Dialectical Differences of Spanish-influenced English in Children: Competence and Confidence of Speech-Language Pathologists

by

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Abstract

A web-based survey of speech-language pathologists (SLPs) in 15 states across the United States was conducted to assess their confidence and competence in serving bilingual or English-language learning (ELL) children. Mean confidence reported in serving bilingual or multicultural children fell between 'somewhat confident' and 'confident' on a 4-point Likert scale. Number of areas of coursework and in-service training in topics of multiculturalism and bilingualism did not have a significant relationship with competence, while number of areas of in-service training had a positive correlation with confidence. Second language experience was shown to have a significant effect on competence, with the cultural and cultural/academic groups outperforming the monolingual and academic groups. Second language experience also had a positive effect on confidence and number of areas of coursework and in-service training. Lastly, confidence and competence were found to have a positive relationship. Implications for service provision are discussed.

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Chapter 1

Introduction

The number of non-English speakers in the United States has grown steadily over the past three decades, with Spanish being the most frequently reported non-English language spoken (American Community Survey, 2014). According to the American Community Survey of the U.S. Census, in 2014 over 39 million individuals spoke Spanish at home; of these, 41.7% percent reported speaking English "less than very well" (American Community Survey, 2014). The 2010 U.S. Census reported that 50.5 million people in the U.S. self-identified as having Hispanic and/or Latino origins. The total population reported by the 2010 Census was 308.7 million, indicating that 16 percent of the U.S. population reported having Hispanic origin, which is an increase from 12.5 percent in 2000 (U.S. Census Bureau, 2011).

With this information in mind, it is likely that a speech-language pathologist (SLP) will have a client or clients who speak Spanish as their native language. The 2012 Schools Survey Report conducted by the American Speech and Hearing Association (ASHA) found that 64% of school-based SLPs nationwide reported having English language learner (ELL) students on their caseloads, an increase from 60% in 2010 and 55% in 2008. The average number of ELL students on a caseload was 4, an increase from 3 in 2010 (ASHA, 2012). In light of the well-documented over-representation of bilinguals and English as a second language (ESL) students in special education systems (Goldstein & Iglesias, 2007; Lewis, Castilleja, Moore, & Rodriguez, 2010), an understanding of the process of second language learning is crucial to the cross-linguistic analysis necessary in the speech and language diagnostic and intervention process when treating bilingual or monolingual Spanish speakers (Centeno, Anderson, & Obler, 2007).

Bilingualism and second language acquisition are complex topics for multiple reasons. A primary reason lies in the categorization of second language acquisition: simultaneous and sequential. Simultaneous bilinguals acquire two languages from birth, while sequential bilinguals begin acquisition of the second language (L2) after the first language (L1) has been established (Centeno et al., 2007). In addition, there are also typical stages of second language acquisition that are frequently seen in children learning L2 English or another language. Children typically progress from persisting in using their home language in exchanges with English-speaking conversation partners to a nonverbal period in which they acquire greater knowledge of the L2. After the nonverbal period, children enter a period of telegraphic and formulaic language use, when their speech is characterized by rote phrases and expressions. This stage makes way for productive language use, when the children's speech begins to approximate correct English (Tabors, 1997). Other important aspects of bilingualism include the processes of code-switching, transfer, and interference. In order to understand bilingualism and second language acquisition of English, one must acknowledge of the features of the L1 and how they differ from English. In the case of Spanish and English, while similarities exist between the two languages, many differences are found between Spanish and English across all domains of language, with the differences between the languages in the domains of phonology, morphology, and syntax discussed here.

With this growing population of children who are second language learners, the amount of research on bilingual and multicultural service delivery has increased in recent years. The latest surveys have shown that SLPs lack confidence and training in how to serve culturally and linguistically diverse populations (ASHA, 2012; Campbell & Taylor, 1992; Hammer, Detwiler, Detwiler, Blood, & Qualls, 2004; Roseberry-McKibben & Eicholtz, 1994; Roseberry-McKibben,

2005); however, further knowledge is still needed in this area, particularly with regard to the true competence of SLPs serving this population.

