

## Ultimate attainment of Spanish laterals by native English-speaking immigrants in Spain

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### Abstract

Compared to English, Spanish laterals are produced with the tongue farther fronted in the mouth, and this is especially true in syllable codas where English has a velarized lateral. L1 English speakers learning Spanish as an L2 need to learn to produce lighter laterals in all contexts, and especially in syllable codas. Previous studies have shown that learners of L2 Spanish do not eliminate the influence of the more back L1 English laterals but have not examined more experienced learner groups than graduate students studying Spanish. The present study investigates the lateral production of L1 English-speaking immigrants to central Spain who have spent much of their lives living in Spain, immersed in the culture and language. As a group, the learners' laterals differ significantly from those of native Spanish speakers, but individual learners are either native-like or come very close to native-like pronunciation when comparing their productions to native speaker ranges. This finding stands out from findings of other studies with this same learner population where they do not come close to having a native-like pronunciation.

**Keywords:** Spanish, laterals, second language acquisition, immigrants, ultimate attainment

### 1. Introduction

For decades Spanish pronunciation textbooks have pointed to significant differences between English and Spanish laterals (e.g., Dalbor, 1997; Hualde, 2005; Morgan, 2010; Quilis & Fernández, 1964). Specifically, Spanish laterals have a more fronted articulation than do English laterals, and this is even more notable in syllable codas, where English has a velarized, or dark, lateral (i.e., [ɫ]) that is absent in Spanish. In spite of these differences, laterals have received little attention in research on L2 Spanish phonology.

While research on L2 Spanish phonology has grown considerably in recent years, much of this work has focused on certain sound classes, while others have received little or no attention. Only Solon (2017, 2018), Amengual (2018) and Díaz-Campos (2004) have directly investigated L2 Spanish laterals. The participants in these studies are university students, so nothing is known about more experienced learners. This is typical of work on L2 Spanish phonology, likely due to the easy access researchers have to the large number of university students studying Spanish. While some of these studies include graduate students, and the rare exception may include university faculty members, generally very little is known about speakers with more experience with Spanish. Many L2 Spanish learners use Spanish in their lives after graduating from university and have advanced beyond the Spanish abilities

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they had when attending university, yet we know next to nothing about the L2 Spanish phonological system of these learners. In what ways and to what extent do they advance beyond the phonological system of university students studying Spanish as an L2? What factors facilitate or hinder this advancement? What does ultimate attainment (i.e., the end state of their learning) look like? To what degree is there individual variation? These and other related questions are of great interest to better understanding L2 phonological development.

The present study seeks to address the issue of ultimate attainment of L2 Spanish laterals by L1 speakers of American English by investigating the speech of a group of L2 Spanish learners born in the United States who later immigrated to central Spain and have spent a significant portion of their lives living there. The specific research questions to be addressed are as follows:

1. How does the pronunciation of L2 Spanish /l/ by L1 English – L2 Spanish immigrants to Spain compare with that of native speakers living in the same region?
2. To what degree is there individual variation in the pronunciation of L2 Spanish /l/ between these very experienced L1 English - L2 Spanish speakers?

### 1.1. *Previous Literature*

Of Solon's studies on Spanish L2 laterals, her 2017 study is the most relevant to the present study. In this study she examined the speech of five groups of L1 English speakers studying Spanish as an L2 at a midwestern American university. The groups were students at the first, second, third and fourth year levels of university Spanish studies as well as graduate students. The students' productions of L2 Spanish /l/ were compared with both the productions of native speakers and with their own L1 English /l/ productions. The participants produced laterals in three tasks: picture description, sentence reading and word list reading. Four contextual variables were included in the analysis: position in the syllable, stress, preceding vowel and cognate status of the word. The second formant (F2) of each lateral was measured, as this corresponds with frontness/backness (e.g., Recasens, 2012), with a higher F2 indicating a more fronted production than a lower F2. Prior to data analysis, a process of normalization was carried out to account for physiological differences (e.g., vocal tract size) between speakers (see the methods section of the present study for details).

