2012-06-08

Factors Affecting the Acquisition of Pronunciation: Culture, Motivation, and Level of Instruction

Joshua D. Tanner
Brigham Young University - Provo

Factors Affecting the Acquisition of Pronunciation:

Culture, Motivation, and Level of Instruction

Joshua D. Tanner

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of

Master of Arts

Scott M. Alvord, Chair
Rob A. Martinsen
G. Lynn Williams

Department of Spanish and Portuguese

Brigham Young University

June 2012

ABSTRACT

Factors Affecting the Acquisition of Pronunciation:
Culture, Motivation and Level of Instruction

Joshua D. Tanner
Department of Spanish and Portuguese, BYU
Master of Arts

Studies have looked at various factors that affect pronunciation including phonetic context (e.g., Canfield 1940), style variation (e.g., Diaz-Campos 2006, Gonzales-Bueno 1995, Major 2004, Shively 2008, Zampini 1994), L1 transfer (e.g., Major 2001), and experience abroad (e.g., Diaz-Campos 2004, 2006, Lafford 2006, Stevens 2001). Motivation has been shown to affect language learning in general (Gardner 1985) but its role in pronunciation has yet to be explored. The relationship between cultural sensitivity and the acquisition of pronunciation has also been relatively understudied. The current study further explores the relationship between these variables and pronunciation. Many studies have shown that students' pronunciation improves as they progress through levels of instruction (e.g. Face 2006, Rose 2010). Including this as a variable will provide an idea of the relative strength of the relationships of the other variables (i.e., motivation and cultural sensitivity) and pronunciation.

The current study includes 102 adult learners of Spanish as a foreign language from 4 levels of instruction (i.e. 1st, 2nd, 3rd years and graduating majors). Students from the 3rd year were divided into two groups, those with extensive experience abroad and those without. The participants participated in a brief oral interview similar to ACTFL's Oral Proficiency Interview and completed a background questionnaire, the Survey of Motivational Intensity (Gardner 1985), and the Intercultural Development Inventory (IDI) as a measure of cultural sensitivity.

Pronunciation scores were determined by a panel of seven native Spanish speakers who rated one-minute segments of the learners' speech on a 100-point scale (e.g., Munro and Derwing, 1995; Derwing and Munro, 1997; Derwing, Munro, and Rossiter, 2004). Multiple regression analyses examine the relationships that cultural sensitivity, motivation, level of instruction, and experience abroad have with pronunciation.

Keywords: Cultural Sensitivity, Motivation, Second Language Acquisition, Pronunciation, Phonology

ACKNOWLEDGMENTS

This thesis could not have happened without the help from many different people. I am eternally grateful to Ixchel Zarco, Ariel Bean, and Brandon Rogers for the time and effort they have put into helping collect and analyze the data. I am just as grateful to my native Spanish-speaker judges: Ernesto Gonzales, Felipe Portus, Tomás Soriano, Diana Zarrabal, Carolina Benito, Ricardo Cetz, and Ruth America Huitron.

I would also like to thank Dr. Williams and Dr. Martinsen for all the work they put in to help this thesis grow and develop. I would particularly like to acknowledge Dr. Scott Alvord. Any academic success that I now have or will ever have is due in large part to his mentoring and encouragement. I would also like to acknowledge my wife, Sherry Tanner. Without her continual support, love, and sacrifices, this thesis could not have happened.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

(Some images are presented in color.)

CHAPTER 1

INTRODUCTION

Phonology is an often under emphasized area of instruction in the field of second language acquisition in comparison with other areas of language such as grammar. However, being able to produce the sounds of a language correctly can actually play a vital role in communication. Arteaga (2000, p. 342) argues that "it [is] ironic that the purpose of learning a language is to communicate, and yet if the pronunciation is too far off, you will not be understood no matter how good the grammar and how correct the words you use". Lord (2005) adds that even if a speaker has good grammar and vocabulary, he/she may not be understood if a strong foreign accent is present.

If we accept the views of these scholars, then being able to produce able to produce the sounds of a language correctly plays an important role in communication and is as vital as the correct application of a grammar principle or syntax rule. For example, a native speaker of English from the United States often has a hard time understanding and communicating with a native speaker of English from Ireland. Major et al. (2002) showed that both native and nonnative listeners scored significantly lower on listening comprehension tests when they listened to nonnative speakers of English reading a text.

Native Spanish speakers identify foreign accent in the speech of speakers who are lacking any part of the Spanish phonological system. Having the mark of a foreign accent can bring the stereotypes that are usually associated with being a foreigner. Grammatical accuracy and/or breadth of vocabulary cannot overcome this stereotype. As has been pointed out, "good pronunciation is indeed indispensable for adequate communication in a foreign language and is, moreover, to a large extent responsible for one's first

impression of a learner's L2 competence" (Dalton-Puffer, Kaltenböck, & Smit, 1997, p. 115).

Many studies in the field of second language acquisition (SLA) have looked at potential learner variables potentially influencing how a second language is acquired. These variables include age of arrival, length of residence, preferred learning styles, and gender, among others. While these studies have focused on the acquisition of morphosyntax, lexicon, pragmatics and others, as of yet, very few have looked at the potential roles that cultural sensitivity and motivation may have on pronunciation acquisition. The purpose of this study is to shed light on this latter area, which remains quite dark. While some studies have identified connections between SLA and, for instance, cultural sensitivity and motivation, it is not clear whether these connections extend to include perceived foreign accent. The present study seeks to answer this question.

Research Question

The question guiding this study is: What roles, if any, do level of instruction, motivational intensity and cultural sensitivity play in L2 pronunciation acquisition? It is predicted that all of these variables will have a positive relationship with less accented pronunciation. That is, those who have a higher level of instruction, higher motivational intensity and cultural sensitivity will have a less marked foreign accent than those with lower levels.

CHAPTER 2

REVIEW OF RELEVANT LITERATURE

The following is a review of pertinent literature regarding the study of second language pronunciation acquisition and perceived foreign accent. Various learner variables have been studied in conjunction with pronunciation in an attempt to describe what affects a learner's acquisition of second language phonology. Since this study investigates pronunciation, motivation, level of instruction, and cultural sensitivity, this literature review provides an overview of the research done in these areas.

Perceived foreign accent often has been studied using native speaker judges rating non-native speech production. Each of these studies has subtle differences in the way that they're carried out. In order to justify the methodology employed in the current study, I review of the different methodologies employed. Pronunciation studies looking at specific parts of pronunciation (vowels, rhotics, etc.) rely on acoustic measurements to determine acquisition. Perceived foreign accent studies, however, cannot use this methodology to evaluate pronunciation. Hence, only studies on perceived foreign accent are included here.

Cultural Sensitivity

Cultural sensitivity has been defined as the quality of being aware and accepting of other cultures (Martinsen, 2010). It has also been described as "the ability to discriminate and experience relevant cultural differences" (Hammer, Bennett, & Wiseman, 2003, p.422). It is common to equate culture with what is more appropriately called high culture. High culture involves a knowledge and appreciation for art and history, for example. However, it is important to distinguish high culture from cultural

sensitivity. A culturally sensitive person may not know the names of the important painters of the culture or the dates of important historical events, but will be aware of different viewpoints or attitudes towards parts of life such as family, work, government, society, and others.

Language is intimately related to culture. As times and values have changed, so has language also changed to reflect the needs of the people using it. Thus it is imperative to know about the culture associated with a new language in order to correctly convey meaning. The following sections outline the research that has been done on the role cultural sensitivity plays in second language acquisition.