Chapter 2

Review of the Literature

This chapter describes literature relevant to the research purposes of this thesis. It is organized into the following sections: a) The Nature of Bilingualism and Second Language Learning; b) Linguistic Differences between Spanish and English; c) Role of the Speech-Language Pathologist; and d) SLP's Knowledge and Confidence with Regard to Bilingualism.

The Nature of Bilingualism and Second Language Learning

The definition of bilingualism has been discussed in the literature extensively and with varied results. Bialystock, widely recognized as a preeminent researcher of bilingualism and its impacts on metalinguistics and intelligence, suggests that rather than attempting to define bilingualism as a whole, one should rather define "the *level* of bilingualism" (Bialystock, 1988, p. 560), referring to the relative balance or imbalance of proficiency between the two languages. Peña, Gillam, Bedore, and Bohman (2011) defined bilinguals by creating a continuum based on the percentage of input and output in each language according to parent report and thereby creating measurable levels, in the words of Bialystock. A common feature of the myriad definitions of bilingualism is the reference to a continuum or range, rather than an all-or-nothing approach. This is to say that bilingualism represents a range of proficiency in each of the two languages, and research has yet to designate where the cut-off may lie.

Bilingualism in the United States. Bilingualism of the Hispanic population in the United States is difficult to classify due to the high level of variety from household to household and the individual differences inherent in language proficiency from one speaker to another. For example, one child's family may live in a secluded, Spanish-speaking rural community, where the predominant culture is very similar to that of their home country, while another may have

great connection to the English-speaking community and culture through work or social situations. Therefore, classifying a child from the first family as bilingual as they enter school may be misleading, while a child entering school from the second example family may be closer to what is thought of as a balanced bilingual, with similar skills in each language. According to Genesee, Paradis, and Crago (2004), a more appropriate term for the children from both families may be "second-language learners", as it includes the full range of children (p. 15). In this situation, where the children are considered sequential bilinguals, the child learns first their heritage language and then the second language is introduced later, often as the child enters school. The terms simultaneous and sequential have been applied to bilingual language acquisition since the 1980s in order to differentiate between what is seen as the two different patterns of bilingual language acquisition (Hammer, Miccio, & Rodriguez, 2004).

Hammer, Miccio, and Rodriguez define simultaneous bilingualism as exposure to both languages from birth or shortly thereafter, while sequential bilingualism is language development in which the child or adult is exposed to one language in infancy and the second later in life. There is some debate as to the cut-off age between simultaneous and sequential bilingualism, which further complicates the complex issue of categorizing bilinguals as simultaneous or sequential. Vihman and McLaughlin (1982) designate age 3 as the cut-off between simultaneous and sequential, such that a child who has acquired both languages by age 3 is considered a simultaneous bilingual. While not all children who speak Spanish at home and English at school will achieve balanced bilingualism, for the purposes of this study, a differentiation will not be made as to the type or degree of bilingualism discussed.

An additional categorization of bilingualism has been studied in the literature: additive versus subtractive bilingualism. Additive bilingualism is found when both L1 and L2 are given

equal merit in the community and those who are bilingual in the community benefit from their bilingual status (Langdon & Merino, 1992). Subtractive bilingualism is characterized by learning a second language in an environment that may not give importance to the heritage language and the heritage language may be seen as preventing acquisition of L2 (Genesee, Paradis, & Crago, 2004). The heritage language may also be stigmatized, such that the learner of L2 sees it as an indication that he or she belongs to the inferior minority group associated with the language. Such negative feelings toward L1 can have social and psychological repercussions, as parents and children may no longer be able to communicate easily as the child slows his or her acquisition of L1, leading to difficulty in communicating values, beliefs, and cultures from one generation to the next (Fillmore, 1991; Genesee et al., 2004). Academic problems have also been seen when L1 language skills are not fully developed (Cummins, 1991, 2000; Genesee et al., 2004). Genesee et al. (2004) claim that the academic effects of lower L1 proficiency are seen in the development of L2 literacy, such that those students with preliteracy skills in L1 are better able to develop literacy in L2, which further supports efforts to encourage L1 development.