Solon's (2017) results showed that her native speaker group had significantly more fronted (i.e., lighter) laterals, as indicated by higher normalized F2 values, than all of the learner groups. Among the learner groups, graduate students had significantly more fronted laterals than all of the other groups. For the groups within the first four years of university-level study, the only significant difference was between the fourth and second year groups, but there was no significant progression from year to year. For syllable position, laterals in syllable codas were significantly more back (i.e., darker) than those in syllable onsets for learners in the first three years of university study, but there was no significant difference based on syllable position for fourth year and graduate student learners. With respect to preceding vowel, while the

degree of the effect varied by group, all groups of learners produced significantly more back (i.e., darker) laterals following a back vowel than when following a front vowel. The effect of task was not so clear. While there was a significant difference in lateral production based on task for the groups in their first four years of study, the effect was inconsistent in that it varied in direction by group, with some having more back (i.e., darker) laterals in more controlled tasks and others in less controlled tasks. In comparing their Spanish laterals with their L1 English laterals, all learner groups had a significant difference between the laterals in the two languages. Summarizing Solon's finding, there was minimal and statistically insignificant improvement in L2 Spanish lateral production from less experienced to more experienced learners within the first four years of university study. Graduate students did improve significantly in comparison to the other groups but differed significantly from native Spanish speakers. In coda position, where English has more back (i.e., darker) laterals, L2 Spanish laterals were significantly more back than those of the native speakers for the learners in the first three years of university study, but fourth year and graduate student learners did not differ significantly from the native speakers.

The finding that the learners produce more back (i.e., darker) Spanish laterals following a back vowel than following a front vowel points to the effect of coarticulation on lateral production. Solon (2018) investigates this coarticulation and, specifically, its development across her groups of learners. As English shows a greater resistance to coarticulation than does Spanish, Solon investigated whether learners earlier on in their study of Spanish showed a lower degree of coarticulation with their L2 Spanish laterals due to L1 English influence than did learners who were more advanced in their study of Spanish. She found that, indeed, learners at earlier stages of acquisition showed less influence of the preceding vowel on their L2 Spanish lateral production than did learners at later stages of acquisition, indicating influence from L1 English in the form of a greater resistance to coarticulation. Across groups there was a gradual movement toward more target-like L2 patterns of greater variability in lateral production, based on the nature of the preceding vowel, as the level of the learners increased. She also looked at coarticulation in individuals, in addition to groups, and found that a more target-like production of L2 Spanish laterals does not necessarily correspond to more target-like coarticulation patterns, providing evidence that the acquisition of coarticulatory patterns does not naturally follow from acquisition of segments. As coarticulation is of less direct relevance to the present study, the reader is referred to Solon (2018) for further details.

Amengual (2018) examined the Spanish and English laterals of three groups of heritage speakers of Spanish as well as a group of university students studying Spanish as an L2. As the L2 group is of interest to the present study, this discussion will be limited to the findings for that group. Amengual found that in their English laterals, the L2 Spanish learners produced laterals that were more back (i.e., darker) in syllable codas than they did in syllable onsets, but that this distinction did not carry over to their L2 Spanish laterals. This indicates that the L2 learners have developed separate phonetic categories for their Spanish and English laterals. This finding contradicts the findings of Solon (2017), who found that L2 Spanish learners produced darker laterals in

syllable codas than in syllable onsets, transferring the contextually-determined properties of laterals from their L1 English to their L2 Spanish. Amengual also looked at language mode and found that when in bilingual mode the Spanish laterals of the L2 learners shifted toward the laterals of their L1 (i.e., they became darker), while their L1 English laterals were unaffected by being in bilingual mode.

Díaz-Campos (2004) investigated the L2 production of Spanish laterals by learners studying at their home university and learners on a 10-week study abroad program. His study was limited to word-final laterals, where a dark lateral would be expected if there was transfer from the participants' L1 English and a light lateral would be considered a target-like L2 production. Díaz-Campos (2004) considered context of learning (i.e., at-home vs. abroad), development over time (i.e., from beginning to end of the 10-week program/semester), and various individual factors (e.g., gender, years of formal language instruction, use of Spanish outside of the classroom, language proficiency). Overall, learners produced the English-influenced, non-target dark lateral 72% of the time. There was improvement in producing the target-like light lateral in both groups over time, with greater improvement by the at-home learners.

