EFFECTS OF FORMAL INSTRUCTION ON ACQUISITION OF SPANISH VOWELS

By

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by

Laurel Jade Hodges
Para Manolo, con mucho amor, y en profundo agradecimiento por su constante apoyo y fe.
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This study attempts to discover the effects of formal pronunciation instruction on
the unstressed-vowel production of beginning-level students of Spanish. Many studies
have investigated the effects of this kind of instruction on the acquisition of an L2
phonological system. Some have been successful in showing improvement in
pronunciation due to instruction, while others have been unable to make a substantiated,
data-based claim for the inclusion of this type of instruction in L2 classrooms.

Spanish vowels were chosen as the focus of the instruction in this study because,
although written as the same five vowels in English, they differ vastly in their
pronunciation and, when pronounced incorrectly, are one of the strongest indicators of
foreign accent in Spanish. The vowels analyzed in this project are unstressed word-final
/a/, /e/, and /o/, due to their tendencies to be either reduced or lengthened in the Spanish
of native English speakers.
The participants in this study are students in three different sections of the same class, a second-semester, college-level Spanish class at a large state university. They are all native speakers of English. Participants completed tests of pronunciation on three different occasions: a pretest, a posttest, and a second posttest, each consisting of a word list and a free response portion. On the third day of the study, after recording the posttest, participants completed a Pronunciation Attitude Inventory (PAI). In addition, participants in the experimental group received three 15-minute periods of instruction on and practice with producing Spanish vowels.

The data was recorded and the particular sounds in question rated by three native Spanish speaker judges using a four-point scale. Results indicate a correlation between vowel production and explicit pronunciation instruction, and also between vowel production and pronunciation attitude; these correlations may depend on context of production and on the use of certain vowel sounds.
CHAPTER 1
INTRODUCTION

Second language (L2) educators often set communicative competence as a goal for their students. This idea includes proficiency in the areas of syntax, pragmatics, and morphology of the second language. However, phonology is also an integral part of this concept that nonetheless seems to receive less attention in the classroom than the other components mentioned above. In order to communicate content effectively in the second language, learners must be understood; therefore, it is highly recommendable that instructors spend more time explaining differences between the phonological systems of learners' first and second languages, in order to better their communication skills as a whole.

According to Arteaga (2000), little information about phonology is given in first-year Spanish textbooks; few Spanish instructors would disagree with her assessment. It is therefore important that instructors teach learners explicitly how to pronounce Spanish. In addition, Elliott (2003) presents the idea that pedagogical consciousness-raising efforts in L2 phonology lead to increased concern for accuracy on the part of the learners, which may raise their self-confidence when speaking the second language. When learners' affective filters are lowered in this manner, they will be more likely to seek out native speakers of the L2 with whom to practice their language skills. The contact with these native speakers leads to increased input in the L2, which may, in turn, positively affect the learners' acquisition of the L2 phonological system (Krashen 1982, VanPatten 1987, VanPatten & Cadierno 1993). In sum, the claim can be made that the act of teaching L2
phonology may lead to increased input and better acquisition of not only the sounds of a second language, but also other areas of competence as well.

Various pedagogical trends have affected the teaching of pronunciation in the classroom. In her review of phonetics instruction in the Spanish classroom, Arteaga (2000) notes that at the turn of the twentieth century, the emphasis was on grammar and translation; pronunciation was regarded as supplementary information. It was therefore mostly excluded from the curriculum.

Around the 1970s, with the birth of the audiolingual method and more advanced laboratory technology, pronunciation training was accorded more importance and began to make an appearance in Spanish textbooks. This approach relied on drills and repetition in order to adjust pronunciation and made use of overt and direct correction of errors (Terrell 1989). The increased attention to pronunciation without question produced students whose pronunciation skills were more advanced than those of students who had studied under the grammar and translation approach; however, these gains may have been made at the expense of the free expression of ideas.

The communicative methodology of the 1980s, with its almost exclusive focus on the communication of meaning, again de-emphasized pronunciation instruction. According to Terrell, the place of pronunciation instruction in the classroom remains unresolved still today. He recommends the use of explicit pronunciation instruction combined with activities that make extensive use of problem sounds yet focus on meaningful communication. Arteaga (2000) agrees, and adds that L2 textbooks should incorporate more information about phonetics and recycle that information throughout the textbook. She also stipulates that learners need to develop self-monitoring skills. This
study attempts to add an explicit phonetic component to an already communicative Spanish course, with the goal of increasing students' awareness of how they sound in the L2 and various factors that cause foreign accent.

Spanish vowels were chosen as the focus of the instruction in this study because, though written orthographically as the same five vowels in English, they differ vastly in their pronunciation and, when pronounced incorrectly, are one of the strongest indicators of foreign accent in Spanish (Terrell 1989). The vowels analyzed in this project are unstressed word-final /a/, /e/ and /o/, due to their tendencies to be either reduced or lengthened in the Spanish speech of native English speakers. Word-final /a/, in words such as hermana ("sister"), is problematic in that it is often reduced to the English sound schwa /ə/ in learners' speech. /o/ as in bonito ("pretty") may also be reduced, and both /o/ and /e/, as in calle ("street"), are susceptible to being lengthened like their English counterparts, with the addition of a glide: /ow/ or /ej/.

Given the difficulty associated with the acquisition of these vowels and the lack of pronunciation information in first-year Spanish classrooms, it is hoped that this study will demonstrate the importance and effectiveness of the inclusion of phonetics instruction in the first-year Spanish curriculum and provide a model to that end. In the next chapter we will examine the underlying causes of variation in acquisition of L2 phonology.
CHAPTER 2
REVIEW OF THE LITERATURE

Many factors have been investigated as possible underlying causes of variation among learners, and particularly with respect to L2 phonological acquisition. These include individual learner variables, general theoretical approaches, and the effects of pronunciation instruction. In this section we will take a closer look at the factors mentioned above, as well as provide a critical view of recent studies in the area of formal instruction of pronunciation.

Learner Variables

Age of Learning

Many researchers have claimed that complete mastery of a second language is impossible for learners after a certain age, due to the changing biology of the brain. This is known as the Critical Period Hypothesis (Lennenberg 1967, Asher & Garcia 1969, Lamendella 1977, Scovel 1988, Birdsong 1999). Other investigators have found that there may be various critical ages for the different linguistic abilities, such as morphology, syntax, or vocabulary (Long 1990, Patkowski 1980, Johnson & Newport 1989). Flege et al. (2001) point out that the first ability to be lost would be the capability to develop native-like pronunciation in the L2. According to this view, those learners exposed to the L2 before the closing of the critical age are able to develop pronunciation skills resembling those of a native speaker, while those learners exposed to the L2 after the closing of the critical age are unable ever to attain native-like L2 pronunciation.
As there appears to be no clear, defining moment with respect to the exact age of the learner when the critical period closes, researchers such as Oyama (1976) and Long (1990) have suggested calling it a "sensitive period" instead, with less defined boundaries, during which changes may occur gradually, and before and after which linguistic capabilities differ. Long (1990) claimed that learners who begin acquiring their L2 before the age of six will be accent-free, while learners who begin after age twelve will most likely exhibit a foreign accent. Oyama (1976), in her study of Italian-born immigrants, identified age of arrival as the single most important predictor of foreign accent. Practice and motivation were related to accent only in connection to age at arrival.

However, Moyer (1999) revealed in her study one of the unusual cases of a participant whose speech shows no maturational effects. This particular participant had no exposure to German prior to the age of 22, yet on tests of pronunciation ability, he outscored even one of the native speakers in the control group. The participant had received only five years of instruction and spent little time in the country of the L2. Moyer states that this participant described his motivation as "fascination with the language and with Germans," and she goes on to state that "such motivation is difficult to quantify, much less to influence, and its relationship to ultimate attainment has yet to be determined" (98). Nonetheless, cases such as this one are a clear reminder that the critical or sensitive period does not hold across the board for all learners and thus must be investigated and developed further, as must other intervening variables. While age of learning is not one of the variables considered in the present study, it forms part of a spectrum of issues that have been considered in the field of L2 phonological acquisition.
Attitude

Learners' attitudes towards their own pronunciation ability and how those attitudes relate to production have also been examined by various researchers. Harlow and Muyskens (1994) note that "students worry about pronunciation a great deal because they feel insecure about how they sound to other people" (146). Various studies point to a relationship between pronunciation accuracy in the second language and learner attitude.

