BEACHES AND PEACHES: COMMON PRONUNCIATION ERRORS AMONG L1 SPANISH SPEAKERS OF ENGLISH

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The following descriptive study aims to illustrate several types of common errors for L1 Spanish speakers of English. It describes four common phonetic distinctions that cause such speakers difficulties in English, including /p/ versus /b/ in a word-initial position, /i/ and /ɪ/, /ɔ/ versus /ow/, and the final voicing distinction between /t/ and /d/. Targeted errors were chosen based upon their relative functional load as well as the tendency to be problematic for Spanish-speakers of English. Data in the form of short read texts and a free speech activity is examined from two different international teaching assistants at a large, North American university in order to ascertain whether they exhibited such problems as well as to diagnose other pronunciation difficulties. Results showed that while the initial /p/ versus /b/ and /ɔ/ versus /ow/ errors were less problematic, the /i/ versus /ɪ/ and final voicing distinction between /t/ and /d/ were most difficult for the speakers in this sample. The latter type of error in addition to those involving other final-position consonant clusters, is argued to be of the highest priority for pronunciation teaching at the advanced level, as it tended to be the factor that most influenced the intelligibility and comprehensibility among the high-proficiency speakers examined here.

INTRODUCTION

The following descriptive study aims to illustrate several types of common errors for L1 Spanish speakers of English (SSOE). It describes four targeted phonetic errors that such speakers are said to have in English, examining data from two different individuals in order to ascertain whether they exhibit such problems. Targeted errors were chosen based upon their relative functional load as well as the tendency to be problematic for Spanish-speaking individuals.

Functional load, as described by King (1967, p. 831, as cited in Munro & Derwing, 2006) is "a measure of the work which two phonemes (or a distinctive feature) do in keeping utterances apart." Catford (1987) provides a ranked list of common segmental pairs that gives information about their relative functional load based on factors such as minimal pair frequency, neutralization of phonemic distinctions in regional varieties of English, where the sound occurs within a word, and its likelihood of individual minimal-pair occurrence.

Avery and Ehrlich (1992) and Coe (1987) identify several errors that seem to be common among many SSOE of varying dialects. Among these individuals' consonant difficulties, both cite the problem with unaspirated initial /p/, /t/, and /k/ and word-final plosive replacement of /t/ for /d/. Vowel difficulties include, but are not limited to problems distinguishing between /iy/ and /ɪ/ and confusion between /ow/ and /ɔ/. (Note: This paper will use the /iy/ and /ow/ symbols for IPA /i/ and/o/ because they more accurately represent the glided vowels common in American English.) Both authors also reference the problem between /b/ and /v/ sounds, which causes confusion between English words such as *vowels* and *bowels* and whose sounds may not be distinguished by speakers due to their allophonic distribution in Spanish. They also note the common substitution of /ʃ/ and /ʧ/, in words such as *ship* and *chip*.

Brown (1991) advises English as a second language (ESL) instructors to learn the sound distinctions that their target learner group has problems with in order to address their common errors based on functional load. For this reason, the following errors, as shown in Table 1, were selected based upon their functional load as well as whether they tended to cause confusion among SSOE.

Table 1

Relative functional load adapted from Catford (1987) for Spanish-speaker errors

Consonant/Vowel	RFL (%)	Example
initial p/b	98	pit/bit
iy/ ɪ	95	beet/bit
ɔ/ow	88	bought/boat
final t/d	72	sat/sad

The second criterion used to settle on the errors to be analyzed in this study was based upon both the present author's own intuition as well as several different researchers' explanations regarding the recurrent pronunciation difficulties that many SSOE may encounter (Avery & Ehrlich, 1992; Coe, 1987; Dale & Poms, 1985; 1986).