In the studies of ultimate attainment, it has been observed that there are “exceptional” learners (e.g., Abrahamsson & Hyltenstam, 2009; Kinsella & Singleton, 2014; Stöltén, Abrahamsson, & Hyltenstam, 2015). While it is generally accepted that most L2 learners do not attain native-like levels of proficiency in the L2, especially with respect to phonology, with native-like pronunciation often being considered unattainable after the age of seven (e.g., Granena & Long, 2013), exceptional cases are well attested in the literature (e.g., Bongaerts, Planken, & Schils, 1995; Ioup, Boustagui, El Tigi, & Moselle, 1994; Kinsella & Singleton, 2014; Moyer, 1999). A minimum length of residence of eight years has been reported for exceptional learners (e.g., Ioup, Boustagui, El Tigi, & Moselle, 1994; Moyer, 1999). While length of residence has an impact on ultimate attainment, Moyer (2014, p. 434) points out that “exposure alone is never enough to reach a native-like or near-native level.” Rather, length of residence is one of a “constellation of factors” to impact exceptional outcomes in L2 phonology (Moyer, 2014; Kinsella & Singleton, 2014). Kinsella and Singleton (2014, p. 457) suggest that an exceptional L2 learner must have “worked professionally and successfully within the target language for a significant period of their lives” but even this is not necessarily sufficient to guarantee native-like pronunciation. Moyer (2014, p. 435) concludes that the “constellation of factors” that contribute to exceptional outcomes in some learners include “cognitive, psychological, social, and experiential” factors, and Bylund, Abrahamsson, and Hyltenstam (2012) note that language aptitude is also a factor. All of these factors, and likely many others, affect the development of the L2 sound system, meaning that a great number of factors of varying types must align to result in native-like pronunciation.

In work on Spanish ultimate attainment, Face and Menke have found sizeable variation in outcomes across speakers (Face, 2018a, 2018b, 2021; Face & Menke, 2020; Menke & Face, 2018) and, for individual speakers, across sound classes as well (Face, 2021). In fact, not one speaker in these studies has

demonstrated fully native-like pronunciation of even one sound class. Some caution must be taken with such an observation, however, as linguistic scrutiny has been shown to be a stricter criterion than listener perceptions (e.g., Stölten, Abrahamsson, & Hyltenstam, 2015), meaning that it is possible that some speakers may pass to native-speaker judges as having a native-like pronunciation in spite of having significant differences from native speakers when acoustic measurements are taken.

## **2. Methodology**

### *2.1. Participants*

The participants in this study were 12 native speakers of American English who speak Spanish as a second language and live in central Spain. They were recruited for this study through personal contacts and an American club in the region. All were born and raised in the United States and immigrated to Spain as adults. While all began learning Spanish before moving to Spain, none of them began learning Spanish prior to adolescence. The age range of participants was 41-84 years old, with a mean age of 62.9 years old. Length of full-time residency in Spain ranged from 11 to 60 years, with a mean of 36 years.<sup>2</sup> All participants speak both Spanish and English in their daily lives, and self-reported estimates for Spanish are 40-90%, with a mean of 67.5%. Multiple participants commented that the percentage of English and Spanish used has changed over time, based on jobs held (e.g., more English when working for an international company than a Spanish company; more Spanish when working than when not working), presence of a Spanish-speaking significant other, easier access to English presently than previously due to technology, etc. It is their long length of residence in Spain and experience immersed in a primarily Spanish-speaking culture that gives these learners a profile that distinguishes them from learners in other studies. While some speakers had studied other languages at some point in their lives, none was fluent in or actively used any language other than English and Spanish. A comparison group of five native Spanish speakers born, raised and living in central Spain was also included. These speakers had an age range of 52-71 years old, with a mean age of 59.8 years old. One has advanced proficiency in English and intermediate proficiency in German, while the others are monolingual.<sup>3</sup>

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<sup>2</sup> These numbers are the amount of time the participants have lived in central Spain full time. Many spent a period of time going back and forth between the United States and Spain before making Spain their full-time home. An extreme case of this is the participant with the shortest full-time residency (11 years), who had also spent 29 summers and two full years in Spain prior to moving to Spain permanently upon retiring from his job in the United States.

