

# Explicit Pronunciation Instruction in the Beginning Spanish Classroom: The Case of the Tap and Trill

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**Abstract:** This study investigates the effects of explicit instruction on the second language (L2) pronunciation of the Spanish rhotics /r/ and /r/. Participants were English speakers enrolled in beginning Spanish classes. Instruction for the experimental group consisted of form-focused phonetics instruction, including videos, articulatory visuals, imitation tasks, and targeted use of Praat (Boersma and Weenick 2018). Pre- and post-test oral productions were analyzed via acoustic analysis, and student attitudes and experiences were assessed via the Pronunciation Attitude Inventory (Elliott 1995). Results indicate that the experimental group improved their production of the target sounds significantly, while the control group did not. Although student reactions were mixed, we conclude that the incorporation of explicit instruction in beginning level classes is indeed beneficial.

**Keywords:** rhotics, phonetics, phonology, instruction, acoustic analysis

## Introduction

This study originates from the conviction that explicit instruction in Spanish second language (L2) pronunciation is beneficial, as a growing body of research has continued to document (e.g., Derwing and Munro 2005; George 2014; González-Bueno 1997; Lord 2005; Martinsen, Montgomery and Willardson 2017; Morin 2007; *inter alia*). The goal of the project was to contribute further evidence documenting that L2 pronunciation can be successfully taught in a classroom setting. To do so, we explore a population of first-semester beginning learners of Spanish. In addition to investigating the linguistic outcomes of explicit pronunciation instruction, we also sought to further explore student perspectives and attitudes, both towards pronunciation and towards its instruction, and how these may relate to their L2 production.

The particular phonological focus of this study is the Spanish rhotic sounds which differ from considerably from the English rhotics, in terms of both their distribution and their articulation. In standard dialects of Spanish,<sup>1</sup> there are two rhotic sounds: the tap /r/ and the trill /r/. In terms of distribution, the trill is found in word initial position or after the consonants /l/, /n/, and /s/,

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1 While we recognize the rich and interesting variations that these sounds enjoy throughout Spanish-speaking world, we focus specifically here on the “standard” tap and trill sounds, following the approach that most beginning Spanish textbooks take. Since our goal is to determine the effectiveness of instruction on L2 sounds, our focus here is on beginning learners’ ability to produce the canonical tap and trill in the appropriate contexts; once they have acquired those sounds learners can then explore their rich dialectal variation.

and the tap in most other contexts. Crucially though, both sounds can occur in word-medial intervocalic position; in some contexts (e.g., word final), both tap /ɾ/ and trill /r/ can occur in free variation. This distribution and corresponding examples are presented in Table 1.

*Table 1. Distribution of Spanish rhotics tap and trill*

<b>Context</b>	<b>Sound</b>	<b>Examples</b>
Word-initial	trill /r/	<i>ratón</i> “mouse”
After tautosyllabic consonant	tap /ɾ/	<i>primo</i> “cousin” <i>brisa</i> “breeze” <i>grifo</i> “faucet”
Word-internal intervocalic	tap /ɾ/ or trill /r/	<i>pero</i> “but” <i>perro</i> “dog”
Word-/Phrase-final	tap /ɾ/ or trill /r/	<i>¡A comer!</i>

Although there is some debate as to whether these sounds are phonemes or allophones (Hualde 2005; Henriksen 2015), what is important from an acquisition perspective is that the learner must determine the appropriate contexts in Spanish for each sound. In addition, the production of these sounds can be problematic for L2 learners, given that the rhotics differ considerably from English rhotics and tend to require relatively more articulatory control than in English, especially in the case of the trill (e.g., Face 2006; González-Bueno 2005; Hualde 2005; Rose 2010; Weech 2009).

### **Previous Work**

Despite the fact that previous work has documented the benefits of the instruction of pronunciation (e.g., Bailey and Brandl 2013; Bajuniemi et al. 2015; Counselman 2015; Elliott 1995, 1997, 2003; González-Bueno 1997; Kissling 2015; Lord 2005, 2008, 2010; Rodríguez-Sabater 2005), there remains a lack of pronunciation instruction in Spanish language textbooks and courses. As such, many instructors of Spanish neglect this aspect of language teaching in their classrooms, often because they do not feel capable of teaching it correctly (e.g., Lord and Fionda 2013) or because, as yet, there is not an agreed-upon best method of doing so, especially at the lowest levels. What’s more, research on the acquisition of the Spanish rhotics is relatively minimal, considering their salience and the obvious differences with English (Reeder 1998; Olsen 2012).

