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THE ACQUISITION OF INTONATION BY L2 SPANISH SPEAKERS WHILE ON A SIX
WEEK STUDY ABROAD PROGRAM IN VALENCIA, SPAIN

By

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ABSTRACT

This study explores the acquisition of intonation by Spanish second language speakers while on a study abroad program in Valencia, Spain. The investigation consists of two groups: a control group and an instruction group. The instruction group participated in perception trainings while the control group did not. As this region of Spain is also bilingual, and there are no studies currently in the literature that describe the Spanish of Valencian speakers, this study also presents data from native speakers who completed the same task as the non-native speakers.

CHAPTER 1

INTRODUCTION

1.1 Introduction

The objectives of this thesis are two-fold. The first is to present intonation data of declarative and absolute interrogative questions of bilingual speech from speakers of the Valencia region of Spain. The second objective is to explore how the intonation structures of those sentence types of sentences are acquired by non-native speakers from a U.S. university while on a study abroad program. The guiding research themes are acquisition, second language phonology, and the study abroad classroom. This study will explore the ways in which students acquire intonation patterns in a second language (L2) and particularly, the patterns for declarative and absolute interrogative sentences in Spanish. Furthermore, we will look at what the relative factors are that determine acquisition. That is, what, if anything such as immersion or instruction, can affect intonational acquisition. Research has shown that we can instruct segmental structures (Lord 2010), as well as supra-segmental ones (Ramírez-Verdugo 2006). Lastly, the study will investigate the context of learning, which in this case is a study abroad program in Valencia, Spain.

Beyond non-native speakers, there are guiding questions posited for the native speakers that were invited to participate as well. There is currently no published information about the intonation structures for declarative and absolute interrogative sentences in Valencian Spanish. Thus, as part of this project native speakers were recorded in order to have data from which to base the students' targeted production on. The study will consider the following issues concerning native speech: intonation patterns for declarative and absolute interrogative sentences, how native speakers distinguish between the two types of sentences with their

intonation patterns, and whether the bilingual speakers have incorporated intonation contours from both Castilian Spanish and Valencian Catalan.

Studying these issues will not only contribute to a present gap in the literature, but this research has future pedagogical implications about what aspects of second language phonology can be instructed and which ones cannot. Through investigating the various phonological dialects and intonation patterns of Spanish we are able to ascertain the different meanings that can be conveyed with the same intonation patterns across dialects and languages. And once we understand more fully how native speakers use this linguistic phenomenon to convey meaning, we can in turn more effectively teach the pronunciation of it to non-native speakers. Intonation carries meaning and serves different functions in dialogue. Therefore, it is important that learners are able to interpret the input that they are receiving correctly and that they in turn are able to make themselves understood by using the proper discourse patterns for the given language. The importance of this is found in recent research which has revealed that “prosodic errors contribut[e] significantly to foreign accented-ness ratings” (Anderson-Hsieh, Johnson, & Koehler 1992, as cited in Munro 2008:210).

The data used in this study was collected in the summer of 2014 in Valencia, Spain. There were two groups of non-native speakers; the first was a group of five participants that received instruction and the second, a control group comprised of three participants that did not receive instruction. A total of six native speakers of this Spanish variety were recorded and analyzed. Two tasks as well as a questionnaire were administered, but only the first task and the questionnaire will be examined in this study. The first task consisted of 62-sentence read-aloud list (20 target declaratives, 20 target yes-no questions, and 22 distractors) and the second was a discourse completion task. Thus, each participant read 40 target sentences; for the native

speakers, 240 sentences were analyzed (120 declarative, 120 absolute interrogative); for the non-native speakers 360 sentences were analyzed. To analyze the sentences, the Spanish Tones and Break Indices model was used (Beckman, Díaz-Campos, McGory, & Morgan 2002).

1.2 Related studies

In 2010, Pilar Prieto and Paolo Roseano published the book *Transcription of the Intonation of Spanish*, which listed ten major dialects for the Spanish-speaking world; however this is not a comprehensive list as more than twenty countries claim Spanish as an official language. In addition, there are usually several dialects within each country due to geographical separation, social stratification, and/or language contact. For Spain, there are at least 11 major dialects (Lipski 2012:2-3), but the Atlas Interactivo de la Entonación del Español, operated by the Grup d'Estudis Prosòdia, only accounts for five of the dialects mentioned by Lipski (2012). One of the dialects that not listed is Valencian Spanish.

Pilar Prieto and the Grup de Estudis Prosòdia have done much work on the various dialects of Catalan in Valencia, Cataluña, and the Balearic Islands, but not much has been published so far for Spanish in contact with Catalan in these regions. Spanish and Catalan declarative utterances have some differences, but not many. Spanish has seven pitch accents, while Catalan has six; the pertinent pitch accents will be discussed below (Estebas-Vilaplana & Prieto 2010; Prieto 2014). The two languages share the L* pitch accent, but use it in slightly different ways; Spanish only uses it in the nuclear position of broad focus sentences, while Catalan also uses it in nuclear position for yes-no questions. H+L* is attested in the nuclear position for both Catalan and Spanish, but used in different capacities; Catalan uses it in yes-no questions, while Spanish uses it in confirmatory and imperative yes-no questions. Another pitch accent used in the same pre-nuclear position is L*+H; Catalan uses it in yes-no questions and so

does Spanish. Crespo-Sendra (2011:88) makes the distinction that the Valencian dialect of Catalan, in fact, uses the L+>H* delayed peak pitch accent in the pre-nuclear position of yes-no questions as a distinguishing feature of the dialect (2011:88). And while Valencian Catalan uses the delayed peak pitch accent in yes-no questions, Spanish uses in broad focus sentences in the pre-nuclear position. Based on this previously attested data and what we know about bilingual intonation, it is likely that a combination of these pitch accents will be found in the declarative and absolute interrogative questions used by the Valencian Spanish speakers.

Simonet (2011) investigated the phonological and phonetic properties of early Catalan-Spanish bilingual speech productions of Majorcan speakers, both at the segmental level as well as the supra-segmental level with declarative sentences. He presented evidence, that in the Spanish of the early bilingual participants, the participants have incorporated intonation patterns from Majorcan Catalan into their productions of Spanish declarative sentences. This study aims to find evidence in support of Simonet's (2011) previous findings, as the native speakers in this study are also all early bilinguals and native to the region of Valencia, where Spanish is spoken in contact with Valencian Catalan. Romera, Salcioli, Fernández-Planas, Carrera, and Román (2008:167) also provided evidence for the incorporation of Catalan intonation contours in the Spanish of bilingual speakers from Barcelona. The authors provide a phonetic as well as phonological analysis of the speech and come to the conclusion that in declarative, absolute interrogative, and *que*-headed absolute interrogative sentences in Spanish-Catalan bilingual speech shows that even “passive knowledge of the prosody of any contact language” can in fact influence the prosody of a speaker’s L1 (Romera, et al. 2008:180).

In terms of non-native speakers, there are three main themes for this study; they are the following: study abroad, phonetics instruction, and acquisition of prosody. While there is no

current research being produced on the intersection of the above three topics, there has been work published related to those topics separately. Díaz-Campos (2004) studied the effects of study abroad versus at-home context of learning, but found mixed results for significant gains. From student surveys, he found the most reliable predictor of significant gains was motivation to improve and interactions with native speakers. Lord (2005) found significant results for students participating in an upper-level Spanish phonetics class. From the pre-test to the post-test the students improved their segmental production, but two limitations of this study were that (1) the phonetic instruction was only at the segmental level and (2) there was no control group. On the other hand, Ramírez-Verdugo (2006) used computer-assisted phonetic instruction for English intonation with a control group and also found significant results for the instruction group. She not only reported that the students had better pronunciation as rated by native speakers, but that they also self-reported for being more aware of the meaning of intonation and its purpose (Ramírez-Verdugo 2006:155). Henriksen, Gesslin, & Willis (2010) were the first to publish on L2 intonation acquisition while on a study abroad program in León, Spain and they did not find significant changes from the pretest to the posttest, but noted that there was some change toward a more native-like pronunciation. An unpublished dissertation by Trimble (2013) reported on a group of students from a U.S. university, studying in Mérida, Venezuela. His research led him to the conclusion that the students' intonation development correlated significantly with time spent interacting with native speakers (Trimble 2013:147). What makes this study unique is the desire to look at the intersection among these three topics. The study aims to use two groups of learners, on the same study abroad experience where one group receives instruction on prosody – and the other does not– to see if instruction has a significant effect on the change from the pretest to the posttest.

1.3 Early research on Spanish intonation

In spoken language, intonation is the feature that conveys a speaker's different emotions, intentions, and attitudes about what is being said. For example, the phrase – “Come here” – could be said with a rising plus falling tone, in order to beg for someone to come to you; it could be said with an elevated tone to indicate urgency or an order; or it could be said with a low-high tone to express displeasure with someone’s actions (Bänziger & Scherer 2005:265). In each of those situations the same sentence, made up of the same exact words, takes on various meanings; this is made possible through intonation. As humans, we use this vocal feature alongside actual words in order to express our conscious and subconscious attitudes so that we may more fully communicate our thoughts. The fundamental frequency of a speaker’s voice is the physical correlate for intonation. The fundamental frequency is the rate at which the vocal chords are vibrating and the change in rate is what forms the intonation pattern of an utterance.

We will now review a brief history of intonation scholarship. In the last 20 years, research in this area of phonology has increased with the invention of computer programs, such as Praat (Boersma & Weenink 2014) and Audacity (Mazzoni & Dannenberg 2014), which allow researchers to visually corroborate what they sense aurally. However, before these programs and computers existed, Navarro Tomás (1944,1950) published his seminal works *Manual de entonación española* and *Manual de pronunciación española* based purely on his aural abilities. In *Manual de entonación española*, Navarro Tomás describes the intonation patterns of Castilian Spanish in detail. He first explains the fact that in Spanish the tones are associated with the tonic syllable of a word and that these syllables are more pronounced in a sentence relative to the other syllables (Navarro Tomás 1944:25). He then identifies the various tones found in Spanish: a falling tone, a rising tone, a circumflex tone, a high tone, a low tone, and a mixed tone, that is a

word where there is primary and secondary stress (Navarro Tomás 1944:25-26). Additionally he uses the concept of semi-tones to indicate the relativity of the tones to each other (Navarro Tomás 1944:31). Navarro Tomás also identifies what would be equal to the break indices in the ToBI framework; the intermediate phrases—or melodic units as Navarro Tomás calls them—of a sentence are not always regular or divided in the same way (Navarro Tomás 1944:41-43). This is a brilliant insight and is consistent with what has been published recently in following the AM Model; the break indices are marked from 0 to 4 where a zero represents the combining of a clitic with a “host” word (e.g. *dígamel*o), a one indicates the boundaries between ordinary words, while a two is used to cases where the separation between words is heard, but not very clear; a three indicates an intermediate phrase, and a four indicates the end of an intonational phrase with a final boundary tone (Beckman, Hirschberg & Shattuck-Hufnagel 2006:23). Navarro Tomás also explains the relationship between syntax and phonology in declarative sentences and how phonology can help interpret the syntax of the theme and rheme of the sentence (Navarro Tomás 1944:54).

For all sentences, Navarro Tomás posits three phonological parts. The first is initial inflection, which consists of the first unaccented syllable(s) and the first accented syllable (Navarro Tomás 1944:62). The second unit is the body of the utterance, which consists of the syllable immediately after the first accented syllable until the last accented syllable, (Navarro Tomás 1944:66). The final unit of the sentence is the end unit, which consists of the last accented syllable and a “tonema” that ends the phrase; within the AM Model, this is known as the nuclear contour (Navarro Tomás 1944:69 and Gussenhoven 2004:296). The end unit also determines the grammatical meaning of the sentence, according to the choice of “tonema” (Navarro Tomás 1944:69). For absolute interrogative questions, Navarro Tomás observed that in the initial

inflection, the tone rises at the accented syllable and then falls several semitones through the body of the sentence until the final accented syllable where it begins to rise and ends just a semitone or two below what the initial inflection of the accented syllable was (Navarro Tomás 1944:141-142). In 1975, Quilis published an article on the field of intonation in general, where he examined the competing theories on how to divide the utterance into smaller units. This is crucial to note since the ways in which the sentence is divided can affect the analysis of the utterance (Quillis 1987:119). In 1987, Humberto López Morales and María Vaquero published the Actas of the I International Congress on Spanish in the Americas, which includes a paper by Quilis called the “Entonación dialectal hispánica.” The paper was originally presented in 1982 at the Congress and dealt with intonation across different dialects, but only focused on two (Mexican and Puerto Rican Spanish) when presenting examples (Quilis 1987:126). In his general observations on intonation, Quilis discusses Danés’ (1960) proposal of analyzing intonation as a whole and not simply as individual contours attached to individual units (Quilis 1987:120). Furthermore, Quilis quotes Hadding-Koch (1961) on the importance of using “configurations to describe tonal characteristics and certain attitudes” (Quilis 1987:121). Quilis then goes on to add a further detail, saying that this system would also serve to describe different dialects of the same language and would contribute to further understanding between them (Quilis 1987:121). In the following section we will look at a model and system that has the ability to facilitate comparisons not only across dialects, but languages as well.

1.4 Models of intonation and the tones and break indices

The British model of intonation phonology is based on foot structure and stress, as well as how these forms interact with the syllable (Halliday 1967:12). Additionally, this system uses a series of forward slashes to indicate tone and foot boundaries and marks the sentence with

various diacritics (e.g. – ^, ✓, –_, __/, among others) (Halliday 1967:16-17). The system also uses a set of numbers to indicate the type of tone that is indicated as well. Generative phonology originally could not account for tones in a formal way, but Goldsmith (1976) introduced the Auto-segmental Metrical (AM) theory of phonology that was designed to account for both the segmental level of phonology as well as the supra-segmental level and how they interact (Goldsmith 1976:13,16). Out of this theory, the Tones and Break Indices (ToBI) was established as a means of analyzing tone and intonation across languages. Goldsmith outlines the AM theory of phonology by analyzing Igbo, a tonal language (Goldsmith 1976:23). Using Igbo, he shows that tone can function as a grammatical feature that is susceptible to phonological processes (Goldsmith 1976:25). In essence, the tones are assigned independent of the segment, which carries the tone, which in turn implies that phonological descriptions cannot limit themselves to one linear method as in the earlier generative theories; rather a more complex view with multiple levels must be used in order to account for tone as a grammatical feature of phonology (Goldsmith 1976:37). This theory stresses the need to analyze sounds on at least three tiers and as a whole “orchestral” operation; the levels being tone (or the supra-segmental level), the syllable, and the segment (Goldsmith 1976:158).

Beginning in 1992, researchers from various disciplines (psychology, communications engineering, computer scientists, and phoneticians) met at four workshops over two-years time to discuss ways of analyzing prosody and how to better use this research in real-world applications such as text-to-speech systems (Beckman, Hirschberg, & Shattuck-Hufnagel 2006:10). The researchers established a system of annotation and used Mainstream American English in their analyses; thus, while the original intention of this system was to simply have a unified system for

that specific dialect of English, due to its universality, the system was applied to other languages and continues to grow (Beckman, et al. 2006:9).

A decade and several workshops later, a tones and break indices system was published for Spanish (Beckman, Díaz-Campos, McGory, & Morgan 2002). The launch of this system was conceived with the hope of creating a pan-Spanish labeling system that could be used for all dialects (Beckman, et al. 2002:10). As more research has been done across dialects, this is proving more difficult and some researchers have in fact argued against the establishment of such a system (Face 2014). In Beckman, et al. (2002), the authors explain the purpose and use of the transcription system as well as providing examples of analyses of both declarative and interrogative sentences from speakers of three different dialects (Castilian, Chilean, and Venezuelan). Additionally, they provide all of the necessary information for future researchers to analyze data within the conventions laid out for Spanish, including the number of tiers for analysis and the various pitch accent possibilities (Beckman, et al. 2002:32-34). Other studies that follow this model for analyzing non-native speaker intonation include Thornberry (2013) and Trimble (2014).

1.5 Organization of thesis

The thesis will be organized in the following manner. Chapter 2 will provide a brief overview of the Autosegmental-Metrical Model of phonology and the ToBI framework for analysis. The following sections will review of the literature dealing Spanish in contact with other languages, previous literature on Castilian Spanish and Catalan intonation, the perception and production of phonology in second language speakers, as well as the instruction of intonation for non-native speakers and finally context of learning. Chapter 3 will delineate the methodology that was used in the design of the study and will provide the details of how the

study was carried out. It will also further discuss the following independent and dependent variables. In terms of independent variables for the non-native speakers, the study will focus on: proficiency as indicated through intonation development, instruction plus immersion group vs. non-instruction group, gender, sentence type, and test time. The dependent variable for the non-native speakers will be measured by the change from the pretest to the posttest for the production of native-like intonation contours. Chapter 4 will present the analysis and the results of the study, in addition to discussing the results and their meaning and interpretation. Finally, Chapter 5 will examine the factors that contributed to the results, the limitations of the study and how they could be overcome in the future, how the theories of L2 phonology can account for the results, and we will revisit how the present study fits in with the previous literature of the field. Lastly, the chapter will describe the ideal version of the study and mention possible future studies.

CHAPTER 2

LITERATURE REVIEW

2.1 Prosodic analysis

Jun (2006:430) considers the fact that not many studies on prosody have been published in the past due to the mismatch of frameworks and the lack of agreement on how to convey the phonology of tone and intonation. With the modification to generative theory that the Auto-segmental Metrical Theory (Goldsmith 1976) contributed, the analysis of tone and intonation seemed more possible. However, there was still no one, single agreed upon framework until a large group of researchers from various academic backgrounds met together to develop the Tones and Break Indices for Mainstream American English in the early 90s (Beckman, Hirschberg, and Shattuck-Hufnagel 2006:10-11).

2.1.1 ToBI transcription framework

The Tones and Break Indices framework was developed by researchers from several disciplines, including linguistics, psychology, and the communication sciences. The researchers met together four times and shared analyses with each other in order to create the system before publishing their results. The framework originally was designed for Mainstream American English, but after the analyses were published, the system was then applied to other languages such as Korean (Jun 2006), Mandarin Chinese (Peng, Chan, Tseng, Huang, Lee, & Beckman 2006), Greek (Arvaniti and Mary Baltazani 2006), Chickasaw (Gordon 2006), other varieties of English, as well as many other languages (Beckman, et al. 2006). The system uses two tones: L (low) and H (high) and four numerical break indices, which indicate intermediate phrases and word boundaries (Beckman, et al. 2006: 24). An asterisk is used to indicate where the pitch accent (or tones) starts in relation to the stressed syllable. The nuclear configuration is a

combination of the last (or nuclear) pitch accent and the final boundary tone while the pre-nuclear position is anything that comes before the nuclear position. Furthermore, each content word of the sentence should carry a pitch accent.

