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Integración Curricular

Accentedness and foreign language
pronunciation: a
case study of majors in
Linguistics and their perception of
different accents

Monografía

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Resumen

Esta monografía ve la percepción y entendimiento que estudiantes de las carreras de Lingüística, Literatura y Comunicación tienen con respecto a distintos acentos. Para realizar esto se usaron diferentes herramientas como las encuestas acerca de la opinión de acentos, análisis de espectrogramas, análisis de la comprensión y cambios luego de estar en contacto con más acentos, entre otros. En el presente trabajo se replicaron hechos evidenciados en investigaciones similares, mas no todos los resultados fueron iguales a los de estudios similares. El estudio encontró que el acento más inteligible reportado era el americano y mostró que también fue el más entendible de los que se probaron. También se comparan los acentos de inglés americano, latino y asiático y, se pueden ver considerables diferencias.

Abstract

This article displays the perception and understanding that students from linguistics, literature and communication majors have with respect to different accents. To do this, different tools were used, such as surveys about opinions about accents, spectrogram analysis, comprehension analysis, and changes after being in contact with more accents, among other resources. The article replicated findings from similar investigations, but not all the results were the same as those of similar studies. The study found that the most intelligible accent reported was American of the ones in the survey. English variant is also compared against the American and Asian ones; considerable differences can be seen.

Key words: accents, perception, PRAAT, comparison, survey

Introduction

This paper aims to see the perceptions linguistics, literature and communication majors' have of other accents and how intelligible are they to them. To that a series of surveys were conducted, they that show participant's opinion towards specific varieties of English and towards accents in general, the understanding of different varieties, participant's change of attitude after learning more about accents, etc.

To do so, the study had four parts, the first one was a pilot survey where participants gave their opinions and described multiple dialects. The second part was a more extensive survey, with more questions and more participants, aiming to see the perception and understanding of the different varieties shown. The third part was analyzing the dialects themselves, to do that the program PRAAT was used, and some characteristics were analyzed like VOT, vowel length, etc. The fourth and last part consisted of focus groups where participants showed their attitudes towards accents and how their attitude changed after learning more about accents.

Most of the surveys that were conducted have already been done by the people under similar conditions. A variation of the tools used helped this article to take shape. It is worth highlighting that while some of the answers were the same as other studies there were some findings that are different from those of the studies from where the procedure was first seen.

Theoretical framework

Brief literature review

The studies mentioned below were chosen because they had a similar scope to the one presented. These studies focus on different topics like perception, Asian-accent English, reasons on why particular accents have certain prestige and, the perception people have

towards their own accent and other accents. They also presented useful methodologies that could be applied to smaller studies, which was the case here. All of these studies helped this one with their methodology, which is in a way a combination of the ones used in them so we were able to see the perception the participants have and the intelligibility they had towards different accents.

In the study made by Magne, in 2016, it was found that people perceive their own accent more intelligible than other accents, highlighting that the “Asian-accent” was the most unintelligible one. This could be because participants understood more about their own variation of English due to them speaking the same variety. This is also related to what the study found that the accent became easier to understand with time, meaning that intelligibility is related to the exposure one has with a variety or an accent. The study also found that the Arabic speaking responders have some sort of self-stereotype where they did not want to be related with Arabic speaking participants that had the strongest accent. Although it was also found that this group had different points of view because it was also shown that there was a level of solidarity among Arabic speaking participants; this solidarity was not shown by international students towards Arabic language speaker’s accents. The Mandarin Chinese speakers’ group had a bigger in-group solidarity which is related with speakers being less sensitive towards their own accent. However, the study found some polarizing opinions toward this last group of speakers: some say that the accent sounded “horrible, choppy, and difficult to understand” and others praise their efforts for learning English. The study also mentions that the ones that praised the efforts were also interested in learning Chinese or had a connection to someone that speaks Chinese, so they could have had bias.

Another study made in 2018 by Wong, consisted of a study about the perception of English in Hong Kong and found out that participants thought that having an accent significantly affected

their intelligibility and that was the reason they see RP as the accent they should be as close as they can to. This can be seen in some quotes presented in the study, for example, “if I do not correct, then it may be a disadvantage during examination” (Wong, 2018) this is a quote from one of the participants of the study that shows that teachers think that having a Hong Kong accent, in this case, made their English less intelligible. The study found that participants preferred the accent from the United Kingdom, although not all the participants were able to identify their preferred one. Factors like the placement of native English speakers as teachers of more skilled courses affected the perception of local teachers, giving the impression that native speakers had a higher importance. The study also shows us an important thing for the paper, and it is to consider the historical side of the prestige a language has. In the case of the study, conducted in Hong Kong, that this territory was a British colony, and this greatly affected the perception of British English there.

In 2010 a study made by Yuan, J., Yue, J., & Ziang, S. (Perception of Foreign Accent in Spontaneous L2 English Speech) aimed to identify which speakers (grouping them by their L1) and what characteristics are the factors that make accents more or less noticeable. The study found that native speakers are more likely to notice an accent and Mandarin speakers are more likely to understand a strong L2 accent. The finding is important because it suggests that non-native speakers are equal or better than a native speaker to understand strong accents. The finding led them to the next logical conclusion which is that similarities and differences between languages help or harm the perception the listener has of an accent. Finally, the study shows that the most important trait in the acoustic level is the speaking rate and pauses made by the speakers.

In the study "Perceived foreign accent in three varieties of non-native English " by McCullough. Participants were asked to rate the production of English from the different speakers where they were L1 American English speakers, L1 Hindi speakers, L1 Korean speakers and L1 Mandarin speakers. The study found that VOT and vowel quality were important factors when perceiving an accent and suggested that F0 and vowel duration played a minor role in it. The study found that from the accents of the study the one that had the most accent was the Hindi speaking participants (the Korean speakers perceived the Mandarin speakers as the ones with the strongest accent). This relates with the fact that Hindi speakers had the most different VOT, compared to the L1 English speakers. However, the study did not find if this was because the differences in VOT were the ones that make an accent sound foreign or because Hindi accent was the one that participants thought sounded the most foreign.

Conceptual framework

To better understand the terms and the data that will be presented in this paper we are going to define some of the terms used in the article. The importance of this is in some of the definitions that sometimes take a broader or narrower focus. Therefore, to avoid any misunderstanding some of the terms that might cause confusion are defined and explained below.