Stages of Second Language Acquisition. Tabors (1997) and others have studied the process of children learning a second language and divided it into four typical stages, from first exposure to productive language use. These stages represent a child going through sequential language learning, not simultaneous language acquisition. For information as to the process of simultaneous language acquisition of two languages, see Saunders (1982), as this is beyond the scope of this project. The stages of second language acquisition are described as follows:

Home language use. Stage one, the period of home language use, is where the child speaks his or her home language outside of the home although conversational partners do not understand what is being said. For example, a Spanish-speaking child would enter an English-

speaking preschool and persist in speaking Spanish although none of the staff or other children understand Spanish. This stage is often quite short, because the child realizes that the home language is not adequate for communicating in his or her new environment; however, some children, often younger second language learners, continue in this stage for longer periods of time. Saville-Troike (1987) observed children remaining in stage one for 2-4 months, in contrast to the typical short duration. While this is considered the first stage of second language acquisition, some children will bypass it altogether and move directly into the nonverbal period (Tabors, 1997).

Nonverbal period. Stage two follows, in which the child is building receptive knowledge of English, but he or she produces little to no expressive English. This should not be taken to mean that during this stage the child is entirely devoid of communication, but rather that he or she develops a system of communication relying mostly on gestures. Tabors (1997) describes the types of non-verbal communication typically seen in this stage as attention getting, requesting, protesting or joking. While still in the non-verbal stage, second language learners can be seen "rehearsing" the language they hear around them, in that they repeat to themselves English phrases they hear as practice. The nonverbal stage can last between several weeks and several months, with younger children typically remaining in this stage longer than older children (Genesee et al., 2004). Genesee et al. (2004) note that children are encouraged to progress to the subsequent stage and are exposed to a greater amount of English through social interaction with peers.

Telegraphic and formulaic use. When children first begin speaking the language they are learning, their utterances are typically telegraphic and/or formulaic in nature. As expressive language begins to occur, most utterances are single words used to label objects and imitative,

rote phrases, such as “I don’t know.” Tabors (1997) noted that much of the telegraphic speech she observed consisted of identification and naming of objects with little original content, rather than real sentences. Formulaic speech often consists of words that may help the child function in everyday situations, such as “yes, no, hi, bye-bye, excuse me, and I don’t know” (p. 62). Fillmore (1979) also observed this stage in unstructured interactions with ESL and monolingual English-speaking children. He described the children’s approach to learning English in this stage as having two goals: one, to give off the impression that they could speak the language; and two, to learn some expressions that they could use and begin using them (Fillmore, 1979). While this formulaic and telegraphic speech may not produce detailed communicative exchanges, they allow the child to interact with his or her peers with the limited language he or she possesses, thereby providing greater experience with the language they are trying to learn, and as mentioned above, allowing social interaction which further promotes language acquisition (Genesee et al., 2004).

Productive language use. Productive language use begins gradually; a productive sentence is defined as a sentence that consists of more than a memorized word sequence (Genesee et al., 2004). Tabors (1997) refers to the sentence structure of early productive sentences as “frame and slot”, such as ‘I want + noun, pronouns, or adjectives’ (p. 65). Once the child moves beyond this frame and slot construction, they are truly in stage four of the language acquisition process: productive language (Genesee et al., 2004). Children in the productive language stage do not possess perfect knowledge of L2. Errors in pronunciation and vocabulary errors are common and to be expected in second language learners as they improve in proficiency. Genesee et al. (2004) stress that these errors are typical in learning a second language and are evidence that the child is experimenting with his or her new language.

There is a period in the process of learning a second language when the learner is using his or her second language productively, but has not yet achieved native-like proficiency. The language used during this time is referred to as an interlanguage, which is "a systematic and rule-governed linguistic system" without "the same characteristics as the target system, the L2" (Genesee et al., 2004, p. 121). The errors mentioned above in the productive language stage are considered typical aspects of the interlanguage and can be categorized as developmental errors or transfer errors; transfer errors are those that evidence the effects of L1 on L2 (Genesee et al., 2004). However, it should be noted that research has suggested that the majority of errors made in acquiring English as a second language are similar to those made by those learning English as a first language (Dulay & Burt, 1972, 1973) and therefore should not be seen as deviant.