<sup>3</sup> The speaker with some proficiency in English and German was included in the comparison group because of her prototypical Castilian accent and the fact that many speakers in this region have some degree of proficiency in one or more languages other than Spanish. In addition, while not examined for all sounds, when this speaker has been statistically compared to other members of the control group, she does not demonstrate differences from the others.

## 2.2. Data collection

Participants completed a background questionnaire inquiring as to their language background and use. Following the questionnaire, they were recorded having a 10-15 minute conversation with the researcher and reading a short story. The short story is the source of the data for this study. Reading connected prose falls somewhere near the middle of the interlanguage speech continuum proposed by Tarone (1983); while not a naturalistic task, it allows subjects to immerse themselves in a coherent text, which is less devoid of meaning than shorter reading tasks, such as word lists. By eliciting learner productions in this way, it was possible to control for the linguistic context while still providing subjects with a task that involved extended speaking and a developing plot so as not to permit close focus on their pronunciation, and thus more closely approach spontaneous speech than would be the case with reading a word list or a list of disconnected sentences. The story was *Aniversario*, by Luis Romero, with slight modifications (e.g., changing names) in order to elicit additional tokens of certain sounds, and contained 1343 words. Recordings were made with a Zoom H2n digital recorder.

## 2.3. Data processing and analysis

A total of 39 laterals from the story were selected for analysis, balanced to the extent possible for preceding vowel, stress and word/syllable context, for a total of 663 tokens for analysis. Of those, eight were excluded because the speaker changed the context in which they appeared, either through inserting an unexpected pause or through mispronunciation. In all, 655 laterals were analyzed. Each lateral was coded for preceding vowel (i.e., front or back), stress (i.e., stressed or unstressed syllable) and word/syllable context (i.e., word-initial syllable onset, word-internal syllable onset, word-final syllable onset or syllable coda).<sup>4</sup>

The onset and offset of each lateral were marked in Praat, and F2 was measured automatically at the midpoint of each lateral by Praat, with the measurement then being checked by hand to confirm its accuracy. As mentioned when discussing Solon (2017), F2 corresponds with the frontness/backness of the lateral, with a higher F2 value indicating a more fronted (or lighter) lateral and a lower F2 value indicating a more back (or darker) lateral (e.g., Recasens, 2012; Solon, 2017). Following Solon (2017), in order to account for differences in vocal tract sizes between speakers, F2 was normalized following a vowel centroid ratio procedure that also included a half-spread measure (i.e., a measure of the distance between front and back extremes) that would account for differences in vocal tract spaces that could be missed by the vowel centroid measure alone. For the purpose of calculating the centroid and half-spread for each speaker, five tokens of [i] and five tokens of [u] were selected from the story, and the F2 of each was measured for each speaker. The equation for the normalization procedure is as follows:  $(F2[\text{token}] - F2[\text{centroid}]) / \text{half-spread}$ .<sup>5</sup> The normalized F2 values

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<sup>4</sup> The word-final syllable onset context were cases where the /l/ was word-final but the following word started with a vowel. Given the process of resyllabification in Spanish, the /l/ becomes the onset of the syllable that contains the following vowel.

<sup>5</sup> The centroid is calculated as  $(F2[u] + F2[i]) / 2$  and the half-spread is calculated as  $F2[i] - F2[u]$ .

could fall between +1 and -1, with 0 being the speaker's centroid. Values closer to +1 indicate a higher F2 (i.e., a more fronted lateral) and values closer to -1 indicate a lower F2 (i.e., a more back lateral). The normalized F2 values were then used for the statistical analysis, which consisted of a linear mixed model run in SPSS with speaker and token as random variables, L1, word/syllable context, preceding vowel and stress as fixed factors, and with all two-way interactions involving L1 included in the model. While the two-way interactions involving L1 were included since these would directly address the research questions, all other interactions were dropped after being found to be insignificant as their presence in the model could affect the coefficients of lower order terms.

### 3. Findings

The data is portrayed visually in the boxplots in Figures 1 and 2, where F2 values are shown by L1 of the speaker and word/syllable context, with Figure 1 presenting the raw F2 values and Figure 2 the normalized F2 values that are the basis of the statistical analysis.