Native speaker (NS): according to Britannica encyclopedia is "a person who learned to speak the language of the place where they were born as a child rather than learning it as a foreign language" (Britannica Dictionary, 2023). Therefore, this definition excludes all native speakers of a language that learned a language as their L1 in a place where that language is not predominant.

English as a second language (ESL): “the teaching of English to people who speak a different language and who live in a country where English is the main language spoken” (The Britannica Dictionary, 2023). According to this definition, it is only referring to learning English in an English-speaking country. However, we are going to use this term for English when it is learned as a second language regardless of the main language spoken in that place.

Received pronunciation (RP): According to Encyclopedia Britannica: “the British pronunciation of words that is based on the speech of educated people and is sometimes considered to be the standard pronunciation” (The Britannica Dictionary, 2023). This variety is sometimes called BBC English and we have to highlight that it is different from other varieties like the African American Vernacular or the American Pronunciation. It is the one perceived as the one that has more prestige (Wong, 2018). However, the prestige a language has is a cultural factor that varies greatly depending on multiple markers like economic importance, social status, etc.

VOT: It is defined as “is the duration of the period of time between the release of a plosive and the beginning of vocal fold vibration” (University College London, 2019). For this paper is important because this feature is what is characteristic of some accents and therefore could have an important role on the perception speakers have of an accent.

Fundamental frequency (F0): It is defined as “the average number of oscillations per second and expressed in Hertz” (Bäckström, 2020) and refers to the oscillation created by the vocal folds when tensed. It is important to mention this because it is one of the values that were used

in multiple similar studies. To show F0 measurements in the study we are going to use F0 contours which is “how F0 changes over time in the course of an utterance” (Goldstein, 2023).

Vowel quality: “in phonetics for the property that makes one VOWEL sound different from another” (Concise Oxford Companion to the English Language, 2023). This refers to the difference that vowels can have depended on if they are short vowels or long vowels, for example eat (i:t) and it (ɪ t).

Lingua franca: According to encyclopedia Britannica “language used as a means of communication between populations speaking vernaculars that are not mutually intelligible.” (Encyclopædia Britannica, 2023). However, for this paper we are going to define it as a vehicular language in which both parties can communicate with each other. Not a creole language but a language decided by the parties that it was going to be the one used for communication. English as a lingua franca (ELF), is a term related directly to this meaning, because in most of the studies used in this paper, English is the lingua franca.

English varieties: This term refers to the different varieties of English, “share the same basic tenets of the language, but certain words, phrases or linguistic constructs may differ” (Grammarist, 2012). In the study, we will have varieties like American English variety, Spanish-accented English, Chinese-accented English. They will have the name of the culture or geographical space where the speaker is from.

Linguistic prestige: Overall prestige is how a variety, or a language is perceived but they are two types of prestige: Over prestige which is “socially acknowledged as ‘correct’ and therefore valued highly among all speakers” (ELLO, 2023); cover prestige “a specific, small group of speakers shows positive evaluation of and orientation towards a certain linguistic variety” (ELLO, 2023). These two refer to the prestige a variety or language receives but one refers to a wider prestige (over prestige) and the other one refers to a more local, or group oriented, prestige (cover prestige).

Accent: The way in which people in a particular area, country, or social group pronounce words (Cambridge Dictionary, 2023). In this study the different accent we had were based on the speakers L1. The accents were: Spanish-accented English, Chinese-accented English and American English.

Accentedness: “the perception of the degree of difference between accents” (Henderson, 2012). Being able to perceive one’s accent or other people’s accents is important on how we are going to perceive them. This is because, among other reasons, how we see other languages as found by Wong “participants held negative opinions and attitude towards using local varieties of English as the norm for teaching and learning” (Wong, 2018). In the study the author found that local variations of English were considered not as good because they prioritize intelligibility overall. The study found that in that particular context, English has as ultimate goals effective communication and career advancement, which participants thought were affected by one’s accent.

Standard and non-standard variations: As mentioned by the Cambridge dictionary the non-standard forms are the ones used “in different regional dialects and these non-standard varieties are different from each other” (Cambridge Dictionary, 2023), in this case, as mentioned before they will be determined by the speakers L1. The standard varieties here as mentioned by the Cambridge dictionary have among them the North American English variety, which in this paper will be referred as the American variety and the British variety.

Attitudes towards non-native speakers of English: According to Ben Said this depends on “gender and status (mostly related to education, work and socioeconomic level)...” (Ben Said, 2006). Showing that these are very important factors that we should consider when identifying an attitude towards an accent. The same thing is also found in the study made by Wong in 2018, where teachers stated that having an accent was somehow a bad thing that needed to be corrected “they believed teachers should *teach standard English and the right pronunciation*” (Wong, 2018), cementing the idea that for some people having an accent closer to RP is a more useful or even better alternative. Wong’s study also shows the prestige that some varieties have even among the most “popular” accents which are RP and AE, showing a clear preference towards RP.

Intelligibility:

The most common definition of the term is some way on the lines of “the degree to which an utterance is understood” (Henderson, 2012). However, this definition is a little bit simpler compared to other authors like Magne that refers to it as “is a component of language interaction that functions at the sound system level” (Magne, 2016) It is understood not only

as the understanding of an utterance. It is the first step we have to take, to further comprehend an utterance and its meaning. We also have to consider who is going to be the one understanding “it is necessary to have a listener to be intelligible to” (Magne, 2016), as mentioned there we have to consider the listener and then we can ask ourselves to whom is it going to be intelligible for.

Perceptual dialectology: It is defined as “how nonlinguists understand dialectal variation” (Danzy Cramer, 2016). It was an important part of the study because participants showed their opinions and how they affected their understanding of a particular variety.

Methodology

This study was a replica of the other studies that were mentioned before. It aims to see the different perceptions, opinions and understanding of some English varieties. To do this, the following procedure was followed.

1. Pilot Study

A pilot study was the first step before collecting the data from a second questionnaire with more questions and improved questions. The aim of the study is to have a small sample and acquire some referential values that are going to be used in the second questionnaire. By doing this, we aimed to have a better understanding of the possible answers of the participants later on. It will also help us see what kind of questions the best for the focus group that would be was later done. This first questionnaire was a list of multiple questions where the participants had to answer them, and the answers showed us their attitudes towards the four dialects mentioned. The four dialects that the study focused on are the British English variety, the American English variety, the Latino English variety, and the Asian English variety.