Code switching. A clinically relevant feature of bilingualism and second language acquisition is the phenomenon of code-switching, which is the "alternation between two languages within the same conversational event" and is a typical occurrence in the speech of bilingual children and adults (Restrepo & Gutierrez-Clellan, 2004, p. 223). Code-switching, also referred to as code-mixing, can include whole words, phrases or even pragmatic patterns, including morphemic additions (Genesee et al., 2004).

More than simply mixing two languages, code-switching is a culturally and socio-linguistically important feature of bilingual culture. Bilingual adults who are perfectly fluent in both of their languages may code-switch as a mark of their bilingualism, to include others who are less proficient in one language in their conversation, or even to separate themselves from monolingual people around them. Such code-switching, even within an utterance, typically produces grammatically correct utterances according to the rules of both languages. Fluent code-switching is different from the code-switching of second language learners who are in the

process of developing full proficiency in their second language. These individuals, whether adults or children, often code-switch due to limitations in their second language, which regularly results in grammatically incorrect utterances (Genesee et al., 2004). The frequency of code-switching varies greatly between individuals, and a limit for an acceptable frequency does not exist.

To this end, a common misconception about code-switching is that it signifies deficient language skills in the bilingual speaker. This may seem contradictory to the statements above by Genesee et al., (2004); however, an important distinction must be made between a bilingual speaker and a speaker who is in the process of learning his or her second language. A truly bilingual speaker with (more or less) equal proficiency in both languages does not code-switch due to poor language skills, but quite the opposite (Kayser, 1995). Poplack (1982) found that the highest degree of code-switching was used by speakers with the highest level of bilingual proficiency. The results from Poplack's study suggest that code-switching is "rule-governed and requires a high level of bilingual competence" (Kayser, 1995, pp.164-165). Therefore, code-switching should not be viewed as an error in language, but rather a natural occurrence in bilingualism and, arguably, advanced second language acquisition, even though some research has argued against this point. Educational professionals typically stray from code-switching during instruction or intervention of the second language due to fear of affecting the child's proficient learning of the two languages as separate entities, yet there is not yet a conclusive body of evidence to support or deny this claim (Restrepo & Gutierrez-Clellan, 2004).

Interference and Transfer. One must also keep in mind the effects of the first language, L1, on the second language, L2. The two most commonly mentioned of such effects are interference and transfer, which are terms that may be seen as interchangeable (Centeno, 2007;

Jackson-Maldonado, 2004). Jackson-Maldonado (2004) suggests that the term "interference" may be incorrect in the sense of one language effecting the production of another, due to the fact that it is often associated with cognitive processing time. Regardless of the terminology used, be it interference or transfer, the idea is that features of the L1 are merged into or borrowed by L2 leading to "target-deviant structures" (Genesee et al., 2004, p. 131).

In the past, according to Genesee et al. (2004), transfer of features from L1 to L2 was considered detrimental to the acquisition of L2; however, research has more recently pointed to the benefits of using the knowledge of L1 as a means of scaffolding L2 learning. Transfer can occur across all aspects of language: phonology, syntax, semantics, morphology, and pragmatics. According to Centeno (2007), a bilingual speaker may use word order, pronouns, prepositions or verb features of L1 when speaking his or her L2. For example, a Spanish-English bilingual may invert adjective-noun order, as in 'the cat brown', due to the Spanish noun-adjective word order. Other than grammatical transfer, phonological transfer can also occur, which is often referred to as a person's accent (Centeno, 2007). Phonological transfer is a frequent occurrence in second language acquisition of both children and adults (Genesee et al., 2004). Transfer can also occur when learners of the L2 avoid certain L2 structures due to the differences between their L1 and L2. Genesee et al. (2004) offer as an example the avoidance of direct object pronouns by English-speaking learners of French due to the typical word order of English. The learner may say *je vois ça* ("I see that") rather than *je le vois* ("I it see"), which is the typical French construction (Genesee et al., 2004, p. 132). Interference or transfer can also occur in a more permanent state, such as when words are borrowed from one language and incorporated into another (e.g., "*pizza* from Italian to English … and *cliquear* 'to click' from English to Spanish"; Centeno, 2007, p. 51).