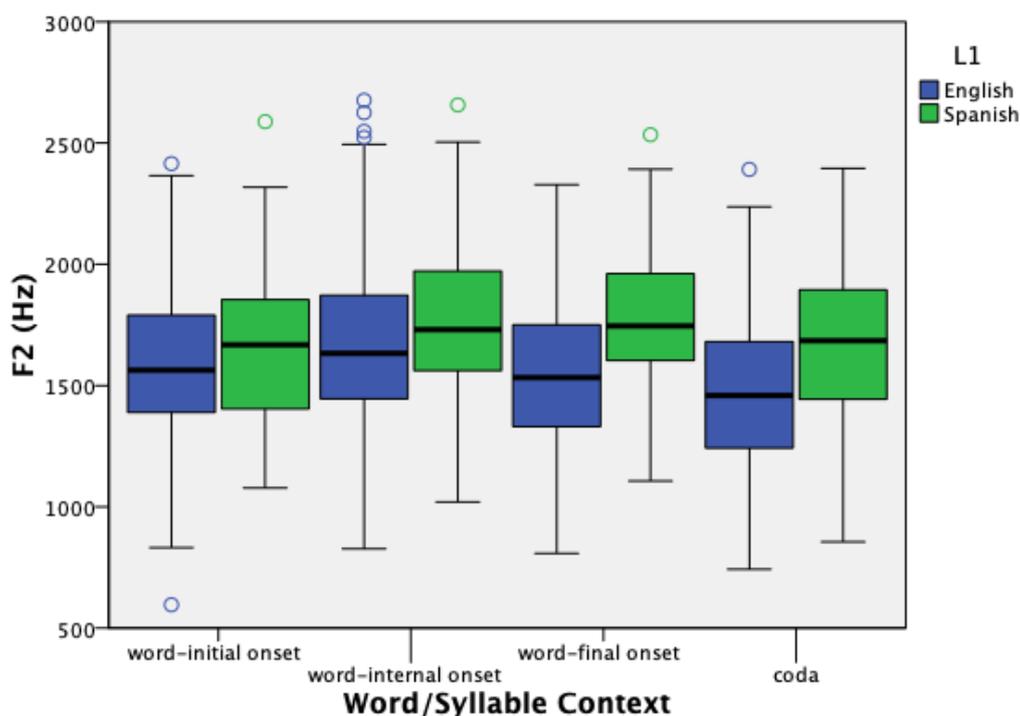


Figure 1. Raw F2 values by L1 and word/syllable context

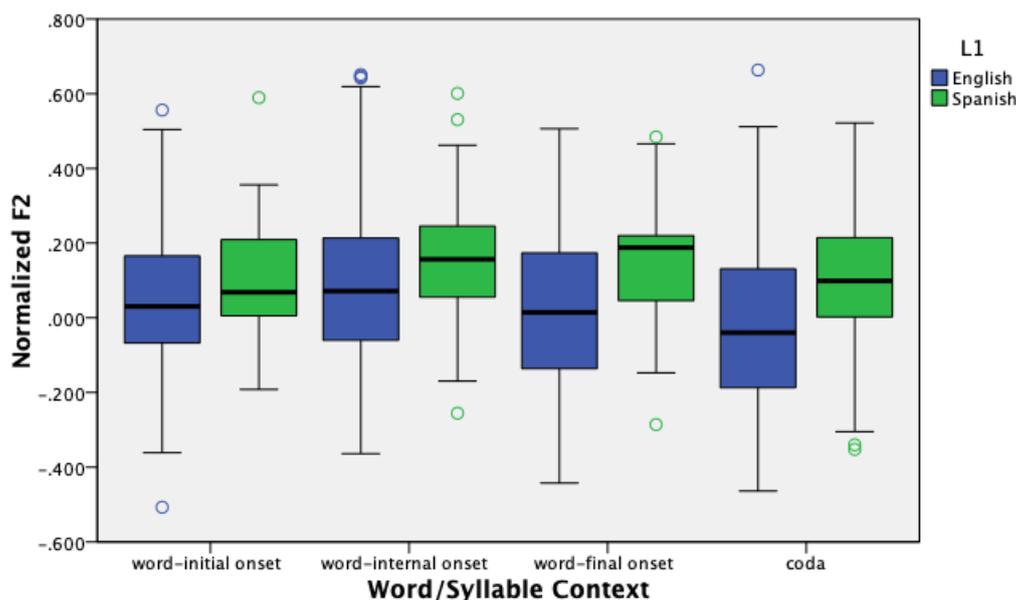


Figure 2. Normalized F2 values by L1 and word/syllable context

The results of the linear mixed model are presented in Table 1. Significant main effects were found for L1, word/syllable context and preceding vowel. L1 English speakers (mean = 0.031) produced laterals with a significantly lower normalized F2 (i.e., they were more back, or darker) than the L1 Spanish speakers (mean = 0.122). For word/syllable context, a Bonferroni test shows that laterals in word-internal onset position differed significantly from those in coda position and those in word-final onset ( $\_#V$ ) position, with those in word-internal onsets (mean = 0.144) having a higher normalized F2 (i.e., they were more fronted, or lighter) than those in coda position (mean = 0.030) and word-final onset ( $\_#V$ ) position (mean = 0.049). No other pairings were significantly different. For preceding vowel, the laterals had a significantly lower normalized F2 (i.e., they were more back, or darker) after a back vowel (mean = -0.005) than after a front vowel (mean = 0.158). None of the other factors interacted significantly with L1.

Table 1  
*Mixed-Effects Statistical Model*

Variable	F	df	p-value
L1	31.856	1	<.001*
Wd/Syl Context	10.385	3	<.001*
Preceding V	99.722	1	<.001*
Stress	1.921	1	.166
L1 * Wd/Syl Context	.963	3	.410
L1 * Preceding V	2.117	1	.146
L1 * Stress	.261	1	.609

\*significant at the .01 level