/p/ versus /b/

The first error listed in Table 1, /p/ versus /b/ in a word-initial position has a 98% relative functional load and can frequently cause misunderstandings, as in the case of *pear* sounding like *bear* and *pat* sounding like *bat* (Dale & Poms, 1985, p. 81). According to Coe (1987), the aspiration of word-initial /k/ also tends to be problematic but does not have a very high functional load, which is likely due to the smaller number of minimal pairs that exist between /k/ and /g/. Although /p/ is a familiar consonant to Spanish speakers, the English [pʰ] at the beginning of stressed syllables is aspirated whereas the Spanish [p] is not. English /p/ must be produced with aspiration in order to avoid confusing it with English /b/.

/iy/ versus /ɪ/

The phonemes /i/ and /ɪ/ have a relative functional load of 95%, which make them common sources of misinterpretation if pronounced incorrectly. Spanish speakers frequently confuse the short vowel, /ɪ/, for the longer /iy/ due to the fact that there is no distinction between tense and lax vowels in their mother tongue (Avery & Ehrlich, 1992). Additional problems occur because of English spelling patterns as well as because the English glided vowel [iy] is unlike the Spanish non-glided [i], which occurs only occasionally in English words such as *city* [sɪti]. For this reason, Spanish speakers are often heard to say *sheep* [ʃip] as *ship* and *eat* [it] as *it* (Dale & Poms, 1986, p. 11).

/ɔ/ versus /ow/

The /ɔ/ versus /ow/ distinction can be heard in words such as *caught* and *coat* or *bought* and *boat*. Although this distinction's relative functional load is less than that of the two minimal pairs considered thus far, it could be confusing for SSOE due to the absence of both sounds in their L1. In addition, unfamiliar English spelling patterns including /ɔ/ tend to make speakers replace this sound for more familiar Spanish sounds such as [o], which is closer to the English glide vowel [ow].

/t/ versus /d/

The final common error examined here is that of the final voicing distinction between /t/ and /d/ in words such as *pat* and *pad*. Despite the fact that this pair has a functional load of 77%, it does seem to plague SSOE in words such as *food* and *foot* or *card* and *cart*. Whereas the English [d] is often produced by touching the tip of the tongue to the upper gum ridge, Spanish speakers are used to placing the tongue a little farther forward in the mouth so that it hits the back of the upper front teeth (Dale & Poms, 1985, p. 23). In some cases, the Spanish L1 speaker's pronunciation of final [d] may become [ð], with the tongue inserting between the teeth as in words such as *said*, pronounced [sɛð].

METHODOLOGY

Materials

The materials used for this study (Appendix A) included four short texts, which were of the author's invention or were adapted using the Dale and Poms (1985; 1986) workbooks targeting the consonant and vowel sounds that SSOE frequently encounter. In addition, participants were also asked to engage in a free-speaking activity at targeted the /iy/ versus /ɪ/ contrast, which entailed playing the role of student A in a role-play activity. Simple roleplays can be excellent ways to engage in communicative practice according to Celce-Murcia, Brinton, Goodwin, and Griner (2010). The rationale for using a communicative free speech task over a more open free speech activity was that both participants in the study had a relatively high level of English speaking proficiency as indicated by their current enrollment as MA students in a North American university. Its main purpose was to elicit the four expected pronunciation errors shown in Table 1 in order to test the hypothesis that these errors would be problematic for L1 SSOE as well as ascertain what other possible errors might cause communication difficulties among these individuals.

Participants

The participants for the present study included Fulano and Juanita (pseudonyms), two SSOE whose ages were 36 and 34 respectively. Each was studying in a different MA degree program at a Midwestern university in the US. Fulano reported having been in the US for two years and studying English in formal classroom settings for a total of two and a half years, while Juanita had been in the US for seven years and had never formally studied English.

Procedure

The short texts were utilized in this study to elicit L1 SSOE's production, to diagnose their pronunciation errors, and then to compare these errors to those initially predicted. After agreeing to participate in the study, participants were asked to fill out a short survey and were then given a worksheet that asked them to read the short texts (Figures 1-4) and participate in the role-play task (Figure 5). The researcher recorded all activities using open-source audio recording software, Audacity (http://audacity.sourceforge.net/). Oral discourse was later transcribed using broad phonetic transcription and examined in detail in order to ascertain whether or not the expected errors were those that the participants actually committed as well as to diagnose any unexpected pronunciation problems that may have occurred. All materials and transcriptions can be found in Appendices A-C.