Suter (1976) studied 20 variables in connection with the L2 phonological production of 61 non-native speakers of English. He found that concern for pronunciation, along with native language and amount of conversation with native English speakers in and out of the classroom, were strongly related to pronunciation accuracy. Among those variables with little relationship to pronunciation accuracy were formal instruction in pronunciation, gender, and an extroverted personality. However, several studies have connected formal pronunciation instruction with greater accuracy; these studies will be discussed more in detail below.

Elliott's findings (1995a, 1995b) corroborated those of Suter, when he also took into account students' attitudes regarding pronunciation as a factor in whether they improved or not after the explicit pronunciation instruction provided them. Their attitudes toward pronunciation skills were measured using a Likert-type test called the Pronunciation Attitude Inventory (PAI), consisting of positive and negative statements for which the students chose a forced-response answer of 1–5, indicating the frequency with which the attitude was true for them (e.g., "I will never be able to speak Spanish with a good accent"). Elliott discovered that higher scores on the PAI correlated to higher scores on the pronunciation test and were a predictor of pronunciation accuracy, but that
they did not predict higher scores as a result of the formal instruction provided to the experimental group.

By contrast, Hammond and Flege (1989) showed that it was in fact the learners with the least empathy toward a language group who performed best at imitating native pronunciation. These learners actually displayed a hostile attitude toward speakers of the L2. This study investigated a different type of attitude, that which is held toward the speakers of a foreign language. Although this was a surprising finding, it shows that there are many aspects of attitude that perhaps must be considered separately. It is safe to say that research in the area of the effects of attitude on phonological acquisition of the L2 is contradictory and inconclusive to date. The current study will investigate attitude as it relates to pronunciation accuracy by analyzing the results of an attitude inventory.

**Gender**

The effects of gender in attainment of L2 pronunciation skills do not appear to be a significant factor. Anecdotal evidence (Elliott 2003) suggests that females acquire L2 phonological capabilities better than males, but this has not been borne out in empirical studies. As mentioned above, Suter (1976) found that gender was not related to acquisition of pronunciation. Elliott (1995a) was also unable to show a relationship between gender and performance on tests of pronunciation.

Of these 3 relevant learner variables in acquisition of pronunciation described here, we attempt to relate attitude with pronunciation in this study, given that only college-level students are included as participants, and gender has not been shown to be significant in previous research. The relationship between pronunciation and attitude will be examined through the analysis of participant responses on a questionnaire and scores
on a test of pronunciation. We turn now to the larger theoretical framework surrounding L2 phonological acquisition.

**Theoretical Approaches**

In prior research in this area, many other factors besides individual learner variables have been found to be significant in terms of learner production. In this section we will examine various theories, hypotheses, and models that attempt to explain acquisition of the phonology of an L2.

**Social Context**

Tarone (1979) noted early on the effects of social context and type of task on learners' interlanguage production. The interlanguage varies systematically along a continuum from vernacular speech to careful speech. According to Tarone, errors due to interference are more common in careful speech, which is obtained when learners are aware that they are being observed. Researchers in the area of acquisition of L2 phonology are faced with a difficult task in obtaining clear, analyzable data that at the same time represent vernacular, less monitored speech. Tarone contends that research into this area is only possible when investigators keep in mind the "chameleon-like nature" of the interlanguage (188). Thus, it is important for studies in L2 acquisition to interpret their findings in light of the type of tasks used in the study.

**Ontogeny Model**

In the area of L2 phonology task type seems to exhibit somewhat different effects. For example, Major's Ontogeny Model (1987) states that errors become less frequent as the task in question becomes more formal. In addition, learners are often able to produce target sounds correctly in isolated contexts, but recur to patterns of the L1 in casual speech. It is possible that studies in this area of second language acquisition have been
unable to arrive at an accord in part due to differences in methodology or in task design and also due to their standpoint with regard to the effects of the formality of the tasks involved.

Elliott's (1997) findings concur with the view of the Ontogeny Model, in that participants exhibited more errors of transfer in less careful speech. As the learners concentrated on communicating meaning in a free elicitation exercise of picture description, attention to pronunciation decreased, and more transfer errors appeared, such as retroflexion of /ʃ/ and [r] and use of occlusives where fricatives should have been produced.

**Similarity Differential Rate Hypothesis**

Another possible cause underlying the potential for success in L2 phonological acquisition is found in Major and Kim's (1999) Similarity Differential Rate Hypothesis, which states that features in the L2 that are dissimilar or not present in the L1 are acquired at a faster rate than those which both languages share. For instance, following this line of thought, acquisition of the trilled Spanish /r/ might occur faster for a native English speaker than the subtleties of the occlusive and fricative stops, because, while the trilled /r/ does not exist in English, the stops do, and they have no allophones, in contrast to the Spanish stops. It would follow, then, that the vowels analyzed in this study might fall within the category of features that exist in both languages, but with allophonic differences, thus taking longer to acquire. Flege's (1987) equivalence classification concurs with this particular hypothesis, stating that new phones in the L2 will be produced more authentically than similar phones, that is, phones that resemble sounds in the L1.
This approach is quite contrary to that of the Contrastive Analysis Hypothesis (Lado 1957, Stockwell, Bowen & Martin 1965), first popular three decades earlier, which would have predicted the opposite. Contrastive Analysis traced errors in the L2 to interference based on features of the L1, and used that knowledge to predict mistakes learners would make in the L2.

The findings of this study are analyzed in light of the effects of task type, the Ontogeny Model, and the Similarity Differential Rate Hypothesis in order to discover their relative importance in the larger picture of L2 phonological acquisition. We turn now to the final section of this review of the literature, and the most pertinent to the present study: the effects of formal instruction.

**Effects of Formal Instruction**

The current study attempts to examine the effects of explicit formal instruction in pronunciation at the beginning level of Spanish. To that end, here we describe previous research done in this area and their results.

According to Major (2001), four kinds of investigation into L2 phonology are possible: (1) individual segments; (2) segment combinations; (3) paralinguistic or prosodic features; and (4) overall accent. The majority of the following studies have investigated and measured acquisition of individual segments and overall accent.

Many studies have attempted to define the effects of formal pronunciation instruction on the acquisition of an L2 phonological system. Some have been successful in showing improvement in pronunciation due to instruction, while others have been unable to make a substantiated, data-based claim for the inclusion of this type of instruction in L2 classrooms. For instance, Thompson (1991), in her study of Russian immigrants' pronunciation, and Flege et al. (1995), in their review of factors affecting
strength of foreign accent, were unable to identify instruction as a predictor of improved pronunciation.

However, in one of the more recent studies, González-Bueno (1997) was able to show statistically significant improvement in the voice onset time (VOT) of two of the Spanish phonemes presented in the instructional treatment of her study, /p/ and /g/, although she noted a trend toward improvement for the other stops as well. This study investigated the effects of Spanish pronunciation instruction at the intermediate level, with 60 native English speakers. The focus of instruction was the Spanish stop consonants /b, d, g, p, t, k/, which are represented phonetically with the same symbols as English stop consonants, yet which differ vastly in two subsegmental features: aspiration and duration. The goal, then, was to reduce the aspiration of the Spanish consonants, or the Voice Onset Time (VOT), in the speech of the experimental group, through ten minutes of instruction at the beginning of each class during one semester. During these ten minutes participants received information about articulation and perception of the Spanish stop consonants and then practiced producing them. As was stated above, the results showed promising results for all phones, and statistically significant improvement on two of them.

The design of González-Bueno (1997) was similar to that of Elliott (1995b), in which instruction was given throughout a semester to participants on several different phonemes and allophones of Spanish, with regard to place and manner of articulation. The researcher described his instruction as "multimodal" (532), in that participants heard, saw, described, and sketched the production of the various Spanish sounds, thereby
incorporating multiple learner strategies and preferences. Participants receiving the pronunciation instruction improved significantly on a posttest of pronunciation ability.