While as a group the L1 English speakers differed significantly from the L1 Spanish speakers, the L1 English speakers were also examined individually to determine the amount of individual variation between speakers and whether some of them were native-like in their Spanish lateral production. First, for each of the word/syllable contexts, the range of normalized F2 values was determined for the L1 Spanish group. These ranges, then, represented native speaker productions and a point of comparison to determine whether individual learner productions were native-like (i.e., they fell within the native speaker range) or not. The percentage of productions by each L1 English speaker that fell within the native speaker range was then calculated for each word/syllable context. The results are presented in Table 2, where shaded cells indicate that the speaker produced 100% of their tokens for that context within the native speaker range.

Table 2  
 Native-like productions by learner in each word/syllable context.

	Wd-Initial Onset	Wd-Internal Onset	Wd-Final Onset	Coda	Total
NS Range:	-0.192 - 0.589	-0.255 - 0.601	-0.286 - 0.484	-0.352 - 0.522	
Learner 1	7/8	10/10	9/9	11/12	37/39 (95%)
Learner 2	8/8	10/10	8/9	6/12	32/38 (84%)
Learner 3	8/8	10/10	8/9	10/12	36/39 (92%)
Learner 4	8/8	9/10	9/9	12/12	38/39 (97%)
Learner 5	7/8	9/10	9/9	11/12	36/39 (92%)
Learner 6	8/8	9/10	7/9	11/12	35/38 (92%)
Learner 7	7/8	10/10	7/9	12/12	36/39 (92%)
Learner 8	8/8	10/10	9/9	12/12	39/39 (100%)
Learner 9	8/8	10/10	7/9	11/12	36/39 (92%)
Learner 10	8/8	10/10	8/9	12/12	38/39 (97%)
Learner 11	8/8	10/10	9/9	12/12	39/39 (100%)
Learner 12	7/8	7/10	9/9	12/12	35/39 (90%)
Total	92/96 (96%)	114/120 (95%)	99/120 (83%)	132/144 (92%)	437/480 (91%)