1.1 First section

The first section of the questionnaire was intended to see if the participants think if one variety is better than another, regardless of which one (at this point there was no explanation of the varieties that used). In this part they were asked this and if they say that a variety was better then, they were asked to rank the varieties; if they say that no variety was better they went to the second section.

1.2 Second section

The following section asked the participants to rate the four varieties presented in terms of how intelligible, clear, and professional each one was. The possible option they had where five were

they could say that each variety, in the specific criteria was for example: very clear, clear, not clear, or unclear, unclear, very unclear.

1.3 Third section

The third and last section asked the participants to write words that they relate to each of the varieties to. Here they had an open question where they could write to us as much as they wanted to describe a variety. Nevertheless, they were asked to at least put four words to describe each of the varieties.

2. Second questionnaire

This questionnaire was answered by linguistics, communication and literature major students. They were, in the majority of cases, between ages from 18 to 25 and had similar knowledge towards accents and also a similar level of English. In addition to that they are more self-conscious about English varieties and languages in general.

Every variety in the questionnaire consisted of three sections that repeated on each variety and were the ones later analyzed.

2.1 Parts of the questionnaire

First, participants had to answer a yes or no question where they were asked if the variety of that section was understandable or not. This first part aims to know the perception participants had and how it was related to their actual understanding of the accent.

Second, they had a recording of an English variety and wrote down what they just heard. This part aims to see if they could really understand a variety and to check if it has a relationship with the preconceived perception they had of each variety.

Third, this last part was to see the perception of a variety after listening to it and being asked on what was being said on the variety. Unlike the first question this question is able to see the participants perception by reducing the bias they might have because they just listened to that variety.

The English varieties presented on the questionnaire had a specific order too. The first variety shown was American English, this aimed to make the participants more comfortable by listening to a variety they are familiar with. The second variety showed an Asian English variety which was placed after a “standard” one to show better the difference between the varieties. Third was the Latino English one which was placed there to bring the participant back to a variety he is familiar with. Last was another American English as a “standard” variety, this question had a specific goal, see if it was seen as the same at the beginning and at the end of the questionnaire.

The questions were in Spanish because most people interviewed had Spanish as their first language. Here is an overview of the questions.

¿Crees qué el (English variety) es entendible?

Si ___

No ___

*Do you think that the (variety of English is understandable?

Yes ___

No ___ *

¿Qué se está diciendo en esta oración?

What is being said in that sentence?

¿Qué tan entendible fue esta oración?

Muy entendible _____

Entendible _____

Difícil de entender _____

Muy difícil de entender _____

*How understandable is the sentence?

Very (easy to) understandable _____

Understandable _____

Hard to understand _____

Very hard to understand _____*

2.2 Study Universe

To determine how many people needed to be in the survey to have a representative number we use the formula used for when you have an unknown number in the universe. This particular

formula was chosen because we did not know how many people were going to be able to participate in the survey, but we still wanted to have a statistically significant value.

$$People\ to\ participate = \frac{Z^2(StdDev)(1 - StdDev)}{C^2}$$

Z is the value that describes the value's relationship to the mean of a group of values.

StdDev is the standard deviation.

C is the error margin

By using this formula, it was determined that we had to interview at least 37 people in order to have statistical significance. In the end, 50 people participated in the survey (or surveys?)

3. Use of PRAAT

The software PRAAT was used to analyze the recordings. Here we focused on the difference in VOT, F0, vowel quality and vowel duration of American variant speakers from Latino and Asian variants or standard variety and non-standard variety. We compared their values and saw if the further they are from American and English value's affects how they are perceived. It also helped us see the correlation with intelligibility, which was done in section above.

4. Focus group

The last tool used in this analysis was to create a focus group where the participants took part in a guided interview. The questions presented in the interview aim to see their different opinions about varieties of English. At first, they were asked their opinion about accents. They had to rate from one to ten how important they think an accent is.

Then the participants were divided into two groups. One of the groups had to present arguments stating that different varieties do not sound as good as American and British; the other group had to present why different varieties were as good as any other.

Then participants were asked to watch a short video about accents. This part aimed to make the participants more aware of accents and reasons for having them and why one variety of English is perceived as better than another. The video was “Accents -- Where and Why?” by the linguistic associate professor in the Department of Linguistics at Ohio State University and was part of TEDx Ohio State University. After watching the video, they were asked what they thought of the video and to mention a point that they liked about the video and a point they did not like.

After this they had to answer some questions which are similar to the ones, they answer in the first part where they had to rate from one to ten how important they think an accent is. Here it was intended to see if the perception towards different varieties of English changed or if it stayed the same.

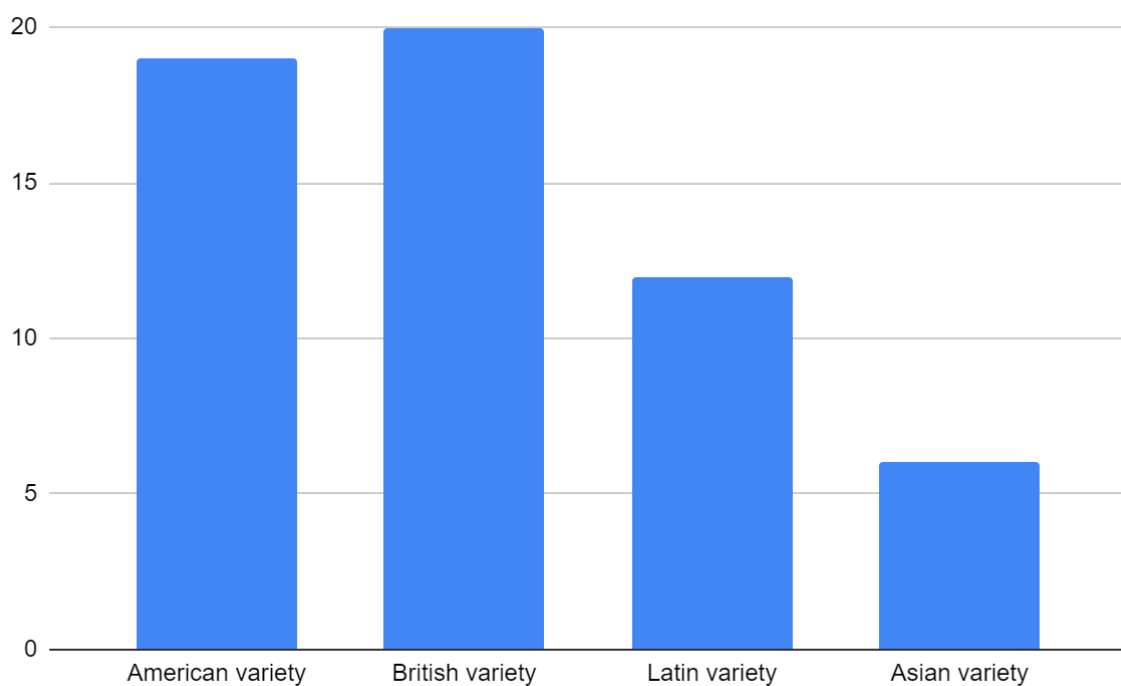
Results

Pilot study results

For this part of the experiment, we had 7 participants and they had the following results:

According to the participants 6 out of 7 (85.7% of the population) thought that there are better varieties. It is important to mention that there was no definition of what is “better”.