Lord (2005) also gave semester-long explicit instruction on nine phonemes in an undergraduate Spanish phonetics class with 17 participants. The instruction was combined with self-analysis activities that the participants carried out three times during the semester, and several times during class practice was provided with voice analysis software. Pretest and posttest comparisons revealed that significant gains were made in the production of trilled [ɾ], diphthongs within and between words, and the fricative allophones [β], [δ], and [γ].

Terrell (1989) gives suggestions for the practical incorporation of pronunciation instruction in the classroom, based on the communicative approach. In his Stage 1, students focus on solely the processing of input, with the aid of "advanced organizers", information about sounds in the target language. This is supposed to reduce the "noise level" of new sounds so that learners can focus on the input. Stage 2 consists of providing more advanced information about sounds. Two suggestions he gives are to tell students about syllable length in Spanish versus English, as well as the schwa, and the fact that an American r is never used in Spanish. In Stage 3, use is made of "meaningful monitor activities", in which the instructor identifies problem areas in class pronunciation and then designs an activity which practices that particular sound in a meaningful context. The present study makes use of explicit information about sounds of Spanish, but without the practice in a meaningful context. It is assumed that because the vowels /a, e, o/ are so common word finally in Spanish, that any communicative classroom activity could provide students the opportunity to practice their pronunciation.
In this section, we have seen various causes underlying variation in acquisition of L2 phonology and several studies examining the effects of formal instruction. This study attempts to fill in the missing information on effects of pronunciation instruction at the beginning level. In the next chapter, the methodology used for teaching pronunciation in this study will be presented and the scoring of the data explained.
CHAPTER 3
METODOLOGY

Previous studies in acquisition of Spanish phonology were designed and carried out with learners of intermediate L2 proficiency in mind, thus providing remarkably little information about how beginning learners of Spanish approach and deal with the new phonological system. This study therefore investigates the effects of the same type of instruction as that used in other studies, but with participants at a lower level. The theories mentioned above (Major & Kim 1999, Flege 1987) would suggest that Spanish vowels might be difficult to acquire, as they occur in both Spanish and English, but with various differences. We have also seen in previous work that the effect of task type is also a factor (Tarone 1979, Major 1987) and therefore may also play a role in the results of the present study. Keeping these ideas in mind, the research questions that motivated this study are as follows:

- What are the effects of formal pronunciation instruction on the vowel production of second-semester learners of Spanish who are native English speakers?
- Do the effects of formal instruction vary depending on the type of task performed?
- How are learners’ pronunciation attitudes related to their production of vowels?

In the following sections of this chapter we address the design and procedures of the study and then discuss the analysis of the data, while Chapter 4 presents the empirical findings.
Design

Participants

The participants in this study were students in three different sections of the same course, a second semester college-level Spanish class at a large state university. These particular sections were chosen for scheduling purposes, and were randomly assigned to the experimental (2 sections) and control (1 section) treatments. In order to take the class, the students must have had no more than two years of high school Spanish; however, some of the students did not take Spanish in high school and had had only one semester of college study prior to taking this class. The participants were all native speakers of English.

Two of the sections formed the experimental group, to whom pronunciation instruction was provided, in addition to their regular course curriculum; the remaining section constituted the control group, to whom no pronunciation instruction was given. Of the experimental group, 14 participants were not present for one of the days of testing, and 7 potential participants of the control group chose not to participate in the study. In addition, 3 participants were lost from the control group and 4 from the experimental group due to technical problems. There were a total of 16 students in the experimental group and 8 students in the control group.

Instruments

Independent variables in this study included two instruments designed to give extra information about participants, with the goal of investigating possible correlations between factors such as attitude and background and with their performance on the remaining independent variable, the pronunciation test. Table 3.1 shows the ordering of the components of the study.
Table 3-1. Breakdown of tasks and instruments administered.

<table>
<thead>
<tr>
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<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>1 month later</th>
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<tbody>
<tr>
<td><strong>Experimental</strong></td>
<td>Background questionnaire</td>
<td>Pronunciation instruction 2</td>
<td>Pronunciation instruction 3</td>
<td>Follow-up posttest*</td>
</tr>
<tr>
<td><strong>group</strong></td>
<td>Pretest</td>
<td></td>
<td>Posttest</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pronunciation instruction 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Control group</strong></td>
<td>Background questionnaire</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Pretest</strong></td>
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*The second posttest was later discarded due to lack of participation.

As can be seen in Table 3.1, participants completed the tests of pronunciation (Appendix A) at three different times. The tests contained different words and topics, but shared a common design. Participants first read aloud a word list of 15 target words equally distributed among word-final /a/, /e/ and /o/ (e.g., *sala* "room", *calle"street", and *bonito"pretty"), and 5 distractors (e.g., *ganas"you win"), for a total of 20 items. This was followed by a free speech elicitation task in which participants spoke for approximately 3 minutes in Spanish on each of two topics on each test, and were free to say what they wanted. For example, one of the topics for the pretest was as follows: "Describe your schedule for this semester. What classes are you taking? What are they like? Do you have a favorite?" The other topics also covered themes common to student or personal life that students had covered in class. Nine Spanish vocabulary words were listed in Spanish under each topic (some of them target words) in order to assist the participants in constructing their responses (e.g., *clase"class", semestre"semester", and *estudiar"study"), and also in the hopes of eliciting more tokens of word-final /a/, /e/ and /o/. All instructions for completing the tests were given in English. The tests were
recorded in a language laboratory using Divace software on each occasion. The responses were then transcribed (although not phonetically) by the researcher in order to give the judges the transcripts of student responses and to indicate the vowels they would rate.

In addition, on the first day of the study, all participants filled out a Language Background Questionnaire (Appendix B). The questionnaire addressed the participants' L1, exposure to Spanish outside the classroom, years of formal instruction in the language, travel to Spanish-speaking countries, and any other languages spoken or studied. The questionnaire was given prior to any instruction or testing, and its purpose was to control for factors related to extensive experience with Spanish or other languages outside of class.

Participants also completed a Pronunciation Attitude Inventory (PAI) (Appendix C) on the third day of the experiment and after taking the posttest. This Inventory was modeled on Elliott (1995a) and was adapted to include 2 extra questions for a total of 14 items on a Likert-type scale, as well as 2 added free-response questions with the goal of obtaining feedback from the experimental group on the pronunciation instruction provided to them. Possible scores on the quantitative section of the PAI ranged from 14 to 70, with higher scores indicating a positive attitude toward pronunciation.

**Procedure**

Each group took the pronunciation pretest in the language laboratory. During the days that the experimental group carried out the activities related to the pronunciation instruction, the control group carried out their normal activities relating to the textbook in the classroom with their regular instructor. Pronunciation was at no point brought into focus in the control group class. The textbook used in this course (Knorre, et al. 2005) addresses some aspect of Spanish pronunciation at the end of each chapter, such as
vowels or fricative allophones of the occlusive stops. This information is not specifically included in the syllabus of the course, so it is up to each individual instructor to make the decision whether to use these sections. In both the experimental and the control groups, these sections were not used.

Following the pretest, the experimental group was provided with the first period of pronunciation instruction on Spanish vowels, which was given by the researcher in English in the language laboratory. First the participants were informed that there is a very close relationship between the way that Spanish is written and the way it sounds, making it relatively easy to learn the basics of pronunciation. Also, the five Spanish vowels are written the same as the English vowels. It was explained that these two facts can lead the beginning learner to believe that the two languages share a vowel system, when in reality, many sounds in Spanish are not equivalent to English sounds, including vowels. In fact, Spanish vowels, when pronounced incorrectly, can be one of the strongest indicators of a foreign accent (Terrell 1989).

The participants were then encouraged to think of words in English written with each vowel, *a*, *e*, and *o*, with as many different sounds as they could think of. Each word was written on the blackboard, and the participants pronounced each word and attempted to describe how each vowel sounded. Next, they were asked to provide Spanish words with the same vowel letters and describe how the vowels sounded. The focus was on showing that in each word, each vowel is always pronounced in the same manner, unlike English vowels, whose orthography may or may not represent the reality of their pronunciation. For example, in the English words *over* and *love*, the written vowel *o*
represents two completely different sounds. By contrast, written Spanish o always represents /o/, as in the words ojo and romero.