Analysis

Analysis of the participants' oral discourse included the transcription of all tasks followed by a quantitative analysis of the number of potential errors that participants could have made and those that they actually had. The data was further examined qualitatively in order to diagnose and describe any unexpected errors.

RESULTS AND DISCUSSION

The following section is organized according to the type of error that participants made during the five tasks. As Tasks 1-4 each targeted a particular type of error, only those were used to tabulate the expected error frequencies observed in Table 2. Because of the nature of the fifth task and despite its targeting the [iy]/[ɪ] distinction, five additional unexpected types of error beyond the four targeted types were observed. These unexpected errors will be detailed in the final part of this section. Full transcriptions of participants' speech can be found in Appendix C.

Table 2

Frequency of Expected Errors Made by Participants

Participant	Initial [p]/[b] (%)	[iy]/[ɪ] (%)	[ɔ]/[ow] (%)	Final [t]/[d] (%)
Fulano	0	20.0	5.3	21.4
Juanita	0	20.0	5.3	14.3

Initial [p] versus [b]

Out of the possible 13 instances of word-initial [p] (or 17 instances of syllable-initial [p]), Fulano did not make any of the expected replacements of [p] with [b]. His greatest difficulties came with the first line of the tongue twister, in which he replaced the final ending of the word *pickled* with [t], causing it to sound like [pɪklt]. Juanita also did not replace [p] with [b] in any of the expected initial positions.

[iy] versus [ɪ]

The second reading task's results showed that Fulano had some difficulty making the [iy] versus [ɪ] distinction. Out of the total 15 instances where [iy] could have been substituted for [ɪ] or vice versa, he did this three times. The most problematic instance was in the second sentence, where the word *dip* ended up sounding like *deep* and vice versa due to the reversal of the [iy] and [ɪ]

sounds. Although the results of Fulano's free speaking roleplay task showed that there were very few errors made that could potentially cause a communication breakdown, he did continue to confuse [iy] and [ɪ], which is seen in *cheat* [ʧit], *asking* [askiyŋ], *pill* [piyl], and *drink* [driynk]. In *cheat*, although Fulano did not confuse [iy] with [ɪ], he did fail to make a full glided [iy], instead using the Spanish vowel, [i].

Like Fulano, Juanita continued to replace the /ɪ/ with the /iy/ sound in words such as *pill* and *sick* in the second activity and /iy/ with /ɪ/ in *cheat* in the free speaking activity. For the reading task, Juanita also only substituted [iy] for [ɪ] or vice versa three out of the possible 15 times, where *field* and *filled* sounded like [fɪld] and *deep* and *hit* sounded like [dɪp] and [hiyt] respectively.

[ɔ] versus [ow]

The third task seemed to give both participants some difficulty but not necessarily because of their confusion of [ɔ] and [ow], but rather because of their conflation of [ɔ] and [ow] with proximal vowels, such [aw], which is seen with Fulano's pronunciation of *how* as [how]. Out of the 19 possible instances of [ɔ] and [ow] in the reading task, Juanita confused these only once in *ought* [owt], which may be due to unfamiliarity with the word. She also struggled with the replacement of glided vowels in the free speaking task, such as /ow/ and /uw/ with /o/ and /u/ in words such as *hot, don't* and *truth*.

Another error in relation to these sounds occurred with the glided vowel [ow] in proximity to a consonant, such as [n] or [b] and each participant had a different way of handling this pattern of sounds. On one hand, Fulano failed to pronounce final nasal sounds associated with [ow] altogether, such as in *alone* [əlow] and *phone* [fow]. Juanita; however, when faced with similar sound combinations, maintained the voiced consonant but failed to produce the glided vowel [ow], as seen in her pronunciation of *phone* [fon] and *nobody* [novadi]. These different strategies for dealing with [ow] + consonant was unexpected but noteworthy.

