, a peak of intensity appears between 1.3 (Time) and 1.5. In the frequency band it appears from 2000Hz (approximately) and 12000Hz. Thus we can visually distinguish between a relationship without coalescence in A (/ˈwʊd jʊ/), and a relationship with coalescence in B (/ˈwʊdʒʊ/).

Spectrogram A. “Would you” without coalescence [ˈwʊd jʊ]



Spectrogram B. “Would you” with coalescence [ˈwʊdʒʊ]



3. RESULTS

In this section, I will try to explain the results obtained after the analysis of the data collected. These results, therefore, will reveal different facts about the assimilation of features of connected speech in ESL students, as this is the main objective of the creation of this project. All data collected during the analysis of the recordings can be found in Annex IV (page 34).

3.1 Individual results

Firstly, the results are going to be explained individually, that is, different features are going to be analyzed as units, in order to obtain different results of each of them. Results obtained by the American collaborator are going to be explained and then, they are going to be compared with the results obtained by the Spanish participants.

In order to explain these results, an arithmetical average has been calculated with the results obtained by the participants, thus, the results of the participants can be discussed as a whole and not as individual units, which would extend the fieldwork more than required. Apart from this, some information will be provided about the features most frequently produced by the participants, and those which were the least frequently produced.

| | American Model | Spanish Students |
|---------------------|-----------------------|-------------------------|
| Coalescence | 50% | 12.5% |
| | 4/8 | 1/8 |
| Assimilation | 66.6% | 37.5% |
| | 8/12 | 4'5/12 |
| Elision | 83.3% | 50% |
| | 5/6 | 3/6 |
| Linking | 50% | 0% |
| | 2/4 | 0/4 |

3.1.1 Coalescence

The results obtained in *coalescence* have been very low. The American model herself has introduced coalescence only in half of the examples included in the sentences. As for the participants, the production is much lower, with an average production of 12.5%, that is, participants would have pronounced only one example of *coalescence* out of the eight included in the test. The most pronounced example would be *this your* /'ðɪʃər/, and the two examples that any participant has produced in the pronunciation would be *get your* /'getʃər/ and *would you* /wə'dʒu/.

3.1.2 Assimilation

The results obtained in the field of *assimilation* were higher than in the case of *coalescence*. The production by the American model has reached the 72.7% of the examples included in the sentences. As for the participants, production is slightly lower, being the average production of a 40.9%, that is, participants produced an average of between 4 and 5 examples of *assimilation* out of the eleven included in the sentences. The most pronounced example is *this shoe* /'ðɪʃ'u:/, while one of the examples with no pronunciation by participants would be *good boy* /'gʊb'ɔɪ/.

3.1.3 Elision

The results obtained in the field of elision have been significantly high, both in the case of the model and the participants. The production by the American model has been an 83.3% of the examples included; that is, she has pronounced all but one of the examples. As for the participants, the production is somewhat lower, but still has come to reach half of production, that is to say that participants would have produced an average of three examples of elision between the six included in prayers. The most pronounced example would be *help* /'hel/, while the example with no pronunciation by participants would be *his* /ɪz/.

3.1.4 Linking

The results obtained in the field of *linking* were rather low. The production by the American model has not been as expected, since she has only pronounced a 40% of the examples included in the sentences, that is, two of the five examples included. As for the participants, the production is null, the average production is of a 0%, that is, that the participants have not produced any of the examples of *linking* included in the sentences. The most pronounced example would be *he always* /'hi:ɔ:lweɪz/, while one example that any participant produced was *buy a* /'baɪə/.

3.2 Global results

As for the results as a whole, the production features of connected speech during the test has been higher than expected, as even the American student has not include the 100% of the proposed examples. As I assumed at the beginning of the fieldwork, the production of features of connected speech among ESL students is low, both in absolute terms and in comparison with the production of the native model. So the expectations are confirmed, Spanish students do not include as much features as a native speaker of English.