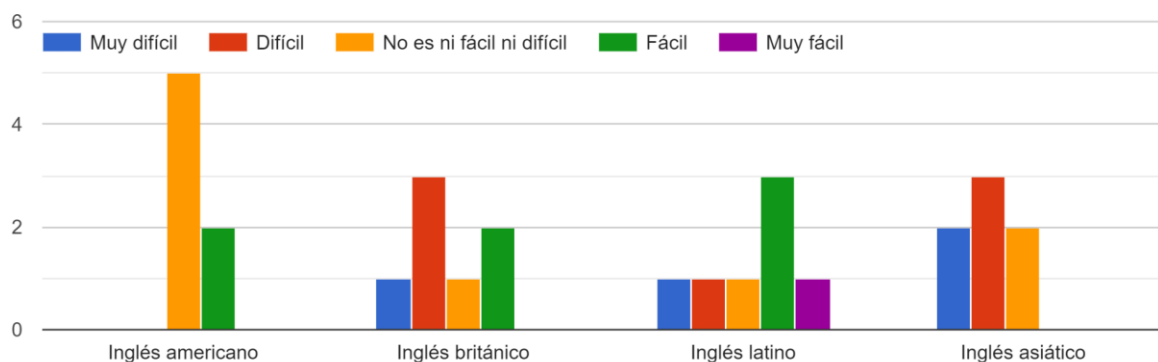
The next question asked the participant to rank the different varieties presented. Because this was a follow-up question from the first one, only the 6 participants that answered that there was a better variety had the next question. However, in this part the question ended up sounding ambiguous (because there was no explanation of how to rank them) and to solve this the participants had to clarify the way in which they sorted out the varieties, after finishing the questions.



Each variety received a grade in which they could score from 6 points up to 24. The variety that scored the greatest score was the British English variety with 20 followed by the American one with 19. The non-standard varieties had lower scores with the Spanish-accented English having a total of 12 points and the Chinese-accented English having a score of 6. These results show us that the standard varieties are perceived almost 3 times better compared to the Chinese-accented English and almost 2 times better than the Spanish-accented English.

The second question asked the participants to rate how intelligible each of the varieties was. Here the participants had a scale they had to choose which category described the varieties intelligibility best. All these ratings are referring to the question “How intelligible is each variety?”

¿Qué tan inteligibles crees tú que son las siguientes variantes de inglés?:



The American variety had 5 participants that described it as “not hard nor easy” and 2 participants described it as “easy”.

The British variety had 1 participant that described it as “very hard”, 3 participants that described it as “hard”, 1 participant that described it as “not hard nor easy” and 2 participants that described it as “easy”.

The Spanish-accented English had 1 participant that described it as “very hard”, 1 participant that described it as “hard”, 1 participant that described it as “not hard nor easy”, 2 participants that described it as “easy” and 1 participant that described it as “very easy”.

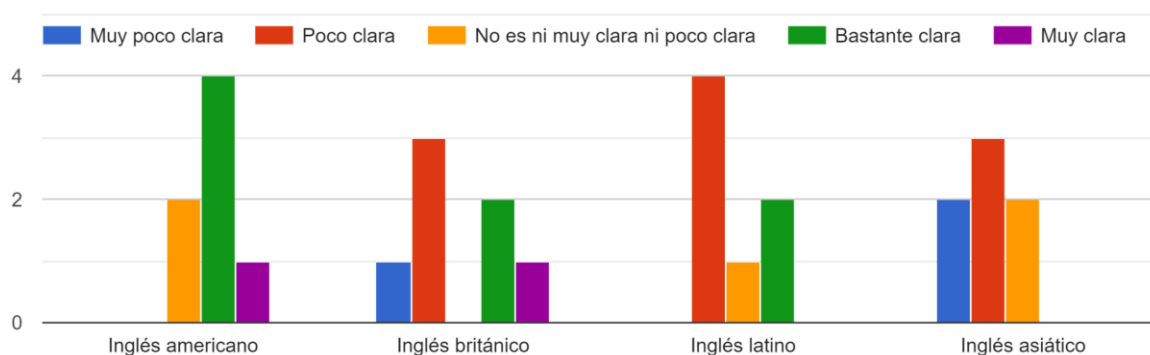
The Chinese-accented English had 2 participants that described it as “very hard”, 3 participants that described it as “hard” and 2 participants that described it as “not hard nor easy”.

These results show that the American English variety is perceived overall as the more intelligible and that the Chinese-accented English is perceived as the one that is more unintelligible.

The third question asked the participants to rate how clear each of the varieties was.

Here the participants had a scale they had to choose which category described the varieties intelligibility best. All these ratings are referring to the question “How clear is each variety?”

¿Qué tan claras crees tú que son las siguientes variantes de inglés?:



The American variety had 2 participants that described it as “not clear nor unclear”, 3 participants described it as “clear” and 1 participant that described it as “very clear”.

The British variety had 1 participant that described it as “very unclear”, 3 participants that described it as “unclear”, 2 participants that described it as “clear” and 1 participant that described it as “very clear”.