Next, it was explained that Spanish vowels are short and tense, never drawn out with a /j/ or /w/ glide. The participants were briefly introduced to the concept of glides, or the idea that semivowels can combine with vowels to form one syllable. It was shown that many vowels in English are actually these kinds of combinations of sounds, with concrete examples and comparisons with Spanish vowels. For instance, all pronounced the word table in English, followed by the word mesa in Spanish, in order to compare the difference between English /ej/ and Spanish /e/.

This information was followed by a 10-minute practice period, in which the participants repeated the Spanish vowels after the researcher, then repeated five complete sentences, each of which practiced one of the five vowels (e.g., "La casa es blanca"). Next, the participants pronounced syllables with each vowel aloud to themselves. Finally, they participated in an activity of perception and discrimination with a classmate (Appendix D). This activity contained two columns, one with English words and the other with very closely related Spanish words, such as Fay and fe. One person chose a word to read from one of the columns; the other classmate listened and had to declare whether his/her partner had produced a word in English or Spanish. They then changed roles.

During the next two days the experimental group received two more periods of instruction of five minutes each and practice periods of ten minutes each. On the second day the researcher reviewed with the experimental group in the classroom the five Spanish vowels and that they are always pronounced as short and tense. The focus of the
information on the second day was the existence of [ə] in English and its non-existence in Spanish. Many English vowels are susceptible to reduction to [ə] when they occur in unaccented syllables; however, Spanish vowels are always pronounced the same way, regardless of position or stress. This was explained to the participants, and they were given and also asked to provide various examples of English words with [ə], such as *purpose* and *collect*. Then participants completed activities of perception of [ə] in English words and predicting where [ə] might fall in the Spanish production of an English speaker in words such as *hermana* "sister" and *inteligente* "intelligent". This was followed by activities of pronunciation practice in which the participants tried to maintain the contrast between various sets of words by pronouncing the vowels (especially word-final ones) faithfully, for example, *sobre* "over" vs. *sobra* "surplus" and *marcado* "marked" vs. *mercado* "market".

On the third day in the laboratory again, participants were taught to avoid diphthongization and lengthening of Spanish vowels, since this is a process which occurs frequently in the English phonological system. Participants were reminded of the mention of glides on the first day, with more in-depth information this time. Comparable words in English and Spanish were written on the board and pronounced in parts in order to show the differences between them. One such word was "no", in each language. It was shown that in English three sounds actually make up the word: /n/, /o/, and the glide, /w/; in Spanish, the same word is composed of only two sounds: /n/ and /o/. It was hoped that by using such a simple example, participants would be able to hear the difference in the simple Spanish and complex English vowels. The participants were then asked to pronounce each word and attempt to feel the difference in their mouths, due to differing
jaw positions for English vowels versus their Spanish counterparts. The next step was to show that when a vowel sound is meant to be complex in Spanish, it is written differently, as a combination of letters, such as in the word *ley*. This word was then compared to *le* in order to show that the vowel sounds are different, and that that difference can actually be the distinguishing factor between two meanings.

Practice for this day included participants' listening to the researcher pronounce comparable words in English and Spanish, such as *me* and *May* and describing the differences they heard, as well as describing the position of the mouth when they tried pronouncing the words. In the next two activities, participants repeated after the researcher, pronouncing various words with word-final /e/ and /o/, being reminded to avoid producing any sort of glide. For the third activity, participants indicated whether the researcher was pronouncing an English or a Spanish word from two columns on the activity handout they were provided with; they then continued the list with a partner. Finally, the participants pronounced phrases emphasizing the vowel sounds in question (e.g., "¿Cómo que no?" and "No, no se lo dé.").

Also on this third day of the study both groups carried out the posttest. The posttest was identical in format to the pretest, but with different word lists and speech elicitation topics. Upon completion of the posttest, both groups filled out the PAI mentioned above. One month later, the groups returned to the language laboratory to take the second posttest, in order to see if possible improvement made between the pretest and posttest was maintained after a period of time. During that intervening month, the participants met with their regular instructors and carried out the normally scheduled class activities, and pronunciation was not brought into focus in class, unless there was a breakdown in
communication. Due to lack of participant attendance in class on the day of the second posttest, the results of that test are not analyzed here, as mentioned previously.

Analysis

Scoring Procedure

The data were rated by three native Spanish-speaking judges, who were provided with recordings and transcripts of the word lists and free speech tasks for each test (Appendix E). They used an original four-point numeric scale to rate the participants’ utterances, broken down as follows:

- 1 = a non target-like vowel, sounds more like English
- 2 = closer to an English vowel than to a Spanish vowel
- 3 = closer to a Spanish vowel than to an English vowel
- 4 = a target-like vowel, could be considered indistinguishable from a vowel produced by a native speaker of Spanish.

For each participant, the judges rated the final vowel on each of the 15 target words from each word list on the test, along with the first five tokens of the three vowels considered from the free speech tasks on each test. The tokens taken from the free speech portion were of three syllables or fewer, and when possible, no token was repeated, although this was inevitable in some cases due to short recordings. The tokens were selected in this manner in order to provide consistency to all the participants’ data, as some participants’ recordings only included these fifteen tokens. The recordings were labeled only with a number and no other identifying indicators, so that the judges did not know to which group or test they were listening.

The judges were from Colombia, Puerto Rico, and Spain. All were doctoral students of literature in the Department of Romance Languages and Literatures at the University of Florida. Together, they attended a training session with the researcher on
how to use the rating system. During this training session, the researcher explained the four scores and played examples of recordings that would be rated at each of the four levels in order to provide the judges with a concrete representation of each. Third, the researcher played several different samples from one of the recordings and had the judges rate them individually. These ratings were then compared among the three judges to make sure that each one understood how to use the system. In all but two cases, the judges were in agreement, and in the two special cases, they agreed that the samples were either a 2 or 3, i.e., that the sound in question was neither exactly target-like nor non-target-like. Finally, the judges were provided with a written description of what a 1, 2, 3, or 4 would sound like for each of the vowels, $a$, $e$, and $o$. It was thought that a four-point scale would allow for more subtleties in the participants' production to be represented as opposed to the use of a dichotomous or three-part scoring system; it was also hoped that this design would aid in avoiding "lumping" the sounds into a middle score. The judges were carefully instructed not to let the participants' overall accent or use of grammar influence their rating, and the transcripts were carefully marked and the vowels highlighted to remind them of the focus of the rating. It was later discovered that one of the judges had used a different rating scale than the other two, and that judge's ratings were discarded. This meant that only two judges' ratings were available for each vowel produced.

**Data Analysis**

The two groups' scores on all variables were analyzed in order to discover the effects, if any, of the formal pronunciation instruction. First, the data were separated into performance on the word list task and performance on the free speech task, and under those categories, each vowel was analyzed separately. A 2x2x3 ANOVA was performed
for each type of task, followed by independent $t$-tests to compare the two groups and paired-sample $t$-tests for within-group analyses. The alpha for achieving statistical significance was set at .05. Finally, a Pearson Product Moment correlation was calculated between performance on both sections on the posttest combined and the participants' score on the PAI.
I refer back to the original research questions in this discussion of the results of the study. The first question investigated the effects of formal pronunciation instruction on the vowel production of second-semester learners of Spanish who are native English speakers. First mean performance on each test was examined according to each vowel and with test scores separated into the word list task and the free speech elicitation task. Table 4.1 shows the means and standard deviations for each group on each test in the word list section. The number of participants remains constant throughout the table: 8 in the control group and 16 in the experimental group. Totals are first given for each vowel on each test for each group. Totals are also given for mean performance on the test, considering all vowels together. This information is presented in Table 4.2 for the free speech task.

Table 4-1. Mean accuracy and standard deviations on word list task.

<table>
<thead>
<tr>
<th></th>
<th>Experimental (n=16)</th>
<th>Control (n=8)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td></td>
<td>Mean SD</td>
<td>Mean SD</td>
</tr>
<tr>
<td>/a/</td>
<td>3.26 0.440</td>
<td>3.48 0.217</td>
</tr>
<tr>
<td>/e/</td>
<td>3.44 0.378</td>
<td>3.54 0.249</td>
</tr>
<tr>
<td>/o/</td>
<td>3.60 0.387</td>
<td>3.31 0.487</td>
</tr>
<tr>
<td>Overall</td>
<td>3.26 0.389</td>
<td>3.32 0.264</td>
</tr>
</tbody>
</table>
Table 4-2. Mean accuracy and standard deviations on free speech task.