Participants have produced the number of 168 features from a total of 600, reaching the average of 8.4 realization per participant (28% of the total). Of all the types of features included in this activity, the most frequent have been *elision* and *assimilation*, with a percentage of 48.3% and 27.9% respectively, leaving *coalescence* with a result of 19.4% of production, and *linking* with only a 15% of production.

| | Coalescence | Assimilation | Elision | Linking |
|---------------------|--------------------|---------------------|----------------|----------------|
| Percentage | 19.4% | 27.9% | 48.3% | 15% |
| Mean | 1 | 4/5 | 3 | 0 |
| Total (ind.) | 31/160 | 67/240 | 58/120 | 12/80 |
| Total | 8'4/30 = 28% | | | |

After the ending of the analysis, I realized that the participants, evaluated by the American student, with higher marks in the reading of the text have not succeeded better than the other participants, with the exception of some of them, for example participants 13 and 20. This data surprised me as I hoped those who had obtained a better score were those who would include more features of connected speech, but it seems that the reading level is not a very influential factor in the production of these features.

| | Score | Coalescence | Assimilation | Elision | Linking | Total | % |
|--------------|--------------|--------------------|---------------------|----------------|----------------|--------------|----------|
| P. 2 | 4/5 | 0/8 | 1/12 | 2/6 | 0/4 | 3/30 | 10% |
| P. 9 | 3.5/5 | 1/8 | 4/12 | 4/6 | 2/4 | 11/30 | 36.6% |
| P. 10 | 4.5/5 | 1/8 | 5/12 | 3/6 | 1/4 | 10/30 | 33.3% |
| P. 12 | 4/5 | 3/8 | 5/12 | 4/6 | 1/4 | 13/30 | 43.3% |
| P. 13 | 4/5 | 1/8 | 4/12 | 2/6 | 1/4 | 8/30 | 26.6% |
| P. 14 | 4/5 | 2/8 | 4/12 | 3/6 | 0/4 | 9/30 | 30% |
| P. 15 | 4/5 | 1/8 | 3/12 | 3/6 | 0/4 | 7/30 | 23.3% |
| P. 16 | 3.5/5 | 1/8 | 5/12 | 4/6 | 1/4 | 11/30 | 36.6% |
| P. 17 | 4/5 | 1/8 | 2/12 | 5/6 | 1/4 | 9/30 | 30% |
| P. 18 | 4.5/5 | 2/8 | 4/12 | 3/6 | 2/4 | 11/30 | 36.6% |
| P. 19 | 4/5 | 4/8 | 5/12 | 2/6 | 0/4 | 11/30 | 36.6% |
| P. 20 | 4/5 | 4/8 | 6/12 | 5/6 | 1/4 | 16/30 | 53.3% |

Another important factor that seems to be decisive when it comes to the production of features of connected speech is whether the student has been on an Erasmus period or not. As you can see in the table, students who have enjoyed an Erasmus experience have obtained slightly higher results than those students who have not.

| Erasmus | Total | % |
|----------------|--------------|----------|
| P. 12 | 13/30 | 43.3% |
| P. 16 | 11/30 | 36.6% |
| P. 17 | 9/30 | 30% |
| P. 18 | 11/30 | 36.6% |
| P. 19 | 11/30 | 36.6% |

To conclude this analysis of the results, it was discovered that the number of hours that participants spend weekly reading or watching TV in English does not seem to be decisive. As you can see in the following table, participants who spend more hours per week doing these activities have not necessarily obtained better results than those students who spend less time doing these things.

| | | | | | | | | | | |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Read. (h) | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 2 | 5 | 2 |
| TV (h) | 1 | 1 | 3 | 2 | 4 | 2 | 6 | 5 | 15 | 7 |
| % | 6.6% | 10% | 6.6% | 10% | 26.6% | 26.6% | 33.3% | 36.6% | 36.6% | 33.3% |
| | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| Read. (h) | 3 | 5 | 2 | 5 | 10 | 15 | 4 | 2 | 5 | 5 |
| TV (h) | 6 | 15 | 15 | 14 | 14 | 20 | 3 | 10 | 15 | 14 |
| % | 20% | 43.3% | 26.6% | 30% | 23.3% | 36.6% | 30% | 36.6% | 36.6% | 53.3% |

4. DISCUSSION

In this section, I will describe various problems encountered during the development of this fieldwork, as well as some general ideas contributed by the development and by the results obtained from the final analysis.