Studies on SLA and cultural sensitivity

Relatively few quantitative studies have tested the potential relationship between cultural sensitivity and second language acquisition. Those that have, used different methods of measuring cultural sensitivity. Vande Berg, Connor-Linton and Paige (2009) conducted a multi-year large-scale study on study abroad and the factors that affect language and culture learning. One of the factors shown to impact oral proficiency was participation in an orientation course that included culture instruction. Those who participated in the orientation were more likely to improve their oral performance during their study abroad than those who did not participate. Data from the Intercultural Development Inventory (IDI) (Hammer, Bennett, & Wiseman, 2003) was also collected as part of this study, but it wasn't tested in connection with language proficiency gains. The IDI is a measurement of cultural sensitivity and will be described in detail below. Nevertheless, the results show that those participating in a study-abroad had a statistically significant increase in IDI scores than those in a stay-at-home program.

Martinsen (2010) set out to examine some of the factors that may affect the acquisition of Spanish by students participating in a short-term study abroad program in Argentina. He found that the students made a significant improvement in their oral skills. Various external factors including level of cultural sensitivity were analyzed to see what relationship (if any) existed between these factors and the students' language proficiency gains. Martinsen used a measure called the Inventory of Cross-Cultural Sensitivity (ICCS) to gauge cultural sensitivity. "The ICCS is used for a variety of purposes, such as determining which students or personnel would be most suited for an international experience or other cross-cultural experience, and to evaluate the effects of curriculum interventions or study abroad" (Martinsen, 2010, p. 509). This instrument consists of five subscales: Cultural Integration, Behavioral, Intellectual Interaction, Attitude Toward Others, and Empathy. The sum of the 5 subscales translates into an individual's Total Score of cultural sensitivity. In his study, Total Score of cultural sensitivity was found to have a statistically significant positive relationship with Spanish acquisition. That is, higher cultural sensitivity scores predicted higher Spanish language proficiency gains.

Martinsen & Alvord (in press) look specifically at the effects cultural sensitivity may have on pronunciation gains in a short-term study abroad program. The participants completed the ICCS and those results were compared with their pronunciation rating gains. Though the Total Score of cultural sensitivity on the ICCS wasn't found to correlate with pronunciation, those who had a higher pre-departure score on the subsection of the ICCS called "Attitudes Toward Others," showed greater improvement in pronunciation.

In a study to see what may influence L2 Spanish VOT acquisition, Tanner (2012) used the IDI along with VOT measurements to test if cultural sensitivity plays a role in this particular part of Spanish pronunciation. The statistical analysis revealed cultural sensitivity as a predictor of VOT acquisition. As will be discussed below, the IDI provides a measure of cultural sensitivity. It also provides a measure of the participant's perceived cultural sensitivity. It is of interest to note that in Tanner (2012), the difference between the participants' perceived cultural sensitivity and their measured cultural sensitivity was found to have a statistically significant negative correlation. That is, the further away a participant's perception of their cultural sensitivity is from the measured reality of their cultural sensitivity, the less target-like the VOT production.

To my knowledge, only one other study has used the Intercultural Development Inventory (IDI) in conjunction with pronunciation. Studying the development of the use of appropriate requests and apologies by study-abroad students, Shively & Cohen (Shively & Cohen, 2009) sought to find the possible associations between gains in request and apology performance and various external factors including cultural sensitivity. Though there was a positive correlation between cultural sensitivity gains and performance gains, the correlation failed to achieve statistical significance. Shively & Cohen did not test the possible relationship between pretest cultural sensitivity and performance gains. More studies are needed that look specifically at pronunciation and cultural sensitivity.

The Intercultural Development Inventory

Hammer, Bennett & Wiseman (2003) created a measure of cultural sensitivity called the Intercultural Development Inventory (IDI). The IDI is based on the well-known Developmental Model of Intercultural Sensitivity (DMIS) (Bennett, 1993). The DMIS views intercultural sensitivity as a developmental process of three ethnocentric (Denial, Defense/Reversal, Minimization) and three ethnorelative (Acceptance, Adaptation, Integration) worldviews. The first ethnocentric worldview is Denial. In this worldview, cultural differences apart from the most obvious outward differences are altogether ignored and avoided. Once differences cannot be ignored any longer, but are still viewed as threatening, a Defense worldview is adapted. A type of Defense is called Reversal. In Reversal, the adopted culture is viewed as superior but the person still maintains a polarization of the different cultures. The third ethnocentric worldview is Minimization. In this worldview, similarities are viewed as more important than differences. Minimization provides a way for people to deal with differences more comfortably.

In regard to the three ethnorelative worldviews, Shively and Cohen state that "cultures are now seen in their own context and not necessarily as better or worse than one another" (2009, p. 73). Acceptance is the realization that all human beings are cultural and have many different cultural contexts, that culture influences the decision-making process and cultural differences are important. Adaptation helps to develop the necessary skills to function successfully in a different culture. The last ethnorelative worldview is Integration. Integration happens when multiple cultural frameworks are integrated into the person's worldview.

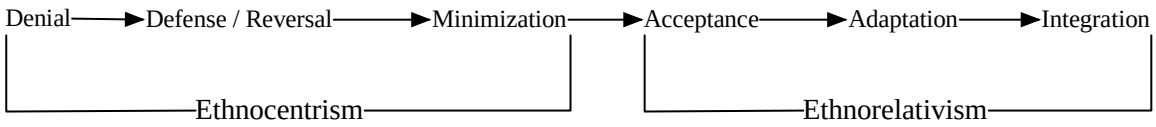

Figure 1 Continuum of Worldviews According to DMIS

The IDI is an instrument consisting of 50 items that measure each of the six worldviews discussed in the DMIS and provides 2 different scores. The score describing a person's actual intercultural sensitivity is called the Developmental Orientation (DO). The second score reports what the subject perceives their intercultural sensitivity to be and is called Perceived Orientation (PO). Scores range from 55-145. Scores between 55-70 belong to the Denial worldview, 70-85 belongs to Defense/Reversal (called Polarization in the current version of the IDI), 85-115 belongs to Minimization, 115-130 belongs to Acceptance, and 130-145 belongs to Adaptation. The current version of the IDI does not include Integration (Hammer, 2012).

In order to test the validity of the IDI, Hammer, Bennett, and Wiseman (2003) conducted tests on both content validity and construct validity. Content validity was addressed via in-depth interviews with people of various cultures and by the use of raters and a panel of experts who rated each item on the IDI. As they put it, "we believe that the inter-rater reliabilities calculated for these item evaluations continue to provide evidence for the content validity of the items vis-à-vis the DMIS theory" (436). Construct validity was addressed by comparing the IDI with similar measures such as the Worldmindedness scale and the Intercultural Anxiety scale. Each test showed statistically significant correlations between the IDI and the other similar measures.

Motivation

An external factor looked at in various studies is motivation. Though it seems intuitive that a person with higher motivation to learn a language will acquire it better than those without that motivation, research on the role of motivation or learner attitude on L2 phonology acquisition has shown contradictory results. A possible explanation for the differing results may lie in how the different studies have defined motivation. Motivation has also been called "strength of concern for accuracy," (Purcell and Suter, 1980) and "attitude or concern" (Elliott, 1995a). Gardner has made a distinction between what he calls "integrative motivation," and "instrumental motivation." Recently, theories on the role of motivation in SLA have explored these different types of motivation (e.g. Dörnyei, 2003; Dörnyei & Ushioda, 2009; Noels, 2001). Noels (2001), for example, studies how different orientations, i.e. intrinsic, extrinsic, and integrative, affect motivational intensity. In the current study I do not consider these different orientations; rather, I measure only the learners' motivational intensity, as will be discussed below.

Purcell and Suter (1980) found in their study of 61 nonnative speakers of English that strength of concern for pronunciation accuracy was the most significant predictor of pronunciation after first language, aptitude for oral mimicry, and length of residence.