Final [t] versus [d]

As previously mentioned, the final [d]/[t] distinction is implicated in grammatical morphemes such as past tense markers of verbs such as *talk__ed__* and *walk__ed__*. Mispronunciations are not only an issue of sound but also of grammatical markers. For this reason, the mispronunciation of these final sounds can be problematic and have a greater potential to cause breakdowns in meaning between speakers.

Out of the four errors expected for the fourth task, Fulano's [t] versus [d] errors were most prevalent, as is also evidenced in the third task with his replacement of final [d] with [t] in words such as *heard* [hiyrt], *answered* [ɛnsərt], and *offered* [ɔfərt]. In Task 4 he confused [t] and [d] three out of the possible 14 instances where it occurred [eyd] for *ate*, [bæt] for *bad*, and [wʌd] for *what* as well as failed to pronounce the final [t] sound in the word *stopped*. It should also be noted that saying [wʌd] for *what* is produced by many native speakers given the initial vowel phoneme in *about* given that it is very unnatural to say *what about* as [wʌtəbauwt].

For the fourth task, Juanita confused the final [d] with [t] two out of the possible 14 times in *cold* and *bad*, but much more salient is her final [t] aspiration in words such as *ate* and *fruit*, which may be more frequent when reading than in spontaneous speech.

Non-targeted errors

In addition to targeting the [iy]/[ɪ] distinction, the activities provided opportunities to encounter some of the less expected errors that participants were making. For example, in the free speaking task, Fulano substituted [uw] in the word *misunderstood* and a [d] alveolar stop for [ð] voiced fricative is a repetition of the same issue in words such as *the*. Whereas the first error might be attributed to the proximity of the [uw] to the Spanish [u], the second appeared frequently throughout both participants' read and free speech. Juanita, like Fulano, also substituted [d] for [ð] in words such as *the* and *then.* He also failed to pronounce the final [d] in the word *field* and the replacement of [ð], interdental fricative, with the [d], alveolar stop in *the* during the second reading task.

Second, both participants tended to replace voiced consonants such as [v] and [z] for voiceless [f] and [s] in words such as *have*, *of,* and *was*, supporting Coe's (1987) claim that Spanish speakers often fail to pronounce the /z/ due to its relative non-existence in Spanish. This may also occur because of the tendency of Spanish speakers to pronounce English as it is spelled, such that orthographic <s> and <f> are likely to be pronounced in the same way.

Third, Juanita's pronounced of *home* with a velar fricative [x], which may be explained by the tendency of *h* to be silent in Spanish words such as *hola* [ola]. Thus, she may have had to consciously remind herself to pronounce [h] resulting in an overemphasis using the velar fricative [x].

Fourth, Juanita's replacement of [b] with [v] in *nobody*, two frequent sounds in Spanish. This conflation of [b] and [v] is a frequent error amongst Spanish speakers according to Coe (1987) and Dale and Poms (1986), due to their interchangeable nature in Spanish words such as *vela*, which can be pronounced either [vela] or [bela].

The final error that will be discussed here is the tendency of both participants to leave the consonant endings off words such as *don't, test, truth* and *cheated*, ended up sounding like [don], [tɛs], [tru], and [ʧit]. This omission is similar to problems between final [d] and [t], in that in some cases it may be due to a lack of grammar knowledge rather than pronunciation. This is further evidenced by the fact that Juanita in particular seemed to struggle with present and past simple verb tenses, as seen in her substitution of *come* for *came*.

This section has outlined the results regarding the expected errors with initial [b]/[p], [iy]/[ɪ], [ow/[ɔ] and final [t]/[d]. It has also detailed five unexpected types of error that participants made including issues with [d] / [ð], [b] / [v], [h] / [x] and [s] / [z] and final consonant omissions. Several conclusions can now be made about the most pressing phonetic problems for participants.