The Spanish rhotics make for fertile testing ground given their articulation and distribution, especially in light of Flege’s Speech Learning Model (SLM; 1987, 1995). According to this model, L2 sounds that are perceived as ‘similar’ existing L1 sounds will be the most difficult for learners to acquire, as they will

likely be categorized into the existing L1 category and will thus be produced as that L1 sound. On the other hand, L2 sounds that are unlike any L1 sounds will be perceived as different, or ‘new,’ and will trigger the creation of a new L2 category, thus ensuring that the sound is produced with L2 characteristics.<sup>2</sup> Since the Spanish tap is indeed similar to English sounds—both the rhotic represented by the letter “r” and the tap represented by the double letters “tt” and “dd”—this sound would be considered a similar phone under Flege’s model, and would therefore likely result in acquisition difficulties. The fact that Spanish and English share orthography for these sounds further complicates the issue. The SLM would predict that L2 learners of Spanish will categorize the Spanish tap as the English rhotic, thus producing an English-like alveolar approximant instead of the Spanish tap. In the case of the trill, the predictions are not as straightforward. The lack of any similar sound in (American) English would indicate that L2 learners of Spanish would have no difficulty perceiving and categorizing the Spanish trill as a new sound; furthermore, its salience makes it perceivable as a distinct or non-English-like sound. However, the physiological demands of the articulation of the sound are demanding, and the situation is again complicated by orthographic similarities between English and Spanish. Thus, the SLM would predict the formation of a new category for the trill, but articulatory challenges might prevent its correct articulation.

Previous work on the acquisition of the Spanish rhotics tends to bear out these predictions, showing that the tap and the trill both tend to be problematic for (L1-English) L2 learners of Spanish. Menke (2017) pointed out that even bilingual (Spanish-English) children in preschool have difficulties producing the Spanish trill, especially as their exposure to English increases. Others (e.g., Rose 2012) have found that even though adult L1 English speakers are better able to discriminating the Spanish rhotics /r/ and /r/ from each other than to discriminate other contrasts (e.g. /r/ and /d/), these same learners continue to have difficulty producing the Spanish sounds. Olsen’s (2012) work sheds some light on to this difficulty by exploring L1 articulatory routines (i.e., the physical features required to articulate the sounds). He found that these L1 routines continue to affect production of the Spanish tap and trill, namely that there is English-based influence in their productions.

With these difficulties in mind, this study set out to explore ways in which learners can overcome such articulatory production problems. Recent work in the area of instructed second language phonology has provided evidence in favor of the use of different technology (such as Praat) in the classroom. For example, work by Lord (2005) and Olson (2014a, 2014b) has consistently shown that incorporation of spectrogram analysis into even lower-level language classes can help learners improve their pronunciation. While less work with these tools has explored the specific case of the Spanish rhotics, Velázquez-López and Lord (2017) provide evidence in favor of this approach with the Spanish trill. They

found that beginning-level students who received explicit instruction using voice analysis software for demonstration, practice and self-assessment improved their production significantly over the course of a one-semester beginning Spanish class. Therefore, it is with these promising previous findings in mind that we designed the present study.

## **Methodology**

### Research Questions and Hypotheses

The aim of this study was to add to our current understanding of what aspects of L2 Spanish pronunciation can benefit from explicit instruction, as well as the outcomes in terms of student attitudes. Two research questions guided the study:

1. Does explicit pronunciation instruction aid L2 learners in their pronunciation of the Spanish tap and trill?
2. Do learner motivation and attitudes towards pronunciation change after receiving explicit instruction?

We predicted general positive effects of instruction on the developing L2 pronunciation of the rhotics, following previous research (e.g., Kissling 2013, 2015). Additionally, we hypothesized that instruction would positively impact students' attitudes towards the relevance and importance of L2 pronunciation, as others have also found (e.g., Lord 2008; Kutlu Demir 2017).

### Participants

Our participants were 30 undergraduate students enrolled in two sections of Beginning Spanish 1 at the University of Florida during Summer 2018. All participants were native speakers of English with minimal or no background in Spanish. One section, the control group, was comprised of 17 students (8 males, 9 females; mean age 21.77 years), while the other section was the experimental group, and included 13 students (6 males, 7 females; mean age 20.54 years). Given university admission requirements, all students had two years of foreign language in high school, so participants had had between zero and two years of high school Spanish classes prior to enrolling in this course, taken anywhere between one and four years previously. Those who studied languages other than Spanish in high school had studied French or Latin. Regardless, the Beginning Spanish course is designed for students with little or no background in Spanish.