Combining all of the word/syllable contexts, two of the L1 English speakers (i.e., Learner 8 and Learner 11) were completely native-like, with all productions in all contexts within the native speaker ranges. Of the other ten L1 English speakers, nine had at least 90% of their productions in the native speaker ranges. The remaining speaker (i.e., Learner 2) had 84% of productions in the native speaker ranges, but notably was 100% native-like in three of the four word/syllable contexts, though producing only 50% of the tokens in the native speaker range for the coda context. Of the ten L1 English speakers with non-native-like productions, four were completely native-like in three of the four word/syllable contexts, four were completely native-like in two, and two were completely native-like in only one word/syllable context (though still 92% native-like overall). Eight of the 12 L1 English speakers were completely native-like in the word-initial onset context, eight in the word-internal onset context, six in the word-final onset ( $\_ \#V$ ) context, and six in the coda context. Even so, overall, percentages of native-like productions were high even when not 100%. Of 19 cases where a speaker was not 100% native-like in a given word/syllable context, in only four cases were more than two productions not native-like. When learners' productions were not in the native speaker ranges, in the vast majority of cases (36 of 43 cases, or 84% of the time) they produced lower F2s than the native speakers, indicating a more back, or darker, lateral.

#### 4. Discussion

The present study found a significant difference in Spanish lateral production between the L1 English-speaking immigrants and the L1 Spanish speakers, with the immigrants producing significantly more back, or darker, laterals. This is in line with the general patterns of the two languages, since English has laterals that are more back than those of Spanish, and, in some contexts, English has velarized laterals, which are much more back, or darker, than the laterals in other contexts.

A statistically significant difference in lateral production based on the preceding vowel was also found, with laterals being more fronted or lighter when preceded by a front vowel than when preceded by a back vowel. This finding, which holds for both the immigrant learners and the native Spanish speakers, is consistent with the findings of Solon (2017) and appears to be the result of a coarticulatory effect based on the tongue position of the preceding vowel.

Word/syllable context was found to have a significant effect on lateral production and did not interact with L1. Given that English is known for having light laterals in syllable onset position and dark laterals in syllable coda position, whereas Spanish has been claimed to have light laterals in all positions, one might have expected an interaction between word/syllable context and L1, but not a main effect of word/syllable context. On the other hand, Solon (2017) found word/syllable context to have a significant effect on lateral production only for lower-level learners, but not for fourth year learners, graduate students or native Spanish speakers, seemingly indicating that the English influence on lateral production was overcome by the time learners have studied Spanish for several years. Similar to the students at more advanced levels of study in Solon (2017), Amengual (2018) did not find

a significant difference based on syllable context in the Spanish of the L2 learners in his study. Given these findings (although Solon and Amengual both used fewer categories for word/syllable context than did the present study), one might have expected that the immigrant learners and native speakers in the present study would not have shown a difference based on word/syllable context, yet both groups did. While the differing results of these studies cannot be explained without further research on this topic, we can tentatively note how the results of the studies provide us information about the L2 acquisition of Spanish laterals. Solon's results show that the influence of L1 English on the laterals of L2 learners of Spanish diminishes as they progress with the language, which appears consistent with the results of Amengual (2018), whose learners were advanced undergraduate students, most in line with Solon's fourth year students. The present study seems to confirm this, in that there is no statistical distinction between the laterals of the immigrant learners and native speakers, while also showing that even for native Spanish speakers there is a difference in lateral production based on word/syllable context.

Although the group results for the L1 English-speaking immigrants are in line with previous studies of this learner population on other Spanish sounds in that they differ significantly from the native Spanish speakers, the individual results that comprised those group results differ greatly from results for this same learner population with other sounds. In previous studies, no speaker was completely native-like in producing any of the sounds, and while a few came close on some sounds, most were not even close. In the present study, two learners were completely native-like in their production of Spanish laterals, and of the remaining ten learners, nine of them produced 90% or more of their laterals in native-like fashion. For L1 English speakers as experienced with Spanish as those in the present study, native-like production of laterals is well within reach for nearly all of them, which is something that cannot be said for any other sound that has been studied to this point.<sup>6</sup>

Although they differed significantly from the native Spanish speakers as a group, the fact that two of the L2 Spanish learners were completely native-like in their lateral production and that the others were so close to being native-like is a noteworthy finding. This result indicates that with continued advancement in the language, learners can become native-like in their lateral production. In studies of several other sound classes with this same learner population, however, native-like pronunciation has not been found by any speaker, with most not even being close to native-like (Face, 2018a, 2018b, 2021; Face & Menke, 2020; Menke & Face, 2018). While one might wonder why laterals should be different from other sounds in the ability of learners to achieve native-like pronunciation, the claim can be made that L1 English has