The tones and break indices model for Spanish is known as Sp_ToBI (Beckman, Díaz-Campos, McGory, & Morgan 2002). Initially this system admitted three tones—L (low), M (mid-rise) and H (high), but the usage of the mid-rise tone is now considered to be controversial as it is not a precise description of what happens during the speech event. Much like the Mainstream American English ToBI system, the researchers met together for a workshop at the Ohio State University before publishing the established system. Utterances by native speakers of Castilian Spanish and Venezuelan Spanish were analyzed and used as the basis for the Sp_ToBI analysis (Beckman, et al. 2002:12). While there are over 398 million native speakers of Spanish (Lewis, Paul, Simons & Fennig 2015) and numerous dialects due to geographical, social stratification, and language contact, the researchers' goal was to create a system applicable to all dialects and varieties of Spanish.

2.2 Previous studies

2.2.1 Intonation and language contact

Intonation in Spanish has various functions (Hualde 2005:260-272). Distinct patterns are used in the focalization of constituents; such as in “*Dije BOTAS, no bolas*” (Zubizarreta 1999: 4230-4231). Other times it is used to indicate the use of an absolute interrogative sentence; “*Vienen a la fiesta*” versus “*¿Vienen a la fiesta?*” Furthermore, Spanish uses neutral intonation to indicate the neutral focus of a sentence and therefore can be used to provide cues that new information is being presented between two speakers (Zubizarreta 1999: 4225). Intonation is also used to divide phrases (Hualde 2002:102), and to disambiguate syntactically ambiguous

constructions (Nibert 2005:108). Intonation can also be used to convey feelings about a statement; for instance, specific contours ($H+L^* L\%$ and $H+L^* LH\%$) are attested for Castilian Spanish when asking a counter-expectational yes-no question (Estebas-Vilaplana y Prieto 2010:45). And it is important to note that not all dialects use the same intonation structures to convey the same kind of information or opinions; for instance, in Caribbean dialects, a circumflex intonation pattern¹ is used in questions and is considered a neutral construction, but for speakers of dialects from Madrid or Mexico City, this pattern is considered to be a construction only used in counter-expectational questions (Hualde 2005:274). For this reason, study of the intonation patterns of different dialects of a language is very important.

The Spanish of Valencia is spoken in contact with the regional variety of Catalan. There have been a handful of studies about the prosody of languages in contact. For Peninsular Castilian Spanish, there is evidence from Romera & Elordieta (submitted) and Simonet (2011:172) (as cited in Barone (in progress)) that transfer of intonation patterns occurs between the phonologies of Castilian Spanish and Majorcan Catalan. And for Buenos Aires Spanish, Colantoni and Gurlekian (2004:117) suggest that the intonation patterns present in the Buenos Aires dialect are due to the influence of Italian immigrants from the early twentieth century. Additionally, Alvord (2006) provides evidence for transfer in Spanish-English bilinguals in speakers from Miami. Simonet says that “intonation is a largely malleable linguistic component” and that is why languages in contact can influence each other in this respect (2011:159).

Therefore, these previous studies provide strong evidence that this could occur in the region of Valencia as well since Spanish and Catalan are both used in daily life. Both of these languages are classified as Romance –West Iberian and East Iberian, respectively (Lewis, et al.

¹ A circumflex intonation pattern is a rising-falling tone pattern (Hirst & Di Cristo 1998:200).

2014)– but they have slightly differing prosodic typologies as will be explored in the following section.

One focus of this project was to include recordings of native speakers of Valencian Spanish to verify what their neutral and unmarked intonation structures are for declarative and interrogative sentences. Currently, there is no data present in the Atlas Interactivo de la Entonación del Español for Valencian Spanish (Prieto & Roseano 2009-2013). Of the eleven distinct dialects indicated by Lipski for Peninsular Spanish, only five of these dialects are present in the online database (Lipski 2012:2-3). Specifically, for Northern Peninsular Castilian Spanish, Face (2004) and Prieto (2004), published research on the intonation patterns of absolute interrogatives but the two studies encountered different analyses. For this reason, Face argues that further research must be done in order to account for dialectal differences, which he proposes, is the reason for their differing analyses (Face 2004:73). More recent research by Prieto & Estebas-Vilaplana (2010:27) does not discuss peak alignment however, the authors do present data that concur with the data in Face (2004:73) which confirms the use of L*+H in prenuclear position for absolute interrogative questions and a high rising boundary tone (HH%). This is a unique marker since other dialects within Spain (and Latin America) use different boundary tones in absolute interrogative sentences.

A perception study by Robles-Puente (2011) found that Bilbao Spanish has a tendency toward use of a circumflex intonation pattern (L*+H HL%) in absolute interrogative questions (which differs from Madrid Spanish), similar to the pattern used in Puerto Rican Spanish (Sosa 1999) (Robles-Puente 2011:106). In his section on possible further research Robles-Puente indicates that Euskera also uses a circumflex intonation pattern in absolute interrogative questions and suggests that this could be a reason for the circumflex pattern surfacing in this

dialect of Spanish (2011:108). In Robles-Puente (2012:260-261), the findings from the perceptual study were confirmed with bilingual speaker data from a production task. Elordieta & Calleja (2005) also found incorporation of Basque intonation patterns in interrogative sentences produced by Basque-Spanish bilinguals. For Catalan in contact with Spanish, Romera & Elordieta (2012) posit that the integration of the prosodic patterns of Catalan into Majorcan Spanish interrogatives is due to a “prosodic accommodation” effect and that those immigrants with a different dialect of Spanish modify their L1 in order to become more integrated with the host culture. Simonet (2011) also found incorporation of Majorcan Catalan boundary tones into the declarative sentences of Spanish-Catalan bilinguals from the island. These studies lead to an interesting theory about languages in contact – that is, that they can influence one another.

2.2.2 Castilian Spanish and Catalan intonation

Castilian Spanish and Catalan share several pitch accents. They are the following: L*, H*, L+H*, L>H*, and L*+H. These pitch accents share similar meanings; that is to say, they are used in the same position (pre-nuclear vs nuclear) and are used to convey the same types pragmatic meanings by the speaker. There are two types of pitch accents: mono-tonal and bi-tonal; mono-tonal refers to a pitch accent that consists of only one tone that is aligned with the accented syllable, while a bi-tonal pitch accent refers to a composition of two tones that are associated and aligned with the accented syllable. Of particular interest to this study, are the bi-tonal pitch accents that are used in yes-no questions; these two bi-tonal pitch accents are used to distinguish declaratives from yes-no information seeking questions (Estebas-Vilaplana & Prieto 2010:18). The rising peak pitch accent, L*+H, is used in yes-no information seeking questions in both Castilian Spanish and standard Catalan (Estebas-Vilaplana & Prieto 2010:19 and Prieto 2014:52). The highlighted portion of Figure 1, below provides an example of how this pitch

accent is realized. The delayed peak pitch accent, L+>H*, is limited to statements using broad focus both in Castilian Spanish, as well as in Catalan (Estebas-Vilaplana & Prieto 2010:19 and Prieto 2014:52). The highlighted portion of Figure 2 demonstrates the realization of this pitch accent in the pre-nuclear position. However, it is worthwhile to note that Crespo-Sendra (2011) found that for the Valencian dialect of Catalan, the delayed peak pitch accent L+>H* is used in absolute interrogative questions as well as in declaratives (Crespo-Sendra 2011:88).

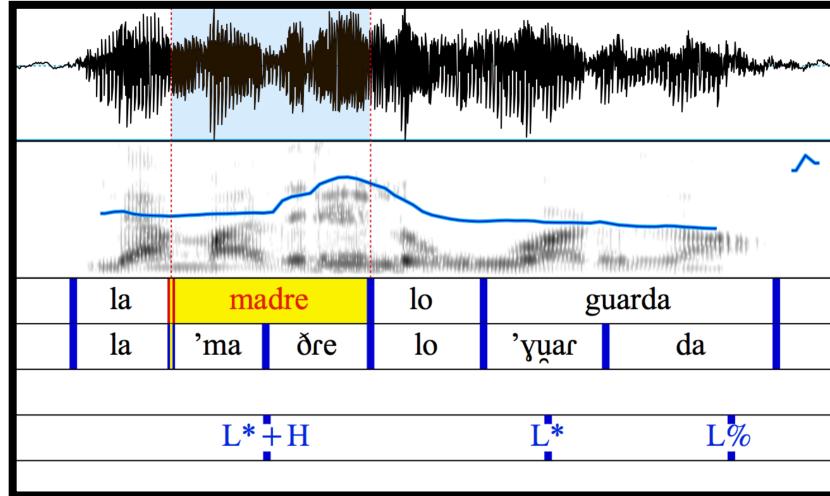


Fig. 1 – Rising Peak Pitch Accent: L*+H

The low tone (L*), as mentioned before, is shared by both languages, however, Castilian Spanish only permits its usage in broad focus declarative sentences, while Catalan permits its usage in yes-no questions in addition to the broad focus declarative sentences (Prieto 2014). The high tone (H*) is attested in *wh*-questions for both languages and additionally in Spanish, it can be used in polite yes-no questions and declaratives in pre-nuclear position. Figure 2, below, also shows usage of the H* and L* in addition to the delayed peak pitch accent.

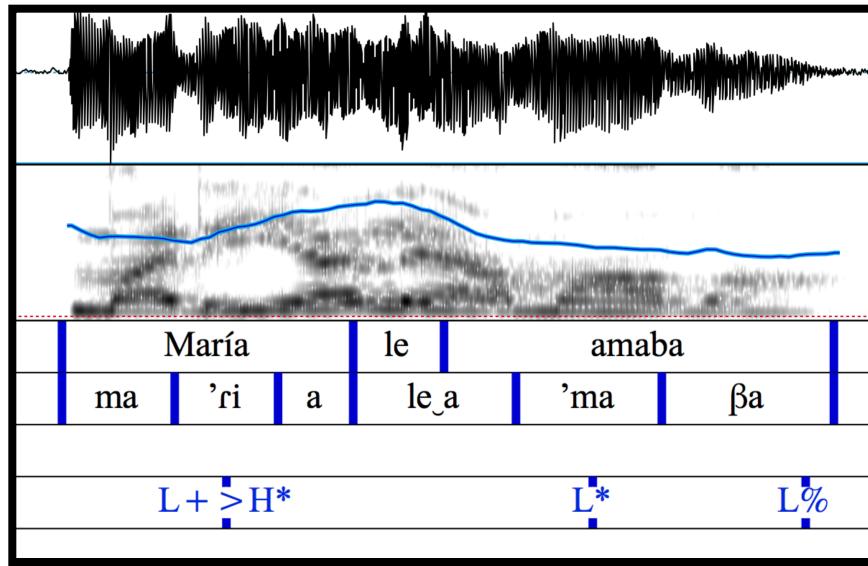


Fig. 2 – Delayed Peak Pitch Accent: L+>H*

In addition to shared pitch accents, Catalan and Castilian Spanish share boundary tones as well. The relevant ones are the following: L%, HH%. For both languages, the L% boundary tone is a descending tone and is used to indicate the end of a declarative sentence; the HH% boundary tone is a rising tone used to signal a yes-no question (Estebas-Vilaplana & Prieto 2010, 20-21 and Prieto 2014, 52). Other boundary tones are not shared by Castilian Spanish and Catalan. While Estebas-Vilaplana & Prieto (2010:21) uses the M% boundary tone to indicate a mid-level boundary, in Catalan, a down-stepped high tone is the preferred expression (!H%) (Prieto 2014, 54)².

² We can assume that since Face (2014:198) critiqued the labeling of HH% as a bi-tonal boundary tone in Spanish indicating a very high rise, the boundary tone will no longer be used in the labeling system. In fact, Catalan does not use this bi-tonal boundary tone either; Face remarks that this boundary tone is problematic when attempting to analyze data from a phonological point of view – there must be some sort of contrast for it to be phonological.

2.2.3 L2 perception and production of non-native intonation

Three of the major phonological acquisition models (Flege's (1995) Speech Learning Model, Best's (1995) Perceptual Assimilation Model, and Major's (2001) Ontogeny Phylogeny Model) posit that perception of the L2 is central to acquisition. However, according to Flege's (1995) Speech Learning Model, it is posited that segments that share similarity in the L1 "inhibit formation of a separate L2 category" (Flege 1995 as cited in Henriksen 2014:170), which is why perception is the key for students to be able to produce the new sounds. Furthermore, it is widely reported that "learners have difficulty in perceptually discriminating L2 segments from one another and from similar L1 segments", which lends support to Flege's (1995) Speech Learning Model (Henriksen 2014:169). However, the main issue is that all of the major phonological acquisition models are only geared toward acquisition at the segmental level and not at the suprasegmental level and thus are not equipped to account for this type of acquisition. One model of second language acquisition, the Interactionist Model (Gass 2008) addresses acquisition at all linguistic levels and does not address intonation specifically, but it emphasizes the need to interact with native or advanced speakers in order to test hypotheses of the language and fully acquire a native-like grammar.

It must be noted that Mainstream American English (Beckman & Hirschberg, n.d.) does not share the delayed peak rising accent ($L+>H^*$) that Castilian Spanish and Catalan do, but does utilize the $L+H^*$ rising pitch accent (Beckman & Hirschberg, n.d., Phrasal tones section). Therefore, the non-native speakers do not have this pitch accent in their native inventory; if we apply Major's (2001) Ontogeny Phylogeny Model to the acquisition of intonation, it may take more time to acquire due to its absence. However, applying Flege's (1995) Speech Learning Model would predict that this pitch accent would be easier to acquire due to its absence, thus

being more salient. Another similarity that Mainstream American English shares with Castilian Spanish is the use of the high boundary tone in yes-no questions (Beckman & Hirschberg, n.d., Phrasal tones section). Flege's (1995) model would predict difficulty of acquisition of the boundary tone in Spanish due to its similarity to Mainstream American English and Major's (2001) model would predict facility of acquisition. However, again, we must remember that these models were not designed to predict suprasegmental acquisition and thus cannot be seen as strong predictors.

Production shows what a learner has been able to perceive and therefore produce in accordance with their perception of the phonetic realizations of the language. Recently, there has been interest in L2 perception at the segmental level. Several studies, such as Ausín & Sutton (2010), Counselman (2010), and Bailey & Brandl (2013), have been published about this subject; the aim of each of these studies was to draw the attention of the L2 Spanish students to the individual segments in order to enhance their perception of those sounds and to encourage target pronunciation of the segments in question. On a supra-segmental level, Chun, et al. (2008) assert that the perception and production of intonational contrasts are important language skills to possess in order to be able to communicate authentically with native speakers (2008:325). Being able to perceive the sounds and tone changes in a second language is crucial to being able to produce these elements. Citing a study by Pennington, Ellis, Lee, Lau, & Lock (2002) for acquisition of English intonation, Chun, et al. (2008) say that the treatment that showed the greatest effect in production was based purely on perception by focusing the L2 participants' attention on the intonation patterns through listening (2008:333).

For Spanish, there are relatively few studies that have been published in regards to L2 perception of intonation. Nibert's (2005, 2006) studies on the perception of syntactically

ambiguous sentences suggest that Spanish intonation can be interpreted correctly by non-native speakers at the advanced and intermediate levels. She presented the participants with syntactically ambiguous sentences, to which they needed to indicate which of the choices on their paper gave the best interpretation of the aural stimuli. Her results indicate that there is a hierarchy of ability to interpret intonation patterns since the advanced learners were able to interpret the sentences nearly as well as the native comparison group and the intermediate learners perceived something, but they did not yet have the skills or competence level to infer or extract further information from the pitch cues found in the utterances. Furthermore, since the sentences were syntactically ambiguous, the only way to differentiate the meaning was to attend to the difference in the intonation patterns of the sentences. This means that native-like perception and interpretation is possible for non-native speakers through interaction with the non-native language. And if intermediate and advanced learners of Spanish can perceive the differences in intonation patterns after thorough exposure, then we can infer that students should be able to reproduce these intonation patterns as well.

Trimble (2013) presents a study of the perception of intonational cues by advanced learners in two different dialects: a Venezuelan Caribbean dialect that uses circumflex intonation for absolute interrogatives and a Northern Peninsular dialect that uses final rising tone intonation (Trimble 2013:80-81). Crucially, his results provide further support and evidence for Nibert (2005 & 2006). In Trimble's study, participants were provided with aural stimuli of absolute interrogative sentences by a speaker of Venezuelan Spanish from Mérida and another speaker of Northern Peninsular Spanish from Toledo. Participants were asked to indicate what type of sentence was being presented to them. The results indicated first that the advanced learners were more likely to correctly interpret the type of sentence than the intermediate learners. The second

result, which is pertinent to the current study, is that L2 Spanish participants were more likely to perceive and interpret correctly the Northern Peninsular dialect than they were the Venezuelan dialect (unless they had been previously exposed to it during a study abroad experience). Trimble (2013:88) posits that the correct interpretation of the Northern Peninsular dialect is due to the similarity of interrogative intonation structure in Mainstream American English.

In regards to production, an unpublished dissertation by Trimble (2014) provides data on the acquisition of Venezuelan Andean Spanish by learners on a study abroad program. Trimble found that of the 11 participants, those who spent more time speaking in Spanish than they did in English did better (that is, produced more target-like utterances for absolute interrogatives) than those who spent more time speaking in English. Thornberry (2014) also presented data regarding language acquisition while on a study abroad experience. The study focused on the acquisition and production of L2 Spanish absolute interrogatives while on an exchange program in Buenos Aires, Argentina. Participants were there for 15 weeks; they were interviewed at the beginning of the semester for the pre-test and at the end of the program for the post-test. The interviews consisted of various formal and informal tasks (an interview, a game of 20 questions, and a reading task). For the two speakers analyzed, he found that both had approximated their intonation patterns of absolute interrogative sentences to those typical of Buenos Aires Spanish (2014: slide 28). Thornberry's participants were not instructed on Buenos Aires intonation patterns and the changes in production are based purely on the participants' immersion during the study abroad semester.

Henriksen, Geeslin, & Willis (2010) presented a study conducted in León, Spain during a 7 week study abroad program with five advanced and highly motivated learners. The participants did homestays and signed a contract to only speak in Spanish while in the program. However, the

researchers did not find significant changes from the pre-test to the post-test, but did see some changes toward a more native-like production (such as a reduction in the usage of upspeak in declarative sentences) in the aggregate F0 contour for the participants.

2.2.4 Non-native intonation and the study abroad classroom

According to research published by Elliott (1997), pronunciation instruction is beneficial for students of all levels (1997:101, 103). However, Lord & Fionda (2014) assert that there are two opposing viewpoints in regards to pronunciation in the classroom – one that says classroom time is better spent on instruction in other language skills, while the other says that over time and with an adequate amount of input, the phonological features of the given language will develop (Lord & Fionda 2014:515). Additionally, textbooks for L2 Spanish learners basically omit any type of pronunciation instruction (Lord & Fionda 2014:515). This then places the burden on the classroom instructors, who, as Lord & Fionda point out, may have linguistic insecurities about their pronunciation in the language to begin with (Lord & Fionda 2014:514). It is also important to note that the suggested methods for pronunciation instruction have stayed the same through much of the twentieth and twenty-first centuries and are very much audio-lingually driven (Lord & Fionda 2014:515).