In research reported by Dulay and Burt (1972, 1973), only 5% of the errors made by children learning English as a second language were due to transfer or interference. Regardless of the cause of target-deviant structures, be it from transfer or due to L1 developmental errors, such errors should be regarded as a typical feature of second language learning rather than a cause for concern that the child or learner is confused. By obtaining greater knowledge of the L1 of the learner, clinicians can better predict the typical errors and more easily identify those errors that are atypical.

Changes to First Language. Language shift, loss, and attrition are other features of second language learning that should be considered. Language shift is a gradual change in the use of the two languages of a community, such that L2 is used with more frequency and a loss in L1 is seen in expressive and receptive skills. Language shift is frequently seen in the Latino communities in the United States, as documented by Anderson (2004). Language loss speaks to the loss of L1 abilities within a generation rather than across generations, as is seen in the phenomena of language shift. Language loss is predominantly seen in children, although some degree of loss can be expected in all ages of the immigrant population. Language loss is often found in a community where a "sociolinguistic imbalance" is present between L1 and L2, meaning that one of the languages—often L2—is given a higher status in the community (Anderson, 2004, p. 191). Support for L1 Spanish can lessen the loss of Spanish skill, such as educational programs, church, commerce and other recreational activities where Spanish has a larger presence. Some research has indicated that L1 Spanish skills are maintained with no loss of skill when children are raised in a community in which Spanish is an important part and are involved in Spanish-English bilingual preschools or stay at home with a Spanish-speaking parent until elementary school (Winsler, Díaz, Espinosa, & Rodríguez, 1999).

Anderson (2004) defines language attrition, on the other hand, as the slowing of acquisition of L1 such that skills may not be lost but rather no new skills are gained. Such attrition can be evidenced by loss of or lack of growth of L1 vocabulary, reduction in fluency of L1, or transfer of L2 features to L1, among other occurrences. Attrition can continue to occur as children age even in the presence of adequate support from the L1 community. Therefore, when assessing a child learning a second language, it should be assumed that L1 abilities vary over time (Genesee et al., 2004).

Research into L1 loss has specified that the lexicon and the grammatical system are the areas most affected by language loss (Anderson, 2004). Lexicon changes can be an alteration in the use of vocabulary or in the speed of access to the lexicon (Anderson, 2004). Anderson (1999) performed a longitudinal case study in order to study the change in lexicon over time in a Spanish-English speaking child. It was observed that the child used significantly fewer nouns and verbs in L1 over time, with the use of more general terms when the referent was a noun (i.e., *esa,* "that one") and the use of fewer action verbs.

Grammatical features that appear to be prone to loss include errors in gender agreement and in use of mood, aspect, person and number in verb phrases (Anderson, 1999; 2004). The most common gender error noted by Anderson (1999) was substituting the masculine article *el* for the feminine *la* (e.g., *el mesa* for *la mesa,* the table [masculine; feminine]). Mood errors, typically the use of the indicative mood when the subjective is obligatory, are also common; however, this may be due to the late age of acquisition for the subjunctive mood and the cognitive and linguistic maturity required for its use (Anderson, 2004; Pérez-Leoux, 1998). Errors of number and person were noted by Anderson (2001) to be the most frequent verb phrase error. The children studied were found to favor third person singular verb forms over others (e.g.,

Ella duerme rather than *ellas duermen*, 'She sleeps' rather than 'They sleep'; Anderson, 2001), in essence collapsing usage of verb forms to one single form, the third person singular. Differences in word order were also noted by Anderson (1999), such that English word order rules were applied to Spanish productions. This results in a stricter word order structure in Spanish, which typically has a more flexible structure than English.

Linguistic Differences between Spanish and American English

The English and Spanish languages differ across all domains of language: phonology, morphology, syntax, semantics, and pragmatics. For the purpose of this investigation, focus will be on the differences in the domains of phonology, morphology, and syntax (i.e., the form of language). This is due to the difficulty in representing pragmatic features of language in a written or audio language sample and the high level of variety in semantics across children based on differing levels of bilingual proficiency (Peña & Kester, 2004). As such, an understanding of the features of the Spanish language, and their contrast to English, is crucial to cross-linguistic analysis, which improves the diagnostic and intervention process when treating bilingual or monolingual Spanish speakers (Centeno et al., 2007), as knowledge of the differences between L1 and L2 serves to illuminate which errors in a second language learner are typical.