4.1 Limitations during the development

Some of the main problems encountered during the development of this fieldwork have to do with the results obtained. At the beginning of this project, it was expected that participants would not produce as many features as the American student, and it has happened exactly what I thought. One important factor to take into account is that participants have not produced a pronunciation as natural as expected. Before starting the recordings they were warned that the pronunciation should be as natural and relaxed as possible, but the result was that many of the participants made the recordings nervously, as they knew they were being recorded. This could interfere with the participants in producing certain features of connected speech.

Another problem found, this time during the analysis of the recordings, was that the audio quality was not as good as expected. The audio editing program helped to eliminate certain amount of noise picked up by the microphone during the time of recording, but still certain interferences remained intact in the recording. This hampered the analysis of some examples of certain features, but after many attempts and the isolation of some sounds from the rest of the recording it was achieve to get the produced pronunciation.

Regarding the choice of examples, and as it has been already mentioned before, this type of features usually do not require a mandatory production in connected speech, therefore, it stands to reason that speakers opt for more formal reading, and less rich in features of connected speech like, for example, assimilation.

4.2 General ideas

Hereafter, some general ideas will be presented, gained during the development and subsequent analysis of this fieldwork. First, it is clear that the results have been as expected in the beginning of the project. Spanish students have produced a lower number of features than the American student. The situation of nervousness of some participants has negatively influenced the production of some of these features, resulting in an alteration of the final results of the fieldwork. The chosen recording environment was thought to be a good one for this type of project, but even though the fact that someone knows he is being recorded always produce some kind of altered state.

On the other hand, and seeing the obtained results, it is clear that participants with a higher level of English as assessed by the American collaborator, have not been more successful in terms of producing features of connected speech, but they have obtained similar results than those students with lower marks. It could be understood that a greater knowledge and poise in the analyzed language is not as important as it seems to be when it comes to include certain features in the pronunciation of the students.

Related to this aspect, and comparing the results obtained with the forms completed by participants, there is one fact that stands out from others. Participants who have been on an Erasmus period in a non-Spanish speaking country have produced a higher number of features than those who have not. Because of this, it can be deduced that the immersion of those participants in non-Spanish speaking environments could decisively influence the inclusion of certain features of connected speech in their natural pronunciation.

However, the number of hours that participants spend weekly both reading in English and watching television at this same language seems to be irrelevant in this analysis. It can be checked by looking at the results of participants who spend more hours per week doing any of these activities. They have not obtained remarkable results than those who spend less time doing this kind of activities. Therefore, it has been determined that both factors are not completely influential in this aspect of connected speech.

5. CONCLUSION

As a way of concluding this essay, and so this fieldwork, it has to be said that the result of this has been satisfactory, as it was expected to be. Through the analysis of the recordings of the participants, it has been determined that the ESL students do not produce 100% of the features of connected speech included in the sentences, but neither does a native American as has been proved. It has been also determined that participants who have been on an Erasmus year during their lives produce more features of connected speech than those who have not enjoy this experience. Participants' level of English reading does not seem to be a very influential factor in producing features of connected speech, as well as the number of hours per week that participants spend reading or watching television in English.

However, there are certain factors that could influence the inclusion of these features in the natural pronunciation, such as for example the fact that most of the features included in the examples are not mandatory to produce, there it is normal that many participants did not produce them, nor even the American student.

It also needs to be said that a fieldwork with the extension of the one presented here is not conclusive at all, since it would be impossible to provide a completely reliable conclusion disposing of the materials available in this case. This fieldwork is proposed as a first approach to the topic treated here, the assimilation of features of connected speech in ESL students, but it is clear that, after the analysis and the results obtained, this specific field of pronunciation need to be deeply investigated in order to obtain more conclusive results.

6. ANNEXES

Annex I: Text

“People who are addicted to shopping are nowadays called shopaholics. For these shopaholics, the post-Christmas period means only one thing - sales! Across the country, prices are reduced on clothing, electronics, home furnishings and more, but London is the place for serious shopping, and you can certainly pick up some amazing bargains.

[...]

Some people are taking their partners shopping with them and buying their Christmas presents in the sale - a practical but unromantic way of making sure you get the gift you really want. For a less exciting but less stressful shopping experience, online retailers also participate in the January sales of their own. The most organized of all are those who are already doing their present shopping for next Christmas, in the January sales!”