Furthermore, the governing body for second language acquisition in the United States classroom, ACTFL, does not provide explicit and well-explained guidelines for pronunciation like it does for speech at the syntactic, morphological, and lexical levels (2014:516, 517). From an international standpoint, the Instituto Cervantes also does not provide explicit criteria in their Plan Curricular for pronunciation; however, students are expected to have near native pronunciation in the DELE intermediate and advanced exams (Carbó, et al. 2003:10). Additionally, poor pronunciation by non-natives could have a negative effect on how they are

perceived and received by the native language community (Oyama 1992:35, as cited in Lord & Fionda 2014:516). This is particularly relevant in the context of study abroad since students are expected and encouraged to interact with the host community in the native language, but if they are not being understood due to pronunciation errors, they could become discouraged in using the language due to those experiences.

Elliott (2003) also mentions several extra-linguistic factors that influence the acquisition of the second language phonology. The two factors that are most pertinent to this study are the following: age of acquisition (2003:20) and “affect and attitude” (2003:23). For the age of acquisition, he discusses Lenneberg’s (1967) critical period hypothesis which states that after puberty, language acquisition becomes significantly more difficult due to a declining elasticity of the brain and its neural pathways. But other studies, such as Nibert (2005:120 and 2006:146) have found evidence that Universal Grammar is still accessible post-puberty in second language learners. The second pertinent factor mentioned by Elliott is “affect and attitude”; and it is believed by this researcher to be a significant variable that is tied to motivation. In the L2 classroom, when students already have an appreciation for the language and culture, they are much more likely to succeed because they have a positive attitude toward the language and an internal motivation for doing so (Elliott 2003:23). Furthermore, Mantini (1980) asserts that this is a self-reinforcing cycle because as good pronunciation and native-like attainment increases, the L2 learner is increasingly motivated to learn the language (1980:374).

In regards to purely linguistic factors, various studies, such as Elliott (1997), González-Bueno (1997), Lord (2005 & 2010), have provided evidence for the value of pronunciation instruction for individual segments of the Spanish phonemic inventory; particularly those that are difficult for native English speakers to acquire. Results from the three studies showed that

explicit phonetic instruction with beginning-intermediate (that is, third semester Spanish) and advanced learners (third and fourth year students of the language) helped them to improve their pronunciation. Furthermore, Lord (2005) and Díaz Campos (2004) write that future studies could focus on other phonological processes, such as the instruction of suprasegmentals (2005:565 and 2004:270). The studies published by Elliott (1997), González-Bueno (1997), and Lord (2005), all used pronunciation instruction with segmentals. And while this is a step in the right direction, Derwing, Munro, and Wiebe (1998) found that in comparing pronunciation instruction of segmentals and supra-segmentals for L2 English students, the participants that received supra-segmental instruction were rated more highly by native speakers. This implies that supra-segmental instruction can have a greater impact than just segmental instruction.

An excellent example of training in non-native prosody comes from a study done with L1 Spanish/L2 English. Ramírez-Verdugo (2006) used a multi-modal approach where the senses of sight and hearing were stimulated at the same time so as to increase the participants' awareness and perception of their own speech and the speech that native speakers produce; in this study, using explicit instruction within a communicative context was beneficial. She showed that through computer assisted training of prosody participants were able to improve their speech significantly over a period of 10 weeks in comparison with a control group that did not receive pronunciation training. Therefore, based on this study and the study done by Lord (2005), we have statistical evidence that "we can in fact teach pronunciation" (Lord 2005:565). However, according to Carbó, et al. (2003:9), as well as Major (2001:17), there is a paucity of instructional literature on the prosodic elements of Spanish. Therefore, this study aims to fill a gap in the literature in regards to instruction of intonation patterns of absolute interrogatives and declaratives in Spanish. Most instructed pronunciation studies revolve around the segmental

level and have not touched on the suprasegmental level in Spanish. Various studies have been conducted for English, such as Ramírez-Verdugo (2006) and Chun, Hardison, & Pennington (2008), among others, but suprasegmental instruction for Spanish has yet to be addressed in the literature.

Not only does this study attempt to answer the question of how intonation can be instructed, but it also seeks to incorporate what kinds of effects can a study abroad context have. Simões (1996) reports an increase in confidence in all participants after a five-week study abroad experience in Costa Rica, and only significant results for two of the five participants as measured by fluency (Simões 1996:94). Díaz-Campos' (2004) study yielded mixed results; there was a significant effect for study abroad learners in comparison with at home learners in the acquisition of only one segment— the palatal nasal— out of a total of four segments measured (2004:270). García-Amaya (2012) reported a marked improvement in regards to fluency for the immersion group that was measurably more than it was for the at-home participants (unpublished dissertation 2012:130-131). Regan (1995:246) says that study abroad students improve in “some indefinable way” (as quoted in Lord 2006:40). Unfortunately, this is not very helpful; as linguists, it is our job to seek out the measurable ways in which L2 learners improve in order to help others to formulate more effective learning methods. Lord (2006) attempted to attribute this “indefinable” characteristic to an enhanced ability to mimic what the native speakers around them were doing; however, the results could not prove this.

Henriksen, et al. (2010) makes mention of the fact that oftentimes the inter-language syntactic and morphological grammar does not change while studying abroad, rather, an augment in the cultural literacy of the host country and fluency of the language do (Henriksen, et al 2010:122). And depending on the student and their motivation for studying abroad, the level of

interaction with native speakers in the host country can vary (Henriksen, et al. 2010:123). However, despite these limitations, for global intonation patterns, Henriksen, et al. (2010) reported positive and more native like pronunciation in his participants after seven weeks based on intonation data for the region of León collected by the same researchers (Henriksen, et al. 2010:113). Henriksen (2014) suggests further research needs to be done “on L2 fluency, [and] the effect of context of learning” (Henriksen 2014:177) because of the lack of current research and therefore, an inability to compare data from which we can extract principles of the acquisition of intonation.

CHAPTER 3

METHODOLOGY

3.1 Research questions

The main research questions of this study are the following: first, given the region where the study has taken place, what are the native Valencian Spanish intonation patterns for the given tasks? Recording and analyzing the patterns of native Valencian speakers will provide a model from which we will be able to draw conclusions as to the development of the non-native participants' intonation patterns from the pretest to the posttest. Second, does linguistic immersion in the host country alone play a role in intonation development? And if so, does intonation instruction have a greater effect on the students rather than purely linguistic immersion?

Within the second main research question, there are several sub-questions. Do the learners differ significantly from the native speaker group in the pretest and the posttest? Is gender a factor in their development? Do the groups differ in terms of their development in declaratives and/or absolute interrogatives from the pretest to the posttest?

3.2 Hypotheses

3.2.1 Native speakers of Valencia

For Valencian Spanish, it is possible that their intonation patterns reflect the same patterns that have been attested for those speakers of standard Castilian (that is, the Northern Peninsular dialect) (Face 2004; Estebas-Vilaplana and Prieto 2010). Alternatively, the patterns could present themselves to be a combination of the intonation patterns found in standard Castilian Spanish and those of the Valencian dialect of Catalan (Crespo-Sendra 2011). Based on previous research, it is likely that a blended intonation pattern will be present (Simonet

2008:253). And according to Estebas-Vilaplana (2010) and Prieto (2014), we should expect to find up to seven different pitch accents and nuclear configurations for Castilian Spanish from the region of Valencia. And we would expect to see one of two boundary tones: L%, or HH%. In Castilian Spanish broad focus declaratives the low boundary tone (L%) has been attested (Estebas-Vilaplana & Prieto 2010:20). And in Castilian Spanish information-seeking absolute interrogatives the high rising boundary tone (HH%) has been attested (Estebas-Vilaplana & Prieto 2010:27). It is hypothesized that the female participants will probably show more variation and incorporation of Catalan pitch accents than the male speakers since women have a tendency to use innovative speech forms (Labov 1990).

3.2.2 Non-native speakers of Spanish

For the first independent variable, proficiency (as determined by intonation development), the non-native participants will not be expected to perform equal to the native speakers either in the pretest or the posttest. However, some change is expected to be present as other studies (Henriksen, et al 2010, Trimble 2013, Thornberry 2014) have found change in the intonational phonology of study abroad participants from the pretest to the posttest.

In terms of which group will experience more change in the posttest, it is hypothesized that the instruction plus immersion group will perform better. Flege's Speech Learning Model (1995) says that structures (at the segmental level), which are similar in nature in the second language to the native language, will be difficult to acquire. Although this model does not predict anything at the supra-segmental level it is plausible that the pitch structure of Spanish declaratives and absolute interrogatives will be more difficult to acquire due to the similarity of the structures in English. English absolute interrogative questions, use both syntactic movement and final rising intonation (Beckman & Hirschberg, n.d., Phrasal tones section); Castilian

Spanish also uses final rising intonation in absolute interrogatives. This hypothesis may not be born out if the native English-speaking participants regularly use up-speak³ in declarative sentences as they may transfer this rising boundary tone to their declarative utterances in Spanish, when they should be using a falling boundary tone in Spanish declarative sentences. However, if we use instruction intervention to draw attention to these phonological structures associated with the sentence type (that is, declarative and interrogative specifically), then we can hypothesize that there will be a greater improvement in the group that receives instruction and immersion. Immersion presupposes interaction and communication with native speakers; according to the Interaction Hypothesis (Gass 2008), opportunities to engage with native speakers and negotiate meaning increase acquisition in the second language. Therefore, instruction plus immersion should display great intonational development than the immersion only group.

The third independent variable is gender. It is hypothesized that there will be greater change in the speech of the female participants than the male ones since women have a tendency to use prestigious speech forms (Labov 1972 as cited in Díaz-Campos 2004:268), which in this case relates to the careful and exact pronunciation of the second language. In regards to the fourth independent variable, it is hypothesized that the non-native participants will have more change in the prenuclear position of the declarative sentences. This is due to the fact that Castilian Spanish uses the delayed peak pitch accent while English does not and Flege (1995) predicts that phonological features that are not part of the L1 inventory will be easier to acquire. And lastly, the researcher hypothesizes that the participants will perform better (as defined by their intonation development toward using bi-tonal pitch accents in the pre-nuclear position) in

³ Up-speak is defined as a terminal rising intonation pattern in declarative sentences, characteristic of young native English speakers (Bradford 1997).

the posttest than in the pretest as various studies (Henriksen, et al 2010, Trimble 2013, Thornberry 2014) have found at least some change (though not significant) from the pretest to the posttest. It is also hypothesized that the experimental group will see more intonation development than the control group due to the opportunities for communication with native speakers plus the effects of instruction (Lord & Fionda 2014:523).

3.3 Stimuli and tasks

The L2 participants were recorded during the first and last weeks of the summer Valencia study abroad program. During recruitment, the students were asked to sign an informed consent form in English before they were allowed to participate. This was done to avoid any direct and immediate first language interference in the experiment. The researcher spoke with them exclusively in Spanish and gave instructions and explanations in Spanish as well. There were two separate tasks that the participants had to complete, along with a survey. The reading task consisted of the target sentences and distractors. The sentence lists were crossed and randomized in Microsoft Excel; afterward, distractor sentences were entered for both the last and first sentences and then inserted every two sentences to minimize a list effect. The second task was a virtual discourse completion task, which consisted of responding to various situations presented to them by a native speaker of Valencian Spanish through the medium of a PowerPoint. However, due to time constraints this task was not analyzed and included in this study. Lastly, they were asked to complete a survey regarding their language history and their usage of the Spanish language while on the study abroad program.

3.3.1 Reading task

Below, are the lists used in the reading task. The first list was used for the pre-test with the L2 participants, while list two was used during the post-test. Both sets were used at the same

time during the recordings of the native speakers. The sentences were read three times by each participant in order to gather a sufficient amount of data and to ensure that there was at least one clear recording available for analysis.

3.3.1.1 List 1

- | | |
|--------------------------------------|---|
| 1. ¿Quién quiere ir a comer? | <i>Who would like to go eat?</i> |
| 2. El abuelo la mira. | <i>The grandfather watches her.</i> |
| 3. La niña mira el mono. | <i>The girl watches the monkey.</i> |
| 4. ¿Quién vino ayer? | <i>Who came yesterday?</i> |
| 5. Me mandó el libro. | <i>[He/she] sent me the book.</i> |
| 6. ¿El loro vio el regalo? | <i>Did the parrot see the present?</i> |
| 7. ¡La chica movió su cabeza! | <i>The girl moved her head!</i> |
| 8. ¿El niño vende la gorra? | <i>Does the boy sell the hat?</i> |
| 9. ¿Le dieron un regalo? | <i>Did they give [him/her] a present?</i> |
| 10. ¡El buitre vigilaba su presa! | <i>The vulture would watch his prey!</i> |
| 11. El loro bebe agua. | <i>The parrot drinks water</i> |
| 12. Le doy un euro. | <i>I give [him/her] a euro.</i> |
| 13. ¿Quién vino a la casa? | <i>Who came to the house?</i> |
| 14. La niña la ve. | <i>The girl sees it [fem].</i> |
| 15. ¿Le vieron en el aula? | <i>Did they see [him/her] in the classroom?</i> |
| 16. ¡Casi me muero! | <i>I nearly die!</i> |
| 17. Le llevo la lima. | <i>I take [him/her] the lime.</i> |
| 18. El búho lee el libro. | <i>The owl reads the book.</i> |
| 19. ¡El padre gritó a su hija! | <i>The father yelled at his daughter!</i> |
| 20. La madre lo guarda. | <i>The mother watches him.</i> |
| 21. ¿María le amaba? | <i>Did Mary love him?</i> |
| 22. Pablo quiso chicle. | <i>Pablo wanted gum.</i> |
| 23. ¿La ballena me veía? | <i>Did the whale see me?</i> |
| 24. El hombre me ama. | <i>The man loves me.</i> |
| 25. ¡Los estudiantes hablaban mucho! | <i>The students talked so much!</i> |
| 26. ¿La dueña vendió la bodega? | <i>Did the owner [fem] sell the winery?</i> |
| 27. ¿El mono le miraba? | <i>Would the monkey watch [him/her]?</i> |
| 28. Mi abuelo siempre desayuna. | <i>My grandfather always eats breakfast.</i> |
| 29. ¿Me oyó el alumno? | <i>Did the student hear me?</i> |
| 30. ¿El gorila oye la melodía? | <i>Does the gorilla hear the melody?</i> |
| 31. ¡Venga chica, tenemos prisa! | <i>Hurry girl, we're in a rush!</i> |

3.3.1.2 List 2

- | | |
|-------------------------------------|--|
| 1. ¡El tigre se comió el hombre! | <i>The tiger ate the man!</i> |
| 2. Le vieron en el aula. | <i>They saw [him/her] in the classroom</i> |
| 3. El niño vende la gorra. | <i>The boy sells the hat.</i> |
| 4. ¿Quién quiso salir? | <i>Who wanted to leave?</i> |
| 5. La dueña vendió la bodega. | <i>The owner [fem] sold the winery.</i> |
| 6. El gorila oye la melodía. | <i>The gorilla hears the melody.</i> |
| 7. ¡Es mucho dinero! | <i>It's a lot of money!</i> |
| 8. ¿La madre lo guarda? | <i>Does the mother watch him?</i> |
| 9. ¿El loro bebe agua? | <i>Does the parrot drink water?</i> |
| 10. ¡Se me olvidó la leche! | <i>I forgot the milk!</i> |
| 11. Le dieron un regalo. | <i>They gave [him/her] a present.</i> |
| 12. ¿El búho lee el libro? | <i>Does the owl read a book?</i> |
| 13. ¡Me atacó la mujer! | <i>The woman attacked me!</i> |
| 14. ¿El hombre me ama? | <i>Does the man love me?</i> |
| 15. El mono le miraba. | <i>The monkey would watch [him/her].</i> |
| 16. ¿Qué hacen tus amigos? | <i>What are your friends doing?</i> |
| 17. ¿Me mandó el libro? | <i>Did [he/she] send me the book?</i> |
| 18. María le amaba. | <i>Mary loved [him/her].</i> |
| 19. ¿Quién quiere chocolate? | <i>Who wants chocolate?</i> |
| 20. El loro vio el regalo. | <i>The parrot saw the present.</i> |
| 21. ¿Le doy un euro? | <i>Do I give [him/her] a euro?</i> |
| 22. ¡El hombre levantó cien libras! | <i>The man lifted a hundred pounds!</i> |
| 23. ¿Le llevo la lima? | <i>Do I take the lime to [him/her]?</i> |
| 24. ¿La niña mira el mono? | <i>Does the girl watch the monkey?</i> |
| 25. Llego muy temprano. | <i>I arrive very early.</i> |
| 26. ¿La niña la ve? | <i>Does the girl see it [fem]?</i> |
| 27. Me oyó el alumno. | <i>The student heard me.</i> |
| 28. ¿Quieres cenar con nosotros? | <i>Do you want to eat dinner with us?</i> |
| 29. La ballena me veía. | <i>The whale saw me.</i> |
| 30. ¿El abuelo la mira? | <i>Does the grandfather watch her?</i> |
| 31. ¿Cuánto te costó? | <i>How much did it cost you?</i> |

3.3.2 Elicitation task

The elicitation task consisted of 20 PowerPoint slides with instructions that guided the participant in how to respond to the audio input and the visual aid provided. The researcher recorded their responses while they wore headphones in order to avoid any sort of double

recording. The voice that the participants heard on the PowerPoint came from a native speaker of Valencian Spanish. The voice recordings were done in Tallahassee, Florida prior to departure. Depending on the prompt read aloud by the voice, participants were asked to respond with either a declarative or an interrogative sentence. There was a practice slide for both the declarative prompt section as well as the interrogative prompt section. In the slide below, the participants were asked to answer the question, “*¿Qué hace el mono?*” (What is the monkey doing?). And the majority of the participants responded with: “*El mono lee un libro*” (The monkey reads a book).