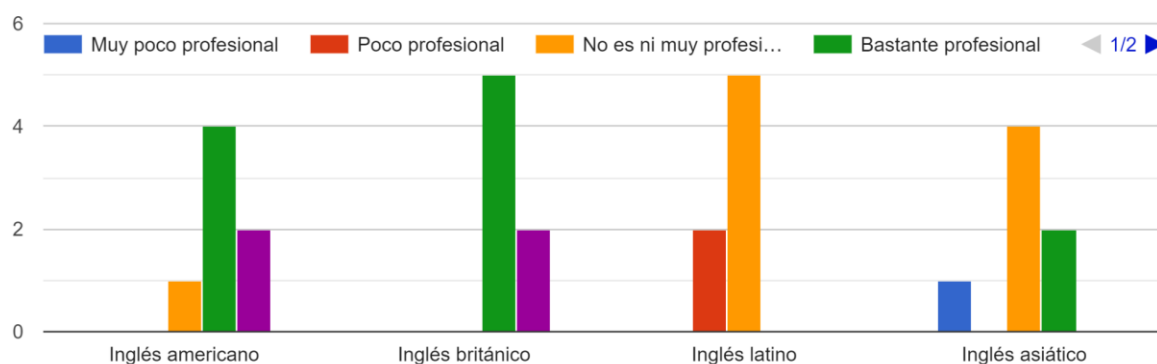
The Spanish-accented English had 4 participants that described it as “very unclear”, 1 participant that described it as “unclear” and 2 participants that described it as “clear”.

The Chinese-accented English had 2 participants that described it as “very unclear”, 3 participants that described it as “hard” and 2 participants that described it as “not clear nor unclear”.

Here we can also see that the American variety was perceived as the clearest and also the Chinese-accented English was the one that was perceived as the least clear of them, closely followed by the Spanish-accented English.

The fourth question asked the participants to rate how professional each of the varieties was. Here the participants had a scale they had to choose which category described the varieties intelligibility best. All these ratings are referring to the question “How clear is each variety?”

¿Qué tan profesionales crees tú que son las siguientes variantes de inglés?:



The American variety had 1 participant that described it as “not professional nor unprofessional”, 4 participants described it as “professional ” and 1 participant that described it as “very clear”.

The British variety had 5 participants that described it as “professional” and 2 participants that described it as “very professional”.

The Spanish-accented English had 2 participants that described it as “unprofessional” and 5 participants that described it as “not professional nor unprofessional”.

The Chinese-accented English had 1 participant that described it as “very unprofessional”, 4 participants that described it as “not professional nor unprofessional” and 1 participant that described it as “professional”.

In this question we see different results because we have different results from before because the British variety is perceived as the most professional followed by the American variety.

However, we still see the same trend in regard to the non-standard varieties where the one perceived as least professional is the Asian one followed by the Spanish-accented English.

The last set of questions ask the participants to describe the varieties using at least four words. It is worth mentioning that the question intended to have at least four descriptions for each variety but it was misunderstood and in most of the answers, we only ended up having 1 word to describe each accent. The answers describing each variety are the following:

American variety: claro, fácil de pronunciar, estándar, dinámico, rápido, relajado, claro, amigable, cortante, claro, elegant, hot and, clear.

clear, easily pronounceable, standard, dynamic, fast, relaxed, clear, friendly, cutting, clear, elegant, hot and clear.

British variety: presuntuoso, elegante, sofisticado, prestigioso, incompleto, elegante, difícil, interesante, sofisticado, elegante, clear, cute and, polite.

presumptuous, elegant, sophisticated, incomplete, elegant, hard, interesting, sophisticated, elegant, clear, cute and, polite.

Spanish-accented English: entendible, musical, apresurado, divertido, acentuado, amigable, divertido, energético, diverso, regular, clear, nice and, fast.

understandable, musical, rushed, funny, accented, friendly, fun, energetic, diverse, regular, clear, nice and, fast.

Chinese-accented English: poco armonioso, poco entendible, apresurado, aburrido, cantado, serio, puntual, lento, confuso, mediocre, elegant, no idea and, smug.

*little harmonious, little understandable, rushed, boring, sung, serious, punctual, slow, confusing, mediocre, elegant, no idea and, smug.

As we can see from the answers to the questions, standard varieties are seen in a positive way where the American variety only had one description that could be seen as bad (fast) and the

British variety had two (presumptuous and incomplete). However, it is important to mention that the ladder had a lot more words that show it was seen as having a higher status (sophisticated and polite)

On the other hand, we had the non-standard varieties, which were not perceived as prestigious as the standard ones. In the case of Latino English, we have multiple terms that describe it but it does not show strong dislike or like. In the case of the Chinese-accented English all of the answers have a negative connotation which is a pattern, throughout the survey, towards this variety.

Second questionnaire results

The second questionnaire results will be presented in the 4 sections it had; the first and fourth sections were about the American variety because a British variety speaker was not found that was willing to participate in the survey.

The first question from this section asked the participants if they think the American variety was understandable. Of the 50 participants 46 (92%) answered that it was understandable and 4 (8%) reported it was not understandable.

The second question asked them to write down what a recording of the first American variety was saying, in this part the results were classified in different categories.

American variety 1	
Spanish correct answers	12

English correct answers	28
Typos	4
Incomplete Spanish answers	0
Incomplete English answers	0
Incorrect Spanish answers	3
Incorrect English answers	3

In the English correct answers category, answers with small typos like “si” instead of “is” or no capital letter at the beginning of the sentence are grouped. Also, two of the correct answers stated used “Gender the social construction” instead of the correct answer “Gender is a social construction”. The same was done with small typos in the Spanish correct answers category where we put answers like “Género es una construcción social”, or “El genero es una construcción social” instead of “El género es una construcción social”. Incorrect Spanish answers include answers like “ Jenger es el socio de la construcción”; the English incorrect category include answers like “Genre is a social construction”, in this case it is taken as an incorrect answer because although it could be a typo it is also a word that has a meaning and sounds similar to the original one, so it is counted as an incorrect answer.

The third part of the first section that asked about how understandable the variety was showed the following results.

Answers	# of people	%
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Very understandable	32	640%
Understandable	9	18%
Hard to understand	8	16%
Very hard to understand	1	2%

These answers are related to the ones we got from the second section where there were 40 correct answers and here 41 people reported the sentence as understandable or very understandable, the additional person that reported as such and did not get the correct answer is more likely in the typo category.

The first question from this second section asked the participants if they think the Chinese-accented English was understandable. From the 50 participants 18 (36%) answered that it was understandable and 32 (64%) reported it was not understandable.

The second question asked them to write down what a recording of the Chinese-accented English was saying, in this part the results were classified in the same categories as the American variety adding a category when non-understanding was reported.