(Pruebas de Acceso a las Enseñanzas Universitarias Oficiales de Grado (PAU), Comunidad de Madrid, 2012-2013)

Annex II: Sentences

C: Coalescence / **A:** Assimilation / **E:** Elision / **Lj:** Linking-j / **Lr:** Intrusive-r

1. What you need is to go buy a more comfortable bed.
/wʌtʃu 'ni: / ɪz tu ,gou 'baɪ / jə ,mɔ:r 'kʌmfɪəbl ɪ bed// (C: 1; Lj:1)
2. One car crashed into the wall of the school. Driver's telephone was found on the road.

- /,wʌŋ 'kɑ:r / ,kræf(t) intʊ ðə ,wɒ:l əv ðə 'sku:l// ,draɪvəz 'teləfəʊn/
wəz ,faʊnd a:n ðə 'rəʊd// (A:1; E: 1)
3. The pencil that you bought is broken.
/ðə ,pensɪl ðətʃu: 'bɔ:t / ɪz 'brəʊkən// (C: 1)
4. This job will allow me to buy the camera I ever wanted.
/ðɪʃ 'dʒɑ:b / wɪl ə,lau mi tə 'baɪ / ðə ,kæmə'reɪ ,evə 'wɑ:ntɪd// (A: 1)
5. One boy wrote me love notes daily during these years.
/wʌm 'bɔɪ / rəʊt mi ,lʌv ,nəʊts 'deɪli / dʒʊrɪŋ ,di:z 'jɪrz// (A: 1; A: 2)
6. Could you please close the window? The temperature in the room is too low.
/kədʒʊ 'pli:z / ,kləʊz ðə 'wɪndəʊ // ðə ,temprətʃə'ɪn ðə 'ru:m / ɪz 'tu: ,ləʊ//
(C: 1; Lr: 1)
7. She had younger children than me.
/ʃi hæd ʃʌŋgə 'tʃɪldrən ðəm'mi:// (A: 1)
8. David, is this your pencil? You forgot it in History seminar.
/deɪvɪd // ɪz ,ðɪʃə 'pensəl // ju fə'gɔ:t ɪt ɪn 'hɪstəri ,semɪnɑ:r// (C: 1)
9. This shoe is very small, it is hurting my foot.
/ðɪʃ ,ʃu: wɪz ,veri 'smɔ:l // ɪt ɪz ,hɜ:tɪŋ maɪ 'fʊt// (A: 1)
10. Did she get your postcard on time?
/dɪd ʃi ,getʃə ,pəʊskɑ:d a:n 'taɪm// (C: 1)
11. Is that man Michael? - No, /I think is not him, but that person looks very similar.
/ɪz ,ðæp ,mæn 'maɪkəl // 'nəʊ // aɪ ,θɪŋk ɪz 'nɒt hɪm / bət ,ðæp 'pɜ:sən /
,lʊks ,veri 'sɪmɪlə'r// (A: 1; A: 2)
12. Would you help me with my homework?
/wədʒʊ ,hel mi wɪð maɪ 'həʊmwɜ:k// (C: 1; E: 1)
13. My son is a good boy. He always does his homework when he goes back home.
/maɪ ,sʌn ɪz ə 'gʊb ,bɔɪ // hi'z ,lweɪz dʌz (h)ɪz 'həʊmwɜ:k / wen (h)ɪ ,gəʊz
,bæk 'həʊm// (A: 1; Lj: 1; E: 1; E: 2)

14. That man had university students in his class.
/ɪðæp 'mæn / hæd ʤu:nɪ'vɜ:sɪtɪ ˌstju:dənts / ɪn hɪz 'klɑ:s// (A: 1)
15. This park is not the one that used to be a few years ago.
/ðɪs 'pɑ:rk / ɪz ɪnɒt ðə 'wʌn / ðə,tʃu:z(d) tʊ bi / ə ɪju: 'jɪrz ˌəɡəʊ// (C: 1)
16. These children went to the laboratory last year. They analyzed pieces of vegetables.
/ði:ʃ 'tʃɪldrən / ˌwɛnt tʊ ðə ɪləbərətɔ:ri ˌlɑ:ʃ'jɪə // ðeɪ 'anəlaɪz(d) / ɪpi:sɪz əv 'vedʒtəbəlz// (A: 1; C: 1; E: 1)
17. That girl robbed my wallet yesterday. My family thought I had lost it.
/ðæk 'gɜ:l / ɪrɑ:b(d) maɪ 'wɒ:lɪt ˌjestərdeɪ // maɪ 'fæmɪli ɪθɒt / aɪ hæd 'lɒ:st ɪt// (A: 1; E: 1)