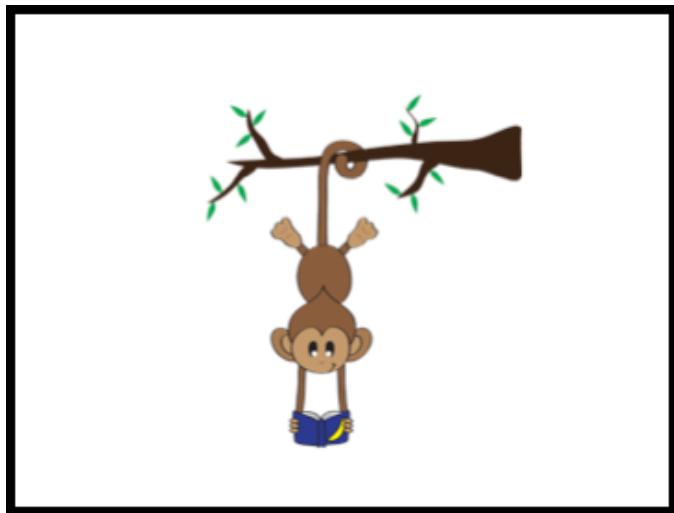


Fig. 3 – Discourse Completion Task; “*¿Qué hace el mono?*”

3.3.3 Surveys

Upon finishing the tasks, participants were asked to fill out a linguistic survey. The native speakers completed the Language History Questionnaire, which was provided in Spanish (Li, et al. 2013). Meanwhile the L2 Spanish participants filled out the Language Contact Profile at the

first recording session (Freed, et al. 2004); and later on at the second recording, they were required to fill out a similar “exit” survey that consisted of questions that asked how much time was spent with native speakers and how much time was spent actually speaking the language. The language surveys for the L2 Spanish participants were provided in English.

3.4 Independent and dependent variables

The five independent variables being investigated are the following: the (1) Level of Spanish possessed by the speaker; that is, whether the participant is a native speaker or a non-native intermediate learner. (2) Whether the participant was part of the group that participated in the instruction modules or not. (3) The third variable that we will look at is the sentence type; that is, is it a declarative or an absolute interrogative (also known as a yes-no question). (4) The fourth variable is the test time (pretest or posttest); this is not pertinent to the native speakers, rather reserved for the non-native speakers in either the experimental or control groups. The (5) fifth and last variable is gender to see if there was an effect in the rates of acquisition. The dependent variable being investigated is the change in the pitch contours from the pre-test to the post-test. It is expected that based on the trainings provided the non-native participants would produce more target-like pitch contours for the reported Valencian Spanish dialect since the speaker used in the training sessions was a native speaker of this dialect. As the dependent variable, the pitch contour was broken down into three sentence positions: initial pre-nuclear position, medial pre-nuclear position, and the nuclear configuration position. This allowed for

3.5 Participants and location

For this study, the participant candidates for the non-native groups were intermediate learners of Spanish. They were all native speakers of English; potential participants were eliminated if they identified as heritage speakers of Spanish or had been exposed to Spanish as a

child in the home (Silvina-Montrul 2010:3-4). The participants were students studying at the FSU Valencia study abroad center and all were enrolled in at least one 3000-level Spanish class. They were between the ages of 18 and 22. For the native Spanish speaker participants, they were all native speakers of Spanish and grew up in the Valencia region. They were between the ages of 18 and 30. For all groups, a total of 14 participants were recorded.

The L1 English participants were recruited from the following classes: SPN3400 Spanish Reading and Conversation class and SPN3330 Spanish Grammar and Composition class, in which participants received extra credit for their participation. Additionally, there one other student participated who was enrolled in the SPW3300 Readings of Iberia course. In order to recruit these students, the researcher visited these classes during the first week of school and presented the students with the opportunity to participate. The groups were divided by class section; the students from SPN3400 students formed part of the participant group that received instruction, while the remaining participants from SPN3330 and SPW3300 formed the control group that did not receive instruction. While the course codes differ in regards to the 300/400 levels, all of these courses may be taken concurrently. All of the recordings were done at the FSU Study Abroad Center. For the native speakers of Valencian Spanish, participants were recruited through the “friend of a friend” method, popular in the discipline of sociolinguistics (Silva-Corvalán 2001). All recordings of the native Valencian Spanish speakers were done in a quiet room. Table 1 provides a timeline for the recording and instruction sessions for the study.

The assessment took place at the beginning of the summer B session (week 1) at the study Center and again at the end of the study abroad experience (week 6). There were various reasons for choosing this program versus other FSU International Program offerings. The main

reasons include the fact that there are varied and more advanced level Spanish classes and there is a Spanish club that promotes linguistic immersion during the students' stay.

Table 1. Schedule of recording and perception instruction sessions

Session	Date	Objective
1	May 12-16, 2014	Pre-Test recording
2	May 21, 2014	Instruction: Perception of declarative & exclamatory sentences
3	May 28, 2014	Instruction: Identification of declarative & exclamatory sentences
4	June 4, 2014	Instruction: Perception of interrogative sentences
5	June 11, 2014	Instruction: Identification of interrogative sentences
6	June 15-18, 2014	Post-Test recording

3.6 Experiment design

The L1 English/L2 Spanish participants, were recorded in either the conference room, the library, or one of the tutoring rooms at the Valencia study center, all of which were reserved for use beforehand; the explicit instruction classes took place in one of the classrooms at the study center. As previously seen, Table 1 provides dates for the recording and instruction lessons. An Olympus DM-620 digital voice recorder was used and the participants' utterances were recorded in WAV format, on the stereo setting. The sample rate was set for 44,100 Hz.

This study used perception-based activities that were designed by the researcher in order to get the students to notice the differences in the patterns. The experimental group received in-person instruction twice and virtual instruction through a PowerPoint presentation twice. Based on previous research on intonation instruction in English, the literature suggests using a computer to help students visualize the target speech in order to enhance pronunciation skills (Chun 1998:81; Levis & Pickering 2004:520; Ramírez-Verdugo 2006:153). Therefore, the ultimate goal in using the perception activities (both through aural and visual stimulation) via a

PowerPoint presentation was to get the participants to recognize the intonation patterns and in turn, notice them and utilize them in their interactions with native speakers.

For the first perception training, the researcher presented a short lesson (less than 5 minutes) on the characteristics of declarative and absolute interrogative sentences and all of the instruction took place in Spanish. The researcher first gave an example in English of the varying intonation patterns possible that one sentence could have; the sentence was, “The children ate candy” and it was written on a slide three times with differing punctuation according to the type of sentence; the first being a declarative, then as a question, and last as an exclamation.

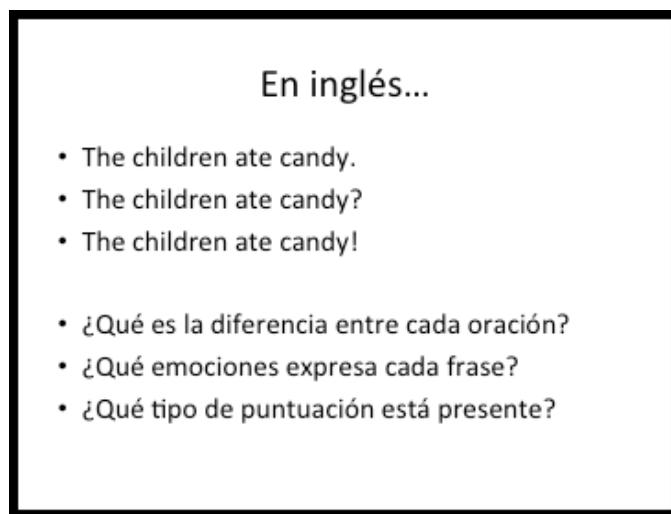


Fig. 4 – Perception Training, English Example

This was done in order to prime the participants for the activity in Spanish; it helped the participants to become familiarized with the idea of sentences meaning different things based on the intonation patterns and it helped them to associate punctuation with intonation patterns. The

next slide consisted of the same activity and sentence but in Spanish, pronounced by a native speaker of Valencian Spanish.

Ahora, en español...

- Los niños comieron dulces. 🎧
- ¿Los niños comieron dulces? 🎧
- ¡Los niños comieron dulces! 🎧

- ¿Qué es la diferencia entre cada oración?
- ¿Qué emociones expresa cada frase?
- ¿Qué tipo de puntuación está presente?

Fig. 5 – Perception Training, Spanish Example

For the rest of the slides, the students listened to the native speaker's intonation patterns to determine which type of sentence was being presented to them on the screen, as well as assign punctuation to the sentence. When they had written down their answer, the researcher asked them what type of sentence it was and then showed the punctuation to verify. This was repeated 8 more times. Four out of five of the participants attended this instruction session.

The third week of the program the participants were in Barcelona and not in class, therefore the researcher sent them a PowerPoint presentation to test their knowledge from the previous week (see Figure 6). The entire PowerPoint was in Spanish. The participants were asked to listen to two different sentences to determine which was the interrogative sentence. Once this was completed, the PowerPoint began to focus on the visualizations of the different

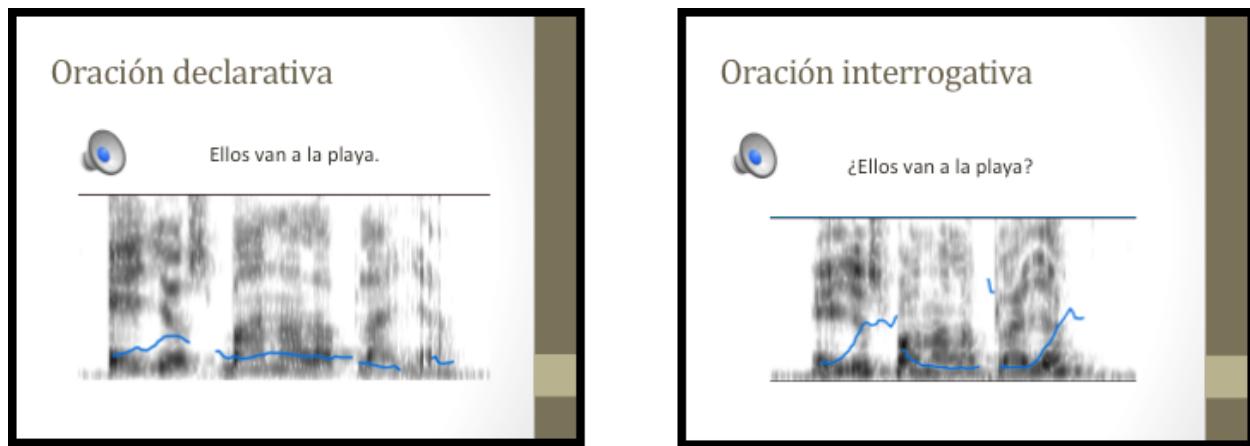


Fig. 6 – Perception training; Virtual Session #1

types of sentences. The students were asked to keep the following questions in mind before continuing with the activity: “What differences can you see in the visualization of each sentence? And what are the intonation patterns of each sentence like?” The students then were shown screenshots of a declarative sentence and an interrogative sentence in Praat (Boersma & Weenink 2014) and they were able to listen to each sentence being pronounced.

This was done so that the participants could connect the idea of a descending pattern with a declarative sentence and a rising pattern with an interrogative sentence. In the following slide, they were asked what they noted about those sentences in terms of the questions they were asked beforehand. The next slide provided the instructions for the activity presented on the rest of the slides. The participants were provided with two steps for each slide: first, listen to the file and look at the spectrogram; second, guess what type of sentence it is based on the visual pattern presented in the spectrogram and the sound pattern that is heard. The participants were presented with 3 declarative sentences and 3 interrogative sentences. When the participants clicked on the slide for a second time, they could see the sentence with its punctuation so that they could make

sure that their answer was correct. All of the students self-reported that they reviewed this PowerPoint and that they did well on this activity.

The fourth week of the program, the researcher presented another PowerPoint with respect to the intonation patterns of pronominal questions and exclamatory sentences in Spanish in class. All five of the participants attended the session. The researcher started the session with English to familiarize them with the concept of the types of sentences and their intonation patterns. Spanish was then presented, using the same sentence as before. Just like in the first instruction session, the participants were presented with sentences and required to first decide what type of sentence it was based on the sound pattern they could hear and in turn they were instructed to include the punctuation associated with the sentence type.

For the last instruction session during the fifth week of the program, the participants were sent another PowerPoint presentation similar to the one sent during the second week. Although the students were not away, the researcher decided to maintain consistency and have two in-person instruction sessions and two virtual instructions sessions. The participants were tested on the previous week's material and then shown visualizations of the exclamatory and pronominal interrogative sentences. Only two of the five participants self-reported that they had interacted with the PowerPoint presentation that had been emailed to them for this virtual instruction session.

The final week of the study abroad program was spent recording the students in the posttest using the second list of sentences and a second elicitation task that was similar to the first. The participants read the second list of sentences three times and interacted with the PowerPoint presentation immediately following the first task. The researcher chose to focus on reading sentences because previous L2 research that shows that learners are “more likely to

produce” the target structures in a formal context rather than in a semi-spontaneous situation where they tend to rely on their native language phonology more (Diaz-Campos 2004:261). Also, Jun & Fletcher (Jun & Fletcher 2014:502; 504) point out that reading passages or sentences can give us an idea of the basic intonation patterns that a speaker uses and keeping sentences short was done to make the intonation phrases more manageable for the second language learners to produce. Lastly, Jun & Fletcher (Jun & Fletcher 2014:499) note that there is a methodological advantage to using the same sentence with the same constituent structure but differing sentence types, such as declarative versus absolute interrogative sentences as this can help us identify what the sentence specific structures are.

3.7 Acoustic analysis

Data were analyzed acoustically in Praat (Boersma & Weenink 2014) following standard Sp_ToBI and Cat_ToBI conventions (Beckman, et al. 2002; Estebas-Vilaplana & Prieto 2010; Prieto 2014). Due to time constraints, only the data from the reading task are considered in this study. The analysis was conducted using pitch accents to mark the intonation patterns of the utterance; depending on the number of content words, the number of pitch accents in a sentence varied. In all sentences with two content words two pitch accents are indicated – a pre-nuclear pitch accent and a nuclear pitch accent with a boundary tone configuration; in sentences with three content words three pitch accents are indicated – an initial pre-nuclear and a medial pre-nuclear pitch accent and a nuclear pitch accent with a boundary tone configuration. For the analysis of the non-native speakers the same methodology was followed to analyze the non-native speaker data that were collected from the reading task. It is necessary to note that not all tokens were analyzed. 74 of the 320 sentences were removed from the corpus due to poor recording status (either loud noises, creaky voice, and/or mispronunciations). In order to control

for the recording used, the researcher chose recording B (that is, the second reading out of three possible options) as the primary tokens to be analyzed. If the token was unable to be analyzed due the aforementioned issues, recording C was chosen. If the recording was still unusable, recording A was chosen to be analyzed; in the event that none of the repetitions of a specific token were analyzable, then the token was removed from the speaker's data. Furthermore, a minimum change of 10 Hz from the first syllable to the next was used as a threshold to determine if a bi-tonal pitch accent would be used. For instance, when the tonal change from the first syllable to the next was 10 Hz or below, the pitch accent assigned was an L*; on the other hand, when the tonal change was greater than 10 Hz and thus more perceptible, a bi-tonal pitch accent assigned, such as L*+H.

3.8 Statistical analysis

Upon analyzing the sentences, all independent and dependent variables were assigned a coding number and typed into an excel spreadsheet. The coding procedure is indicated below in Table 2. From excel, the data was imported into SPSS (IBM Corp. 2013) and the researcher used a Chi Square test in order to analyze the statistical significance of the change in pitch contours from the pre-test to the post-test. The following chapter provides the results of the analyses both acoustically as well as statistically. Table 2 presents the independent and dependent variables and the coding for the various pitch contours that were found in the analysis.

Table 2. Coding of variables for statistical analysis

Independent Variables	Coding assignments			
Participants	1–6 = Native Speakers	7–11 = Instruction Group		12–14 = Control Group
Group	0 = Control	1 = Instruction Group		2 = Control Group
Gender	0 = Male	1 = Female		
Test Time	0 = Pretest	1 = Posttest		
Sentence Type	0 = Declarative	1 = Interrogative		
Dependent Variables	Coding assignments			
Sentence Position: Initial Pre-nuclear	0 = L+<H*	1 = L*+H	2 = H*	3 = L*
Sentence Position: Medial Pre-nuclear	0 = L+>H*	1 = L*+H	2 = H*	3 = H+L* 4 = L*
Sentence Position: Nuclear	0 = L* L%	1 = L* H%	2 = L* M%	3 = H* L% 4 = H* M%

CHAPTER 4

RESULTS AND DISCUSSION

4.1 Native speaker results

The native speaker group contained 6 participants: 3 male and 3 female. Participants differed as to where they were from (either a rural or a metropolitan background), but all were bilingual speakers of Catalan and Castilian Spanish. Table 3 indicates the gender, self-reported level of bilingualism on a scale of 1 to 7, and whether the participants originated from a rural area or a metropolitan area of the Valencian Community.

Table 3. *Native speaker participants*

Participant	Gender	Age	Metropolitan/Rural Origin	Self-reported level of bilingualism
N1	M	29	Metropolitan	6.25
N2	F	24	Rural	7
N3	F	21	Metropolitan	6.25
N4	F	20	Rural	6.75
N5	M	21	Rural	6
N6	M	32	Metropolitan	7

We will examine the declarative sentences first, followed by the absolute interrogatives. The patterns attested in the initial pre-nuclear, medial pre-nuclear, and nuclear positions of the sentences will be discussed in turn for each sentence type. On hundred twenty declarative sentences were analyzed (20 per speaker); all were considered to be of a neutral pragmatic value. That is, they were considered to be broad-focus statements. Nine of the twenty statements included initial and medial pre-nuclear pitch contours. And one hundred twenty absolute interrogative sentences were analyzed (20 per speaker); all were considered to be of a neutral pragmatic value, meaning they were considered to be purely information seeking questions. In the literature, absolute interrogative sentences are also known as yes-no questions. Like the

declarative sentences, nine of the twenty absolute interrogative questions contained both initial and medial pitch contours. 9 of the 240 sentences were discarded due to poor recording status.

4.1.1 Declaratives

4.1.1.1 Initial pre-nuclear position

Table 4. Initial pre-nuclear pitch accents, declaratives

	L+>H*	L*+H	Total
Males	47/57 (82%)	10/57 (18%)	58/58
Females	44/57 (77%)	13/57 (23%)	57/57
Total	91/114 (80%)	23/114 (20%)	114/114

Table 4 shows the two main bi-tonal pitch accents present in the analyzed data for this group. In 80% of the data, a the delayed peak pitch accent was present. This pitch accent is characterized by the gradual rise of the F0 starting in the accented syllable, with a continued rise on the syllable immediately following and sometimes spilling over to the next syllable after that. In 20% of the data, a low tone was used on the accented syllable with an immediate rise on the second syllable. By gender, the men and women displayed similar patterns.

4.1.1.2 Medial pre-nuclear position

Each speaker read seven sentences with more than two content words. In these cases, a second pitch accent was present since each content word carries its own pitch accent. Overall, the native speaker participants favored the delayed peak pitch accent (L+>H*) as a whole, followed by almost equal usage of the high tone and the L*+H pitch accent. However, gender

differences were found since the male participants preferred the L+>H* pitch accent (67%).

While the female participants showed a slight preference for the L*+H pitch accent (47%).