CONCLUSION

The analysis of common pronunciation errors among L1 Spanish speakers of English allows for several conclusions to be made about the most pressing phonetic problems that the participants of the current study produced. First, of all of the expected errors examined in this paper, the /ɔ/ versus /ow/ and /p/ versus /b/ distinctions appeared to be the least problematic for participants, although this still may be a critical issue in learners with a lower proficiency than those exhibited

here. Second, the /iy/ versus /ɪ/ and final-position /d/ versus /t/ distinctions seemed to be the most common at higher levels of spoken proficiency. One phenomenon that relates to the latter distinction is the tendency of SSOE to eliminate final consonant clusters and sounds, which is noted by Avery and Ehrlich (1992), Coe (1987) and Dale and Poms (1985). Avery and Ehrlich (1992) further note that since the failure to add consonant clusters often interferes with the interpretation of grammatical tense, the inability to produce such clusters in often misinterpreted as a grammatical problem. This type of error, at least among the high-proficiency speakers examined here, is argued to be of the highest priority for pronunciation teaching, as it tended to be the factor that most influenced their intelligibility and comprehensibility. Finally, both speakers also tended to supplement [d] for [ð] in words such as *the* and *then*, an error that may not be critical for understanding but that may make a listener have to work harder to comprehend.

ABOUT THE AUTHOR

Jesse Gleason is a PhD student in Applied Linguistics and Technology at Iowa State University, where she teaches Spanish for the World Languages Department. She holds a BA in Spanish from the University of Michigan, an MA in Linguistics from the Pontificia Universidad Católica de Chile and has over 13 years of L2 teaching experience in English and Spanish. She has published in journals such as Studies for Second Language Acquisition (SSLA) and the Canadian Journal of Applied Linguistics (CJAL) and presented at conferences in North America, Europe, and Australia. Her current research interests include systemic functional approaches to discourse, computer-assisted language learning (CALL), and language assessment.

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Appendix A
Participant Survey

How old are you?

How many years have you lived in the United States?

What degree are you pursuing at Iowa State? (e.g. MA in Architecture)

How many years have you formally studied English? (e.g. taken English classes)

Appendix B

Speaking Tasks 1-5
Instructions: Please read tasks 1-4.

1. Targeted sounds: Initial [p] and [b]

Peter Piper picked a peck of pickled peppers. How many pecks of pickled peppers
did Peter Piper pick? A peck!

2. Targeted sounds: [iy] and [ɪ]

The field was filled with flowers.	She will sit in the seat.
Take a dip in the deep water.	The heat will hit the city.

3. Targeted sounds: [ɔ] and [ow]

Joe was home alone and thought he heard the phone ring.
'Oh no! It ought to be my boss!' he thought.
'Hello?' he answered.
Nobody offered a hello back.
'How awful,' thought Joe as he hung up the phone.

4. Targeted sounds: Final [t] and [d]

The boat stopped cold.	You ate a fruit tart?
The light went bad.	But what about when she washed her plate?

5. Targeted sounds: [iy] and [ɪ]

Instructions: Now please complete Task 5 with a peer.
Student A

Identity: Jean / Jim Green (student)

Situation: Your physics teacher, Mr. / Mrs. Bean, has called you into her office because she
suspects you of cheating on the quiz. You explain that you didn't cheat. The heat was making
you feel ill and you needed to take a pill.