Annex III: Information form about participants

| No. 1 | |
|--|------|
| Reading level | 3/5 |
| Reading speed | 4/5 |
| Phonetics knowledge | 2/5 |
| Erasmus | No |
| Weekly hours of reading aloud in English | 2 |
| Weekly hour of TV in English | 1 |
| Analysis | |
| Assimilations | 2/12 |
| Coalescences | 0/8 |
| Elisions | 0/6 |
| Linkings | 0/4 |
| Total of features | 2/30 |

| No. 2 | |
|--|-------------------|
| Reading level | 4/5 |
| Reading speed | 4 ³ /5 |
| Phonetics knowledge | 2/5 |
| Erasmus | No |
| Weekly hours of reading aloud in English | 2 |
| Weekly hours of TV in English | 2 |
| Analysis | |
| Assimilations | 1/12 |
| Coalescences | 0/8 |
| Elisions | 2/6 |
| Linkings | 0/4 |
| Total of features | 3/30 |

| No. 3 | |
|--|-------------------|
| Reading level | 2/5 |
| Reading speed | 1 ³ /5 |
| Phonetics knowledge | 2/5 |
| Erasmus | No |
| Weekly hours of reading aloud in English | 1 |
| Weekly hours of TV in English | 3 |
| Analysis | |
| Assimilations | 1/12 |
| Coalescences | 0/8 |
| Elisions | 1/6 |
| Linkings | 0/4 |
| Total of features | 2/30 |

| No. 4 | |
|--|------|
| Reading level | 3/5 |
| Reading speed | 3/5 |
| Phonetics knowledge | 2/5 |
| Erasmus | No |
| Weekly hours of reading aloud in English | 2 |
| Weekly hours of TV in English | 3 |
| Analysis | |
| Assimilations | 2/12 |
| Coalescences | 0/8 |
| Elisions | 1/6 |
| Linkings | 0/4 |
| Total of features | 3/30 |

| No. 5 | |
|--|-------|
| Reading level | 3/5 |
| Reading speed | 3'5/5 |
| Phonetics knowledge | 3/5 |
| Erasmus | No |
| Weekly hours of reading aloud in English | 2 |
| Weekly hours of TV in English | 4 |
| Analysis | |
| Assimilations | 2/12 |
| Coalescences | 3/8 |
| Elisions | 3/6 |
| Linkings | 0/4 |
| Total of features | 8/30 |

| No. 6 | |
|--|-------|
| Reading level | 2'5/5 |
| Reading speed | 3/5 |
| Phonetics knowledge | 2/5 |
| Erasmus | No |
| Weekly hours of reading aloud in English | 2 |
| Weekly hours of TV in English | 4 |
| Analysis | |
| Assimilations | 3/12 |
| Coalescences | 1/8 |
| Elisions | 4/6 |
| Linkings | 0/4 |
| Total of features | 8/30 |

| No. 7 | |
|--|-------|
| Reading level | 3/5 |
| Reading speed | 4'5/5 |
| Phonetics knowledge | 2/5 |
| Erasmus | No |
| Weekly hours of reading aloud in English | 2 |
| Weekly hours of TV in English | 6 |
| Analysis | |
| Assimilations | 5/12 |
| Coalescences | 2/8 |
| Elisions | 3/6 |
| Linkings | 0/4 |
| Total of features | 10/30 |

| No. 8 | |
|--|-------|
| Reading level | 2/5 |
| Reading speed | 3/5 |
| Phonetics knowledge | 2/5 |
| Erasmus | No |
| Weekly hours of reading aloud in English | 2 |
| Weekly hours of TV in English | 5 |
| Analysis | |
| Assimilations | 4/12 |
| Coalescences | 2/8 |
| Elisions | 4/6 |
| Linkings | 1/4 |
| Total of features | 11/30 |

| No. 9 | |
|--|-------------------|
| Reading level | 3 ⁵ /5 |
| Reading speed | 4/5 |
| Phonetics knowledge | 4/5 |
| Erasmus | No |
| Weekly hours of reading aloud in English | 5 |
| Weekly hours of TV in English | 15 |
| Analysis | |
| Assimilations | 4/12 |
| Coalescences | 1/8 |
| Elisions | 4/6 |
| Linkings | 2/4 |
| Total of features | 11/30 |