Elliott (1995a) measured the effects of twelve variables believed to be related to pronunciation accuracy on 66 intermediate students of Spanish. These variables included field independence, degree of right hemispheric specialization, GPA in Spanish, and attitude or individual concern for pronunciation. Out of all the variables, attitude or concern for pronunciation was the most significant factor. That is, the more concern for pronunciation, the better the pronunciation.

Elliott (1995b) looked at external variables that may affect pronunciation accuracy. A different group of 66 intermediate students of Spanish participated in this study that included the following independent variables: field independence, attitude or concern for pronunciation, and explicit pronunciation instruction. This study, different from his previous study, fails to find attitude or concern for pronunciation as a significant predictor of pronunciation improvement.

Many motivation studies in language learning are based on questionnaires that Gardner (1985) created to measure differing types of motivation. Since then, he has carried out several studies that show the link between motivation and language acquisition. In 2003, along with Masgoret, he conducted a meta-analysis of 75 different samples from earlier studies totaling 10,489 learners (Masgoret & Gardner, 2003). While the specific type of motivation was never identified, their analysis showed that higher motivation leads to higher language achievement.

Motivation appears to play an important role for the language learner. As Terrell (1989, p. 208) points out, language acquisition in general is not as likely if the learner "is not 'open' to the target language and culture" and that for the learner lacking motivation to learn the language and lacking "empathy or identification with speakers of the target language, acquisition will be difficult."

Motivation types like intrinsic, extrinsic and integrative are centered on the learner's impetus for learning. Motivational intensity, on the other hand, does not take cause for learning into account but rather looks at how strong the motivation (whatever it may be) to learn is. Various studies have tested the relationship between motivational intensity and SLA (Alvord & Christiansen, in press; Martinsen, 2007; Tanner, 2012)

Speech Style

There's a long line of linguistic inquiry in regards to language variation across different speech styles or registers (Labov, 1966); this has also extended to speech of second language learners (e.g. Tarone, 1978). The Ontogeny Phylogeny Model (Major, 2001) is a theory of second language phonology acquisition used by many researchers. This model contains four corollaries, one of which deals with speech style. According to this corollary, speakers engaged in a more formal speech activity tend to produce more target-like language because of a higher attention to form and will therefore transfer less from L1. An example of a more formal speech activity is reading a word list or story. The nature of these tasks allows the speaker to attend more to how they are saying what they're saying and less to what they're saying. A less formal speech activity would be spontaneous conversation. This type of activity requires close attention to what is being said, and as a result, less attention is normally given to how the message is being said. The majority of studies looking at second language pronunciation and speech style have found that when attention is on form, pronunciation is better. There are certain sounds in Spanish that go contrary to this generalization, for example spirantization of Spanish /b, d, g/ is more accurate in less formal speech (Alvord & Christiansen, in press; Diaz-Campos, 2006)

Various language studies add evidence to the effect a more formal speech style has on language production. Two studies by Lisker & Abramson (1964, 1967) looking at English voice onset time (VOT) production found that speakers reading a word list tend to speak more slowly and more carefully and thus VOT values also tend to be higher than

those of speakers who read a passage or engage in spontaneous speech. High VOT values are expected by native English speakers.

Most studies on perceived foreign accent have used a more formal task type (i.e. reading) to elicit pronunciation. More research is needed utilizing naturalistic speech types because the majority of language production happens in a spontaneous, non-formal way. Such studies would more accurately describe pronunciation in a more natural setting that is likely to be found in real-world scenarios.

Level of Instruction

Numerous studies have looked at how level of instruction affects second language acquisition. These have included studies on rhotic acquisition (Face, 2006; Reeder, 1998; Rose, 2010), voiced and voiceless stops (Colantoni & Steele, 2006; Reeder, 1998), voiced approximates (Shively, 2008; Zampini, 1994) and other aspects (Flege & Fletcher, 1992; Lord, 2005). Each of these studies has found that as level of instruction increases, pronunciation improves.

To my knowledge, no studies have attempted to correlate level of instruction with perceived foreign accent. The present study looks to add to the existing knowledge of the effect level of instruction has on language acquisition. It is hypothesized that level of instruction will correlate with perceived foreign accent in much the same way as it does with all other facets of language acquisition.

Studies Using Native Speaker Judges

Over the years, many studies have employed the use of native speakers of a target language to rate the pronunciation of L2 learners. One of the earliest studies was done in the late sixties by Asher and García (1969). 19 American high school students rated the

pronunciation of native Cubans reading English sentences. These raters put each speech sample they heard into one of four categories: native speaker, near native speaker, slight foreign accent or definite foreign accent. The study found that the earlier age of arrival to the United States, the more native-like rating they received from the judges. The judges themselves were found to be in agreement in their ratings 70% of the time.

Flege (1988) conducted a study on perceived foreign accent of English. In this study, he had different groups rate native-Chinese speakers reading English sentences. Among those groups was a native-English speaker group of 9 judges. These judges moved a lever on a response box over a 10cm range. The top of this range was labeled, "no foreign accent," the middle was labeled, "medium foreign accent" and the bottom was labeled, "strong foreign accent." The maximum score a speaker could receive was 256, and the lowest score possible was 1. This same methodology, including speech style, was employed in a later study (Flege & Fletcher, 1992), changing only the number of judges from 9 to 10 and shortening the range from 10 cm. to 7 cm. The 256-point scale remained. These studies also found that the earlier the age of arrival in a target language speaking country, the better the pronunciation.

In a study of the pronunciation of French, Champagne-Muzar and Schneiderman (1993) used 5 native-speaker judges to rate 18 second segments of the pronunciation of French. The speakers heard each segment, and then repeated what they heard. Each rater scored each segment along four 5-point scales where 1 represents "sounds totally non-native" and 5 represents "sounds totally native." Each scale focused on a particular part of French pronunciation (phones, intonation, rhythm and global impression). The judges were found to rate similarly to each other and their ratings showed that those learners of

French who had undertaken an explicit pronunciation program were rated more native-like than those who did not participate.

Another study that uses native-speaker ratings to judge foreign accent is Flege et al. (1995). In this study, 10 native English-speakers listened to and rated the foreign accent of 240 native Italian speakers learning English. These subjects were recorded reading English sentences. The judges moved a lever on a response box from 0 (strongest foreign accent) to 255 (no foreign accent). No specific linguistic phenomenon was explicitly attended to; judges were to rate overall foreign accent. As in the previous studies by Flege mentioned earlier, it was found that those with an earlier age of arrival received more native-like ratings than those with higher ages of arrival.

Derwing & Munro (1997) had 26 native English-speakers rate ESL students from four different language backgrounds (Cantonese, Japanese, Polish and Spanish). These ESL students watched a series of cartoons depicting two men on a hunting trip and then described the story in their own words. Fragments of these descriptions (averaging 7 seconds in length) were extracted and played to the native English-speaker judges. These judges then made three ratings for each fragment, one for accent, one for intelligibility and one for comprehensibility. For accent, they rated each fragment along a 9-point scale with 1 representing no accent and 9 representing an extremely strong accent. The judges were found to rate similarly to each other and the results show that accent was more harshly rated than intelligibility and comprehensibility.

A more recent study employing native-speaker ratings was conducted in 2006 (Flege et al., 2006). Eighteen native English-speakers rated the English pronunciation of native Korean-speakers. These speakers were engaged in an imitation task: they heard an

utterance and were asked to repeat it. Departing from his previous method of using a lever along a 255+ point scale, the participants instead rated each speaker along a 9-point scale with 1 representing "strongest foreign accent" and 9 representing "no foreign accent." The results were similar to Flege's other studies. That is, earlier age of arrival correlates to better pronunciation.