Basic Spanish pronunciation instruction was included in the class textbook, primarily in the online activities students completed for homework, and these courses tend not to devote any class time to discussing, correcting or practicing pronunciation. Therefore, the treatment that the experimental group received,

as described in the next section, was substantially different than what the control group received, and what typical beginning language students experience.

### Experimental Treatment

The course met five days a week during a six-week summer semester. Each class period lasted 75 minutes, with class time focusing on task-based communicative activities. The control group followed the activities in the textbook. In the experimental group, class time was supplemented with a daily form-focused instruction (around 7 minutes) regarding particularly problematic aspects of Spanish pronunciation. Each week focused on a different sound or group of sounds, and the rhotics instruction lasted one five-day week. The approach to the form-focused pronunciation instruction consisted of various approaches, including both perception and production (e.g., Saito 2013) and ranging from imitation (e.g., Nguyen and Delvaux 2015; Pickering and Garrod 2013; Trofimovich and Gathbonton 2006) and repetition to other more open-ended production techniques. Instruction also included explanations of the contrast between the sounds, including images depicting their articulation and tips for production. Of particular use were lessons created from materials presented at previous CASPSLaP Ignite sessions (see <https://caspslap-ignite2018.weebly.com/about.html>); these are a series of an interactive, pedagogically-focused free presentations to assist Spanish instructors with incorporating pronunciation into their classes. For example, materials including rhotics instruction (Morgan 2014) offer learners tricks to produce these by eliciting the pronunciation of a statement in English, thus reinforcing to students that they are already capable of producing certain sounds, even if they are in a different context.<sup>3</sup> Instructional techniques also incorporated the use of Praat (Boersma and Weenick 2018) to provide spectrogram and waveform visuals for learners. Doing so allowed them to see and measure the differences in the physical dimensions of the rhotics, both of their own speech and others'.

During the workshops, the practice consisted of producing words containing the segments, starting with the tap and followed by the trill. Also, it is important to note that the practice started individually, so the students could warm up and feel comfortable with the activity, after which paired and group activities followed. The students then worked in small groups and were encouraged to correct and help their peers. Meanwhile, the instructor, who was making sure that everybody in class was participating, eventually corrected the students using recasts and other types of corrective feedback (Saito and Lyster 2012; Kissling 2013) as necessary.

## Tasks and Data

A pre-test was administered to both groups at the beginning of the term, consisting of a background questionnaire (with the goal of eliminating participants with significant previous experience in Spanish), an oral recording, and the Pronunciation Attitude Inventory (PAI; Elliott 1995). The oral recordings elicited learner speech that contained a variety of target sounds in contextualized phrases (see Appendix A) and were carried out in a language laboratory to minimize background noise. Elliott's (1995) PAI (see Appendix B) was used to gauge participants' attitudes towards the importance of Spanish pronunciation and their motivation or desire to improve their own pronunciation. This instrument contains twelve statements about learning pronunciation, to which students react by indicating on a scale of 1-5 the degree to which the statements are true for them, (1=not at all true, 5=always true). Previous research has shown that attitude is one of the factors that can correlate with more native-like pronunciation (e.g., Hurtado and Estrada 2010; Kissling 2014) and, as such, we wanted to determine the relationship between attitude and potential effects of instruction.

At the end of the semester, the learners completed the post-test version of these same instruments, providing a post-treatment oral recording of the same target sounds, and a post-treatment assessment of their attitudes. These instruments allowed for an assessment of any changes over time.

## Results

In this section we present the results of both the oral production task and the PAI survey. In the following section we will discuss the implications of these findings in light of what they tell us about our research questions.

### Tap and Trill Production

Target sounds were identified as those segments that were produced in their corresponding tap or trill contexts; these sounds were isolated from the pre-test and post-test recordings for each participant and individually analyzed in Praat. Through visual examination of the waveform and spectrogram we identified the number (if any) of occlusions during the articulation of those target sounds; segments produced with one occlusion were identified as taps, while those with two or more closures were interpreted as trills.<sup>4</sup> Conversely, a lack of any break in the airflow was interpreted as a non-target realization, as that articulation generally corresponds to the English-like alveolar approximant sounds. In order to assess overall production, we calculated an accuracy score for each participant at each testing time by awarding 1 point for a tap produced in a tap context or a trill produced in a trill context, and 0 points for any other realizations. Subsequently, in trill contexts we further categorized non-target productions

by noting if a tap was produced. Tables 2 and 3 present the average accuracy scores for each group at both testing times, for the tap and trill, respectively.