| No. 10 | |
|--|-------------------|
| Reading level | 4 ⁵ /5 |
| Reading speed | 3 ⁵ /5 |
| Phonetics knowledge | 4/5 |
| Erasmus | No |
| Weekly hours of reading aloud in English | 2 |
| Weekly hours of TV in English | 7 |
| Analysis | |
| Assimilations | 5/12 |
| Coalescences | 1/8 |
| Elisions | 3/6 |
| Linkings | 1/4 |
| Total of features | 10/30 |

| No. 11 | |
|--|------|
| Reading level | 3/5 |
| Reading speed | 4/5 |
| Phonetics knowledge | 3/5 |
| Erasmus | No |
| Weekly hours of reading aloud in English | 3 |
| Weekly hours of TV in English | 6 |
| Analysis | |
| Assimilations | 1/12 |
| Coalescences | 2/8 |
| Elisions | 2/6 |
| Linkings | 1/4 |
| Total of features | 6/30 |

| No. 12 | |
|--|-------|
| Reading level | 4/5 |
| Reading speed | 5/5 |
| Phonetics knowledge | 4/5 |
| Erasmus | Yes |
| Weekly hours of reading aloud in English | 3 |
| Weekly hours of TV in English | 8 |
| Analysis | |
| Assimilations | 5/12 |
| Coalescences | 3/8 |
| Elisions | 4/6 |
| Linkings | 1/4 |
| Total of features | 13/30 |

| No. 13 | |
|--|-------|
| Reading level | 4/5 |
| Reading speed | 4'5/5 |
| Phonetics knowledge | 3/5 |
| Erasmus | No |
| Weekly hours of reading aloud in English | 2 |
| Weekly hours of TV in English | 15 |
| Analysis | |
| Assimilations | 4/12 |
| Coalescences | 1/8 |
| Elisions | 2/6 |
| Linkings | 1/4 |
| Total of features | 8/30 |

| No. 14 | |
|--|------|
| Reading level | 4/5 |
| Reading speed | 4/5 |
| Phonetics knowledge | 4/5 |
| Erasmus | No |
| Weekly hours of reading aloud in English | 5 |
| Weekly hours of TV in English | 14 |
| Analysis | |
| Assimilations | 4/12 |
| Coalescences | 2/8 |
| Elisions | 3/6 |
| Linkings | 0/4 |
| Total of features | 9/30 |

| No. 15 | |
|--|-------------------|
| Reading level | 4/5 |
| Reading speed | 3 ⁵ /5 |
| Phonetics knowledge | 4/5 |
| Erasmus | No |
| Weekly hours of reading aloud in English | 10 |
| Weekly hours of TV in English | 40 |
| Analysis | |
| Assimilations | 3/12 |
| Coalescences | 1/8 |
| Elisions | 3/6 |
| Linkings | 0/4 |
| Total of features | 7/30 |

| No. 16 | |
|--|-------------------|
| Reading level | 3 ⁵ /5 |
| Reading speed | 4/5 |
| Phonetics knowledge | 4/5 |
| Erasmus | Yes |
| Weekly hours of reading aloud in English | 15 |
| Weekly hours of TV in English | 20 |
| Analysis | |
| Assimilations | 5/12 |
| Coalescences | 1/8 |
| Elisions | 4/6 |
| Linkings | 1/4 |
| Total of features | 11/30 |

| No. 17 | |
|--|-------|
| Reading level | 4/5 |
| Reading speed | 3'5/5 |
| Phonetics knowledge | 4/5 |
| Erasmus | Yes |
| Weekly hours of reading aloud in English | 4 |
| Weekly hours of TV in English | 3 |
| Analysis | |
| Assimilations | 2/12 |
| Coalescences | 1/8 |
| Elisions | 5/6 |
| Linkings | 1/4 |
| Total of features | 9/30 |

| No. 18 | |
|--|-------|
| Reading level | 4'5/5 |
| Reading speed | 4/5 |
| Phonetics knowledge | 4/5 |
| Erasmus | Yes |
| Weekly hours of reading aloud in English | 2 |
| Weekly hours of TV in English | 10 |
| Analysis | |
| Assimilations | 4/12 |
| Coalescences | 2/8 |
| Elisions | 3/6 |
| Linkings | 2/4 |
| Total of features | 11/30 |