Spanish correct answers	0
English correct answers	3
Typos	0
Incomplete Spanish answers	2
Incomplete English	10

answers	
Incorrect Spanish answers	8
Incorrect English answers	18
Non- understanding reports	9

Here we had a very different situation compared to the American variety. None of the participants answered correctly in Spanish and there were only 3 participants that answer correctly in English, which means that only 6% of the participants answer correctly. However, we have a lot more incomplete answers, this could be because when the Asian speaker started the sentence was when the accent was more noticeable. In total we had 12 incomplete answers where most of them have the second part of the sentence correct, there we can find answers like “part of our speech” or “something about discourse”.

On the other side we have incorrect answers which were more than half of the answers. The incorrect answers in total represent 52% of answers, some of the answers found here are “sentence is a part of our speech”, “Like a sentence, a path of our speech” or “Each sentence has its own sound”.

The third part of the second section that asked about how understandable the variety was showed the following results.

Answers	# of people	%
Very understandable	0	0%
Understandable	3	6%

Hard to understand	36	76%
Very hard to understand	11	22%

These answers are related to the ones we got from the second section where there were 26 incorrect answers and 9 reports of not understanding giving us a total of 35 people which is related to the 98% of participants thinking that the variety was either hard or very hard to understand. The 6% that perceived it as understandable is directly related to the 6% of correct answers.

The first question from this third section asked the participants if they think the Spanish-accented English was understandable. Of the 50 participants 46 (92%) answered that it was understandable and 4 (8%) reported it was not understandable.

The second question asked them to write down what a recording of the Spanish-accented English was saying, in this part the results were classified in the same categories as the Chinese-accented English, regardless of if two of the categories, typos and incomplete Spanish answers had no participants.

Spanish correct answers	1
English correct answers	21
Typos	0
Incomplete Spanish answers	0
Incomplete English answers	0

Incorrect Spanish answers	8
Incorrect English answers	19
Non- understanding reports	1

From these answers we can see that with the Spanish-accented English we have a very different situation where there is only 42% of correct answers but 57% of incorrect answers. This might show there is a sense of understanding when listening to the same variety. However, this, as the results show, does not mean an increase in understandability because of the still low number of correct answers. It is also important to mention that here we did not find incomplete answers which could be related to the last point mentioned where this confidence lead participants to believe they had the correct answers. It is also important to mention that here there were no significant typos either, which could be due to participants being more self-conscious about their typing.

The third part of the third section that asked about how understandable the variety was showed the following results.

Answers	# of people	%
Very understandable	1	2%
Understandable	29	58%
Hard to understand	17	34%
Very hard to understand	3	6%

From these answers we can also tell that still was that sort of confidence where the participants thought they were able to understand the variety, shown in the 60% of participants that grade the sentence as understandable or very understandable. This shows a significant decrease from

when participants were asked if they think the Spanish-accented English was understandable, at the beginning of the section, going from a 92% to a 60%.

The fourth section was also a speaker of the American variety. The first question from this fourth section asked the participants if they think the American variety was understandable. Of the 50 participants 41(82%) answered that it was understandable and 9 (18%) reported it was not understandable. Compared to the first-time participants were asked if the American variety was understandable we can see a 10% decrease on how many participants thought it was understandable.

The second question asked them to write down what a recording of the second American variety was saying, in this part the results were classified in the same categories as the two varieties before, regardless of if only two of the categories had participants. The answers were as follows.

Spanish correct answers	16
English correct answers	34
Typos	0
Incomplete Spanish answers	0
Incomplete English answers	0
Incorrect Spanish answers	0
Incorrect English answers	0

Non- understanding reports	0
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Here we can see that all of the participants answered the correct sentence. Where 74% answered in English and 32% answered in Spanish. Compared to the first American speaker, participants went from 80% correct answers to 100% correct answers. However, in this part we have to highlight that some participants (12%) instead of using “Immigration is the real problem” they used “Emigration is the real problem”, nevertheless these answers were placed in the correct answer category.

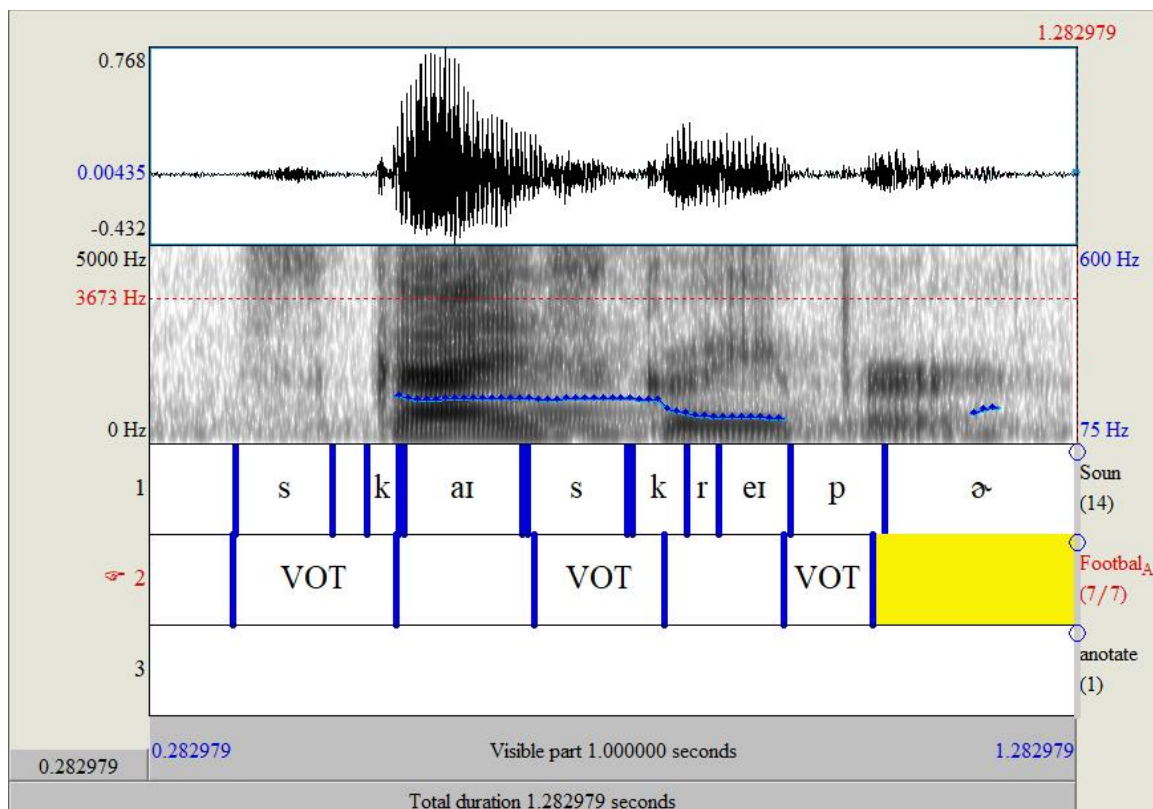
The third part of the fourth section that asked about how understandable the variety was showed the following results.