Table 2. Average tap accuracy score (and standard deviation) per group

	<b>Pre-test</b>	<b>Post-test</b>
<i>Control Group</i>	24.18% (6.36)	23.27% (5.52)
<i>Experimental Group</i>	21.03% (5.95)	56.04% (10.25)

Table 3. Average trill accuracy score (and standard deviation) per group

	<b>Pre-test</b>	<b>Post-test</b>
<i>Control Group</i>	4.90% (2.15)	1.96% (1.14)
<i>Experimental Group</i>	1.92% (1.38)	14.10% (5.69)

As can be seen in the tables, the Control Group did not improve in their accuracy of either the tap or the trill between the two tests, while the accuracy of the Experimental Group’s production did improve over time. Figures 1 and 2 below show the participants’ accuracy changes over time for the tap and trill, respectively, lined up by degree of change. Note that there are not always the same number of bars as participants, because when there was no change from pre- to post-test, no bar appears.

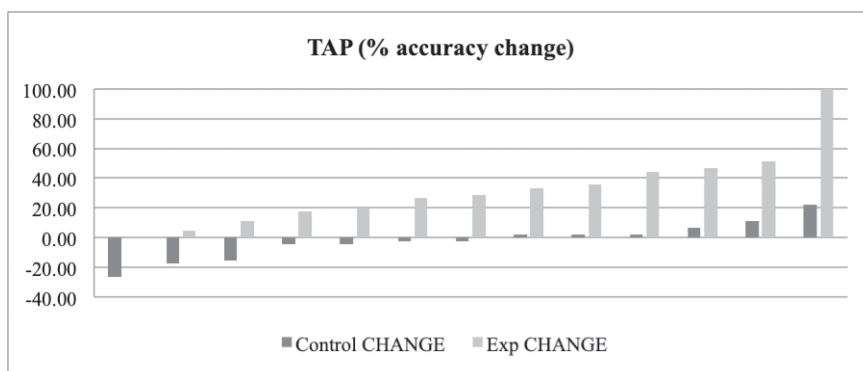
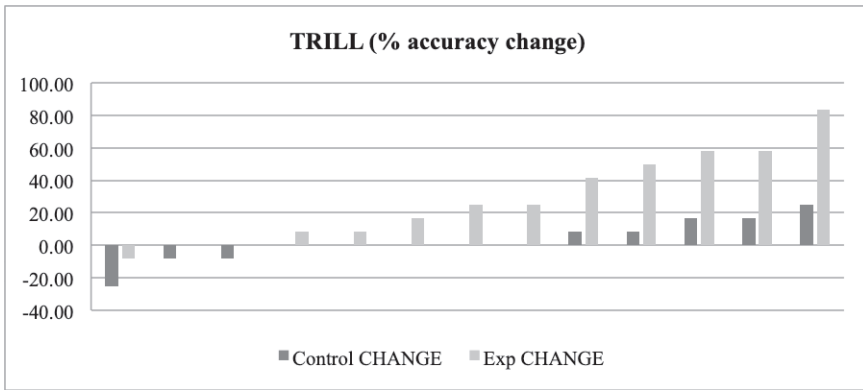


Fig. 1. Percentage accuracy change on tap production between pre-test and post-test



**Fig. 2. Percentage accuracy change on trill production between pre-test and post-test**

As these numbers and graphs make clear, the performance of these groups over time differed. It is evident that some participants in the Control Group gained in accuracy, but others declined and many stayed the same, while all but a few participants in the Experimental Group improved, and to a greater degree than those in the Control Group. This pattern holds true for both the tap and trill sounds.

To determine if these changes were statistically significant, paired t-tests were run on the pre-to-post-test scores for each group on each sound. Table 4 illustrates the results of these procedures, and confirms that the improvement evidenced on both sounds by the Experimental Group was significant, while the changes for the Control Group were not. The Control Group’s trill changes approached significance, but recall that their overall average accuracy was lower on the posttest than the pretest. We ran additional t-tests to determine if the accuracy levels of the two groups at the beginning of the semester were comparable; this test revealed no significant differences between the two groups’ pre-test productions on either sound.