Table 5. Medial pre-nuclear pitch accents, declaratives

	L+>H*	H*	L*+H	Total
Males	14/21 (67%)	4/21 (19%)	3/21 (14%)	21/21
Females	4/19 (21%)	6/19 (32%)	9/19 (47%)	19/19
Total	18/40 (45%)	10/40 (25%)	12/40 (30%)	40/40

4.1.1.3 Nuclear configuration

A combined pitch accent in the nuclear position with a boundary tone is known as the nuclear configuration. Prieto & Roseano (2009-2013) have reported nineteen nuclear configurations for Spanish as published in the Sp_ToBI Training materials online, with the usage of L* L% in the following contexts: broad-focus statements, imperative wh-questions, and the end of a disjunctive question. Therefore as expected, all participants employed a low pitch accent followed by a low boundary tone, which is typical of Spanish and Catalan.

Table 6. Nuclear pitch accent configuration, declaratives

	L* L%	Total
Males	58/58 (100%)	58/58
Females	57/57 (100%)	57/57
Total	115/115 (100%)	115/115

4.1.2 Absolute interrogative sentences

4.1.2.1 Initial pre-nuclear position

Table 7. Initial pre-nuclear pitch accents, absolute interrogatives

	L*+H	L+>H*	Total
Males	45/59 (76%)	14/59 (24%)	59/59
Females	45/58 (78%)	13/58 (22%)	58/58
Total	90/117 (77%)	27/117 (23%)	117/117

For the absolute interrogative sentences analyzed, both male and female speakers demonstrated a very similar distribution of pitch accents utilized. Approximately 77% of speakers for each gender employed the low tone on the accented syllable with a rising pitch on the post-tonic syllable, which is typical of Castilian Spanish in this position (Estebas-Vilaplana & Prieto 2010:27), as it serves to differentiate yes-no questions from broad focus declaratives. However, the remaining 23% of prenuclear pitch contours were realized as L+>H*. As this pitch accent has not been indicated previously for Castilian Spanish, but is reported in Crespo-Sendra (2011) for Valencian Catalan, a discussion of its provenance will be discussed later in this chapter.

4.1.2.2 Medial pre-nuclear position

The medial pre-nuclear position pitch accents in absolute interrogatives are distinct from the ones indicated for broad-focus declaratives, serving as another way to prosodically distinguish between the two types of sentences. In 15% of cases, a low tone was attested, which is . However, the majority of sentences analyzed utilized the H+L* pitch accent (85%).

Table 8. Medial pre-nuclear pitch accents, absolute interrogatives

	H+L*	L*	Totals
Males	16/21 (76%)	5/21 (24%)	21/21
Females	18/19 (95%)	1/19 (5%)	19/19
Total	34/40 (85%)	6/40 (15%)	40/40

This pitch accent is usually limited to one accented syllable where the F0 is in a high position at the beginning of the syllable with a sharp decline as the syllable ends, terminating in a low tone. This pitch accent is found in both Catalan and Spanish, but has limited pragmatic use in Spanish; a more thorough discussion of the usage of this pitch accent will follow in section 4.2 of this chapter.

4.1.2.3 Nuclear configurations

Table 9. Nuclear pitch accent configuration, absolute interrogatives

	L* HH%	Total
Males	59/59 (100%)	59/59
Females	58/58 (100%)	58/58
Total	117/117 (100%)	117/117

The nuclear configurations for absolute interrogative questions were consistently realized as a low tone on the accented syllable followed by a steep rise in the F0 resulting in a HH% boundary tone. The HH% boundary is typical of both Castilian Spanish and Catalan (Estebas-Vilaplana & Prieto 2010:27 & Prieto 2014:54), and the L* pitch accent is also typical of

Castilian Spanish (among other dialects of Spanish) and Catalan in this context as reported by Estebas-Vilaplana & Prieto (2010:27) and Prieto (2014:63).

4.2 Discussion of native speaker results

4.2.1 Declarative patterns

For the broad-focus declarative sentences, the patterns presented are consistent with what has been reported previously in the literature for Castilian Spanish. In the initial and medial pre-nuclear position, usage of L+>H* is consistent with previous descriptions (Estebas-Vilaplana & Prieto 2010:19). Moreover, Martínez Celdrán, et al. (2003:596) indicate that H* and L*+H are attested in pre-nuclear position for Spanish declaratives when more than two content words are present, which is consistent with present data. Finally, these patterns overlap with those present in Catalan, as reported in Prieto (2014:52).

4.2.2 Absolute interrogative patterns

As previously indicated, for initial pre-nuclear position, the two most common patterns are L*+H (73% of tokens) and L+>H* (27% of tokens). L*+H is attested in this context in both Catalan and Castilian Spanish; however, in Castilian Spanish, L+>H* is not typically utilized in this position in absolute interrogative sentences. Crespo-Sendra (2011:80) reports L+>H* in pre-nuclear position for yes-no questions in the Valencian dialect of Catalan. Thus, we see the participants using a pragmatically limited pitch accent from Valencian Catalan speech in Spanish. This distinguishes Valencian Spanish from other varieties of Spanish.

The medial pre-nuclear position of yes-no questions is primarily realized as H+L* (85% of tokens), with L* attested in 15% of cases. Romera, et. al (2008) also report the usage of H+L* in absolute interrogative questions without *que* in the pre-nuclear position for Barcelona Spanish. Castilian Spanish and Catalan both share the falling H+L* pitch accent, but it has different uses

in each language. In Castilian Spanish, it is used in imperative and confirmation yes-no questions (Estebas-Vilaplana & Prieto 2010:19). However, in Catalan, it is used with yes-no questions that have a falling contour in nuclear position (Prieto 2014:52). Again, we see the bilingual speakers broadening the use of another pitch accent from Catalan into their speech in Spanish. This pitch accent is typically only used in pragmatically limited contexts in Spanish as listed above, but as it is used in yes-no questions for Catalan, that usage has been prosodically transferred into Spanish in the same position.

Lastly, 100% of absolute interrogatives employed an L* HH% configuration, consistent with what has been reported for both Castilian Spanish and Catalan. The L* pitch accent has been attested in the nuclear position for both Castilian Spanish and Catalan yes-no questions (Estebas-Vilaplana & Prieto 2010:27 and Prieto 2014:52). And the extra high boundary tone has been attested in both Castilian Spanish and Catalan (Estebas-Vilaplana & Prieto 2010:27 and Prieto 2014:54).

Romera & Elordieta (2013) also found H+L* in the prenuclear position of information seeking absolute interrogatives in bilinguals of Mallorcan Spanish and L* H% in nuclear position in the same types of questions. The current study lends support to their analysis. Furthermore, Romera & Elordieta (2013) also found an asymmetry in the way that bilingual speakers incorporated more pitch accents from Catalan into the interrogatives produced in Spanish as opposed to the declaratives produced in Spanish. They believe that this is due to the saliency of the pitch accents in interrogatives compared with the pitch accents of declaratives (2013:143). In summary, these speakers have displayed influences on their speech from Valencian Catalan in the following contexts of absolute interrogative sentences: the delayed peak

pitch accent, L+>H*, in the initial pre-nuclear position and the falling pitch accent, H+L*, in the medial pre-nuclear position.

4.3 Non-native speaker results

The non-native speaker group consisted of eight participants. Table 10 presents information about their gender, age, origin and the Spanish class they were enrolled in for the summer program. Participants were divided according to the classes they were registered for. One group, consisting of five participants formed the experimental group and received intonation instruction in the classroom two times and received virtual instruction in the form of PowerPoint presentations from the researcher the remaining two weeks. The control group experienced attrition between tests and thus were left with only three participants at the posttest. The following sections will discuss the results of both the pretest and the posttest. We will look at the instruction group first, followed by the control group for each sentence type and sentence position.

Table 10. Non-native speaker participants

Experimental Instruction Group				
Participant	Gender	Age	Place of Origin	Spanish Class
E1	F	20	United States	SPN3400
E2	F	20	United States	SPN3400
E3	M	19	United States	SPN3400
E4	F	20	United States	SPN3400
E5	M	19	United States	SPN3400
Control Group				
C1	F	19	Barbados	SPN3300
C2	F	20	United States	SPN3300
C3	M	20	United States	SPW3030

The experimental instruction group consisted of 5 participants: 3 female, 2 male. In both the pretest and the posttest 20 target sentences were randomized and interspersed with distractor

sentences in the reading task list; 10 of those being declarative and 10 of those being absolute interrogative sentences. Therefore, a total of 200 sentences were analyzed for this group (20 per speaker at the pretest and 20 per speaker at the posttest). 50 of these sentences were removed due to poor recording status.

The control group consisted of 3 participants in total, as there was attrition from the pretest to the posttest; 2 are female, 1 is male. The control group was tested with the same reading task lists in the pretest and the posttest as the experimental group. A total of 120 declarative and absolute interrogative sentences were analyzed for this group (30 declarative at the pretest and posttest and 30 absolute interrogative sentences at the pretest and posttest). 24 of these sentences were removed due to poor recording status.

4.3.1 Differences between groups

It should first be noted that the non-native speaker groups differed from each other in some respects. For the declarative sentences, the groups were not significantly different in their pronunciations at the pretest as evidenced by three Pearson Chi Square tests; $p= .119$ for the initial prenuclear position, $p= .148$ for the medial prenuclear position, and $p= .842$ for the nuclear configuration. And for the absolute interrogative sentences, the groups differed significantly at the initial pre-nuclear position and the nuclear configuration position, as revealed by two respective Pearson Chi Square tests, $X^2(3, N=58)= 10.714, p= .013$ and $X^2(2, N=61)= 9.834, p= .007$. This implies that in these regards, the control group was different from the experimental group at the pretest. At the posttest, the groups were not significantly different from each other at any sentence position in either of the sentence types.

In terms of differences between the learner groups and the native speakers, neither group reached a level comparable to the native speakers of the Valencian Spanish dialect. In fact, a

Pearson Chi Square test revealed that in both declarative and absolute interrogative sentences at all sentence points, the instruction group was significantly different from the native speaker group at $p < .001$ level, except for the nuclear configuration of the absolute interrogative sentences where, $X^2 (1, N=190) = 1.611, p = .204$. However, this is most likely due to positive transfer from English, as English also uses a final high rising boundary tone (Beckman, et al. 2006). The control group also differed significantly from the native speaker group at the posttest in both declarative and absolute interrogative sentences at all points as shown by various Pearson Chi Square test, where $p < .01$.

4.3.2 Declaratives

4.3.2.1 Initial pre-nuclear position, experimental group

Table 11. Initial pre-nuclear position for the experimental group at the pretest in declaratives

	L*+H	L*	L+>H*	H*	Totals
Males	11/16 (69%)	3/16 (19%)	2/16 (12%)	0/16 (0%)	16/16
Females	10/26 (38%)	6/26 (23%)	2/26 (8%)	8/26 (31%)	26/26
Total	21/42 (50%)	9/42 (21%)	4/42 (10%)	8/42 (19%)	42/42

In the pretest, the experimental group showed a range of four different pitch accents (two monotonal and two bi-tonal) in their intonation patterns, but clearly favored the usage of L*+H as a whole (50% of the declarative realizations). Table 7 shows that in terms of gender, the male participants preferred the usage of the L*+H pitch accent almost 70% of the time, while the female participants, in addition to the usage of L*+H, almost one-third of the utterances analyzed presented a high plateau pitch accent (H*) followed by usage of the low tone (L*) 23% of the time. This is not surprising as Beckman, Hirschberg, and Shattuck-Hufnagel (2006:20) indicate

L* and H* as pitch accents that are typical of Mainstream American English. The transfer of these pitch accents will be discussed in section 4.4.

Table 12. Initial pre-nuclear position for the experimental group at the posttest in declaratives

	L*+H	L+>H*	L*	H*	Total
Males	8/17 (47%)	9/17 (53%)	0/17 (0%)	0/17 (0%)	17/17
Females	16/20 (80%)	0/20 (0%)	2/20 (10%)	2/20 (10%)	20/20
Total	24/37 (65%)	9/37 (24%)	2/37 (5%)	2/37 (5%)	37/37

For the posttest, overall, the participants made a shift from using the monotonous pitch accents (10% combined) to mainly using the bi-tonal pitch accents (~89% combined) which are more typical of Castilian Spanish. Both male speakers made a shift toward using the delayed peak pitch accent (L+>H*) that is reported for Castilian Spanish. Male speakers increased their usage of the delayed peak pitch accent (from 12% in the pretest to 53% in the posttest) and they did not use either of the mono-tonal pitch accents (L* or H*). For female speakers in the posttest, there was a consolidation of the usage of the L*+H pitch accent and a decrease in the usage of mono-tonal pitch accents. A Pearson Chi-Square test, $\chi^2 (3, N=76)= 7.420, p=.06$, showed that the participants were not significantly different in the posttest, but it shows a tentative change toward more native-like patterns.

4.3.2.2 Initial pre-nuclear position, control group

The control group showed previously established contours in the initial pre-nuclear position according to what has been reported for Spanish. The bi-tonal pitch accents were used in 95% of cases, with the rising peak pitch accent occurring in 68% of cases overall. The female participants though favored the rising peak pitch accent 93% of the time while the male

participants only used this pitch accent 25% of the time, preferring the delayed peak pitch accent. Unlike the experimental group, none of the participants used a high tone in the pretest. The groups were not significantly different in this position for this sentence type.

Table 13. Initial pre-nuclear position for the control group at the pretest in declaratives

	L*+H	L+>H*	L*	Total
Males	2/8 (25%)	5/8 (63%)	1/8 (12%)	8/8
Females	13/14 (93%)	1/14 (7%)	0/14 (0%)	14/14
Total	15/22 (68%)	6/22 (27%)	1/22 (5%)	22/22

In the posttest, there was no change in the overall contours of the participants from the pretest to the posttest and the percentage of usages stayed the same as well. This was confirmed by a Pearson Chi Square test, $X^2 (2, N=44) = .000$, $p=1.0$.

Table 14. Initial pre-nuclear position for the control group at the posttest in declaratives

	L*+H	L+>H*	L*	Total
Males	2/7 (29%)	4/7 (57%)	1/7 (14%)	7/7
Females	13/15 (86%)	2/15 (13%)	0/15 (0%)	15/15
Total	15/22 (68%)	6/22 (27%)	1/22 (5%)	22/22

4.3.2.3 Medial pre-nuclear position, experimental group

In the pretest, three of the ten declarative sentences contained three content words. At the pretest, L* is the only pitch accent that the speakers used when a third content word was present in the declarative sentences (Table 9). This can be viewed as negative transfer from English since

L* is attested in pre-nuclear (both in initial and medial) position in Mainstream American English for declaratives (Beckman, et al. 2006:20), but not in Castilian Spanish in the prenuclear position.

Table 15. Medial pre-nuclear position for the experimental group at the pretest in declaratives

	L*	Total
Males	4/4 (100%)	4/4
Females	6/6 (100%)	6/6
Total	10/10 (100%)	10/10

In the posttest, for the medial pre-nuclear position, we can see a decrease in the non-target like use of L* and an increase in the use of other pitch accents. For the male speakers, the usage of L* decreased from 100% of utterances to 16%. In the female speakers, we can see a slight decrease of the usage of the L* pitch accent and an increase in the usage of L*+H and L+>H* pitch accents which are target-like for this dialect. In general, we can see a decrease in use of the non-target like L* pitch and an increase in more native-like contours previously attested for Castilian Spanish. According to a Pearson Chi Square test, χ^2 (3, N=23)= 7.74, $p=.052$, the participants of this group were not significantly different from the pretest to the posttest.

Table 16. Medial pre-nuclear position for the experimental group at the posttest in declaratives

	L*	H*	L*+H	L+>H*	Total
Males	1/6 (16%)	2/6 (14%)	3/6 (50%)	0/6 (0%)	6/6
Females	5/7 (71%)	0/7 (0%)	1/7 (14%)	1/7 (14%)	7/7
Total	6/13 (46%)	2/13 (15%)	4/13 (31%)	1/13 (8%)	13/13

4.3.2.4 Medial pre-nuclear position, control group

At the pretest, the control group exhibited a large percentage of low tone contour in the medial pre-nuclear position (88%) of the declarative sentence. In this way, the experimental group and the control group were similar. Again, the groups did not differ significantly in the sentence position of the sentence type.

Table 17. Medial pre-nuclear position for the control group at the pretest in declaratives

	L*	L*+H	Total
Males	2/3 (67%)	1/3 (33%)	3/3
Females	5/5 (100%)	0/5 (0%)	5/5
Total	7/8 (88%)	1/8 (12%)	8/8

In the posttest for the control group, a Pearson Chi Square test reveals that there is no statistical change, $\chi^2(2, N=17)= 2.617, p= .270$. The low tone was the dominant choice (56% of cases) for both genders, followed by equal usage of the two bi-tonal pitch accents (22% each). The female participants however, evenly distributed their contour choices across the three pitch accents.

Table 18. Medial pre-nuclear position for the control group at the posttest in declaratives

	L*	L*+H	L+>H*	Total
Males	3/3 (100%)	0/3 (0%)	0/3 (0%)	3/3
Females	2/6 (33%)	2/6 (33%)	2/6 (33%)	6/6
Total	5/9 (56%)	2/9 (22%)	2/9 (22%)	9/9

4.3.2.5 Nuclear configurations, experimental group

The table below lists the four nuclear configurations found in the pretest for the declarative utterances in the experimental group. Almost two-thirds of the sentences analyzed utilized the target-like L* L% nuclear configuration. In 29% of the tokens, we see evidence of negative transfer in the form of up-speak (associated with the L* H% pitch contour), which has been previously attested for various dialects of English, and is more common for women (Bradford, 1997).

Table 19. Nuclear pitch accent configurations for the experimental at the pretest in declaratives

	L* L%	L* H%	L* M%	H* L%	Total
Males	10/16 (63%)	3/16 (19%)	2/16 (13%)	1/16 (6%)	16/16
Females	16/26 (62%)	9/26 (35%)	1/26 (4%)	0/26 (0%)	26/26
Total	26/42 (62%)	12/42 (29%)	3/42 (7%)	1/42 (2%)	42/42

In the posttest (Table 20) there is an increase in the number of boundary tones found in the experimental group. The experimental group favored the target-like L* L% nuclear configuration (81% which was a 19% increase in usage from the pretest). For women we see a

shift toward consistent use of the L* L% nuclear configuration, and a decrease in the usage of up-speak contours (that is, a low tone followed by a rising boundary tone L* H%). A Pearson Chi Square Test revealed that the instruction group performed in a significantly different manner in the posttest; X^2 (4, $N=76$) = 13.719, $p < .05$.