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<sup>6</sup> One might wonder why the learners as a group were significantly different from the native Spanish speakers in lateral production when, individually, they were all either native-like or close to it. This is likely due to the way the group and individual differences were measured. The group differences are based on the mixed effects model, which shows a lower normalized mean F2 for the immigrant group. The individual differences were based on whether individual lateral tokens fell within the native-speaker range. While most of the tokens were within the native-speaker range, many were near the lower end of that range, qualifying as a native-like production but contributing to a group mean value that was significantly lower than that of the native Spanish speakers.

a role to play in this. While L1 influence is often viewed as a negative factor in L2 acquisition, and indeed the L1 English dark lateral has a negative effect on the pronunciation of L2 Spanish laterals by learners earlier in their L2 acquisition of Spanish (cf. Solon, 2017), in this case the L1 sound system may also aid more experienced learners in eventually acquiring native-like laterals. While English is distinguished from Spanish by having dark laterals in syllable codas, it also has light laterals in syllable onsets. In syllable codas, learners must abandon the dark lateral of their L1, but to approach native-speaker pronunciation they must substitute it with a sound (i.e., a light lateral) that exists elsewhere in their L1. The fact that this sound exists in the L1, albeit in different word/syllable contexts than in the L2, may facilitate its pronunciation in new word/syllable contexts in the L2. For each of the other sound classes examined with this learner population, in which they did not come close to approaching native-like pronunciation, the target sounds were non-existent in the L1. Therefore, what makes native-like production of Spanish laterals more readily achievable for L1 English speakers than other Spanish sounds is the fact that they do not have to acquire a new sound, but rather must produce a sound they already have in their L1 inventory in a new word/syllable context.

## 5. Conclusion

The present study showed that individual L1 English learners of L2 Spanish can largely overcome the influence of the darker laterals in their L1 on their production of Spanish laterals and produce nearly all of their laterals in a native-like fashion. While Solon (2017) stated that “No learner group, including the graduate-level learners, produced /l/s with statistically similar normalized F2 values as the native Spanish speaker group” (p. 823), and while the learners in the present study differed significantly as a group from native Spanish speakers, the vast majority of them produced 90-100% of their Spanish laterals in native-like fashion. With respect to ultimate attainment, previous studies have shown that even this extremely experienced immigrant group falls well short of achieving a native-like pronunciation on most sounds. With laterals, on the other hand, nearly all speakers produced had native-like productions at least 90% of the time. In most cases, native-like L2 pronunciation is truly exceptional (e.g., Ioup, Boustagui, El Tigi, & Moselle, 1994; Kinsella & Singleton, 2014; Moyer, 2014; among others). While this is certainly true even in the case of immigrants who have spent much of their lives living in Spain, laterals seem to be different, with native-like laterals being more readily acquired. I have proposed that this can be explained by the fact that the Spanish-like light (or fronted) lateral exists in the speakers’ L1, meaning that they can already produce this sound and must learn to produce it in new word/syllable contexts rather than having to learn a completely new sound.

Typically, in work on this immigrant group a direction for future research is whether the non-native-like pronunciations are, nonetheless, close enough that the speakers can pass as native. The human ear tends to be more forgiving than close linguistic scrutiny (e.g., Stölten, Abrahamsson, & Hyltenstam, 2015), suggesting that not achieving native-like values in acoustic measurements may not prevent native-speaking listeners from

perceiving some advanced L2 learner as native speakers. In the case of the present study, the question is a bit different: Can these learners that produce native-like laterals in all or the vast majority of cases really pass as native-like? Or are there other aspects of lateral production that still distinguish them from native speakers? This is a question that can only be addressed through perceptual studies involving native-speaking listeners rating the accentedness of these L2 Spanish speakers. While far beyond the scope of the present study, this is an important direction for future studies of L2 Spanish phonology to take if we are to better understand the importance of the many production differences between native speakers and L2 speakers.

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