Answers	# of people	%
Very understandable	39	78%
Understandable	10	20%
Hard to understand	1	2%
Very hard to understand	0	0%

Contrary to the first variety of American English shown, speakers felt this one was more understandable because 98% thought that it was either understandable or very understandable. This is directly correlated with the fact that all of the participants got the correct sentence that was shown in the second part of this section. Nevertheless, there was one participant that reported it was hard to understand even though he got the correct answer to the second part.

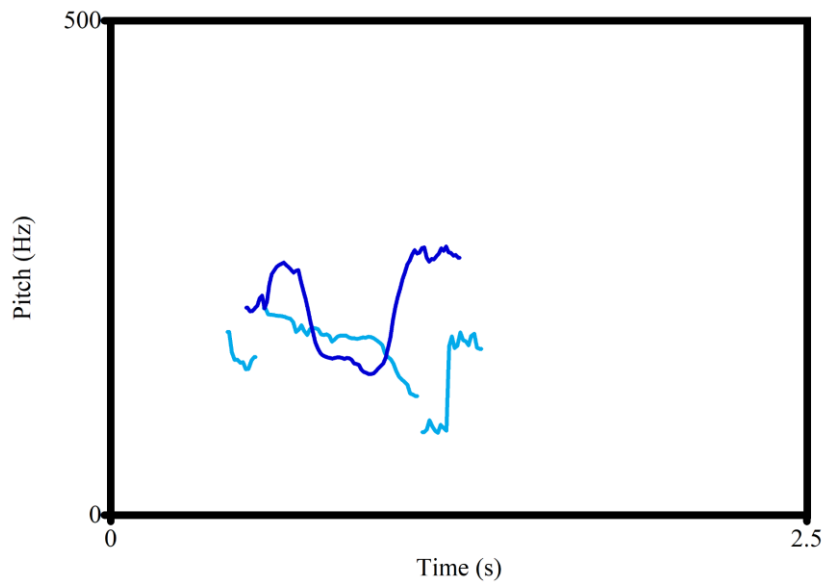
PRAAT results

The four parameters that were measured and compared were the VOT, F0, vowel duration and vowel quality. Below is an example of all the parameters analyzed together but they will be shown differently for a better understanding.



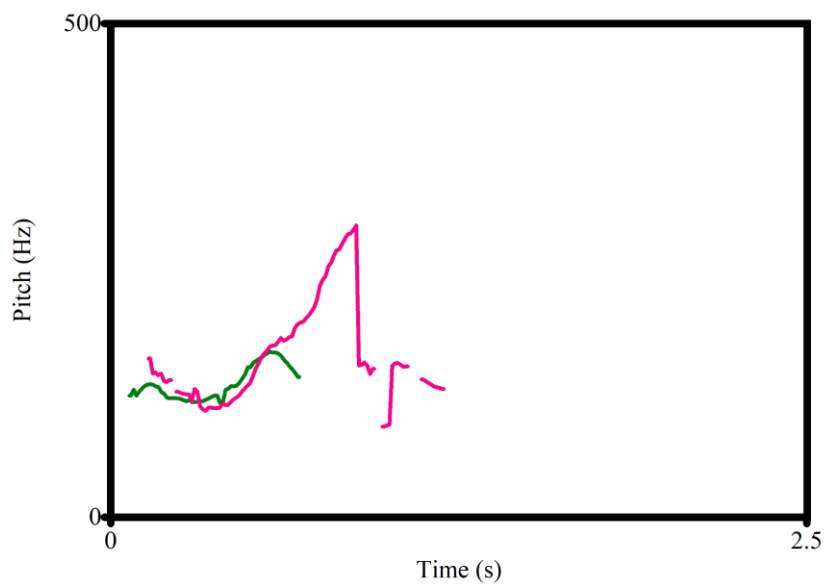
When analyzing the F0 value we used the words “good morning” used by the four speakers from the second questionnaire and we got the following results.

The first picture shows the two speakers of the American variety.



This shows that the standard varieties have two tendencies. In the case of the first American variety, we can see a great increase in the tone with the highest frequency being 209 Hz and the lower one being 80 Hz. In the case of the second speaker of American variety it has a highest frequency of 274 Hz and a lower of 145 Hz.

The second picture shows the Asin variety (pink) and the Spanish-accented English (green)



This shows that the non-standard varieties have two tendencies. In the case of the Chinese-accented English, we can see a great increase in the tone with the highest frequency being 266 Hz and the lower one being 96 Hz. In the case of the Spanish-accented English, it has a highest frequency of 169 Hz and a lower of 129 Hz.

It is important to mention here that both of the standard variety recordings were of women and the two non-standard recordings were from men. However, in both of the standard variety F0 contours we could see that they formed a sideways like *S* shape where you have two decreases on the pitch and two increases of it. In the case of the non-standard varieties the focus is on somewhat recreating the second peak only where in both cases we can see an increase in the frequency towards the end of the utterance.

The next parameter analyzed was vowel duration. To do this we used the word “futbol” and here are the answers.

Variety	Length			
	Vowel 1	Vowel 2	Vowel 3*	Average
American 1	0.0381	0.1402		0.08915
American 2	0.0973	0.1847		0.14100
Asian	0.0438	0.0374	0.1381	0.07310
Latino	0.0721	0.0639		0.06800

Here we can see that the vowel length from the first vowel shows no correlation between the speakers, but the second vowel does. The second vowel in standard variety speakers is more than double the duration from the non-standard speakers. It is also important to show that in

the case of the Chinese-accented English, the speaker added another vowel sound at the end which did not happen in any other variety. This addition of vowel sounds could also be one of the reasons participants found it harder to understand this particular variety.

To analyze the vowel quality the phonetic transcription from the word “skyscraper” from each speaker.

American 1	/skaɪskreɪpə/
American 2	/skaɪskreɪpə/
Asian	/skaɪskri:pə/
Latino	/skaɪkæpəs/

As we can see the two speakers of the American variety have the same pronunciation. This pronunciation is imitated by the Chinese-accented English speaker but he used a different vowel sound /i:/ instead of the consonant cluster /ie/ used in the standard variety. In the case of the Latino speaker, he did not use the consonant cluster /skr/ and he only used the /k/ which could be seen as an attempt, by the speaker, to keep steel have the consonant sound but he disregarded the other two. The Spanish-accented English speaker also, used a different vowel /æ/ instead of the vowel cluster /ei/.