<table>
<thead>
<tr>
<th></th>
<th>Experimental (n=16)</th>
<th>Control (n=8)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Mean</td>
</tr>
<tr>
<td>/a/</td>
<td></td>
<td>3.52</td>
</tr>
<tr>
<td>/e/</td>
<td></td>
<td>3.76</td>
</tr>
<tr>
<td>/o/</td>
<td></td>
<td>3.69</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td>3.66</td>
</tr>
</tbody>
</table>

As can be seen in the tables above, simple means revealed that /a/ and /e/ improved on the word list task, and /a/ improved on the free speech task. In order to discover the overall effects of instruction, 2x2x3 repeated measures ANOVA (within-group factors: time [pre, post], vowel [a, e, o]) were performed for the word list task and the free speech task separately. The level of significance was set at 0.05, and the between-group factor was instruction. Table 4.3 presents the results of the ANOVA for the word list task.

Table 4-3. ANOVA summary table for word list task.

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>SS</th>
<th>Df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>2.618</td>
<td>1</td>
<td>2.618</td>
<td>2.789</td>
</tr>
<tr>
<td>Vowel</td>
<td>.009</td>
<td>2</td>
<td>.004</td>
<td>.044</td>
</tr>
<tr>
<td>Time</td>
<td>.002</td>
<td>1</td>
<td>.002</td>
<td>.016</td>
</tr>
<tr>
<td>Vowel*Group</td>
<td>.214</td>
<td>2</td>
<td>.107</td>
<td>1.083</td>
</tr>
<tr>
<td>Time*Group</td>
<td>.010</td>
<td>1</td>
<td>.010</td>
<td>.086</td>
</tr>
<tr>
<td>Time*Vowel</td>
<td>.731</td>
<td>2</td>
<td>.366</td>
<td>8.222*</td>
</tr>
<tr>
<td>Time<em>Vowel</em>Group</td>
<td>.142</td>
<td>2</td>
<td>.071</td>
<td>1.599</td>
</tr>
<tr>
<td>Error</td>
<td>20.656</td>
<td>22</td>
<td>.939</td>
<td></td>
</tr>
</tbody>
</table>

*p<.05.

The interaction between time and vowel was the only significant factor in this ANOVA (p=.001), so independent t-tests were performed on the data to examine the differences between pretest and posttest for the two groups for the word list section. There was no difference between the experimental and control groups at the pretest, considering the three vowels both together and individually. The mean for the three vowels combined was 3.09 for the control group and 3.27 for the experimental group, with a t value of -.894; df=22; p=.381. There were differences on the posttest, however;
in an independent samples \( t \)-test using the means for both groups, the experimental
group's vowel production was rated as more nativelike than the control group's by the
judges \((p=.018)\). This finding was examined more closely by looking at the three vowels
separately, and it was discovered that the experimental group was rated as more
nativelike than the control group specifically in their production of /e/ and /a/. The mean
for /e/ was 3.13 for the control group and 3.54 for the experimental group with a \( t \)-value
of -2.103 \((df=22, p=.047)\). The mean for /a/ was 3.23 for the control group and 3.48 for
the experimental group \((t=-1.968, df=22, p=.062)\). While the latter is not statistically
significant, the experimental group's improvement is worth noting.

In addition, an ANOVA comparing the three vowels on the pretest for only the
experimental group revealed a significant difference among the vowels \((p=.001)\). A
subsequent paired samples \( t \)-test showed that the pronunciation of /o/ was judged more
target like than the pronunciation of /a/ \((t=-4.399, df=15, p=.001)\). An ANOVA
comparing the three vowels on the posttest for just the experimental group yielded
significance at the level of .005. The paired samples \( t \)-test was then run on the results of
the posttest for the experimental group, revealing that /e/ was rated by the judges as more
nativelike than /o/ \((t=2.905, df=15, p=.011)\).

Next the experimental group was examined on the pretest versus the posttest for
each vowel, using a series of paired samples \( t \)-tests. /o/ worsened significantly over time
\((p=.027)\), while /a/ improved, nearly significantly \((p=.051)\). The means for /o/ on the
pretest and posttest were, respectively, 3.6 and 3.31. The means for /a/ on the pretest and
posttest were 3.26 and 3.48. /e/ showed no significant change. When the same type of \( t \)-
test was run on the data for the control group, there was no difference among the vowels over time.

Table 4.4 presents the results of the 2x2x3 ANOVA for the free speech task.

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>SS</th>
<th>Df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>1.072</td>
<td>1</td>
<td>1.072</td>
<td>2.775</td>
</tr>
<tr>
<td>Vowel</td>
<td>1.080</td>
<td>2</td>
<td>.540</td>
<td>7.330*</td>
</tr>
<tr>
<td>Time</td>
<td>.375</td>
<td>1</td>
<td>.375</td>
<td>6.227*</td>
</tr>
<tr>
<td>Vowel*Group</td>
<td>.052</td>
<td>2</td>
<td>.026</td>
<td>.351</td>
</tr>
<tr>
<td>Time*Group</td>
<td>.368</td>
<td>1</td>
<td>.368</td>
<td>6.108*</td>
</tr>
<tr>
<td>Time*Vowel</td>
<td>.525</td>
<td>2</td>
<td>.263</td>
<td>6.521*</td>
</tr>
<tr>
<td>Time<em>Vowel</em>Group</td>
<td>.213</td>
<td>2</td>
<td>.107</td>
<td>2.648</td>
</tr>
<tr>
<td>Error</td>
<td>8.499</td>
<td>22</td>
<td>.386</td>
<td></td>
</tr>
</tbody>
</table>

*p<.05.

The effect of group on production was not significant for the free speech section; however, the factor of vowel was (p=.002). In order to discover where the effects of vowel lay, an independent samples *t*-test was performed comparing the two groups on the pretest. There were no significant differences between the two groups for any of the three vowels. Next, the same type of *t*-test was performed on the scores of the posttest. The results were as follows:

- /a/: t=-2.743, df=22, p=.012
- /e/: t=-.841, df=22, p=.410
- /o/: t=-2.061, df=22, p=.051.

This shows that the experimental group performed significantly better in their production of /a/ and almost significantly better on /o/ than the control group. The means for each participant for each vowel on each test were used to run another series of independent samples *t*-tests on the posttest scores of the free speech section, which showed that the experimental group did in fact perform significantly better than the control group overall (p=.036).
The control group showed a significant decrease in the score for /o/ on the posttest in a paired samples \( t \)-test comparing each vowel to the others from the pretest to the posttest. When examined in terms of the pretest versus the posttest, the experimental group showed no statistical improvement for any of the three vowels. However, the next analysis proved interesting. When the experimental group was examined in terms of its production on the pretest only, the paired samples \( t \)-test yielded significant results for the /e/ over /a/, and for /o/ over /a/ (\( p=.015 \), \( p=.014 \), respectively). The same test performed on only the posttest scores revealed no significant differences among vowels. This indicates that /a/ caught up to the other vowels in terms of correction after the instruction, as its mean was lower on the pretest than the other two vowels.

The second research question asked if the effects of formal instruction varied depending on the type of task performed. Considering the results presented above, differences can be observed between the two groups in terms of specific vowels. The experimental group was rated as significantly more nativelike in its vowel production than the control group for /e/ on the word list task and /a/ on the free speech task. In addition, the experimental group improved almost significantly for /a/ on the word list task and for /o/ on the free speech task. Thus, the effects of formal instruction did vary according to the type of task performed, but not in a systematic manner.

The third research question asked whether learners’ pronunciation attitudes are related to their production of vowels. To investigate a possible connection between the two variables, a Pearson Product Moment correlation was performed on the mean score of each participant for each section of the posttest and the score on the PAI. Due to the different nature of the two tasks, their results were considered separately. There was no
Figure 4-1. Correlation between attitude and test score on word list, experimental group.