Table 20. Nuclear pitch accent configurations for the experimental group at the posttest in declaratives

	L* L%	H* M%	L* M%	H* L%	L* H%	Total
Males	11/17 (65%)	3/17 (18%)	2/17 (11%)	1/17 (6%)	0/17 (0%)	17/17
Females	19/20 (95%)	0/20 (0%)	0/20 (0%)	0/20 (0%)	1/20 (5%)	20/20
Total	30/37 (81%)	3/37 (8%)	2/37 (5%)	1/37 (3%)	1/37 (3%)	37/37

4.3.2.6 Nuclear configurations, control group

For declarative sentences in the pretest, the main nuclear configuration was the target-like L* L% configuration (68%). In terms of gender the male speaker always used a native-like falling final boundary tone, but the female participants displayed variation. The control group did not differ significantly from the experimental group in the pretest, but they did show less variation than the experimental group.

Table 21. Nuclear pitch accent configurations for the control group at the pretest in declaratives

	L* L%	L* H%	Total
Males	8/8 (100%)	0/8 (0%)	8/8
Females	7/14 (50%)	7/14 (50%)	14/14
Total	15/22 (68%)	7/22 (32%)	22/22

At the posttest, there is no statistically significant difference as related by a Pearson Chi Square test, $X^2 (2, N=44)= 3.714, p= .156$. However, the group as a whole increased their usage of the target like low tone plus low boundary tone by 23%. The significant change is most likely due to the fact that the female speakers reduced their usage of the high boundary tone by 43%.

Table 22. Nuclear pitch accent configurations for the control group at the posttest in declaratives

	L* L%	L* H%	Total
Males	6/7 (86%)	1/7 (14%)	7/7
Females	14/15 (93%)	1/15 (7%)	15/15
Total	20/22 (91%)	2/22 (9%)	22/22

4.3.3 Absolute Interrogatives

4.3.3.1 Initial pre-nuclear position, experimental group

Table 23 lists the pitch accents observed in the initial pre-nuclear position of absolute interrogative sentences at the pre-test. The speakers used both monotonous and bi-tonal pitch accents in the initial pre-nuclear position of absolute interrogative sentences with the use of the rising peak pitch accent, L*+H, and the low tone, L*, being used in equal percentage (41% each). However, the male speakers used the bi-tonal delayed rising peak pitch accent, L+>H*, in 28% of cases while the female participants only used it 5% of cases.

In the posttest we see the elimination of the H* pitch accent, typically associated with English in the pre-nuclear position (Beckman, et al 2006:23). For both men and women there was a shift toward more consistent usage of both of the bi-tonal pitch accents. Furthermore, there was a 31% decrease in the usage of the L* mono-tonal pitch accent. A Pearson Chi Square test, $X^2 (1, N=73)= 5.433, p= .066$, showed again that the instruction group participants did not

perform in a significantly different manner in the posttest, but it shows a trend toward significant change in the posttest.

Table 23. Initial pre-nuclear position for the experimental group at the pretest in absolute interrogatives

	L*+H	L*	L+>H*	H*	Total
Males	5/14 (36%)	5/14 (36%)	4/14 (28%)	0/14 (0%)	14/14
Females	9/20 (45%)	9/20 (45%)	1/20 (5%)	1/20 (5%)	20/20
Total	14/34 (41%)	14/34 (41%)	5/34 (15%)	1/34 (3%)	34/34

Table 24. Initial pre-nuclear position for the experimental group at the posttest in absolute interrogatives

	L*+H	L+>H*	L*	Total
Males	11/17 (65%)	5/17 (29%)	1/17 (6%)	17/17
Females	15/22 (68%)	4/22 (18%)	3/22 (14%)	22/22
Total	26/39 (67%)	9/39 (23%)	4/39 (10%)	39/39

4.3.3.2 Initial pre-nuclear position, control group

For yes-no questions in the initial pre-nuclear position during the pretest, the control group and the experimental group were significantly different, as evidenced by a Pearson Chi Square test, $X^2 (3, N=58) = 10.714, p=.013$. This means that the groups were not at the same proficiency level in the pretest. The control group mainly used bitonal pitch accents and only used the high tone in pre-nuclear position once. In terms of gender, the female participants favored the L*+H rising pitch accent over the L+>H* delayed rising peak pitch accent. The male speaker used both pitch accents in almost equal distribution.

Table 25. Initial pre-nuclear position for the control group at the pretest in absolute interrogatives

	L*+H	L>H*	H*	Total
Males	3/7 (43%)	4/7 (57%)	0/7 (0%)	7/7
Females	15/17 (88%)	1/17 (6%)	1/17 (6%)	17/17
Total	18/24 (75%)	5/24 (21%)	1/24 (4%)	24/24

In the posttest, the overall usage percentages are almost exactly the same for the control group. The male speaker slightly prefers the rising pitch accent (L*+H) and uses the other two pitch accents in equal distribution. The female participants maintain their usage of the L*+H rising pitch accent and only show one percentage point of usage increase. A Pearson Chi Square test confirms that there was little change from the pretest to the posttest,

$$X^2 (2, N=51) = .263, p = .877.$$

Table 26. Initial pre-nuclear position for the control group at the posttest in absolute interrogatives

	L*+H	L>H*	H*	Total
Males	4/10 (40%)	3/10 (30%)	3/10 (30%)	10/10
Females	16/18 (89%)	2/18 (11%)	0/18 (0%)	18/18
Total	20/28 (71%)	5/28 (18%)	3/28 (11%)	28/28

4.3.3.3 Medial pre-nuclear position, experimental group

Table 27 shows the three pitch accents found in the data during the pretest. The low tone (L*) was used the most (67% of cases), while the bi-tonal pitch accents were used in the remaining 33% of cases. While the usage of L* in the medial position of declarative sentences is

considered non-target, usage of the same pitch accent in the same position for interrogative sentences could be considered as positive transfer from the L1 to the L2. From the pretest to the posttest, the experimental group shows almost no change (Table 28) in the medial pre-nuclear position. And a Pearson Chi Square Test, X^2 (2, $N=29$) = 0.166, $p = .920$, confirms that there was no significant difference at all for this group from the pretest to the posttest.

Table 27. Medial pre-nuclear position for the experimental group at the pretest in absolute interrogatives

	L*	L*+H	L+>H*	Total
Males	2/6 (33%)	3/6 (50%)	1/6 (17%)	6/6
Females	8/9 (89%)	0/9 (0%)	1/9 (11%)	9/9
Total	10/15 (67%)	3/15 (20%)	2/15 (13%)	15/15

Table 28. Medial pre-nuclear position for the experimental group at the posttest in absolute interrogatives

	L*	L*+H	L+>H*	Total
Males	4/5 (80%)	1/5 (20%)	0/5 (0%)	5/5
Females	5/9 (56%)	2/9 (22%)	2/9 (22%)	9/9
Total	9/14 (64%)	3/14 (21%)	2/14 (14%)	14/14

4.3.3.4 Medial pre-nuclear position, control group

For absolute interrogatives, the participants of the control group displayed the same pitch accents for the medial pre-nuclear position as in the pretest for declaratives, though in differing proportions. The low tone was used the majority of the time (64%) by the group. In terms of gender, the female participants favored the rising pitch accent L*+H over the low tone, while the

male speaker overwhelmingly favored the low tone in all tokens analyzed. The usage of the target-like low tone is most likely positive transfer from English as previously discussed with the experimental group.

Table 29. Medial pre-nuclear position for the control group at the pretest in absolute interrogatives

	L*	L*+H	Total
Males	5/5 (100%)	0/5 (0%)	5/5
Females	2/6 (33%)	4/6 (67%)	6/6
Total	7/11 (64%)	4/11 (36%)	11/11

At the posttest, we can see changes in the speakers' patterns. A Pearson Chi Square Test shows the participants nearing significance, $\chi^2 (3, N=20) = 7.486, p=.058$. Two new contours emerge: the delayed rising peak (L+>H*) and the high tone, though only one is target-like. There is an overall decrease in the usage of the L*+H pitch accent, and continued usage of the low tone. And just like the experimental group, none of the participants utilized the H+L* tone found in the speech of the native speaker group in absolute interrogatives for this position.

Table 30. Medial pre-nuclear position for the control group at the posttest in absolute interrogatives

	L*+H	L+>H*	L*	H*	Total
Males	2/3 (66%)	1/3 (33%)	0/3 (0%)	0/3 (0%)	3/3
Females	3/6 (50%)	1/6 (17%)	1/6 (17%)	1/6 (17%)	6/6
Total	5/9 (56%)	2/9 (22%)	1/9 (11%)	1/9 (11%)	9/9

4.3.3.5 Nuclear configurations, experimental group

Table 31. Nuclear pitch accent configurations for the experimental group at the pretest in absolute interrogatives

	L* HH%	L* L%	Total
Males	13/14 (93%)	1/14 (7%)	14/14
Females	20/20 (100%)	0/20 (0%)	20/20
Total	33/34 (97%)	1/34 (3%)	34/34

The nuclear configurations observed for the absolute interrogatives sentences repeated by the experimental group were almost identical for both the male and female speakers. The nuclear configuration of the low tone with the high rising boundary tone was used in the majority (97%) of cases and was on target for Castilian Spanish. In the posttest data in the Table 32 we see an elimination of the non-target L* L% nuclear configuration and a 100% target production of the low tone combined with the high rising boundary tone. A Pearson Chi Square test indicated that the change from the pretest to the posttest was not significant, $\chi^2 (1, N=73) = 1.163, p = .281$.

Table 32. Nuclear pitch accent configuration for the experimental group at the posttest in absolute interrogatives

	L* HH%	Total
Males	17/17 (100%)	17/17
Females	22/22 (100%)	22/22
Total	39/39 (100%)	39/39

4.3.3.6 Nuclear configurations, control group

Overall, at the pretest, the control group was on target for the low tone plus high rising boundary, typical of Castilian Spanish. Much like the experimental group, we see near uniform patterns for the men and women in regards to the nuclear configurations. And again, like in the experimental group, the male speaker used a non-target falling contour. Interestingly, a Pearson Chi Square test revealed that the control group and the experimental group differed significantly in this sentence position at the pretest, $X^2 (2, N=61) = 9.834, p=.007$.

Table 33. Nuclear pitch accent configurations for the control group at the pretest in absolute interrogatives

	L* HH%	L* L%	Total
Males	6/7 (86%)	1/7 (14%)	7/7
Females	17/17 (100%)	0/17 (0%)	17/17
Total	23/24 (96%)	1/24 (4%)	24/24

However, unlike the experimental group, the control group was not able to eliminate the non-target falling contour by the end of the six-week program. And furthermore, there is absolutely no change in the percentages of the nuclear configurations utilized from the pretest to the posttest. This is confirmed by a Pearson Chi Sqaure test, $X^2 (1, N=51) = .007, p=.932$.

Table 34. Nuclear pitch accent configurations for the control group at the posttest in absolute interrogatives

	L* HH%	L* L%	Total
Males	9/10 (90%)	1/10 (10%)	10/10
Females	18/18 (100%)	0/18 (0%)	18/18
Total	27/28 (96%)	1/28 (4%)	28/28

4.4 Discussion of non-native speaker results

4.4.1 Within group changes for declarative sentences

For the instruction group, in the initial pre-nuclear position of declarative sentences, the participants showed a trend toward change in their intonation contours. At the posttest, the majority of the sentences utilized the target-like bi-tonal pitch accents as opposed to the mono-tonal ones. In the medial pre-nuclear position, the group again trended toward significant change in the posttest; at the pretest, the participants only used one mono-tonal pitch accent (the low tone, L*), but in the posttest, while the majority of realizations still used the low tone, three more pitch accents were present at the posttest. Lastly, there was a significant change from the pretest to the posttest in the nuclear configuration realizations. As a group, 81% of the realizations were target-like (L* L%) and there was a decrease in the amount of up-speak used.

In the initial pre-nuclear position of declarative sentences, the control group did not display any changes from the pretest to the posttest, but this is mostly due to the fact that the participants were already using the bi-tonal pitch accents the majority of the time and maintained their usage in the posttest. For the medial pre-nuclear position, the control group differed from the experimental group at the pretest in that the participants used one mono-tonal pitch accent (the low tone 88%) and one bi-tonal pitch accent (the rising peak pitch accent 12% of the realizations). In the pretest, the control group used the target-like L* L% nuclear configuration in 68% of the realizations, similar to the instruction group (62% of realizations). However, there was no significant change from the pretest to the posttest.

4.4.2 Within group changes for absolute interrogative sentences

For the experimental group, participants showed a trend toward changes in their speech, though not significant, at the p= .066 level for the initial pre-nuclear position of absolute

interrogative sentences in terms of change from the pretest to the posttest. They also experienced a reduction in the number of pitch accents used from the pretest to the posttest (from 4 to 3). At the medial pre-nuclear position, there was no significant difference from the pretest to the posttest and the group maintained its usage of the same three pitch accents. For the nuclear configuration realization, the participants did not perform significantly differently from the pretest to the posttest, but they were able to eliminate the non-target like falling boundary tone.

The control group did not display any significant changes from the pretest to the posttest in the initial pre-nuclear position of absolute interrogative sentences. However, this is most likely due to the fact that the participants mainly used bi-tonal pitch accents in the pretest and maintained their usage in the posttest. In the medial pre-nuclear position, the control group trended toward significance at the $p = .058$ level in terms of change from the pretest to the posttest. At the posttest for the nuclear configuration, the control group did not perform differently and was not able to eliminate the falling boundary tone.

4.4.3 Transfer

The data from both groups showed several instances of positive transfer of pitch accents from English to Spanish. For declarative sentences, the rising peak pitch accent, L^{*}+H, can be viewed as positive transfer since it is also attested for Mainstream American English (Beckman, et al. 2006:23). More positive transfer can be seen in the use of absolute interrogatives in the initial pre-nuclear position (L^{*}+H) and in the medial pre-nuclear position (L^{*}, L^{*}+H). And although the L^{*} and H^{*} pitch accents were seen as negative transfer in the declarative sentences, they were analyzed as positive transfer in the absolute interrogative sentences in the medial pre-nuclear position. And as expected, positive transfer for the final rising high boundary tone in the

absolute interrogative sentences was present. An example of negative transfer was the usage of upspeak, typical of young native English speakers (Bradford 1997).

4.5 Conclusion

Results for both groups showed that change in their speech patterns occurred while on the study abroad experience, though the change was not always significant. Additionally, neither of the groups achieved completely native-like intonation patterns. This could be evidence that study abroad programs should be longer than six weeks. The results of this study are in line with what has been reported previously for study abroad as a context of learning (Simões 1996, Díaz-Campos 2004), which will be discussed in more detail in the following chapter.

CHAPTER 5

CONCLUSION

5.1 Summary of study and results

5.1.1 Objectives and methodology of the study

The objectives of this study were two fold; first, to describe and report on the dialect of Valencian Spanish speakers and second, to explore whether intonation could be instructed in a study abroad context. The study had six native speaker participants and two non-native speaker groups (the experimental group contained five participants and the control group had three participants). All groups completed the same reading and discourse completion tasks, with the only difference being that the native speakers completed all tasks in one session and the non-native groups completed the tasks in two sessions (the pretest and the posttest). Between the two sessions, the experimental group received two in-person instruction sessions and two virtual instructions sessions on Spanish intonation. The data collected were then analyzed using Sp_ToBI labels (Beckman, et al. 2002) and coded for statistical analysis in SPSS. Chapter 4 presented and discussed the results of these analyses. This chapter will focus on discussing the results in light of the research questions proposed in chapter 1 and how this study compares to other studies in the literature.

5.1.2 Revisiting the research questions for the native speakers

The first research question of this study addresses the intonation patterns of native Valencian Spanish in a reading task. In answering this question, we have seen the incorporation of intonational contours from Valencian Catalan in both declaratives and absolute interrogatives for various contexts (but not all). For neutral declarative sentences in the initial pre-nuclear position, we saw the usage of the delayed rising peak ($L+>H^*$) and the rising pitch accent

(L^{*}+H). Similarly, we saw the usage of the same pitch accents but in opposite order of preference for the same position in absolute interrogative sentences. In medial pre-nuclear position for declaratives, three pitch accents were found: L+>H*, H*, and L^{*}+H. However, the absolute interrogative questions distinguished themselves with only two pitch accents in the medial pre-nuclear position (H+L^{*} and L^{*}) and did not share pitch accents that were used for the declarative sentences. Lastly, the nuclear configuration for declarative sentences was attested to be L^{*} L% as is typical of Castilian Spanish and the nuclear configuration for the absolute interrogative sentences was attested to be L^{*} HH% which is consistent with what has been previously published in the literature.

These findings can be attributed to language contact since it is consistent with what we already know about bilinguals and intonation. Romera, et al. (2008) found combinations of Catalan and Castilian Spanish contours in Barcelona Spanish and Simonet (2010) found incorporation of Mallorcan Catalan boundary tones in the speech of Spanish dominant bilinguals. Furthermore, Romera & Elordieta (2013) found that the first language can be modified through contact with a second language. Therefore, even when a speaker is not a native bilingual speaker of Castilian Spanish and Catalan (that is having grown up speaking Catalan and Castilian Spanish in the home, but instead learned Catalan at school and spoke Castilian Spanish at home) the speakers will still display the same intonation patterns as speakers who are native bilingual speakers. Thus, it is not surprising to find patterns from Valencian Catalan in less dominant Catalan speakers, such as in participants 4 and 5 of this study.

5.1.3 Revisiting the research questions and results for the non-native speakers

The study aimed to look at proficiency (intonation) development in the non-native speakers. The present study defines intonation development as the acquisition of and

approximation to the delayed peak pitch accent (L+>H*) and the rising peak pitch accent (L*+H) as used by native speakers in declarative and absolute interrogative sentences in the pre-nuclear position and the correct usage of the high and low boundary tones, as well as the avoidance of pitch contours typical of English (such as up-speak). Neither group attained native-like pronunciation, since all learners differed significantly from the natives in the posttest, which shows that the participants were not native-like after six weeks on the study abroad program. However, both groups seemed to trend toward change from the pretest to the posttest as they began to use more bi-tonal pitch accents and improve their proficiency in this way.

The next factor considered for the non-native speaker groups was the test time. At the pretest, the experimental group and the control group differed significantly in the pre-nuclear initial position and in the nuclear configuration for absolute interrogative sentences, indicating a possible difference in proficiency or more experience with Spanish classes. However, at the posttest, there was no significant difference between these groups. Another factor that was looked at for the non-native groups was gender. Overall, there was not a startling difference between the genders, but this probably mostly due to the fact that there were so few tokens and not enough participants of each gender to run a statistical analysis. The fourth factor that was studied for non-native speakers was the sentence type. The groups did not differ significantly from each other in one sentence type or the other at the posttest, as indicated previously.