| No. 19 | |
|--|-------|
| Reading level | 4/5 |
| Reading speed | 4'5/5 |
| Phonetics knowledge | 4/5 |
| Erasmus | Yes |
| Weekly hours of reading aloud in English | 5 |
| Weekly hours of TV in English | 15 |
| Analysis | |
| Assimilations | 5/12 |
| Coalescences | 4/8 |
| Elisions | 2/6 |
| Linkings | 0/4 |
| Total of features | 11/30 |

| No. 20 | |
|--|-------|
| Reading level | 4/5 |
| Reading speed | 4/5 |
| Phonetics knowledge | 4/5 |
| Erasmus | No |
| Weekly hours of reading aloud in English | 5 |
| Weekly hours of TV in English | 14 |
| Analysis | |
| Assimilations | 6/12 |
| Coalescences | 4/8 |
| Elisions | 5/6 |
| Linkings | 1/4 |
| Total of features | 16/30 |

Annex IV: Results

0: American Model / 1-20: Spanish Participants

Coalescence

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| N | N | N | N | N | N | N | Y | N | N | N |
| N | N | N | N | N | N | N | N | N | N | N |
| Y | N | N | N | N | Y | N | N | N | N | N |
| Y | N | N | N | N | Y | Y | N | Y | N | Y |
| N | N | N | N | N | N | N | N | N | N | N |
| Y | N | N | N | N | Y | N | N | N | Y | N |
| N | N | N | N | N | N | N | N | N | N | N |
| Y | N | N | N | N | N | N | Y | Y | N | N |
| 4/8 | 0/8 | 0/8 | 0/8 | 0/8 | 3/8 | 1/8 | 2/8 | 2/8 | 1/8 | 1/8 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
| N | Y | N | N | N | N | N | N | Y | N | |
| N | N | N | N | N | N | N | N | N | Y | |

| | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| N | N | N | N | N | N | N | N | Y | Y |
| Y | Y | N | N | Y | Y | N | Y | Y | Y |
| N | N | N | N | N | N | N | N | N | N |
| N | N | N | Y | N | N | N | N | Y | N |
| N | N | N | N | N | N | N | N | N | N |
| Y | Y | Y | Y | N | N | Y | Y | N | Y |
| 2/8 | 3/8 | 1/8 | 2/8 | 1/8 | 1/8 | 1/8 | 2/8 | 4/8 | 4/8 |

Assimilation

| | | | | | | | | | | |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Y | N | N | Y | N | Y | Y | N | Y | Y | Y |
| Y | Y | N | N | N | N | N | Y | Y | Y | Y |
| N | N | N | N | Y | N | Y | Y | N | Y | Y |
| Y | N | N | N | N | N | N | Y | Y | N | N |
| N | N | N | N | N | N | N | N | N | N | N |
| Y | Y | Y | N | Y | Y | Y | Y | Y | Y | Y |
| Y | N | N | N | N | N | N | Y | N | N | N |
| Y | N | N | N | N | N | N | N | N | N | Y |
| N | N | N | N | N | N | N | N | N | N | N |
| Y | N | N | N | N | N | N | N | N | N | N |
| N | N | N | N | N | N | N | N | N | N | N |
| Y | N | N | N | N | N | N | N | N | N | N |
| 8/12 | 2/12 | 1/12 | 1/12 | 2/12 | 2/12 | 3/12 | 5/12 | 4/12 | 4/12 | 5/12 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
| N | Y | Y | Y | N | Y | Y | Y | N | Y | |
| N | Y | N | Y | N | N | N | N | Y | N | |
| N | N | Y | Y | N | Y | N | N | N | Y | |
| N | Y | N | N | Y | Y | N | N | Y | N | |
| N | N | N | N | N | N | N | N | N | N | |
| Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| N | N | N | N | N | N | N | N | Y | N | |
| N | N | Y | N | N | N | N | Y | Y | Y | |
| N | N | N | N | N | N | N | N | N | N | |
| N | N | N | N | N | N | N | N | N | Y | |
| N | Y | N | N | Y | N | N | N | N | N | |
| N | N | N | N | N | Y | N | Y | N | Y | |
| 1/12 | 5/12 | 4/12 | 4/12 | 3/12 | 5/12 | 2/12 | 4/12 | 5/12 | 6/12 | |