The last studies described here are Martinsen (2010) and Martinsen & Alvord (in press). These studies looked at language gains in study abroad and measured, among other things, gains in pronunciation. Participants in each study went to Argentina and were recorded both before and after their study abroad experience answering questions fashioned after ACTFL's Oral Proficiency Interview. 3 superior level Spanish-speaking judges then rated the participants on a 5-point scale. High inter-rater reliability was attained in both studies, and both found that higher levels of cultural sensitivity coincided with greater improvements in pronunciation.

The studies mentioned here, and others (see Piske et al. 2001 for a review) employ different rating techniques. Flege's earlier studies used a continuous scale, whereas his later studies and others have used what's called an equal-appearing interval (EAI) scale. Flege's decision to change from a continuous scale to an EAI is the result of a study he did with Southwood (Southwood & Flege, 1999). This study sought to determine whether foreign accent is a metathetic continuum (one that can be divided into equal intervals) or a prothetic continuum (one that cannot be divided into equal intervals). In this study, native English speakers divided foreign accent into equal intervals. These results form the basis of the argument that foreign accentedness is a metathetic

continuum and is thus appropriately rated using an EAI. The authors also suggest that a 9 or 11 point scale be used to rate foreign accent.

CHAPTER 3

RESEARCH DESIGN & METHODS

Participants

The participants in this study consisted of 102 students at six different levels of instruction: 15 participants were enrolled in a beginner level Spanish class (SPAN 102), 26 participants were enrolled in an intermediate level Spanish class (SPAN 106), 16 participants were enrolled in a high intermediate level Spanish class (SPAN 206), and 36 participants were enrolled in a third year Spanish grammar course (SPAN 321). I divide this last group into two based upon time spent in a Spanish-speaking country; 10 had no experience abroad, and 26 had an extended experience abroad. A description of this group with experience abroad will be provided below. The final group consists of 9 Spanish majors in their fourth year. Though all of the Spanish majors in this study had been abroad, only 4 had an extended experience similar to the subgroup of third-year students. A control group consisting of 3 native Spanish speakers was also recorded in order to help train the native Spanish-speaker judges.

The group that had extended experience abroad merits discussion on the nature of their experience. Each participant in this group lived in a Spanish-speaking country for two years as a missionary for the Church of Jesus Christ of Latter-day Saints. As missionaries, their reasons for living abroad are different from those of the stereotypical language student in a study-abroad program. Their primary reason for learning Spanish was to teach the people they come in contact with about their religion. These missionaries lived and worked with another missionary companion. Sometimes, these companions were native Spanish-speakers. These companionships could potentially change every six

weeks so that each could work with a variety of missionaries, but usually two missionaries would be together for about 3 months. They are encouraged to speak their new language whenever they are outside their apartments. Typically, missionaries return from their Spanish-speaking missions with an ACTFL speaking proficiency rating of advanced-mid (Clifford, 2011). Missionaries complete a two-month intensive grammar course prior to departure abroad. Any other explicit grammar instruction is done independently. Little, if any, pronunciation instruction is provided for these missionaries, and the quality of the instruction during the two-month instruction period is unknown. Another difference between this group of missionaries and a typical study abroad student is that the missionaries cannot chose the country or language of their mission.

Procedures

Participants in this study were recruited at the end of the semester in their respective classes. These students first completed a background questionnaire, the Survey of Motivational Intensity, and the Intercultural Development Inventory (IDI). Typically, participants were recorded having a spontaneous conversation in Spanish immediately thereafter. Those who were not recorded directly after completing the surveys were recorded within a couple of days. One-minute extracts were then taken from each participant's spontaneous conversation and a panel of seven native Spanish-speaker judges rated these extracts on their foreign accent.

Instruments

Oral interviews

Each participant participated in a spontaneous conversation modeled after the Oral Proficiency Interview established by ACTFL[1]. These interviews typically lasted between 5-8 minutes and were conducted in small isolated interview rooms. The interviewers were either native Spanish-speakers or near-native Spanish-speakers. They asked questions on topics ranging from basic biographical information to sharing personal experiences and feelings. Most of the studies on perceived foreign accent heretofore mentioned used a more formal task (reading sentences aloud, etc.) in order to control for other variables that may influence pronunciation judgments such as grammar errors. Such tasks, however, elicit a form of speech that is different from that used in the informal situations that make up the majority of speech. This controlled speech is artificial. This study is grounded in a more naturalistic type of language production and thus in a more organic, uncontrolled speech. I collect spontaneous conversation accepting the fact that grammar errors might occur. As will be described below, measures were taken to minimize these potential influences on the judges' ratings.

The interviews were recorded digitally at a 44.1 KHz bitrate using Audacity and a Plantronics USB headset microphone. A one-minute segment was extracted from each interview to be evaluated by a panel of native Spanish speakers.

Native Spanish-speaker judges

Seven native Spanish-speaker judges rated each one-minute segment of spontaneous conversation collected from the participants. All judges were born in Spanish-speaking countries; 4 judges were from Mexico, 1 was from Chile, 1 from

[1] http://www.actfl.org/i4a/pages/index.cfm?pageid=3348

Ecuador, and 1 from Spain. The average age when the judges moved to the United States is 21. Their ages range from 26-35. All the judges also speak English and 5 of the 7 work as instructors of Spanish for the university. The other two judges did not specify their current employment. The judges were instructed to listen to each segment paying attention only to each speaker's pronunciation. They were explicitly told to ignore grammatical errors when evaluating each speaker. To aid the speakers in knowing what to attend to, multiple sound clips were listened to as a group, and rating judgments were discussed. These sound clips included native speakers of Spanish and learners of Spanish as a second language. In order to help the judges understand that the rating should be based purely on pronunciation, one native speaker read a prepared script containing numerous grammatical errors. This scripted recording was presented to the judges to rate and a discussion followed the rating drawing their attention to the native-like pronunciation despite the grammatical errors.

The judges were presented with the interface shown in figure 1 for each participant. This interface was created using Qualtrics[2], an online survey software. In the online survey, the judges provided background data including place of birth, age, level of education, etc. Upon completion of the background questionnaire, the speech samples were presented, in random order, to each judge. After listening to a one-minute segment, the judges moved the slider along the line from 0-100 marking their ranking of the speakers' foreign accent. Only the extremes of the scale were labeled. The left extreme is labled, "Heavy foreign accent," and the right is labled, "No foreign accent." Thus, a low ranking translates to a heavily accented pronunciation while a high ranking translates to a more native-like pronunciation. The rankings are calculated out to two decimal places,

[2] http://www.qualtrics.com/

giving judges the ability to give unique ratings for each speaker. The results of these ratings are automatically compiled and exported by the Qualtrics software in a tabulted spreadsheet file for analysis.