The last research question focuses on linguistic immersion in the host country and the role it plays in intonation development. As evidenced by the little amount of change in the non-native group from the pretest to the posttest, we could say that immersion does not make a difference. However, the non-native participants in this study were not in constant contact with the language and native or advanced speakers, since their interaction with native (or advanced)

Spanish speakers was limited to the classroom and any outside interactions they may have had in the city at a restaurant or while exploring Valencia. The program did not offer home stays, and the non-native participants lived in dorms with other native speakers of English. In addition, the program has a Spanish Club, but did not organize the language exchange night until the last week of the summer session. Thus, in this study, neither intonation instruction nor immersion had much of an effect on the non-native group's intonational development due to the weak versions of instruction and immersion that the students experienced.

5.2 Theories of phonological and second language acquisition

Looking back at the data, we should ask how can some of the leading phonological acquisition theories account for what we see. Neither Flege's Speech Learning Model (1995) nor Major's Ontogeny Phylogeny Model (2005) can account for what we have seen in the results mostly due to the fact that these models do not have a specific stance on how supra-segmentals are acquired. Thus, theories are limited. Something that most theories do not often account for or consider, is the time spent (or lack thereof) interacting with native speakers who can give context and meaning to a learner's speech patterns. One second language acquisition theory that takes this into account is Gass' Interaction Hypothesis. Gass (2008) proposes that since language is primarily used as a tool for communication, without ways to wrestle with the input, test hypotheses about the language, and receive positive and negative feedback from native or advanced speakers, it is difficult to consolidate what students have learned in the classroom.

Intonation is not only a phonological concept, but a grammatical one as well that adds additional meaning to a sentence. This is particularly important in Spanish when trying to distinguish between a declarative sentence and an interrogative one. This researcher's conclusions are that without a way to practice or implement the grammatical knowledge acquired

in the instructional sessions, the learners were not able to attach pragmatic and semantic meaning to the structures without conversations in which they could test their learning. This relates to the interactionist framework (Gass 2008) that suggests learners need to interact with more advanced or native speakers in order to test the hypotheses of their inter-language. During interactions with fluent speakers, learners receive both positive and negative evidence in regards to the validity of their hypotheses (Gass 2008:226). However, without those opportunities, the non-native participants could not consolidate the linguistic information that they were shown. Interaction with native and advanced speakers provides opportunities for negotiating of meaning; this in turn promotes learning since the non-native speaker has to “notice” their mistake in order to correct it and communicate the intended information, which creates a feedback loop that modifies the inter-language (Gass 2008:238).

5.3 Motivation to improve

Another factor that should be considered is the motivation that students have to improve their pronunciation in an effort to become more native-like. Ramírez-Verdugo (2006) was able to show significant gains in an instruction group for English intonation over a ten-week period with students studying at home as opposed to abroad. The students were highly motivated to acquire English intonation; every week, they went to the laboratory and actively participated in instructional activities. At the end of Ramírez-Verdugo’s (2006) study, the participants reported more awareness of their speech and the importance of intonation as a grammatical structure that carried meaning in contrast with the control group which did not show an awareness of the grammatical meanings of intonation.

Díaz-Campos (2004) also found significant differences from the pretest to the posttest in two learner groups over a 10-week period. He indicates that motivation is an important factor to

consider when comparing contexts of learning. For the at home and study abroad groups, the researcher found almost exact gains regardless of context (thus no significant difference between the groups, but significant gains from the pretest to the posttest), with students in both groups who indicated using Spanish 4-7 times a week having the most improvement (2004:268). This points to an internal motivation to sound native-like and as a result, to increase interaction with the language, as the dominant factor in language acquisition. In the present study, some of the participants in the experimental group reported not looking at the PowerPoint presentations sent during the two virtual instruction sessions. This suggests a lack of commitment or motivation to sound native-like on the behalf of the participants, but it could also have been due to lack of time. Perhaps if the instruction sessions had been consistent and in person, the instruction group may have been significantly different from the control group. Another thing that may have motivated the students more was to have opportunities to interact in Spanish with native speakers where they could have used the knowledge they gained in the classroom in real-life situations.

5.4 The study abroad classroom

A secondary consideration is whether study abroad is worth it to the average language learner in terms of language acquisition. Previous studies have shown that study abroad programs are a worthwhile personal investment in the life of a student (Berquist & Potts 2014), but language acquisition results have been inconsistent. Study abroad experiences also differ by program. In terms of living situations, some offer homestays while others only offer student housing owned by the university. Programs also differ in their academic environments; the participants in this study were at a university-owned study center where general classes taught in English, as well as Spanish language and content classes were taught. Other programs offer classes through local universities or through language academies or a combined program that

provides simultaneous grammar instruction and content courses. Another factor that affects study abroad programs is whether a student finds themselves in programs with people of different nationalities whose only common language is the one spoken in the host country. This essentially forces the study abroad participant to speak the host country language in order to communicate as opposed to being with other people who speak their native language.

Simões (1996) focused on development of fluency while on study abroad. He determined fluency as correct pronunciation of vowels, re-syllabification, among other phonological processes that are typical of Spanish. In his analysis, he found that at the end of the study abroad experience, two of the five participants improved significantly, but the others did not. Furthermore, although intonation was not used as a measure of fluency, Simões (1996:94) points out that it would be interesting to look at the intonational development, but doubted that any significant improvement had taken place during the 5 weeks between the pretest and posttest. Diaz-Campos (2004) also found minimally significant evidence that study abroad was more conducive to acquisition in comparison to an at-home group.

Henriksen, et al. (2010) focused on the acquisition of supra-segmental features during a seven-week study abroad program. The study focused on accuracy of pitch accents in sentence productions; the percentage increases for their immersion-based study (home stays, language and content classes, and a commitment to not speak in English during the 7 week program) were similar to the ones reported in this study for the experimental group. Henriksen, et al. (2010) note that their learning context was a study abroad program with home stays and they had highly motivated participants, thus they do not pretend to claim that their results are generalizable (2010:126). But their participants showed an “[i]ncreased consistency of overall pattern use” (2010:141), which suggests that full immersion and consistent contact with the language were

clear factors in the change noted in the speakers. This is also reflected in the current study as the participants reported limited interaction (< 2 hours per week) with native speakers outside of the classroom.

An unpublished dissertation by Trimble (2013) researched the acquisition of intonation patterns of the Venezuelan Andean Spanish dialect, by students on a 15-week study abroad exchange with homestays. Those participants who self-reported interacting with native speakers and speaking more Spanish than they did English had a positive correlation with the number of target-like utterances for Venezuelan Andean Spanish in the posttest (2013:148). This study lends support to Trimble's hypothesis that interaction with native speakers is key in intonation acquisition (2013:149) and is supported by the Interaction Hypothesis (Gass 2008). Future research could explore whether this is why intonation is usually one of the last elements acquired by a non-native speaker, due to limited opportunities to interact with native and advanced speakers.

5.5 Limitations

One thing that the researcher could not account for in this study was the amount of interaction with native speakers outside of the classroom. During the exit interview, the majority of the participants indicated that they spent less than 2 hours a week interacting with native speakers. Additionally, some participants in the study indicated that they did not look at the PowerPoint presentations that were sent to them. While this limitation could not be controlled, a way to do so in the future would be to require the students to log laboratory hours with the researcher and/or native speakers. Additionally, all of the participants lived in the dorms on the university's study abroad campus instead of with families where they would have had daily interaction with native speakers.

5.6 Eliminating limitations in future studies

In an idealized version of this study, the participants would participate in home stays versus staying in campus dorms. Furthermore, the length of stay would change from six weeks to either a 15-week semester program or a one-year program, such as the North American Language and Cultural Assistant's one organized by the Spanish Ministry of Education. Additionally, the Spanish club would be organized as promised and it would meet several times a week as opposed to just once, in order to provide as many opportunities to interact with native speakers as possible. Student would not participate in mid-week excursions; rather those would be saved for the weekends. Additionally, laboratory sessions would be consistent and have specific objective, in the style proposed by Ramírez-Verdugo (2006) instead of in-class and at-home PowerPoint presentations. Future research would include revised materials for the non-native instruction group. The revised materials would focus on interaction with each other in communicative activities designed to target the grammatical functions of intonation. That is, the non-native speakers would have the opportunity to practice communicative activities that involved assigning meaning through intonation. Some of the laboratory sessions would include these activities, while other laboratory sessions would ask for the participants to record themselves speaking and later have them analyze and compare their productions with those of native speakers. This research design would be more conducive in an at-home learner classroom, mirroring the at-home study by Ramírez-Verdugo (2006). The participants would also be paid for their involvement in the project.

5.7 Future research

Future analyses of the read-aloud task data could follow the methodology of Henriksen, et al. (2010) and measure points of the F0 for each syllable in an attempt to aggregate the data

and use box plots and one line as an average representation of the speaker's intonation patterns for the pretest and posttest as a means of organizing the data. In this way we may be able to see a significant change on the individual level that we may not see otherwise in generalizing the data for three to five different speakers. Other topics to be explored are the optimum amount of time needed to improve, and differences in task type. Perhaps in future research, a similar project could be carried out over a period of twelve weeks or an even longer period, such as six months to a year to determine if time is a significant factor. In regards to task types, Tarone (1983, as cited in Thornberry 2014) explains that different elicitation tasks can render different results, so it would be interesting to compare the data elicited by the reading task with the more informal task of interacting with the computer in a discourse completion task format.

The discourse completion task asked participants to respond to a PowerPoint presentation with declarative sentences in the first half and yes-no questions in the second half. However, the DCT was designed to include an additional type of yes-no questions, ones with a different pragmatic value. The questions reflected more of a polite request and thus more biased reading as opposed to an information seeking absolute interrogative. The data will most likely vary significantly from the data presented in the read-aloud task due to the different nature of the question types.

Concerning the native speakers, it would be interesting to compare the alignment of the rising tone in the bi-tonal pitch accent sequences of the declaratives and absolute interrogatives of this dialect and compare the alignment with what has been reported for Castilian Spanish and for Valencian dialect of Catalan. Additional research could explore whether Catalan has an effect on syllable timing in the bilingual speech of the Valencian speakers. A perception study on this accent could also be carried out in terms of whether or not speakers of other dialects of Spanish

can identify where the speakers are from based on their intonation patterns to see how distinct the dialect is.

APPENDIX A

HUMAN SUBJECTS APPROVAL LETTERS



Office of the Vice President for Research
Human Subjects Committee
Tallahassee, Florida 32306-2742
(850) 644-8673 · FAX (850) 644-4392

APPROVAL MEMORANDUM

Date: 03/21/2015 [REDACTED]

To: Jessica Craft [REDACTED]

Address: [REDACTED]

Dept.: MODERN LANGUAGES AND LINGUISTICS

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research
An Analysis of Intonation Acquisition of Advanced Learners During a Summer Study Abroad Program in Valencia, Spain

The application that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be **Expedited per 45 CFR § 46.110(7)** and has been approved by an expedited review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.

If the project has not been completed by **04/20/2015** you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is IRB00000446.

Cc: Carolina González <cgonzalez3@fsu.edu>, Advisor
HSC No. 2014.12677



Office of the Vice President For Research
Human Subjects Committee
P. O. Box 3062742
Tallahassee, Florida 32306-2742
(850) 644-8673 · FAX (850) 644-4392

RE-APPROVAL MEMORANDUM

Date: 03/25/2015

To: Jessica Craft <[REDACTED]>

Address: [REDACTED]

Dept.: MODERN LANGUAGES AND LINGUISTICS

From: Thomas L. Jacobson, Chair

Re: Re-approval of Use of Human subjects in Research:

An Analysis of Intonation Acquisition of Advanced Learners During a Summer Study Abroad Program in Valencia,
Spain

Your request to continue the research project listed above involving human subjects has been approved by the Human Subjects Committee. If your project has not been completed by 03/23/2016, you are must request renewed approval by the Committee.

If you submitted a proposed consent form with your renewal request, the approved stamped consent form is attached to this re-approval notice. Only the stamped version of the consent form may be used in recruiting of research subjects. You are reminded that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report in writing, any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the Chairman of your department and/or your major professor are reminded of their responsibility for being informed concerning research projects involving human subjects in their department. They are advised to review the protocols as often as necessary to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

Cc:

HSC No. 2015.15225

APPENDIX B

INFORMED CONSENT FORMS, SPANISH & ENGLISH

Este estudio es parte de una investigación que pretende recoger datos sobre la manera de hablar de los hablantes valencianos. Me llamo Jessica Craft y le invito a participar en este estudio. Si en cualquier momento durante su participación tiene cualquier pregunta o duda, por favor avíseme.

Si quiere participar en este estudio, necesitará leer unas oraciones impresas en una hoja de papel y interactuar con un powerpoint mientras que le grabo con un micrófono. Después tendrá que llenar un formulario sobre los idiomas que habla. La sesión entera durará aproximadamente una hora y tomará lugar en una sala silenciosa o en un laboratorio fonético.

SU PARTICIPACIÓN ES COMPLETAMENTE VOLUNTARIA Y SE PUEDE DEJAR DE PARTICIPAR EN CUALQUIER MOMENTO. NO SE ANTICIPA NINGÚN RIESGO DURANTE LA SESIÓN. SIN EMBARGO, TIENE EL DERECHO DE TERMINAR LA SESIÓN EN CUALQUIER MOMENTO SIN SANCIÓN.

Los datos acústicos y cualquier información obtenida durante el estudio serán tratadas confidencialmente al nivel que permite la ley. Su código de identificación será reemplazado por un número para la codificación y el análisis de los datos. Solamente la investigadora principal tendrá acceso a los códigos. Los datos serán guardados en un archivo bajo llave en Diffenbaugh 356 en Florida State University en los Estados Unidos. Los datos serán destruidos antes del 30 de junio de 2024.

Le animo que me haga cualquier pregunta que tenga sobre el estudio antes, durante o después de su participación. Sin embargo, las preguntas que puedan influir en los resultados del experimento serán contestadas al final del experimento. También, recibirá un formulario explicándole el experimento y sus objetivos al terminar el estudio.

Si tiene cualquier pregunta sobre esta investigación o sus derechos como participante en este estudio o si cree que ha sido puesto en riesgo por favor contacte con la investigadora Jessica Craft por teléfono al _____ o por correo electrónico a _____, o la profesora supervisora de este estudio, la Dra. Carolina González, Departamento de Lenguajes Modernos y Lingüística, Universidad del Estado de Florida (Florida State University), por teléfono al _____, o por medio de correo electrónico a cgonzalez3@fsu.edu. También puede contactar con el Jefe del Comité de Sujetos Humanos, Institutional Review Board, por medio del vice-presidente de la Oficina de Investigaciones por teléfono al +001 850 644 7900 o por medio de correo electrónico a humansubjects@fsu.edu.

Entiendo la información explicada arriba y accedo a participar en este estudio voluntariamente. Tengo por lo menos 18 años.

Entiendo que puedo dejar de participar en este estudio en cualquier momento sin explicación. Entiendo que para proteger mi identidad, este formulario nunca será utilizado en conjunción con los resultados del estudio. Entiendo que puedo pedir una copia firmada de este formulario si así lo deseo.

Nombre _____

Fecha y lugar: _____

Firma _____

Correo electrónico _____

FSU Human Subjects Committee approved on 4/21/2014. Void after 4/20/2015. HSC # 2014.12677

This study is part of research intended to provide information about the way native English speakers learning Spanish as a second language speak. My name is Jessica Craft I am inviting you to participate in this study. If at any time during participation you have any questions or concerns, please feel free to ask me.

If you agree to participate in this study, you will be asked to read sentences in Spanish printed on a sheet of paper while being recorded. Additionally, you will interact with a PowerPoint presentation and be asked to respond to the questions in a verbal format. This activity will also be recorded. Lastly, you will complete a questionnaire asking about your experience with languages other than Spanish, as well as a comprehensive history of your experience and use of Spanish. You may decline to answer specific questions. The entire session will last about one hour and will take place in a quiet room or in a phonetic laboratory.

For your participation, you will receive extra points in Dr. Leeser's SPN3400 *Spanish Reading and Conversation* class.

YOUR PARTICIPATION IS COMPLETELY VOLUNTARY AND YOU MAY STOP PARTICIPATION AT ANYTIME. THERE IS NO EXPECTED RISK DURING THE SESSION. HOWEVER, YOU HAVE THE RIGHT TO TERMINATE THE SESSION AT ANY TIME WITHOUT ANY PENALTY.

Your performance and any information obtained during the course of the study will remain confidential, to the extent allowed by law. Your identification code will be replaced with a number for the purpose of coding and analysis of data. Only the primary researcher will have access to the codes. The data will be stored in a locked file cabinet in Difffenbaugh 356 at Florida State University in the United States and will be destroyed by June 30th, 2024.

You are encouraged to ask any questions that you might have about this study before, during and after your participation in the study. However, answers that could influence the results of the experiment will be deferred to the end of the experiment. You will also receive a debriefing explanation upon completion of the study, fully explaining the goals of the research.

If you have any questions about this research or your rights as a participant in this study or if you feel you have been placed at risk please contact the researcher Jessica Craft at _____, or by email at _____, or the supervising professor Dr. Carolina González, Department of Modern Languages and Linguistics, Florida State University at _____ or by email at cgonzalez3@fsu.edu. You can also contact the Chair of the Human Subjects Committee, Institutional Review Board, through the Vice President for the Office of Research at (850) 644-7900 or by email at humansubjects@fsu.edu.

I understand the above information and voluntarily consent to participate in this study of my own free will. I am 18 years of age or older.

I understand that I am free to discontinue participation at any time without explanation. I understand that this form will not be used in conjunction with the results of the study so that my identity will be protected. I understand that I will receive a signed copy of this consent form upon request.

Name _____

Date and place _____

Signature _____

Email _____

FSU Human Subjects Committee approved on 4/21/2014. Void after 4/20/2015. HSC # 2014.12677

APPENDIX C

LANGUAGE USE SURVEYS

Cuestionario de Uso de Idiomas

(Versión 2.0, 2012 ; Traductor versión en Español: Pablo Requena)

Para uso en línea y referencia ver <http://cogsci.psu.edu/>

Por favor, provea su información de contacto debajo:

Nombre: _____

Correo electrónico: _____

Teléfono: _____

Por favor, responda las siguientes preguntas lo mejor que pueda:

1. Edad: _____

2. Sexo: Masculino / Femenino

3. Educación (marque con una cruz el grado mayor obtenido o el más alto nivel de educación al que ha asistido; puede escribir “asistí pero no terminé” si corresponde):
____ Escuela Primaria/Elemental (de 6 a 12 años)

____ Escuela Media (de 13 a 15 años)

____ Escuela Secundaria (de 16 a 18 años)

____ Carrera de (pre-)grado en la Universidad (ej. Licenciatura, Ingeniería, BA/BS)

____ Posgrado (Maestría)

____ Posgrado (Doctorado, PhD/MD/JD)

Otro (especifique): _____

4. ¿Habla más de un idioma?

____ Sí

____ No

Si respondió “No”, no necesita seguir completando este cuestionario.

Si respondió "Sí", enumere los idiomas en orden de destreza (el idioma que mejor maneja primero):

Idiomas
1.
2.
3.
4.
5.