*Table 4. T-test comparisons of pre-post accuracy*

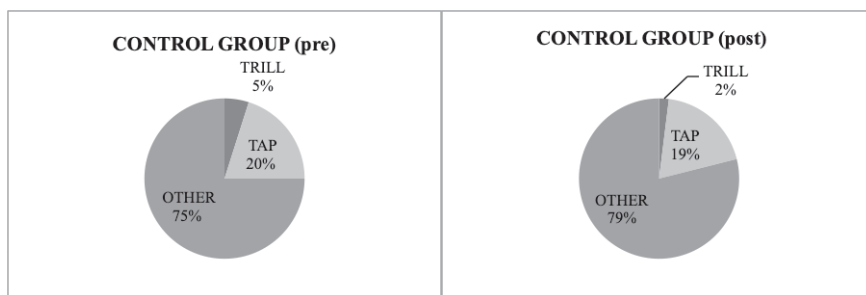
<b>Group</b>	<b>Comparison</b>	<b>t</b>	<b>df</b>	<b>Significance</b>
<i>Control</i>	<i>Tap pre/post</i>	.329	16	.747
	<i>Trill pre/post</i>	2.073	16	.055
<i>Experimental</i>	<i>Tap pre/post</i>	-3.664	12	.03*
	<i>Trill pre/post</i>	-2.502	12	.028*

*Note: \* indicates significance at the 0.05 level.*

Recall as well that we were interested in exploring what the learners produced in trill contexts if they did not produce the trill, given the articulatory

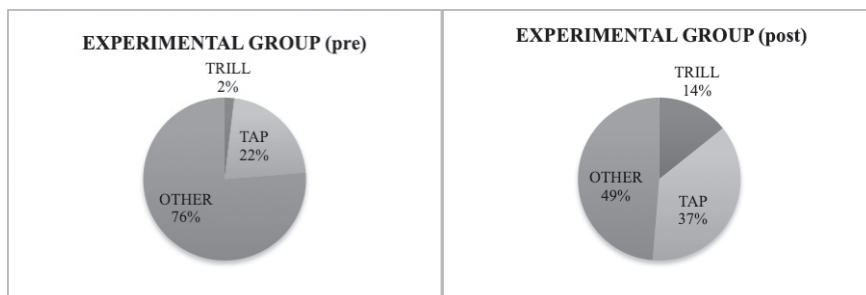


challenges involved in producing the target sound. Most native speakers would agree that in the absence of a trill, a tap is a preferable production to an English-like realization in that context, so although learners were not provided with additional instruction on alternative realizations, we were nonetheless curious to see if they increased their tap production in trill contexts. Figures 3 through 6 illustrate the relative productions of trill, tap and “other” sounds, which includes all other non-target utterances (but almost exclusively refers to English like approximants). While we already saw that the Control Group’s production of the trill did not improve, Figures 3 and 4 also reveal that their production of taps in trill contexts remained constant over the course of the semester.



**Figs. 3 and 4. Pre-test and post-test realizations in trill contexts (Control Group)**

On the other hand, an examination of the Experimental Group’s productions as depicted in Figures 5 and 6 reveals a different pattern.



**Figs. 5 and 6: Pre-test and post-test realizations in trill contexts (Experimental Group)**

In addition to the fact that their trill production increased significantly, as was already discussed, the Experimental Group also increased their production of taps in trill contexts from 22% to 37%, which subsequently resulted in a decrease of their “other”—or English-like—non-target productions in those contexts.

Pronunciation Attitude Inventory (PAI)

Elliott’s PAI was used to assess changes in participants’ attitudes towards pronunciation and their interest and ability to produce Spanish sounds. Par-

ticipant responses were tallied at each test time for a total score of between 12 (if they had selected 1 for all 12 items) and 60 (if they had selected 5 for all 12 items); higher scores indicate a generally more positive attitude towards learning and using foreign language production than a lower score. The Control Group started the semester with an average PAI score of 46.93 and ended the semester with an average of 46.17; while this relatively high score indicates that these learners were overall reasonably interested in acquiring Spanish pronunciation, it also shows that these attitudes were constant over the course of the semester. Similarly, the Experimental Group's average on the PAI at the beginning of the semester was 47.59, and at the end of the semester it was 47.71, again indicating a relative but constant interest in improving their pronunciation. Paired t-tests reveal that the pre-semester and post-semester scores were statistically equal for both the Control Group ( $t=0.330$ ,  $p=0.746$ ) and for the Experimental Group ( $t=-0.079$ ,  $p=0.938$ ); and further that there was no change in either group's scores from pre- to post-test.