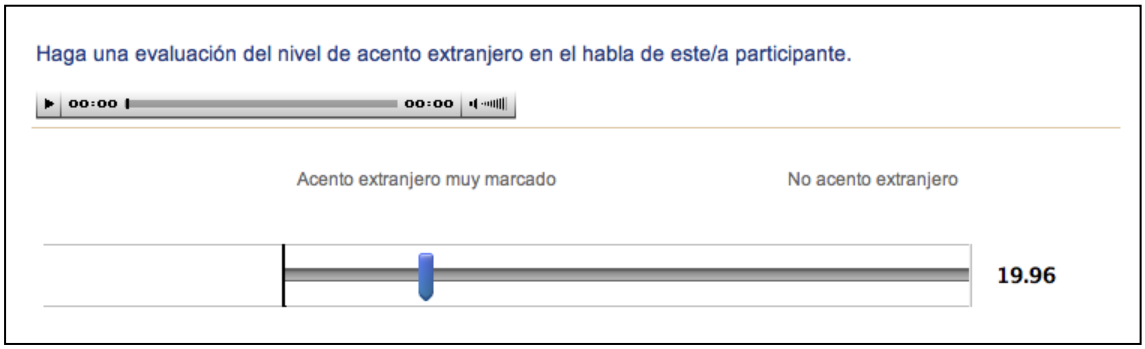

Figure 2 Pronunciation Rating Instrument

As mentioned in the review of the literature, different types of scales have been used to rate speakers. One common type of scale is one with a small number of choices like Martinsen's (2010) 5-point scale. Southwood and Flege (1999) argue that a 9 or 11 point scale should be used. As mentioned in the literature review, they believe that foreign accent is a metathetic continuum (one that can be divided into equal intervals). This declaration is based on the fact that the judges they consulted seemed to rate speakers in equal intervals. It is my opinion, however, that foreign accent is a prothetic continuum. That is, it cannot be divided into equal intervals. It is very difficult to clearly define and distinguish what makes a person's pronunciation belong to one category or another. While extremes can be easily defined and distinguished, intermediate groups are much more difficult to distinguish. Also, when given a small scale, raters are often forced to give speakers they perceive to be different the same rating because the pronunciation isn't different enough. It is my opinion that having a small rating scale (even a 9-11 point

scale Southwood and Flege prescribed) forces raters to group unequal speakers together. Therefore, I decided to use a 100-point scale.

Background information, Survey of Motivational Intensity, and the IDI

In order to screen and select the participants in this study, each participant completed a background information questionnaire (see Appendix A). This questionnaire collects demographic information such as age, gender, education, parents' education, etc. It also collects linguistic background information. These questions include, among others, what Spanish class the participant is currently enrolled in, how many years of Spanish were taken in high school, if the participant has taken a Spanish phonetics course, if the student has ever visited a Spanish-speaking country, if the student served a LDS mission, and, if so, where and when. This questionnaire helped to classify the level of instruction of each participant, and to ensure the homogeneity of the group in factors beyond this study. That is, potential participants were rejected if they were not born and raised in the United States, if American English wasn't their native language, if they had served a LDS mission, but were female, or if they had ever stayed abroad for any reason other than serving a LDS mission. The reason females were rejected is not gender based but due to the fact that female LDS missionaries live in the country for six fewer months than the males do. This significant time difference could potentially interfere with the results, and though it is a limitation of the study, I feel that including them introduces variables that can't be controlled for.

Participants also completed a survey of motivational intensity. This survey is based on Gardner's (1985) measure of motivation. Gardner created an "Attitude/Motivation Test Battery" (p. 177) that asks students to answer questions along

a Likert-like scale. The survey used in this study consists of 9 questions using a 4-point scale. Each participant rated his/her own motivation along this 4-point scale. An example question is "I will not stop trying to learn until I have reached the skill level in Spanish that I seek." The results for each question were added together to produce a motivational intensity rating that could range from 9-36. A higher number is equivalent to higher motivational intensity.

In order to measure their cultural sensitivity, participants completed version 3 of the IDI as part of the current study. As mentioned in the previous chapter, the IDI is a 50-item questionnaire built to measure each participant's "developmental orientation" (DO) and their "perceived developmental orientation" (PO). It takes roughly an hour to complete, and the DO score represents the person's position along the scale of the three ethnocentric and three ethnorelative orientations.

Data Analysis

Various statistical analyses were performed in order to describe the possible correlations that level, motivational intensity and cultural sensitivity have with pronunciation acquisition. A Pearson correlation was run to determine whether there is a correlation between the various factors and pronunciation rating. A multiple regression analysis was performed to determine which factors, if any, are predictors of higher pronunciation scores. A one-way ANOVA was performed in order to determine the effect of level of instruction on pronunciation score and a Tukey Post Hoc analysis was used to show the differences between the pronunciation scores for each level of instruction. Finally, a Chronbach's Alpha analysis was used to show the inter-rater reliability of the native Spanish-speaker judges.

CHAPTER 4

RESULTS

This chapter presents the findings of the various statistical analyses performed on the data collected. As mentioned previously, these analyses include a one-way ANOVA, a Tukey Post Hoc Analysis, a Pearson Correlation, a Multiple Regression Analysis, and a Cronbach's Alpha. These tests help to describe how the independent variables in this study interact with the perceived foreign accent of the subjects and how reliable the foreign accent ratings are.

Table 1 shows the mean values of foreign accent rating, motivational intensity, Developmental Orientation (DO), and Perceived Orientation (PO) across each level of instruction. In this table, foreign accent ratings increase as level of instruction increases with one notable exception. Level 5's mean foreign accent rating indicates that they had the least foreign accent of all the groups. This group consists of 3rd year students who had recently returned from their extended stay abroad. It may seem surprising at first that Level 6's mean foreign accent rating is lower than level 5's because they have taken more Spanish classes. However, not all members of Level 6 participated in an extended stay abroad program. The recentness of the experience abroad for the learners in Level 5, coupled with the lack of experience abroad within Level 6 helps to explain why Level 5 has a higher mean rating than Level 6.

No patterns emerge in the mean scores for Motivational Intensity and Perceived Orientation (PO). These values change minimally from level to level. Further analyses (described below) were employed to better describe what kind of role these factors might play. In regards to Developmental Orientation (DO), it appears that the scores decrease as

level of instruction goes up. Of interest to note is that the recently returned stay-abroad participants, Group 5, had the lowest mean DO score of all the groups. The mean values for DO at each level fall into the range of scores that borderline the Defense/Reversal and the Minimization worldviews described by Bennett (1993).

Table 1 Mean Values

Level	Foreign Accent Rating	Motivational Intensity	DO	PO
1 (Span 102)	17.724	29.067	93.363	120.953
Std. Dev.	14.973	3.731	11.956	4.676
2 (Span 106)	23.128	28	85.511	117.399
Std. Dev.	16.284	3.111	12.733	5.222
3 (Span 206)	40.251	31	91.146	119.488
Std. Dev.	22.871	2.366	16.454	6.017
4 (Span 321)	42.678	29.3	86.601	119.27
Std. Dev.	26.021	3.592	8.050	3.988
5*(Span 321)	72.544	28.846	82.345	117.27
Std. Dev.	15.892	4.315	9.514	4.047
6 (Majors)	64.183	28.722	83.842	118.453
Std. Dev.	26.671	2.659	11.568	4.555
Means	43.418	29.156	87.135	118.806
Native	99.424			

* = Extended Stay-Abroad Students

Analysis of Variance (ANOVA)

A one-way analysis of variance (ANOVA) found a significant main effect for level, $F(6,98) = 56.05$, $p<0.001$, on foreign accent rating. None of the other variables were found to have a significant main effect.

Tukey Post Hoc Analysis

The Tukey post hoc analysis shows the differences between the foreign accent ratings for each level of instruction. The results of this analysis show that levels 1 and 2 have statistically similar means, 2 and 3 have similar means, 3 and 4 have similar means, and groups 5 and 6 also have statistically similar means. No groups are similar to the native Spanish speaker group. Anecdotally, one speaker was rated as having native-like pronunciation by 5 of the 7 judges. The other two judges rated her close to native with scores of 70.18 and 78.7. However, no learner group as a whole approximates native-like pronunciation scores.