Elision

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Y | N | N | N | N | N | Y | N | Y | Y | N |
| Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| N | N | N | N | N | N | N | N | N | N | N |
| Y | N | N | N | N | N | N | N | N | N | N |
| Y | N | N | N | N | Y | Y | Y | Y | Y | Y |
| Y | N | Y | N | N | Y | Y | Y | Y | Y | Y |
| 5/6 | 0/6 | 2/6 | 1/6 | 1/6 | 3/6 | 4/6 | 3/6 | 4/6 | 4/6 | 3/6 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
| N | Y | N | Y | Y | Y | Y | N | N | Y | |
| Y | Y | Y | N | Y | Y | Y | Y | Y | Y | |
| N | N | N | N | N | N | N | N | N | N | |
| N | N | N | N | N | N | Y | Y | N | Y | |
| Y | Y | N | Y | N | Y | Y | Y | N | Y | |
| N | Y | Y | Y | Y | Y | Y | N | Y | Y | |
| 2/6 | 4/6 | 2/6 | 3/6 | 3/6 | 4/6 | 5/6 | 3/6 | 2/6 | 5/6 | |

Linking

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Y | N | N | N | N | N | N | N | Y | Y | N |
| N | N | N | N | N | N | N | N | N | N | N |
| N | N | N | N | N | N | N | N | N | N | N |
| Y | N | N | N | N | N | N | N | N | Y | Y |
| 2/4 | 0/4 | 0/4 | 0/4 | 0/4 | 0/4 | 0/4 | 0/4 | 1/4 | 2/4 | 1/4 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
| N | N | N | N | N | N | N | Y | N | N | |
| N | N | N | N | N | N | N | N | N | N | |
| N | N | N | N | N | N | N | N | N | N | |
| N | N | N | N | N | N | N | N | N | N | |
| Y | Y | Y | N | N | Y | Y | Y | N | Y | |
| 1/4 | 1/4 | 1/4 | 0/4 | 0/4 | ¼ | 1/4 | 2/4 | 0/4 | ¼ | |

7. BIBLIOGRAPHY

“Pronunciation Tips” *BBC News*. BBC. Web. 19 Mar. 2015.

<<http://www.bbc.co.uk/worldservice/learningenglish/grammar/pron/features/connected.shtml>>.

Catford, J. C. *A Practical Introduction to Phonetics*. Oxford: Clarendon, 1994. Print.

Chomsky, Noam, and Morris Halle. *The Sound Pattern of English*. New York: Harper & Row, 1968. Print.

Clark, John, and Colin Yallop. *An Introduction to Phonetics and Phonology*. Oxford, UK: B. Blackwell, 1990. Print.

Clark, John, and Colin Yallop. *An Introduction to Phonetics and Phonology*. Second edition. Oxford, UK: B. Blackwell, 1995. Print.

Farnetani, Edda, and Alice Faber. *Tongue-jaw coordination in vowel production: Isolated words versus connected speech*. North-Holland, 1992. Print.

Gimson, A. C. and Alan Cruttenden. *Gimson's Pronunciation of English*. London: Arnold, 1994 (Fifth Edition). Print.

Howard, Wells and Local. *The Handbook of Clinical Linguistics. Chapter 36: Connected Speech*. Blackwell Publishing, 2009. Print.

Kramer, Linder and Schonweiler. *A Study of Subharmonics in Connected Speech Material*. *Journal of Voice*, Vol. 27, No. 1. Lübeck: Germany, 2013. Print.

Ladefoged, Peter. *Elements of Acoustic Phonetics*. Chicago: U. of Chicago, 1962. Print.

Laver, John. *Principles of Phonetics*. Cambridge: Cambridge UP, 1994. Print.

Malmberg, Bertil, and L. Kaiser. *Manual of Phonetics*. Amsterdam: North-Holland, 1968.

Print.

Ripman, Walter. *English Phonetics: A Revised Version of "The Sounds of Spoken English"*

London: Dent, 1931. Print.

Trask, R. L. *A Dictionary of Phonetics and Phonology*. London: Routledge, 1996. Print.