## **Conclusions**

We now revisit our original research questions, in light of the results just discussed. Our first question asked if explicit pronunciation instruction helped L2 learners in their pronunciation of the Spanish tap and trill. We assessed learner production of these two target sounds through acoustic analysis of their oral data before and after the semester and found that the participants who received explicit classroom instruction improved significantly from the pretest to the posttest, while participants who did not receive this instruction did not change their pronunciation over the course of the study. Further, in addition to significant improvement in overall accuracy of both the tap and the trill sounds, the Experimental Group also decreased their non-target productions in trill contexts by producing not only more trills but also more taps (as opposed to English-like utterances); this change was not evidenced in the Control Group. Thus, in answer to the first research question, we can conclude that yes, the inclusion of explicit instruction clearly benefitted learner pronunciation, at least on these two sounds. In this respect, this research confirms that of previous scholars who have also found that devoting class time to pronunciation is a worthwhile endeavor (e.g., Lord 2005). This study also adds to the growing body of literature that explores the effectiveness of incorporating this kind of pronunciation instruction at lower levels of language education (e.g., Olsen 2012), rather than waiting until upper level classes of language education.

Generally speaking, these results are plausible under Flege's SLM. The L2 learners in both groups exhibited clear difficulty with both sounds at the beginning of the study. We can presume that difficulties with the tap resulted from a failure to establish a new category for the Spanish sound, while difficulties with

the trill were either because of a problem with category formation or due to articulatory challenges; unfortunately the current data do not allow us to assess the root of those problems. However, in both cases it seems that instruction was beneficial to the experimental group in overcoming their difficulties. In the case of the tap, we assume that the explicit instruction allowed learners to be aware of the need for a new category for the Spanish sound, and to begin to create that category to replace the English alveolar approximant. In the case of the trill, we might assume a similar process, although it seems less likely that category formation was the issue given the salience and uniqueness of the trill sound. If we assume that the initial low accuracy rates were a result of articulatory difficulties instead, we can see that the specific instructional techniques, which focused on articulation, visualization, production, and self-analysis, allowed the learners to begin to overcome the physiological challenges of producing the tap. Thus, while the SLM can help us predict where learners will need additional support in the acquisition of L2 sounds, explicit instruction can help learners overcome the challenges, both in terms of category formation and articulation. While we used a more formal task (reading) to assess pronunciation, previous work (e.g., Elliott 1997, Major 1986, Zampini 1994) has shown that different levels of task formality may result in different levels of self-monitoring, and thus in differences in learner pronunciation. Future work should endeavor to extend these classroom findings by incorporating different levels of task formality to further understand this relationship.

The answer to our second research question, which asked if learner attitudes and motivation with respect to pronunciation experienced any change after receiving explicit instruction, is less clear-cut. Recall that both groups began with a relatively high PAI score in the mid 40s, indicating that they were already positively predisposed to the importance of pronunciation in their Spanish studies; neither group's scores changed over the course of the term, indicating that their attitudes towards pronunciation remained stable during the study.

At the same time though, and in the interest of further understanding student reactions to explicit pronunciation instruction, the Experimental Group completed a short survey asking for their input regarding the pronunciation lessons they received over the course of the term. (Although not a quantitative data source, and not viable for comparative purposes since only the Experimental Group's reactions were sought, anecdotal data-points such as these can prove valuable in an exploratory study such as this one.) As can be seen from these selected excerpts, the comments were frequently a hybrid of displeasure and appreciation (see Appendix C for complete student responses):

- “The pronunciation workshops felt very tedious sometimes, however, I'm very glad that we did them and I am very happy with how much I learned.”
- “I enjoyed the fact that we were forced to practice in front of

everyone and make mistakes.”

- “I was always amazed how much I could decipher given the class is only 6 weeks.”
- “The pronunciation workshops were SO helpful. They were frustrating, but worth it.”