Table 2 Homogenous Subsets of Mean Pronunciation Ratings by Level

Level	**N**					
1	15	17.724				
2	26	23.128	23.128			
3	16		40.251	40.251		
4	10			42.678		
5	26				72.544	
6	9				64.183	
Native	3					99.424
Sig.		.971	.073	1.000	.801	1.000

Correlation

The Pearson Correlation shows how the different variables affect each other. The only variable found to have a statistically significant correlation with foreign accent rating was level, $r = .818$, $p < .05$. This correlation is a positive one, meaning that as level of instruction goes up, perceived foreign accent ratings improve. It is worth noting that

DO has a statistically significant negative correlation with level, r = -.231, p < .05. That is, as level goes up, cultural sensitivity scores go down.

Table 3 Pearson Correlation Matrix

	Foreign Accent Rating	Motivational Intensity	PO	DO	Level
Foreign Accent Rating	-	.140	-.059	-.126	*.818
Motivational Intensity		-	.192	.133	.020
PO			-	*.919	-.126
DO				-	*-.231
Level					

* = Statistically significant, p < 0.05

Multiple Regression Analysis

Table 4 shows the models that the multiple regression analysis selected. The first model includes only level as a predictor of foreign pronunciation rating. This model is significant and explains approximately 67% of the variance (R^2=.669, F(1,102)=201.914, p<.05). The second model adds motivational intensity as a predictor. This model is also significant and explains approximately 68% of the variance (R^2=.684, F(2,102)=107.117, p<.05). This second model shows that though motivational intensity is a statistically significant predictor, it only accounts for 1.5% of the variance.

Table 4 Multiple Regression Analysis

Model	R	R^2	Adjusted R^2	Std. Error	R^2 Change	F Change	df1	df2	Sig F Change
1	.818	.669	.665	14.445	.669	201.914	1	100	.000
2	.827	.684	.678	14.182	.015	4.75	1	99	.032

1 – Predictors: Level
2 – Predictors: Level, Motivational Intensity

Inter-rater Reliability

In order to test how closely the native Spanish-speaker judges' ratings were to each other, a Cronbach's Alpha analysis was run. This analysis shows that the 7 judges rated in a similar way ($\alpha = .967$). This result informs us that the native Spanish-speaker judges were very consistent with each other in how they rated each speaker.

CHAPTER 5

DISCUSSION/CONCLUSION

I, among others, have made the general observation that some people who invest similarly in their time and effort make greater progress than others. Anecdotal observations that those who had difficulty learning Spanish seemed also to have a hard time accepting the new culture led to the current study and influenced the hypothesis that cultural sensitivity explains some of this inequality in language learners and affects the acquisition of Spanish pronunciation.

While I hypothesized that cultural sensitivity would correlate positively with better pronunciation ratings, this was not the case. The Pearson Correlation did not find a strong or significant correlation between cultural sensitivity and foreign accent rating and the multiple regression analysis did not find that it was a predictor of foreign accent rating. Martinsen's study (2010) that looked at language acquisition in general and cultural sensitivity using the ICCS, showed a correlation between the Total Score of cultural sensitivity and language gains. However, the Total Score of cultural sensitivity, as measured by the ICCS, was not found to correlate with pronunciation in Martinsen and Alvord's later study (in press), though a particular subsection of the cultural sensitivity measure (Attitude Toward Others) did demonstrate a relationship. Unfortunately, the IDI does not have a specific subsection for attitude in order to see if this study's results would be similar with Martinsen and Alvord. The results of the current study, coupled with Martinsen and Alvord's (in press), could be indicating that having a more positive attitude toward other cultures is affecting pronunciation acquisition.

Only level of instruction and motivational intensity were found to have a significant effect on Spanish pronunciation. The results of the multiple regression analysis show that level of instruction is the main factor explaining variance in pronunciation ratings. This finding fits well with Major's Chronology Corollary of his Ontogeny Phylogeny model of language learning (2001). That is, L2 accuracy increases as time learning a language increases. While other studies have found that various specific parts of second language pronunciation acquisition increase as level of instruction increases, this study shows that level of instruction also affects perceived foreign accent. Finally, while statistically significant, motivational intensity was found to explain only 1.5% of the variance. This is very much less than level of instruction, which explains 66.9% of the variance.

While it could be assumed that cultural sensitivity might increase as level of instruction increases, this is not born out in this study. In fact, cultural sensitivity was found to have a statistically significant negative correlation with level of instruction. The learners with the highest rated pronunciation, who had recently returned from their extended experience abroad, were found to have the lowest mean cultural sensitivity scores. A potential explanation for this may be found in looking at this group's reason for being abroad and for learning a foreign language. As missionaries for their church, their purpose was to teach people about their religion, and not necessarily to be taught culture. The missionary program also limits the types of interaction between the missionaries and the people they come in contact with. That is, almost all conversations revolve around religious topics. This type of program, then, may inhibit a person's progression along the

IDI trajectory of worldviews (Denial, Defense / Reversal, Minimization, Acceptance, and Adaptation).

Another potential explanation to the surprisingly low mean cultural sensitivity score for extended-stay abroad students may lie in the difference between experience and hypothesis. That is, the extended-stay abroad students have faced cultural difference and difficulty. On the other hand, those in the other groups haven't had those types of experiences and must, then, rely on how they think they would handle cultural differences. These students may have an optimistic view of their cultural sensitivity that, given actual experience with other cultures, may change. Unfortunately, in this study I was not able to collect pre-mission IDI scores to compare with their current scores. It is unknown if these missionaries increased or decreased in cultural sensitivity.

The last potential explanation I'll give here comes from a look at how the IDI measures cultural sensitivity. The IDI asks questions that favor moral relativism. That is, that if all cultures are equal, then all belief systems and morals are equal. Missionaries have as their goal spreading their religion's standpoint on morals would probably not agree with this notion that all belief systems are equal, and could be potentially receiving lower IDI scores as a result.

Limitations / Future Research

This study opens the field of pronunciation acquisition studies to further investigations of level of instruction, motivational intensity, and cultural sensitivity effects. These studies, for example, could employ more than one measure of cultural sensitivity in order to compare the different measures. One potential limitation in using the IDI in second language acquisition studies is in the grouping of the Defense and

Reversal worldviews. One would expect those with a Reversal worldview to speak the second language better than those with a Defense worldview. Additionally, the IDI may not have been the best instrument to use with my particular population of participants given the potential issue with moral relativism. Other studies (Martinsen, 2010; Martinsen & Alvord, in press) have used the Inventory of Cross-Cultural Sensitivity (ICCS) to gauge cultural sensitivity. Studies could look to see if participants score similarly on the ICCS and the IDI. Similar studies could also look specifically at the Attitude Toward Others subscale of the ICCS as a potential predictor of pronunciation acquisition.

While this study had a large overall number of participants, the number of Spanish majors is considerably lower than the other groups. Also, not all the members of this group had served as missionaries and the group was analyzed together while the group of third-year grammar students were separated based on experience abroad. Future studies could employ a more balanced population across levels.

Further research might also look to include more naïve Spanish speakers as judges of foreign accent. As mentioned before, 5 out of the 7 judges are teachers of Spanish at the university. As such, they may be more sympathetic to foreign accents. All of the judges have also lived in the United States for some time. This could also affect how they ranked the participants. Studies could employ native Spanish speakers who have never left their country of origin.

Interesting research is also being done involving non-native speakers rating other non-native speakers on their pronunciation (Schoonmaker-Gates, 2012). These types of

studies could also include factors like cultural sensitivity to see if there is a relationship between those factors and the way learners perceive language production.

Conclusion

This study has looked at the potential roles that level of instruction, motivation, and cultural sensitivity have on the perceived foreign accent of learners of Spanish as a second language. The results confirm those of earlier studies in that level of instruction and motivation are closely tied to second language acquisition. Specifically, this study gives good insight into what can affect a learner's acquisition of Spanish pronunciation. Though the hypothesized relationship between cultural sensitivity and perceived foreign accent was not born out, this study posits questions that future research can undertake to further define the role of cultural sensitivity in language acquisition.