Figure 4-2. Correlation between attitude and test score on free speech, experimental group.
relationship between attitude and pronunciation for the control group for either the word list section ($r = .256, r^2 = .0655, p = .541$), or the free speech section ($r = .322, r^2 = .1037, p = .437$). The correlation was significant, however, for the experimental group for both sections: for the word list ($r = .607, r^2 = .3684, p = .013$) and the free speech section ($r = .708, r^2 = .5013, p = .002$). The results for the experimental group are presented visually in Figures 4.1 and 4.2, indicating the positive correlation between pronunciation and attitude.

Out of the 16 participants in the experimental group, all 16 stated that they had found the activities useful. In answer to the second question, 100% of the experimental group also affirmed that they had learned something during the course of the study due to the instruction. The following are some of the representative responses given in answer to question 1:

- "Yes, I feel speaking in the lab environment takes some pressure off you and allows for better practice." (Participant 6)
- "Yes, it was useful to know what the different sounds were caused by, making it possible to fix." (Participant 16)
- "Yes, I go home and practice pronouncing Spanish words." (Participant 11)

Some of the responses to question 2 are listed below:

- "Yes, I learned to shorten my vowels. I never really knew the huge difference in the way English and Spanish vowels sound." (Participant 2)
- "Of course, being that vowels are the backbone to the language this study has improved my pronunciation thoroughly." (Participant 12)
- "Yes, jaw position and shortness of vowels." (Participant 5)
Having now seen the answers to the research questions briefly, in the next section the major results of this study will be discussed in more detail. I will also describe how they fit into the previous research discussed in Chapter 2.
CHAPTER 5
DISCUSSION & CONCLUSION

In this section the findings of the current study will be discussed, in an attempt to place them within the larger theoretical framework of research previously carried out in the area of L2 phonological acquisition. Limitations of the present study will also be described and suggestions presented for future research in the area.

The first research question investigated the effects of formal pronunciation instruction on the vowel production of second-semester learners of Spanish. This study found that instruction was effective for improving /e/ and /a/ in the word list task, and for /a/ and /o/ in the free speech task. Although it is important to note that the improvement for /a/ did not reach statistical significance, it was quite close, particularly given the small range of scores possible.

One interesting finding was the differences among vowels in the experimental group on the free speech portion. On the pretest both /e/ and /o/ were rated as statistically more accurate than /a/; however, in the posttest there was no difference among the three vowels. This would seem to indicate that /a/ started off at a lower point but was able to "catch up" to the mean level of accuracy of the other two vowels in the learners' production, implying that the instruction had an effect on this particular vowel. One possible reason for this is that the main error learners make in producing word-final /a/ is to articulate it as [ə]. This was one of the main points of the instruction for /a/, and practice focused on not reducing the vowel. It may be concluded that this part of the instruction was especially beneficial to the experimental group.
The fact that some improvement in the vowel production of these participants was found is consistent with what has been found in other studies in this area of research. In González-Bueno (1997), statistically significant improvement was shown for the aspiration of two of the six Spanish stop consonants. In Elliott (1995b) the experimental group improved statistically over the control group due to pronunciation instruction in several different phonemes and allophones of Spanish. Additionally, in Lord (2005), the experimental group receiving instruction improved in production of Spanish trilled [r], use of the fricative allophones [β], [θ], and [γ], and diphthongs within and between words. However, these studies all included participants at a higher level than those of the present study. Since the participants here were at the first-year level, most of them were not taking Spanish because of a desire to learn the language, but rather the need to fulfill a requirement set by their colleges. Some students exhibited advanced pronunciation, but others did not, and these students were probably not highly motivated to perform well on a test of pronunciation, when they were uninterested in the language itself.

The results of previous work investigating the relationship between attitude and phonological acquisition were confirmed in this study with the positive correlations between the experimental group's scores on the posttest and scores on the PAI. Recall that Suter's (1976) study investigated several factors related to L2 phonological acquisition and found that concern for pronunciation was strongly related to accuracy. Elliott also studied the relationship of attitude to pronunciation accuracy in depth (1995a, 1995b) and found that higher scores on his Pronunciation Attitude Inventory correlated positively with higher scores on a posttest of pronunciation, though they did not relate these scores to formal instruction. However Hammond and Flege (1989) found that
learners with a negative attitude towards the L1 culture performed best on imitation tasks. While this type of attitude is not directly related to pronunciation attitude, it still shows an emotional component that exists in relation to pronunciation.

The present study found a moderate correlation in the word list section and a moderately strong correlation in the free speech section between the scores on the PAI and the pronunciation posttest for the experimental group, but not for the control group. In addition, the free response questions included on the PAI provided an opportunity for the participants to give feedback on the instruction provided to them. This feedback was 100% positive with regard to the helpfulness of the instruction and whether it would influence their future pronunciation in Spanish. The responses given show that whether or not improvement resulting from formal instruction is statistically significant on the posttest, students are concerned for pronunciation and feel that it is important to discuss it in class. From their responses, it may also be concluded that first-year students may not be conscious of the differences between the sound systems of the first and second language. If instructors can increase students' awareness early on of how English and Spanish differ, perhaps it may be possible to change patterns of foreign accent at the beginning level. Therefore it is recommendable that educators spend more time on teaching pronunciation in an explicit manner.

**Theoretical Framework**

With regard to the theoretical framework surrounding L2 phonological acquisition, in Chapter 2 the effect of the type of task was examined briefly (Tarone 1979). It is possible that the type of task influenced the results in this study, and that results from data gathered outside the laboratory in a less formal context would differ. However, perhaps the act of speaking into a microphone to oneself "took some of the pressure off",...
as one participant pointed out. In addition, the focus was on what the participant was capable of producing while concentrating on pronunciation, not necessarily what he or she would normally produce in a casual conversation. Data collected from a context such as that would perhaps differ and would be interesting to investigate in future studies.

It was assumed that the effects of formal instruction would be more evident in the word list task results, according to Major's Ontogeny Model (1987), since the free speech task represented a more casual, less isolated context of speech. This assumption that less careful speech would lead to more errors of transfer was not borne out in the data, since at least one vowel (and not the same one) significantly improved on each task within the experimental group.

The fact that not all vowels improved significantly on each task is interesting, and the underlying reasons are unclear. Perhaps the results were affected by the types of words included in the tasks; the word lists made extensive use of nouns and adjectives, while the free speech task also included unconjugated verbs. It is possible that as the participants conjugated the verbs, they took more time to produce the final vowel in question and thus lengthened it. This could have been the case particularly with /o/, which worsened on the posttest in both groups—among the experimental group on the word list and among the control group on the free speech portion. It is likely that in the case of /a/, information provided to the experimental group about the [ə] during treatment aided in improving the vowel.

Finally, the results of this study appear to support the Similarity Differential Rate Hypothesis (Major & Kim 1999) and Flege's Equivalence Classification (1987). This hypothesis states that features which two languages share may be more difficult for L2
learners to acquire than those which do not exist or are dissimilar in the L1. The Spanish vowels, while represented orthographically exactly like English vowels, nevertheless are quite different. It may be very difficult for English speakers to acquire the Spanish phones when they assume these are the same in both languages. More research is needed in order to understand why some vowels improved while others did not, since none of the vowels is exactly like English. The study does, however, point toward a trend in improvement in pronunciation due to formal instruction.

**Limitations**

The most salient limitation of this study is the length of the instruction period. It is more than likely that with more than 3 short periods of instruction and greater opportunities for practice, as well as review of prior lessons, the experimental group's vowels would have been more accurate on the posttest. Other studies in the field that have shown success in pronunciation due to formal instruction have carried out that instruction over the course of a semester (Elliott 1995b, González-Bueno 1997, Lord 2005), which seems like a more reasonable time period for acquisition of L2 phonology, as opposed to three days.

Another limitation of this work relates to the judges. At the time of their selection, it was thought that native speakers would be well qualified for the task of rating nonnative speech. In retrospect, it seems that it would have been better to select judges who possessed more experience with the objective analysis of linguistic data, as one of the judges deviated from the rating system explained in the training session. In the future the use of a spectrograph to measure the vowels would be more objective and therefore more accurate, although that was beyond the scope of time to carry out this particular study.
A third limitation was participant mortality. A second posttest had been planned but the data from that test was insufficient for statistical analysis, as so few participants came to class the day the test was carried out. It is possible that compensation of the participants would have contributed positively to attendance. Attendance was also a problem for the pretest and posttest, and several potential participants had to be eliminated due to incomplete data. Thus, more sections of this class should have been included in the study in order to see results from a larger and more consistent sample.