5. a. Su país de origen:

b. El país donde reside actualmente:

6. Si 5(a) y 5(b) son el mismo país, vaya a la pregunta 7. Si 5(a) y 5(b) son diferentes:
¿Por cuánto tiempo ha estado en el país donde reside actualmente?

_____ (años) _____ (meses)

7. Si ha vivido o trabajado en otros países por más de tres meses, por favor indique el nombre del país o países, la duración de su estadía en cada uno, el/los idioma/s que aprendió o intentó aprender allí y la frecuencia con la que usó tales idiomas (encerrando el número correspondiente en un círculo) de acuerdo con la escala que se provee debajo:

Nunca	Rara Vez	Ocasionalmente	A Veces	Frecuentemente	Muy Frecuentemente	Siempre
1	2	3	4	5	6	7

País	Duración de su estadía	Idioma	Frecuencia de Uso
			1 2 3 4 5 6 7
			1 2 3 4 5 6 7
			1 2 3 4 5 6 7
			1 2 3 4 5 6 7

8. Evalúe su habilidad para aprender idiomas. O sea, ¿Cuán bueno siente que es usted aprendiendo idiomas nuevos (ej. comparado con amigos o gente que conoce)?

Muy malo	Malo	Satisfactorio	Neutral	Bueno	Muy bueno	Excelente
1	2	3	4	5	6	7

9. Escriba en la tabla la edad a la que aprendió a hablar, leer y escribir en cada uno de los idiomas que sabe y el número de años que pasó aprendiendo cada idioma.

Idioma	Edad a la que aprendió a			Número de años dedicados a aprenderlo (acumulativo)
	Hablar	Leer	Escribir	

10. Escriba en la tabla la edad en la que comenzó a aprender cada idioma en algunos o todos de los siguientes contextos (si solo un contexto es relevante para un idioma, incluya la edad sólamente para ese contexto).

Idioma	En la casa	En la escuela	Luego de inmigrar al país donde se habla	En entornos informales (ej. de niñeras o amigos)	A través de programas de computación (ej. Rosetta Stone)	Otros (especifique):

11. Escriba el nombre del/de los idioma(s) usados por sus maestros durante la instrucción (ej. historia, matemática, ciencia) en cada nivel educativo. Si cambió el idioma de instrucción a la mitad de un nivel educativo, ponga “cambié del idioma X al idioma Y en Y Grado”.

Escuela Primaria/Elemental (de 6 a 12 años): _____

Escuela Media (de 13 a 15 años): _____

Escuela Secundaria (de 16 a 18 años): _____

Universidad: _____

12. Por favor, evalúe su habilidad de lectura, escritura, conversación y escucha de todos los idiomas que sabe de acuerdo con la siguiente escala (encierre en un círculo el número que corresponda en la tabla):

<i>Muy malo</i>	<i>Malo</i>	<i>Satisfactorio</i>	<i>Neutral</i>	<i>Bueno</i>	<i>Muy bueno</i>	<i>Excelente</i>
1	2	3	4	5	6	7

Idioma	Lectura	Escritura	Conversación	Escucha
	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7

13. Si alguna vez ha tomado un examen estandarizado que mida su nivel en un idioma que no es su idioma nativo (ej. TOEFL), por favor indique el nombre del examen, el idioma que evalúa, y el puntaje obtenido para cada uno. (Si no recuerda el puntaje obtenido, escriba un puntaje estimativo en la columna correspondiente. Si sólo recuerda el porcentaje, anótelos en lugar del puntaje.)

Examen	Idioma	Puntaje Real	Puntaje

14. ¿Tiene usted un acento extranjero cuando habla en otros idiomas? Si es así, por favor, evalúe cuan marcado es su acento de acuerdo con la siguiente escala (encierre en un círculo el número que corresponda en la tabla).

<i>Nada</i>	<i>Poco</i>	<i>Algo</i>	<i>Intermedio</i>	<i>Marcado</i>	<i>Muy marcado</i>	<i>Extremadamente marcado</i>
1	2	3	4	5	6	7

Idioma	Cuán marcado es su acento						
	1	2	3	4	5	6	7
	1	2	3	4	5	6	7
	1	2	3	4	5	6	7
	1	2	3	4	5	6	7
	1	2	3	4	5	6	7

15. Estime, en términos de horas por día, el tiempo que pasa realizando las siguientes actividades en cada uno de los idiomas que sabe (escriba el nombre del idioma). Si no realiza alguna de las actividades, deje el espacio sin completar.

Actividades	Idioma:	Idioma:	Idioma:
Escuchar la radio / Mirar televisión:	_____	_____	_____
Leer por placer:	_____(hs)	_____(hs)	_____(hs)
Leer por trabajo:	_____(hs)	_____(hs)	_____(hs)
Leer en Internet:	_____(hs)	_____(hs)	_____(hs)
Escribir correos electrónicos a amigos:	_____(hs)	_____(hs)	_____(hs)
Escribir artículos y monografías:	_____(hs)	_____(hs)	_____(hs)
Otros (especifique): _____ :	_____(hs)	_____(hs)	_____(hs)

16. Estime, en términos de horas por dia, el tiempo que pasa hablando todos los idiomas que sabe con las siguientes personas.

Idioma	Parientes	Amigos	Compañeros de clase	Compañeros de trabajo

17. ¿Mezcla usted palabras u oraciones de dos idiomas diferentes cuando habla (ej. dice una oración en un idioma pero usa una palabra o frase de otro idioma en el medio de la oración)?

Sí

No

Si respondió “No” vaya a la pregunta 18.

Si respondió “Sí”, haga una lista de los idiomas que mezcla al hablar con diferentes personas y estime la frecuencia con la que los mezcla según la siguiente escala (encierre en un círculo el número que corresponda en la tabla).

<i>Nunca</i>	<i>Rara Vez</i>	<i>Ocasionalmente</i>	<i>A Veces</i>	<i>Frecuentemente</i>	<i>Muyfrecuentemente</i>	<i>Siempre</i>
1	2	3	4	5	6	7

Idiomas que mezcla	Relación	Frecuencia con la que los mezcla
	con Parientes	1 2 3 4 5 6 7
	con Amigos	1 2 3 4 5 6 7
	con Compañeros de Clase	1 2 3 4 5 6 7
	con Compañeros de Trabajo	1 2 3 4 5 6 7

18. ¿En qué idioma (de los dos que mejor habla) siente que generalmente se comunica mejor o se siente más cómodo? Escriba el nombre del idioma en cada condición.

	En su casa	En el trabajo/la escuela	En una fiesta u otro contexto social
Hablar	_____	_____	_____
Escribir	_____	_____	_____
Leer	_____	_____	_____

19. ¿Cuán frecuentemente usa los idiomas que sabe para cada una de las siguientes actividades? Encierre en un círculo el número que corresponda en la tabla según la escala que aparece a continuación.

<i>Nunca</i>	<i>Rara Vez</i>	<i>Ocasionalmente</i>	<i>A Veces</i>	<i>Frecuentemente</i>	<i>Muy frecuentemente</i>	<i>Siempre</i>
1	2	3	4	5	6	7

Idioma	Cálculos aritméticos (ej. contar, sumar, multiplicar)	Recordar números (ej. número de alumno, número de teléfono)	Sonar	Pensar	Hablar solo	Expresar enojo o afecto
1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7

20. ¿Se siente bicultural o multicultural (ej. ha crecido con padres o parientes provenientes de diferentes culturas, o ha vivido en diferentes culturas por periodos largos de tiempo)?

Si

No

Si respondió "No" vaya a la pregunta 21. Si respondió "Sí", ¿Cuánto se identifica con cada cultura (y su idioma)? Use los siguientes ejemplos como una manera de indicar la fuerza de tal identificación cultural. Encierre en un círculo en la tabla.

<i>Nada</i>	<i>Muy poco</i>	<i>Poco</i>	<i>Intermedio</i>	<i>Mucho</i>	<i>Muy mucho</i>	<i>Extremadamente mucho</i>
1	2	3	4	5	6	7

Cultura y su idioma	Me gusta su comida	Me gusta su música	Me gusta su arte	Me gustan sus ciudades y atracciones	Aliento a sus equipos deportivos
1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7

- 21.** ¿Qué porcentaje de sus amigos son hablantes de los idiomas que usted sabe hablar bien? Indique debajo el idioma que ellos hablan y el porcentaje de esos amigos del total de amigos que usted tiene (o sea, una vez que haya completado la tabla sobre todas sus amistades, el total debe sumar 100%).

Idiomas de mis amigos	Porcentaje

- 22.** Si hay algo más que usted considere interesante o importante añadir sobre su trasfondo lingüístico o su uso del idioma, por favor, coméntelo debajo.

- 23.** ¿Hay preguntas adicionales que le parece que debería contener este cuestionario? Si es así, agréguelas debajo y respóndalas.

PRETEST VERSION OF THE LANGUAGE CONTACT PROFILE

PROJECT: ACQUISITION OF SPANISH AS A SECOND LANGUAGE

The responses that you give in this questionnaire will be kept confidential. This cover sheet is to allow the researcher to associate your responses with your name if needed. However, only the people entering your responses into the computer will see this name. An identification number will be used in place of your name when referring to your responses in publications. Every effort will be made to keep your responses confidential.

Thank you for your cooperation. The information that you provide will help us to better understand the backgrounds of students who are studying Spanish in various contexts. Your honest and detailed responses will be greatly appreciated.

Name: _____

Part 1: Background Information

1. Gender: Male / Female

2. Age: _____

3. Country of birth: _____

4. What is your native language? 1) English 2) Spanish 3) Other _____

5. What language(s) do you speak at home? 1) English 2) Spanish 3) Other _____

5a. If more than one, with whom do you speak each of these languages? _____

6. In what language(s) did you receive the majority of your precollege education?

1) English 2) Other _____

6a. If more than one, please give the approximate number of years for each language. _____

7. Have you ever been to a Spanish-speaking region for the purpose of studying Spanish?

Circle one: Yes / No

7a. If yes, when? _____ 7b. Where? _____

7c. For how long? ___1 semester or less ___2 semesters ___more than 2 semesters

8. Other than the experience mentioned in Question 7, have you ever lived in a situation where you were exposed to a language other than your native language (e.g., by living in a multilingual community; visiting a community for purposes of study abroad or work; exposure through family members, etc.)? Circle one: Yes / No

If Yes, please give details below. If more than three, list others on back of this page.

	Experience 1	Experience 2	Experience 3
Country/region			
Language			
Purpose			
From when to when			

9. In the boxes below, rate your language ability in each of the languages that you know. Use the following ratings: 0) Poor, 1) Good, 2) Very good, 3) Native/nativelike.

How many years (if any) have you studied this language in a formal school setting?

Language	Listening	Speaking	Reading	Writing	Number of years of study
English					
Spanish					
Other					

10. Have you studied Spanish in school in the past at each of the levels listed below? If yes, for how long?

a) Elementary school: _____ No Yes: less than 1 year 1-2 years more than 2 years

b) Junior high (middle) school: _____ No Yes: less than 1 year 1-2 years more than 2 years

c) Senior high school: _____ No Yes: less than 1 year 1-2 years more than 2 years

d) University/college: _____ No Yes: less than 1 year 1-2 years more than 2 years

e) Other (Please specify) _____ No Yes: less than 1 year 1-2 years more than 2 years

11. What year are you in school? (circle one):

Freshman Sophomore Junior Senior Graduate student Other

12. What is your major?

Part 2: All of the Questions That Follow Refer to Your Use of Spanish, Not Your Native Language, Unless the Question Says Otherwise

13. On average, how often did you communicate with native or fluent speakers of Spanish in Spanish in the year prior to the start of this semester?

0) never 1) a few times a year 2) monthly 3) weekly 4) daily

14. Use this scale provided to rate the following statements.

0) never 1) a few times a year 2) monthly 3) weekly 4) daily

Prior to this semester, I tried to speak Spanish to:

____ a. my instructor outside of class

____ b. friends who are native or fluent speakers of Spanish

____ c. classmates

____ d. strangers whom I thought could speak Spanish

____ e. a host family, if living in a Spanish-speaking area

____ f. service personnel (e.g., bank clerk, cashier)

15. For each of the items below, choose the response that corresponds to the amount of time you estimate you spent on average doing each activity in Spanish prior to this semester.

a. watching Spanish language television

0) never 1) a few times a year 2) monthly 3) weekly 4) daily

b. reading Spanish language newspapers

0) never 1) a few times a year 2) monthly 3) weekly 4) daily

c. reading novels in Spanish

0) never 1) a few times a year 2) monthly 3) weekly 4) daily

d. listening to songs in Spanish

0) never 1) a few times a year 2) monthly 3) weekly 4) daily

- e. reading Spanish language magazines
0) never 1) a few times a year 2) monthly 3) weekly 4) daily
- f. watching movies or videos in Spanish
0) never 1) a few times a year 2) monthly 3) weekly 4) daily
16. List any other activities that you commonly did using Spanish prior to this semester.
17. Please list all the Spanish courses you are taking this semester. This includes Spanish language courses as well as content area courses taught in the Spanish language.

Course name Course number Brief description

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

POSTTEST VERSION OF THE LANGUAGE CONTACT PROFILE

PROJECT: ACQUISITION OF SPANISH AS A SECOND LANGUAGE

The responses that you give in this questionnaire will be kept confidential. This cover sheet is to allow the researcher to associate your responses with your name if needed. However, only the people entering your responses into the computer will see this name. An identification number will be used in place of your name when referring to your responses in publications. Every effort will be made to keep your responses confidential.

The information that you provide will help us to better understand the learning experiences of students of Spanish. Your honest and detailed responses will be greatly appreciated.

Name: _____

Please indicate the Spanish language courses you are taking this fall semester:

Course name Course number Brief description

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

1. Which situation best describes your living arrangements in Spain during the past semester?

- a. ____ I lived in the home of a Spanish-speaking family.
- I. List the members of the family (e.g., mother, father, one 4-year-old daughter, one 13-year-old son).
 - II. Did they speak English? Circle one: Yes / No
 - III. Were there other nonnative speakers of Spanish living with your host family? Circle one: Yes / No

- b. I lived in the student dormitory.
- I. I had a private room.
 - II. I had a roommate who was a native or fluent Spanish speaker.
 - III. I lived with others who are NOT native or fluent Spanish speakers.
- c. I lived alone in a room or an apartment.
- d. I lived in a room or an apartment with native or fluent Spanish speaker(s).
- e. I lived in a room or an apartment with others who are NOT native or fluent Spanish speakers.
- f. Other. Please specify: _____

For the following items, please specify:

- (i) How many days per week you typically used Spanish in the situation indicated, and
 (ii) on average how many hours per day you did so.

Circle the appropriate numbers.

2. On average, how much time did you spend speaking, in Spanish, outside of class with native or fluent Spanish speakers during this semester?

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

3. This semester, outside of class, I tried to speak Spanish to:

3a. my instructor

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

3b. friends who are native or fluent Spanish speakers

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

3c. classmates

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

3d. strangers whom I thought could speak Spanish

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

3e. a host family, Spanish roommate, or other Spanish speakers in the dormitory

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

3f. service personnel

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

3g. other; specify:

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

4. How often did you use Spanish outside the classroom for each of the following purposes?

4a. to clarify classroom-related work

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

4b. to obtain directions or information (e.g., "Where is the post office?", "What time is the train to ...?", "How much are stamps?")

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

4c. for superficial or brief exchanges (e.g., greetings, "Please pass the salt," "I'm leaving," ordering in a restaurant) with my host family, Spanish roommate, or acquaintances in a Spanish-speaking dormitory

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

4d. extended conversations with my host family, Spanish roommate, friends, or acquaintances in a Spanish-speaking dormitory, native speakers of English with whom I speak Spanish

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

5a. How often did you try deliberately to use things you were taught in the classroom (grammar, vocabulary, expressions) with native or fluent speakers outside the classroom?

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

5b. How often did you take things you learned outside of the classroom (grammar, vocabulary, expressions) back to class for question or discussion?

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

6. How much time did you spend doing the following each week?

6a. speaking a language other than English or Spanish to speakers of that language (e.g., Chinese with a Chinese-speaking friend)

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

6b. speaking Spanish to native or fluent speakers of Spanish

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

6c. speaking English to native or fluent speakers of Spanish

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

6d. speaking Spanish to nonnative speakers of Spanish (i.e., classmates)

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

6e. speaking English to nonnative speakers of Spanish (i.e., classmates)

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

7. How much time did you spend doing each of the following activities outside of class?

7a. overall, in reading in Spanish outside of class

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

7b. reading Spanish newspapers outside of class

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

7c. reading novels in Spanish outside of class

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

7d. reading Spanish language magazines outside of class

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

7e. reading schedules, announcements, menus, and the like in Spanish outside of class

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

7f. reading e-mail or Internet web pages in Spanish outside of class

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

7g. overall, in listening to Spanish outside of class

Typically, how many days per week? 0 1 2 3 4 5 6 7

On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

7h. listening to Spanish television and radio outside of class

Typically, how many days per week? 0 1 2 3 4 5 6 7
On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

7i. listening to Spanish movies or videos outside of class

Typically, how many days per week? 0 1 2 3 4 5 6 7
On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

7j. listening to Spanish songs outside of class

Typically, how many days per week? 0 1 2 3 4 5 6 7
On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

7k. trying to catch other people's conversations in Spanish outside of class

Typically, how many days per week? 0 1 2 3 4 5 6 7
On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

7l. overall, in writing in Spanish outside of class

Typically, how many days per week? 0 1 2 3 4 5 6 7
On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

7m. writing homework assignments in Spanish outside of class

Typically, how many days per week? 0 1 2 3 4 5 6 7
On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

7n. writing personal notes or letters in Spanish outside of class

Typically, how many days per week? 0 1 2 3 4 5 6 7
On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

7o. writing e-mail in Spanish outside of class

Typically, how many days per week? 0 1 2 3 4 5 6 7
On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

7p. filling in forms or questionnaires in Spanish outside of class

Typically, how many days per week? 0 1 2 3 4 5 6 7
On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

8. On average, how much time did you spend speaking in English outside of class during this semester?

Typically, how many days per week? 0 1 2 3 4 5 6 7
On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

9. How often did you do the following activities in English during this semester in Spain?

9a. reading newspapers, magazines, or novels or watching movies, television, or videos

Typically, how many days per week? 0 1 2 3 4 5 6 7
On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

9b. reading e-mail or Internet web pages in English

Typically, how many days per week? 0 1 2 3 4 5 6 7
On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

9c. writing e-mail in English

Typically, how many days per week? 0 1 2 3 4 5 6 7
On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

9d. writing personal notes and letters in English

Typically, how many days per week? 0 1 2 3 4 5 6 7
On those days, typically how many hours per day? 0-1 1-2 2-3 3-4 4-5 more than 5

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BIOGRAPHICAL SKETCH

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