The last parameter analyzed in PRAAT was the Vowel onset time (VOT). This was done with the words skyscraper too and here are the results.

Variety	Length
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	VOT 1	VOT 2	VOT 3
American 1	0.1751	0.1401	0.0948
American 2	0.3272	0.2268	0.0963
Asian	0.3069	0.1781	0.0765
Latino	0.1523	0.1236	0.0938

As we can see in the table the VOT values do not show a clear difference in the pattern from the standard variety and the non-standard. Although, the last VOT value from the Standard variety speakers and the Spanish-accented English is really close to each other, and the Chinese-accented English speaker is lower.

Focus group results

The five participants that were part of the focus group after completing the multiple tasks and doing the activities that were asked to showed the following results.

When they were asked their opinion about accents 2 (participant B and participant D) out of the five told us that they had very strong beliefs that they were important. They mentioned phrases including these quotes: “if you have a thick accent you will have a hard time to get people to understand you” and “yes, accents are part of how we talk but we should work on not having them to talk to others”. These two participants rate the importance of having an accent as a 9 (participant B) and an 8 (participant D). This only showed that they really thought of accent as having a crucial role and affecting communication.

The other participants had a more positive attitude towards accents and they mentioned phrases including these quotes: “having an accents is part of speaking other languages”, “accents are a

characteristic of our way of speaking and they are good” and “I have an accent and I don’t think it is a big deal”. These participants rate the importance of having an accent as a 5 (participant A), as a 3 (participant C) and a 4 (participant E). This showed that they thought accents were not that important or that accents don’t affect communication or understandability.

These different opinions made easier the second part of the focus group which was the making groups and each group had to present 3 arguments on why they thought accent were something good or something bad. Group 1 had participants B and D, they had to present points about why different varieties do not sound as good as American and British; group 2 with participants A, C and E had to give arguments that showed why different varieties were as good as any other.

Group 1 presented the following arguments: English is original from a few places and should not adapt to non-original places; Having an accent is harder to understand than when you don’t have one; If no one had an accent communication would be easier.

Group 2 presented the following arguments: Even in the same country you have different accents; You can never get rid of an accent, it is part of you; As long as you can communicate, the language is working.

Then they watched the video mentioned before but because of the time of the activity it was not possible to go into detail of what they liked about the video or what they did not like. They did end up giving a short opinion where all of them agreed with the speaker (some ended up agreeing more than others).

In the last part of the focus group participants had to rate again from 1 to 10 how important they thought having an accent was. Participant A went from a 5 to a 2, participant B went from

a 9 to a 6, participant C went from a 3 to a 2, participant D went from a 8 to a 7 and participant E went from a 4 to a 1.

A	5	2
B	9	6
C	3	2
D	8	7
E	4	1
Total	29	18
Total per group	17	13
	12	5

Here we can see that the overall rate from the group went from 29 to 18. In case of group 1 their scores went from 17 to 13, meaning they decreased 2.5 points on average. In the case of group 2 their scores went from 12 to a 5 meaning they decreased 2.33 points on average. Both groups decreased the rate they initially started with. However, the group that was more inclined towards the importance of accents shows the greater decrease on their overall average. This result is important because it shows that people that see accents as important are the ones that are more likely or have greater room to change their perception.

Discussion

As shown in the study made by Magne in 2016 most participants show some camaraderie towards their own dialect. However, this did not mean that participants understood more, the accent that was the most understood by far was the American, followed by the Latino and the least understood was the Asian one. Another result that was replicated was the fact that although participants had not been successful in understanding some of the accents, the last accent they had to transcribe 100% of the participants had the answer correct.

Participants also described American variety as the one that is more clear and more understandable, but they chose the British variety as the one that sounded more professional. This is similar to the results from Wong 2018, where he found that the British variety had a higher status, as was mentioned in this study this was because more advanced students get native teachers, which is a practice that is done in the population surveyed.

One of the main results found in the study made by Yuan, J., Yue, J., & Ziang, S in 2010, showed that L2 English speakers tend to understand the non-standard varieties that native speakers which could not be proven because native speakers of English were not the participants of the study. However, we found that the participants understood more of standard varieties than non-standard varieties, including their own.

Magne 2016, speakers understand more of their own dialect, understanding gets better though time of exposure, solidarity between people that speak the same variety speakers being less sensitive towards their own accent, some people saw their accent as either very bad or very good.

Compared to what McCullough in 2013 found, significant differences on the VOT were not found and therefore were not as important as other factors that were significantly important. We found that, as McCullough's study found, the vowel quality is different in the standard and

non-standard varieties but the F0 and the consonant quality is also very different in standard and non-standard varieties. The same as this study we also asked our participants to rate an accent and show a significant decrease on the rating received about the importance of an accent before and after learning more about them.

Conclusion

Accents are perceived as something important for understanding and communication but when people learn more about them the barrier created because of thinking that one accent is better than another becomes smaller. The most understandable variety is the American variety, and the least understandable variety is the Chinese-accented English, in the middle from this is the Spanish-accented English, which was the variety all of the participants spoke. The understanding of an accent gets better when you are more exposed to it, this is progressively but even with a small exposure it seems you start to understand it better. The most important factors that separate one variety from another are the F0, as shown by the F0 contour, and the quality of the vowel and consonant sounds.

Recommendations

These methods described above have their limitations, at first it was planned to have 4 varieties surveyed but due to not being able to get a British variety speaker we ended up using two American varieties. The classification of open-ended questions was also a difficulty faced in the progress of making the paper and more precise software to measure certain parts of the spectrogram would have been helpful.

As a modification of the original Pilot study survey instructions should be more precise and it will also be useful to apply it to more people. It would also be important to have a recording of each of the varieties the questions are asking about. Although all these problems were solved in the second survey, doing it like that with a still smaller population might help us to get better results after correcting the mistakes found. It is also important to improve the ways in which open result questions would be analyzed or how the answers are going to be sorted out, by doing this, taking too much time in the classification of these will be avoided. When using a program to analyze the spectrogram of an utterance it would be best to find another program that helps you to define it more easily the VOT and if possible, a program that helps you with the transcription to phonetic alphabet, so it is easier to analyze bigger segments.

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