**Future Research**

Based on the results of this study, in future research it would be worth exploring whether this type of instruction is effective at improving students' pronunciation at the first-year level over the course of a semester, and with more participants. The findings here and previous work suggest that this kind of design would yield the same type of results over a longer period of time, as in Elliott (1995b), Lord (2005) and González-Bueno (1997).

The fact that in some studies not all L2 features improve may be an indicator that there is some sort of phonological order of acquisition at work. It is possible that some features are more susceptible to change due to instruction than others. As there is a relative lack of investigation into the acquisition of Spanish vowels, it would be helpful to have an idea of whether some improve more than others, such as the /a/ in the free speech portion of this study.

**Conclusion**

In this study, formal pronunciation instruction has indeed been found to be beneficial for participants' production of the Spanish word-final vowels /a/, /e/, and /o/, although the task type did appear to affect the results. In the experimental group,
participants' pronunciation attitudes were shown to positively correlate with their performance on the posttest. Pronunciation instruction seems to be a necessary part of the L2 classroom curriculum, and one that should be included regularly. This type of instruction is appreciated by students, and it certainly in no way hurts their language acquisition. In addition, explicit pronunciation instruction gives students information they would not otherwise have about the sounds of the L2, and provides them with the opportunity to improve their pronunciation. Following from this idea, as Elliott (2003) proposed, making students more comfortable with their Spanish pronunciation by instruction and practice may make them more inclined to seek out opportunities to interact with native speakers. This interaction affords them input on many levels: morphological, lexical, and syntactic, and the subsequent increased input may positively affect acquisition, not just of the L2 phonology, but of many other areas as well. The benefits, therefore, of including pronunciation instruction in beginning Spanish classes are potentially innumerable.
Pre-test

Please read the following words out loud at your normal speaking pace. You may pause between words.

boda
caliente
calle
camino
camión
dolores
esposo
gato
hablar
hermana
informe
mañana
marido
mesa
mocos
muerte
papel
In this section you will speak freely, in Spanish, about two different topics. Try to talk for at least 3 minutes in response to EACH theme. Don’t worry if you make a mistake or can’t think of a word, just try to keep talking. Some vocabulary words that you might need are provided to help you, but you do not have to use them.

- **Describe your family.** Do you have brothers and sisters? What are your parents like? Where do they live? What do they do?

  - hermano/hermana
  - pequeño/a
  - vivir
  - simpático/simpática
  - grande
  - visitar
  - mayor
  - menor
  - padres

- **Describe your schedule for this semester.** What classes are you taking? What are they like? Do you have a favorite?

  - clase
  - divertido/a
  - estudiar
  - semestre
  - trabajar
  - favorito/a
  - aburrido/a
  - interesante
  - difícil
Post-test

Please read the following words out loud at your normal speaking pace. You may pause between words.

bonito
billete
botella
brazo
carne
cine
ciudad
cocina
comida
contar
dedo
elegante
emoción
equipo
esperan
ganas
mano
programa
sala
viaje
In this section you will speak freely, in Spanish, about two different topics. Try to talk for at least 3 minutes in response to EACH theme. Don’t worry if you make a mistake or can’t think of a word, just try to keep talking. Some vocabulary words that you might need are provided to help you, but you do not have to use them.

- **What do you like to do in your free time and/or on the weekends? Do you have any hobbies? Do you have a job?**

  - pasatiempo, trabajo, tiempo libre
  - fin de semana, me gusta..., leer
  - divertido/a, aburrido/a, discoteca

- **Talk about the future. What does your life look like in 5 years? Where are you and what do you do?**

  - futuro, vivir, trabajo
  - vida, trabajar, casa
  - esposo/esposa, niño/niña, apartamento
2nd Post-test

Please read the following words out loud at your normal speaking pace. You may pause between words.

amable
buena
cama
desde
dinero
domingo
encante
foto
gafas
jardín
lista
pared
pasado
pintura
puede
sillón
tienda
vaso
viernes
vine
In this section you will speak freely, in Spanish, about two different topics. Try to talk for at least 3 minutes in response to EACH theme. Don’t worry if you make a mistake or can’t think of a word, just try to keep talking. Some vocabulary words that you might need are provided to help you, but you do not have to use them.

- **Describe your best friend.** How did you meet? What does he or she look like? What is his or her personality like? What do you enjoy doing together?

  - amigo/a
  - guapo/guapa
  - amable
  - se llama…
  - pelo
  - nos gusta…
  - conocer
  - alto/a
  - bajo/a

- **Describe your experiences learning Spanish.** Did you take Spanish in high school? Did you take a trip to a Spanish-speaking country? Do you have friends or family that speak Spanish?

  - hablar
  - clase
  - amigo
  - aprender
  - viajar
  - familia
  - divertido/a
  - aburrido/a
  - difícil/fácil
APPENDIX B  
LANGUAGE BACKGROUND INFORMATION FORM

Language Background Information

Name: ______________________   Date: ____________________

Please answer the following questions. You do not have to answer any item you do not wish to answer. None of this information will be used in connection with your name or be used to identify you personally.

1. What is your first language?
   ____________________________________________________________________

2. Where are you from?
   ____________________________________________________________________

3. What is the first language of your parents?
   ____________________________________________________________________

4. How many Spanish classes have you taken in the past, and where?
   ____________________________________________________________________

5. How many hours a week do you spend speaking Spanish outside of class, and with whom (friends, conversation partner, etc.)?
   ____________________________________________________________________

6. Do any members of your family speak Spanish? If so, how are you related? Do you speak Spanish with them? How often?
   ____________________________________________________________________

7. How often did you hear Spanish when you were growing up? How often do you hear Spanish outside of class now?
   ____________________________________________________________________
8. Have you ever traveled to a country where Spanish is spoken? If so, which country, and for how long?
________________________________________________________________________
________________________________________________________________________

9. Have you ever learned or studied another language besides Spanish? If so, how long have you been speaking it, and how fluent are you in that language?
________________________________________________________________________
APPENDIX C
PRONUNCIATION ATTITUDE INVENTORY

Pronunciation Attitude Inventory

Name:_______________________

Please answer all items using the following response categories. You do not have to answer any item you do not wish to answer.

5 = Always or almost always true of me
4 = Usually true of me
3 = Somewhat true of me
2 = Usually not true of me
1 = Never or almost never true of me

1. I'd like to sound as native as possible when speaking Spanish. 5 4 3 2 1
2. Acquiring proper pronunciation in Spanish is important to me. 5 4 3 2 1
3. I will never be able to speak Spanish with a good accent. 5 4 3 2 1
4. I believe I can improve my pronunciation skills in Spanish. 5 4 3 2 1
5. I believe more emphasis should be given to proper pronunciation in class. 5 4 3 2 1
6. One of my personal goals is to acquire proper pronunciation skills and preferably be able to pass as a near-native speaker of the language. 5 4 3 2 1
7. I try to imitate Spanish speakers as much as possible. 5 4 3 2 1
8. Communicating is much more important than sounding like a native speaker of Spanish. 5 4 3 2 1
9. Good pronunciation skills in Spanish are not as important as learning vocabulary and grammar. 5 4 3 2 1
10. I avoid speaking Spanish because I don't like how my accent sounds. 5 4 3 2 1
11. I want to improve my accent when speaking Spanish. 5 4 3 2 1
12. I'm concerned with my progress in my pronunciation of Spanish. 5 4 3 2 1
13. Sounding like a native speaker is very important to me. 5 4 3 2 1
14. I feel nervous when speaking Spanish because my accent isn't native enough.

5 4 3 2 1

15. Did you find these activities useful?

__________________________________________________________________
__________________________________________________________________

16. Have you learned anything during this study that will influence your future pronunciation of Spanish?

__________________________________________________________________
__________________________________________________________________
APPENDIX D
ACTIVITIES

Day 1

I. Repeat the five Spanish vowels after the researcher.
   a  e  i  o  u

II. Repeat the following sentences after the researcher, paying careful attention to how the vowels are pronounced.
   a: La casa es blanca.

   e: El señor es elegante.

   i: Mi bicicleta es ideal.

   o: Los lobos son tontos.

   u: Me gusta mucho la música.