Appendix C

Phonetic transcription of Task 1, Peter Piper tongue twister reading

Fulano

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peter           piper picked peck of pickled peppers
[piɣdər]        [p]   [p]     [p]  [əf] [pɪklt] [p]
how many pecks of pickled peppers did peter piper    pick
         [p]          [p]     [p]          [p]   [p]      [p]
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Juanita

```
peter piper picked a peck of pickled peppers
[p  [pipər] [p]      [p]  [əf] [pɪkl]  [p]
how many pecks of pickled peppers did peter piper    pick
         [p]          [pɪkl] [p]        [p]    [pipər] [p]
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Phonetic transcription of Task 2, reading of [iɣ] and [ɪ] sentences

Fulano

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the field was filled with flowers          she will sit in the seat
   [fiɣl]      [ɪ]      [ɪ]                    [ɪ] [ɪ] [ɪ]    [iɣ]
take a dip   in  the deep water             the heat will hit the city
    [diɣp] [ɪ] [də] [dɪp]                    [hiɣt] [ɪ] [ɪ]       [ɪ]
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Juanita

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the field was filled with flowers          she will sit in   the seat
   [fɪld]        [fɪld] [wɪt]                  [ɪ]  [ɪ] [ɪ] [də] [iɣ]
take a dip in the deep water                the heat will hit the city
    [ɪ][ɪ]       [dɪp]                        [hiɣt] [ɪ]  [ɪ][də] [ɪ]
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Phonetic transcription of Task 3, reading of [ɔ] and [ow] short story

Fulano

Joe was home alone and thought he heard   the   phone ring
[ow]   [ow] [əlow]   [tɔt]   [hiʏrt] [də]   [fowriʏn]
oh no it ought to be my boss he thought
[owno] [ɔ]   [ɔ]   [ɔ]
hello he answered
 [ow]   [ɛnsərt]
nobody offered a hello   back
 [ow]   [əfərt]   [ow] [bak]
how awful thought Joe as he hung up the phone
[how][ɔl]   [ɔ]   [ow]   [hæn][ab][də] [fow]

Juanita

Joe was home alone and thought he heard the phone ring
[ow]   [iow] [əlʌn]   [tɔt]   [də] [fon]
oh no it ought to be my boss he thought
[ono]   [owt]
hello he answered
 [ow]   [ænsərt]
nobody offered a hello back
[novadi] [əfərt]   [ow]
how awful thought Joe as he hung up the phone
[ha] [əful] [ɔ]   [ow]   [ab][də][fon]

Phonetic transcription of Task 4, reading of final position [t] and [d] sentences

Fulano

the boat stopped cold   you ate a fruit tart
    [t]   [stap] [d]   [eʏd]   [t] [t]
the light went bad   but what about when she washed her plate
    [t]   [t] [bæt]   [t] [wʌdəbauwt]   [t]   [t]

Juanita

the boat stopped cold   you ate a fruit tart
[də] [t]   [t][kowlt]   [eʏtᵇ][fruwtᵇ][tartᵇ]
the light went bad   but what about when she washed her plate
[də][laʏtᵇ] [uɛntᵇ][bæt]   [bʌtᵇ][wʌdəbauwt][yuw]   [t]   [t]

Phonetic transcription of Task 5, free speaking task pronunciation errors

Fulano

I didn't cheat
  [ɪ]   [ʧit]
you ahm misunderstood a situation the other day with another classmate
          [ɪ]   [stuwd] [ɪ]   [ʌdər]   [ɪ]
I was just eh asking for how many minutes eeh do we we had for to finish the exam.
               [ɪ]   [ɪ]   [iy][iy]   [ɪ][ɪ] [də]
I was asking to my classmate for for a pill or something to drink. but was not about the exam
   [askiyn]   [piyl]   [ɪ]   [driynk]   [ðɔəksæm]

Juanita

I don't have idea
  [don] [hæf] [iy]
I haven't been cheating in any exam
    [havənbɪn] [ʧitən] [ɪ]
I remember the day of the test. I was feeling sick…was too hot. The class was too hot
            [də]   [əfdə] [tɛs]   [iy]   [siyk] [was]   [hot] [də]
I needed to take a pill because I was sick so ehh probably I went outside to take the pill and then
  [iy]   [piyl]   [siyk]   [prali]   [də] [piyl] [don]
I come back but I I'm I'm I'm telling you truth.
                                        [tru]
I have never cheated in my life
  [hæf]   [ʧit]   [ɪ]