**In line with what others have found as well (e.g., Lord 2008), therefore, student reactions seemed to be mixed: while they might not have enjoyed all the lessons at the time, upon reflection they recognize their usefulness and have come to appreciate the value of explicit instruction in pronunciation. These kinds of reactions are encouraging, as we continue to strive for effective and engaging ways to provide language learners with all the building blocks they need for communication. Furthermore, this type of student feedback is useful for instructors who wish to incorporate explicit pronunciation into their classes, and can help researchers to contextualize empirical findings with learner-based perspectives on the value of different educational approaches.**

As with any study, there are of course some limitations that future work would benefit from rectifying. First and foremost, like many classroom-based studies, we are limited by the sample size available to us; pronunciation research often is based on data from one or two classes, as we have done here, although a large-scale, multi-class study would allow us to confirm if the consistently positive findings from our small-scale studies can indeed be generalized to larger populations. In addition, this study was carried out during a short (but intensive) summer semester, and we therefore would need to explore how the results might differ when implemented over a longer semester, or even a year-long course. We did not analyze any delayed post-test data here, although of course those results would allow us to gauge the effectiveness of treatment over time, and to see if the gains evidenced here can be maintained without continued intervention.

We also need to consider, of course, other sounds. The rhotics in Spanish are particularly salient, and so make for a good test case. In this study, the Experimental Group received instruction on a variety of sounds over the course of their six-week semester, with rhotics making up only a part of the content. As we continue to analyze data from the other sounds, we will be able to see if instruction in those areas was also effective and, if so, to the same degree. Similarly, combining perception data with these production data, on these and all sounds, would allow us to better target the source of difficulties in L2 phonological acquisition; that is, if the problems are with perception and thus category formation, or if they are strictly physical and articulatory in nature. The instruction we provide can thus be better targeted. Considering how the students not only enjoyed learning about pronunciation, but also appreciated the unique experience, instructors should consider creative and innovative methods of teaching pronunciation, and investigators should continue to explore its effects.

Finally, we did not distinguish here between different methods of instruction, and instead used a variety of approaches simultaneously (e.g., articulatory information, oral and aural practice, visualization and practice with Praat, etc.). We have seen that the overall effect was undoubtedly positive, but it would be interesting to try to determine if it was indeed the combination of approaches that was beneficial, or if one of the approaches alone could have yielded the same results. Not only would this enable practitioners to develop the best materials for learners, but it could also help us address theoretical issues related to explicit instruction—namely, this information might allow instructors to understand if what helps students is obtaining this kind of explicit metalinguistic knowledge about the language, or if the improvement is a result of increased input, output, and/or feedback.

The limitations delineated here provide a clear path forward for research in instructed second language pronunciation. In spite of these limitations, though, the current study has shown clearly that incorporating pronunciation instruction at the earliest levels of second language classes can indeed benefit learners' production. Our study therefore joins the growing chorus of work that advocates for pronunciation instruction to be a standard and necessary component of all levels of second language teaching.

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**Appendix A: Phrases Used in Oral Recordings**

(Recall that the rhotics constituted only one week of the six weeks of instruction, so other sounds are solicited in these phrases as well.)

1. El arco iris tiene siete colores en total: rojo, naranja, verde, amarillo, azul, añil y morado.
2. Tú compras en el kiosko.
3. Mi comida favorita es el pescado con patatas.
4. Los arándanos y el salmón son alimentos saludables
5. Ramón es de Puerto Rico. Ramón es puertorriqueño.
6. Los colores de FSU son el granate y el dorado.
7. En España, Pedro espera el bus.
8. Los autos en España se llaman coches pero en Cuba se llaman carros.
9. El profesor de historia es de Portugal.
10. Rosa compra todos los días piñas y papayas.
11. El ron del mar Caribe es importante para las tiendas pequeñas.
12. Tu perro come mantequilla por las tardes.
13. Los ‘meseros’ del Perú son los ‘camareros’ en España.
14. La risa de Carlos y Teresa es contagiosa.
15. El escritor marroquí tuvo razón.
16. En el mercado pude comprar plátanos, coles, peras, ciruelas, coliflores, melocotones, cocos, lechugas, platos y unas tazas doradas.
17. Mi clase favorita es química. Yo la estudio en la biblioteca.

**Appendix B: Pronunciation Attitude Inventory (Elliott 1995)**

1. I'd like to sound as native as possible when speaking a foreign language.
2. Acquiring proper pronunciation in a foreign language is important to me.
3. I will never be able to speak a foreign language with a good accent.
4. I believe I can improve my pronunciation skills in a foreign language.
5. I believe more emphasis should be given to pronunciation in class.
6. One of my personal goals is to acquire good enough pronunciation skills to be able to pass for a native speaker.
7. I try to imitate native speakers' pronunciation whenever possible.
8. Communicating effectively is much more important than sounding like a native speaker.
9. Good pronunciation skills in foreign language are not as important as learning vocabulary and grammar.