III. Pronounce the following Spanish syllables, being careful to pronounce each vowel with a short, tense sound.

   1. ma  fa  la  pa  ta
   2. me  fe  le  pe  te
   3. mi  fi  li  ti  pi
   4. mo  fo  lo  to  po
   5. mu  fu  lu  tu  pu
   6. mi  fe  la  tu  do
   7. su  mi  te  so  la
   8. se  tu  no  ya  li

IV. Listen to your partner and decide if the words s/he says are English or Spanish based on the vowels s/he produces.
(One partner goes through the list choosing either the Spanish or English words; next, they change roles.)

<table>
<thead>
<tr>
<th>English</th>
<th>Spanish</th>
</tr>
</thead>
<tbody>
<tr>
<td>low</td>
<td>lo</td>
</tr>
<tr>
<td>tea</td>
<td>ti</td>
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</tbody>
</table>
Day 2

I. Answer the questions below.

- The symbol for the unstressed, neutral schwa sound is /ə/. In the following English words, write the symbol underneath the vowel where it is normally pronounced.

  model: fam i l y
  about  collect  purpose  sofa  atom

- Under the following words, write the ə symbol where you think an English speaker might produce the schwa sound instead of the Spanish vowel.

  model: l i s t a

  papa  hermana  familia  hasta  inteligente

II. Pronounce the following words slowly and carefully. Try to keep the vowels short and tense, and avoid using the schwa sound in any of the words.

1. mamá
2. mama
3. mamará
4. nena
5. niña
6. ñoña
7. beba
8. mancha
9. manchara
10. manchará
11. casa
12. case
13. casi
14. cosa
15. coso

III. Pronounce the following words with your partner in such a way that you maintain the contrast between the two words. Try not to produce the schwa sound.

1. sobra/sobre
2. marcado/mercado
3. pasa/paso
4. pesar/posar
5. banana/banano
6. contesto/conteste
7. mejoras/mejores
8. mesas/meses

Day 3

I. Listen as the researcher pronounces the following Spanish and English words. Try to describe the difference between the vowels in each word. What does the mouth look like as it pronounces the /o/ and /e/ sounds? Now you try pronouncing the words so that they sound different.

- no no
- do dough
- me May
- re ray

II. Listen and repeat after the researcher. Avoid lengthening the final o in these words.

1. no 6. solo
2. yo 7. eso
3. lo 8. llegó
4. do 9. tomó
5. mono 10. pasó

III. Listen and repeat after the researcher. Avoid prolonging the final e in these words; one way to do so is to keep your jaw in the position for /e/. Don't reduce the opening of the mouth.
1. ve
2. té
3. sé
4. le
5. re
6. café
7. ¿por qué?
8. bebé
9. olé
10. José

IV.a. The researcher will read one word in each numbered sequence, choosing at random. Identify the language by saying Spanish or English.

<table>
<thead>
<tr>
<th>Spanish</th>
<th>English</th>
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</thead>
<tbody>
<tr>
<td>1. dé</td>
<td>day</td>
</tr>
<tr>
<td>2. lo</td>
<td>low</td>
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<tr>
<td>3. va</td>
<td>bah</td>
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<tr>
<td>4. me</td>
<td>may</td>
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<tr>
<td>5. do</td>
<td>dough</td>
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</tbody>
</table>

b. Now continue the activity with your partner in the same manner. Each of you must take a turn.

1. papa  papa
2. fe    Fay
3. habló a blow
4. qué   Kay
5. ve    bay
6. yo    yo
7. pe    pay
8. jaló  hello
9. se    say
10. lana Lana
11. no   no
12. le   lay
13. polo polo
14. mama mama
15. so   sew

V. Pronounce the following sentences with your partner, paying special attention to your pronunciation of vowels.

1. ¿Cómo que no?
2. ¡Qué sé yo!
3. Yo no toqué do sino re.
4. No, no se lo dé.
APPENDIX E
TRANSCRIPTS FOR JUDGES

1 = English; 2 = more English than Spanish; 3 = more Spanish than English; 4 = Spanish

Pretest: Word Lists

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<tr>
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Free speech transcripts, with vowels for rating underlined:

DISC 1

Participant 1

:40 Cuando tengo tiempo ligre -- tiempo libre, uh me gusta ir al cine

:55 mi película me gusta mucho es Braveheart

1:23 cuando aburrido me gusta levanta pes -- pesas

2:20 en el casa de sorority

2:31 este fin de semana

3:09 no entiendo donde yo

4:04 cinco años de ahora

Participant 10

:44 En mi pasatiempo me gusto ir al cine con mis amigos

1:04 dormir en mi casa

1:14 en el fin de semana

1:41 También me gusto or me gusta
1:54 deportes como basquetbol

2:27 me mucho gusto

3:05 el último cosa

3:34 en el futuro …mi vida es

4:07 en una casa grande, muy grande

4:27 pero hace muchas dolores

**Participant 12**

:43 No tengo mucho tiempo libre pero cuando …tengo tiempo libre me gusta ir a la playa mucho

:54 También me gusta ir a la cima ir a la cine

1:07 En el fin de semana

1:58 mi novela favorita es Harry Potter

2:05 El or la película nuevo para Harry Potter

3:26 Me gustaría un casa un poco grande

**Participant 18**

:46 En me tiempo libre me gusta jugar al basquetbol

1:09 Me divierto cuando ah
1:17 Me no trabajo en la fin de semana porque necesito estudiar

1:39 me gusta ir a la playa para el fin de semana.

2:09 yo estudio para español dos

2:15 Mi clase es no fácil

2:43 y digoles sobre mi vida

Participant 19

a. :37 En mi tiempo libre me gusta trabajar en mi auto… Es una pasatiempo de mío por mucho años…

Yo tengo un Toyota MR2 y es mi auto favorito ahora… Necesite mucho dinero para trabajar en mi auto

1:32 Otras cosas me gusta hacer en mi tiempo libre

1:43 me gusta ir a una clase de salsa para bailar

2:09 voy a los discotecas por la noche

2:36 Por los fin de semanas me gusta ir a la playa

Participant 20

a. :52 En mi pasatiempo en fines de semana um… mi…

1:11 hacer siesta mucho mm y yo estudio
1:39 no traba tra… mm…

b. 2:01 cinco años um yo traba mm en Atlanta

2:25 vi viro en casa

2:50 no visite mi familia

Participant 3

a. :42 Me gusta tiempo libre

:52 Trabajo en Publix pero no me gusta

1:11 Fin de semana leo

1:36 A veces at--atendo discoteca.

b. 2:08 esposo esposa

2:42 en muy grande casa
4:47 es muy caliente

Participant 5

a. :47 me gusta tocar mi guitarra mucho

:56 tengo un trabajo

1:09 porque hago mucho dinero

1:59 en la fin de semana

b. 2:28 en un casa muy grande con los Playboy Bunnies
2:47 no tengo una esposa

3:45 en mi piscina que es muy grande

**Participant 6**

a. :37 En mi pasatiempo yo trabajo en TGI Friday's

:58 es la fin de semana, es muy divertida y me gusta bailar en los clubs…No tengo más tiempo libre pero

1:28 nadar en la piscina

1:46 voy a ir a la playa

b. 2:25 una casa y no es necesario pero um pero no es un problema

2:39 que tengo un esposo

3:19 un oficina grande

**Participant 9**

a. :41 me gusta ir a la playa, me gusta

:58 me gusta vayamos con mis amigas

1:15 trabajo ah por la mujer

1:51 me gusta leo uh en el fin de semana duermo mucho y asisto

b. 3:09 en la casa grande con la piscina
LIST OF REFERENCES


BIOGRAPHICAL SKETCH

Laurel Hodges, of Thomasville, Alabama, completed her Bachelor of Arts degree in Spanish at The University of Alabama in 2003, having spent a semester abroad at the Universidad de Alcalá de Henares in Alcalá de Henares, Spain, in 2001. She then went on to complete her Master of Arts degree in Spanish at the University of Florida in 2006, in Hispanic Linguistics, with a focus on second-language phonology.