Appendix A – Background Questionnaire

Demographic Information:

Age _____ Sex _____

Where were you born?

Where did you attend school?

What level of formal education have you completed?

What level of formal education did your mother complete?

What is your mother's occupation?

What level of formal education did your father complete?

What is your father's occupation?

Linguistic Background:

What Spanish classes are you currently enrolled in?

How many years of Spanish instruction did you receive in high school?

How many semesters of University Spanish instruction have you taken?

Do you live, or have you ever lived, in the Foreign Language House?

Have you lived in or visited a Spanish-speaking country (e.g. study abroad, mission, vacation)?

If so, please list the countries that you have visited here:

How long did you visit each place?

If you were a missionary, when did you return (month, year)?

Did you serve a Spanish-speaking mission in the United States?

Do you speak or have you studied any languages other than English or Spanish?

If so, please list other languages that you speak or have studied, and the number of years that you have spoken or studied them

Appendix B – Survey of Motivational Intensity

This section provides information about your motivation to learn Spanish. Please be as sincere and accurate as possible. It is vital that you answer *ALL* of the questions in order for the test to be a useful measurement of motivation. Thank you for your time and attention!

1. I make a point of trying to understand all the Spanish I see and hear.

1 strongly disagree 2 disagree 3 agree 4 strongly agree

2. I learn Spanish by working on it almost every day.

1 strongly disagree 2 disagree 3 agree 4 strongly agree

3. When I have a problem understanding something we are learning in a Spanish class, I always try to find the answer. (Think back to your most recent class)

1 strongly disagree 2 disagree 3 agree 4 strongly agree

4. I really work hard to learn Spanish.

1 strongly disagree 2 disagree 3 agree 4 strongly agree

5. When I am learning Spanish, I ignore distractions and stick to the job at hand.

1 strongly disagree 2 disagree 3 agree 4 strongly agree

6. I intend to improve my Spanish as much as I can.

1 strongly disagree 2 disagree 3 agree 4 strongly agree

7. Being a person who knows Spanish is important to me.

1 strongly disagree 2 disagree 3 agree 4 strongly agree

8. I am willing to dedicate time and effort to learning Spanish even if it is not convenient.

1 strongly disagree 2 disagree 3 agree 4 strongly agree

9. I will not stop trying to learn until I have reached I reach the skill level in Spanish that I seek.

1 strongly disagree 2 disagree 3 agree 4 strongly agree

Appendix C – Oral Exam Question Guide

¿Cómo estás?
¿Cómo te llamas?
¿De dónde eres?
¿Cómo es la ciudad?
Háblame de tu familia. (¿A qué se dedican tus padres? ¿Cuántos hermanos tienes? etc.)
¿Por qué asistes a esta universidad?
¿Cuál es tu carrera?
¿Qué te gustaría hacer después de terminar de estudiar?
Si no fueras estudiante, ¿qué harías?
¿Has visitado otro país? Descríbeme la experiencia.
¿Qué hiciste hoy antes de esta entrevista?
¿Cuál es tu rutina diaria típica?
¿Te gusta estudiar aquí?
¿Qué cambiarías de la universidad o la experiencia de ser estudiante en una universidad?
¿Cuáles son tus planes para después de esta entrevista?
¿Háblame de unas vacaciones interesantes que pasaste con tu familia?
¿Tienes un plato preferido? ¿Puedes describirme cómo prepararlo?
Algunas personas piensan que el sistema educativo debe manejarse tal como los negocios privados y no como un programa del gobierno. ¿Qué opinas tú?
¿Cuántas clases tienes?
¿Qué clase es más interesante para ti? ¿Por qué?
Si ganaras la lotería, ¿qué harías con el dinero?

Appendix D - Consent Document or Request for a Waiver and/or Alteration of Informed Consent

CONSENT FORM
Culture and the Acquisition of Spanish

You are invited to participate in a research study about the role of culture in the process of learning a second language. You were selected as a possible participant because you are currently studying Spanish at Brigham Young University. Please read this form and ask any questions that you may have before agreeing to be in this study.

This study is being conducted by Joshua Tanner, Ixchel Zarco, and Brandon Rogers, Hispanic Linguistics Graduate Students at Brigham Young University in Provo, Utah. Supervising the project are Scott M. Alvord and Rob A. Martinsen, Assistant Professors of Spanish and Portuguese at BYU.

Procedures:

If you agree to participate in this study, you will be asked to read a short story and a list of words in Spanish. While you are reading you will be recorded. You will also be asked to give us permission to record the oral exam that you will take as part of your Spanish course. Finally, you will be asked to complete a short questionnaire.

Risks and Benefits of Participating in the Study:

There are neither risks nor benefits associated with your participation in this project.

Confidentiality:

The records of this study will be kept private. In any sort of report that might be published, no information that will make it possible to identify you will be included. Research records will be kept in a locked file; only the researchers will have access to the records.

Compensation:

As part of your participation in this study, your class will be provided with some refreshments.

Voluntary Nature of the Study:

Involvement in this study is strictly voluntary. If you do not wish to be a part of this study you may withdraw or refuse entirely to participate at any point with no penalty. There will be no reference made to your identity at any point in the research.

Contacts and Questions:

If you have any questions with regards to this study, you may contact Ixchel Zarco (ixchel.zarco@gmail.com), Joshua Tanner (jtanner@byu.edu) or Brandon Rogers (L2Phonology@gmail.com). You may also contact Dr. Scott M. Alvord (salvord@byu.edu) or Dr. Rob A. Martinsen (rob.martinsen@byu.edu). If you have questions that you do not feel comfortable asking the researchers with regards to your rights as a participant in this study you may contact the IRB Administrator, A-285 ASB Campus Drive, Brigham Young University, Provo, UT 84602; Phone: (801) 422-1461; Email:irb@byu.edu

Statement of Consent:

I have read, understood, and received a copy of the above consent and desire of my own free will to participate in this study.

Signature:_____ Date:_____

REFERENCES

Alvord, S., & Christiansen, D. (in press). Factors Influencing the Acquisition of Spanish Voiced Stop Spirantization During an Extended Stay Abroad. *Studies in Hispanic and Lusophone Linguistics*.

Arteaga, D. L. (2000). Articulatory Phonetics in the First-Year Spanish Classroom. *The Modern Language Journal*, *84*(3), 339–354.

Asher, J. J., & García, R. (1969). The optimal age to learn a foreign language. *The Modern Language Journal*, *53*(5), 334–341.

Bennett, M. J. (1993). Towards Ethnorelativism: A Developmental Model of Intercultural Sensitivity. *Education for the intercultural experience* (2nd ed., pp. 21–71). Yarmouth, ME: Intercultural Press.

Champagne-Muzar, C., & Schneiderman, E. I. (1993). Second Language Accents: The Role of the Pedagogical Environment. *IRAL*, *31*(2), 143–60.

Clifford, R. (2011). *Summary of OPI Superior-Level Deficiencies*.

Colantoni, L., & Steele, J. (2006). Native-Like Attainment in the L2 Acquisition of Spanish Stop-Liquid Clusters. *7th Conference on the Acquisition of Spanish and Portuguese as First and Second Languages* (pp. 59–73). Somerville, MA: Cascadilla Proceedings Project.

Dalton-Puffer, C., Kaltenböck, G., & Smit, U. (1997). Learner Attitudes and L2 Pronunciation in Austria. *World Englishes*, *16*(1), 115–128.

Derwing, T. M., & Munro, M. J. (1997). Accent, Intelligibility, and Comprehensibility. *Studies in Second Language Acquisition*, *19*(01), 1–16.