10. I want to improve my accent when speaking a foreign language.
11. I'm concerned with my progress in my pronunciation of my foreign language.
12. Sounding like a native speaker is very important to me.

### **Appendix C: Experimental Group Feedback Regarding Pronunciation Instruction**

Note: There are often more responses than the number of participants because individual participants offered more than one response. If they entered a line break (hard return) between their responses, the system recorded it as a new response.

#### **Question 1: What was your favorite part of the pronunciation workshops?**

- Learning about sounds
- The help it offered
- Going from English words to Spanish ones. Which helped
- Not a lot of pressure as a grade so I felt more at ease than stressed
- Practicing
- Learning that others had the same problems I had with pronunciation.
- p,t,k
- I enjoyed the aspiration activity with the paper towels.
- A chill portion of class that is really helpful.
- Taking a set amount of time to practice just specifically on the pronunciation of different words
- They were very helpful.
- Reading sentences or words with a partner to practice
- Practicing a Spanish accent
- Learning how we make different sounds through the location of the tongue, which I'd never thought about in English before.
- My favorite part was seeing how practicing each class helped with improving pronunciation of the different words and vowels
- The workshops with the paper for aspirations helped a lot

#### **Question 2: What was your least favorite part of the pronunciation workshops?**

- Recording
- The difficulty I'd come across at times
- The visual diagrams, which didn't help too much
- I was nervous about sounding like an American

- Also practicing
- I did not think using the toilet paper was terribly useful.
- r
- Nothing, I actually liked this part.
- Sometimes feels like a waste of time.
- Having to say the words in front of the class
- It was difficult to figure out how we were mispronouncing certain words or sounds, which made it kind of uncomfortable.
- Short length
- Classmate feedback wasn't bad but it felt pointless since none of us are native speakers
- The rr was extremely hard to create and I still don't know how to do so
- I didn't like going over pronunciation everyday
- I was afraid to sound like a native speaker because I didn't know I was doing it correctly or failing at it.

**Question 3: What would you suggest I change if I implement the pronunciation workshop again?**

- n/a
- Nothing
- More practice speaking aloud as a class, one at a time
- Videos would be helpful
- Maybe more feedback on proper pronunciation
- Have future students continue to read longer sentences. Not only does it help with pronunciation but it also helps with learning about sentence development.
- Not sure
- N/A
- For a normal semester I would say dedicate one class a week to pronunciation. For summer, maybe a half class or two and a video for homework every week.
- I don't think it needs any changes
- I found the large lists of words to be the most helpful, when everyone would have to read one or two of them randomly. I would have enjoyed working in larger groups, like having the class split in half to get more input and hear different pronunciations without being put on the spot with the whole class.
- More small groups where the professor walks around and gives micro level advice
- I don't know

- I think they're good but I don't think the charts of the actual sound waves were super helpful, personally I could tell the difference better by just hearing it.
- Nothing
- More time and workshops, I think it would help a lot to be a better communicator in Spanish when having a conversation.

**Question 4: Is there anything else you'd like to add about the pronunciation workshop and/or the course?**

- n/a
- No
- Doing practice in pairs is hard in a small room, since the echoes make it hard to hear each other well.
- n/a
- No
- N/A
- No
- I really liked when we had to repeat and sort of imitate you (Alberto). It helps to hear your voice and then immediately try to repeat that to sound as native as possible.
- I found it very helpful.
- No
- The pronunciation workshops were SO helpful. They were frustrating but worth it.
- I enjoyed the fact that we were forced to practice in front of everyone and make mistakes. I thought that was very helpful in getting over fears of saying something incorrectly.
- The pronunciation workshops felt very tedious sometimes HOWEVER I'm very glad that we did them and I am very happy with how much I learned about pronunciation. I would like pronunciation to be taught in my future language classes.
- I really like reading the passages because that was a much easier skill than listening and I was always amazed how much I could decipher given the class is only 6 weeks.
- There is nothing I would like to add
- The difference between the English 'v' and the Spanish 'v' pronunciation. I was confused about whether to pronounce it like a 'b' or 'v' when it came to Spanish.