Diaz-Campos, M. (2006). The Effect of Style in Second Language Phonology: An Analysis of Segmental Acquisition in Study Abroad and Regular-Classroom Students. *7th Conference on the Acquisition of Spanish and Portuguese as First and Second Languages*. Somerville, MA: Cascadilla Proceedings Project. Retrieved from http://www.lingref.com/cpp/casp/7/paper1272.pdf

Dörnyei, Z. (2003). Attitudes, Orientations, and Motivations in Language Learning: Advances in Theory, Research, and Applications. *Language Learning, 53*(S1), 3–32.

Dörnyei, Z., & Ushioda, E. (2009). Motivation, Language Identity and the L2 Self. *Multilingual Matters*, *37*(4), 741–743.

Elliott, A. R. (1995). Field Independence/Dependence, Hemispheric Specialization, and Attitude in Relation to Pronunciation Accuracy in Spanish as a Foreign Language. *The Modern Language Journal*, *79*(3), 356–371.

Elliott, R. (1995a). Foreign Language Phonology: Field Independence, Attitude, and the Success of Formal Instruction in Spanish Pronunciation. *The Modern Language Journal*, *79*(4), 530–542.

Face, T. L. (2006). Intervocalic Rhotic Pronunciation by Adult Learners of Spanish as a Second Language. *Selected proceedings of the 7th Conference on the Acquisition of Spanish and Portuguese as First and Second Languages* (pp. 47–58).

Flege, J. E. (1988). Factors Affecting Degree of Perceived Foreign Accent in English. *Journal of the Acoustical Society of America*, *84*, 70–79.

Flege, J. E., Birdsong, D., Bialystok, E., Mack, M., Sung, H., & Tsukada, K. (2006). Degree of Foreign Accent in English Sentences Produced by Korean Children and Adults. *Journal of Phonetics*, *34*(2), 153–175.

Flege, J. E., & Fletcher, K. L. (1992). Talker and Listener Effects on Degree of Perceived Foreign Accent. *Journal of the Acoustical Society of America*, *91*(1), 370–389.

Flege, J. E., Munro, M. J., & MacKay, I. R. A. (1995). Factors Affecting Strength of Perceived Foreign Accent in a Second Language. *Journal of the Acoustical Society of America*, *97*(5), 3125–3134.

Gardner, R. C. (1985). *Social Psychology and Second Language Learning: The Role of Attitudes and Motivation*. London: Edward Arnold Publishers.

Hammer, M. R., Bennett, M. J., & Wiseman, R. (2003). Measuring Intercultural Sensitivity: The Intercultural Development Inventory. *International Journal of Intercultural Relations*, *27*(4), 421–443.

Hammer, M. R. (2012). IDI Sample. In *Intercultural Development Inventory*. Retrieved June 7, 2012, from http://www.idiinventory.com/pdf/idi_sample.pdf.

Labov, W. (1966). The social Stratification of English in New York City. *Center for Applied Linguistics. Washington DC*.

Lisker, L., & Abramson, A. S. (1964). A Cross-Language Study of Voicing in Initial Stops: Acoustical Measurements. *Word*, *20*(3), 384–422.

Lisker, L., & Abramson, A. S. (1967). Some Effects of Context on Voice Onset Time in English Stops. *Language and Speech*, *10*(1), 1–28.

Lord, G. (2005). (How) Can We Teach Foreign Language Pronunciation? On the Effects of a Spanish Phonetics Course. *Hispania*, *88*(3), 557–567.

Major, R. C. (2001). *Foreign Accent: The Ontogeny and Phylogeny of Second Language Phonology*. Lawrence Erlbaum.

Major, R. C., Fitzmaurice, S. F., Bunta, F., & Balasubramanian, C. (2002). The Effects of Nonnative Accents on Listening Comprehension: Implications for ESL Assessment. *Tesol Quarterly*, *36*(2), 173–190.

Martinsen, R. (2007). *Speaking of Culture: Cultural Sensitivity and Language Learning in a Study Abroad Context*. The University of Texas at Austin, Austin.

Martinsen, R. (2010). Short-Term Study Abroad: Predicting Changes in Oral Skills. *Foreign Lanugage Annals*, *43*(3), 504–530.

Martinsen, R. A., & Alvord, S. M. (in press). On the Relationship Between L2 Pronunciation and Culture. *Spanish in Context*.

Masgoret, A. M., & Gardner, R. C. (2003). Attitudes, Motivation, and Second Language Learning: A Meta–Analysis of Studies Conducted by Gardner and Associates. *Language learning*, *53*(1), 123–163.

Noels, K. A. (2001). Learning Spanish as a Second Language: Learners' Orientations and Perceptions of Their Teachers' Communication Style. *Language Learning, 51*(1), 107–144.

Piske, T., MacKay, I. R. A., & Flege, J. E. (2001). Factors Affecting Degree of Foreign Accent in an L2: A review. *Journal of Phonetics*, *29*(2), 191–215.

Purcell, E. T., & Suter, R. W. (1980). Predictors of Pronunciation Accuracy: A Reexamination. *Language Learning*, *30*(2), 271–287.

Reeder, J. T. (1998). English Speakers' Acquisition of Voiceless Stops and Trills in L2 Spanish. *Texas Papers in Foreign Language Education*, *3*(3), 101–108.

Rose, M. (2010). Intervocalic Tap and Trill Production in the Acquisition of Spanish as a Second Language. *Studies In Hispanic & Lusophone Linguistics*, *3*(2), 379–419.

Schoonmaker-Gates, E. (2012). Classroom Learners' Perception of Foreign Accent in Spanish: The Role of 2 Linguistic Cues. Presented at the Current Approaches to Spanish and Portuguese Second Language Phonology, Columbia, SC.

Shively, R. L. (2008). L2 Acquisition of [β], [ð], and [ɣ] in Spanish: Impact of Experience, Linguistic Environment and Learner Variables. *Southwest Journal of Linguistics*, *27*(2), 79–114.

Shively, R. L., & Cohen, A. D. (2009). Development of Spanish Requests and Apologies During Study Abroad. *Ikala, Revista de Lenguaje y Cultura*, *13*(20), 57–118.

Simões, A. (1996). Phonetics in Second Language Acquisition: An Acoustic Study of Fluency in Adult Learners of Spanish. *Hispania*, *79*(1), 87–95.

Southwood, M. H., & Flege, J. E. (1999). Scaling Foreign Accent: Direct Magnitude Estimation Versus Interval Scaling. *Clinical Linguistics & Phonetics*, *13*(5), 335–349.

Tanner, J. D. (2012). Factors Affecting VOT in L2 Spanish Voiceless Stops. Presented at the Current Approaches to Spanish and Portuguese Second Language Phonology, Columbia, SC.

Tarone, E. (1978). The Phonology of Interlanguage. *Understanding Second and Foreign Language Learning*, 15–33.

Terrell, T. D. (1989). Teaching Spanish Pronunciation in a Communicative Approach. *American Spanish Pronunciation*, 196–214.

Twombly, S. B. (1995). Piropos and Friendships: Gender and Culture Clash in Study Abroad. Retrieved from http://www.frontiersjournal.com/issues/vol1/index.htm

Vande Berg, M., Connor-Linton, J., & Paige, R. M. (2009). The Georgetown Consortium Project: Interventions for Student Learning Abroad. *Frontiers: The Interdisciplinary Journal of Study Abroad*, *18*, 1–75.

Wilkinson, S. (1998). Study Abroad from the Participants' Perspective: A Challenge to Common Beliefs1. *Foreign Language Annals*, *31*(1), 23–39.

Zampini, M. L. (1994). The Role of Native Language Transfer and Task Formality in the Acquisition of Spanish Spirantization. *Hispania*, *77*(3), 470–481.