Phonology. The phonological inventory of Spanish is summarized in Appendix A, in a table adapted from Centeno et al., (2007). As noted, dialects of Spanish (e.g., Caribbean, Castilian) differ primarily from each other in their production of consonants; therefore, it should be noted that the following review of consonants might not be the same for all Spanish speakers. Differences will be described across the following categories of phonemes: vowels, plosives, fricatives, nasals, affricates, rhotics, and laterals.

Vowels. The vowel systems of Spanish and English vary mostly by size; the Spanish language has five vowels (/a, e, i, o, u/), whereas American English recognizes 14 (/i, e, ɜ, æ, a, ʌ, ɔ, ə, ɪ, ʊ, u, o, ɝ, ɚ/). This difference alone can play a large role in the difficulty in reaching near-native fluency in the English language. In their study on vowel discrimination, Levy & Cruz (2004) found that there was a significant difference in the ability to discriminate English vowels in real and novel words in bilingual Spanish-English speakers compared to native English speakers. The bilingual participants' performance was significantly lower than that of their monolingual counterparts; the performance of the bilinguals was also affected by the age of acquisition of English, in that those who began learning English before age 12 performed significantly better (Levy & Cruz, 2004). Other than the number of vowels, it should also be noted that all vowels in Spanish are described as tense, whereas in English, vowels can be tense or lax (Centeno et al., 2007). There is also considerably less variation in Spanish vowel duration than seen in English, with a range of Spanish vowel duration of 36.1 msec and the range of English being 136.0 msec (Zimmerman & Sapon, 1958). The authors note that while vowel duration can be seen as a contrastive feature of consonant sonority in English, this is not the case in Spanish.

Plosives. The same plosive phonemes, also known as stops, exist in the Spanish and English inventory (e.g., /p, t, k, b, d, g/); however, Spanish plosives differ from those in American English in how their voiced or voiceless realizations are differentiated. In Spanish, voiceless plosives (i.e., [p, t, k]) are unaspirated (voicing occurs immediately after the plosive is released) and voiced plosives (i.e., [b, d, g]) are pre-voiced (voicing begins prior to the release of the plosive). This differs from English plosives in that in English, voiceless plosives can also be aspirated, such as in the word *pop*, pronounced [p^hap]. Voiceless aspirated plosives do not exist

in the inventory of standard Spanish (Centeno et al., 2007). Another difference in the area of stops is the place of articulation of the phonemes /d, t/. In English, these phonemes are produced as alveolar, with the tongue tip placed on the alveolar ridge, whereas in Spanish their production is dental. While a seemingly small difference, it does affect the perception of the phonemes. Lastly, there is a difference in the production of the phonemes /b, d, g/. In Spanish, these voiced stops have a voiced fricative [β, ð, ɣ] or approximate [β̞, ð̞, ɣ̞] allophone, which are often produced when /b, d, g/ occur in an intervocalic position, within a word or between words (Hualde, Simonet, & Nadeu, 2011), and in certain other environments. The degree of constriction is variable across contexts, as Ortega-Llebaria (2004) found that the production of intervocalic /b, g/ differed based on syllable stress and vowel context. She explained that the Spanish phonetic inventory places fewer restrictions on the production of voiced stops because no voiced fricative phonemes exist in Spanish; this allows for a greater degree of "lenition" or "spirantization", which is the substitution of a voiced fricative or voiced approximant in place of its voiced stop allophone (Ortega-Llebaria, 2004). While the occurrence of lenition is seen in other Romantic languages, Spanish is the only language in which it is conventionalized across contexts, ranging from conversational speech to formal reading (Hualde et al., 2011).

Fricatives. Another source of difference in the Spanish and English phonemic inventories is in the production of fricatives. They share /f, s/ and, in some dialects, /θ/, such as that in central-northern Spain, where the orthographic "c" before "i" or "e" and the grapheme "z" are produced as the phoneme /θ/ (Hammond, 2001). In terms of differences, as noted above, [ð] is an allophone of /d/, rather than of /ð/, as it is in English. In fact, Spanish does not have /ð/ in its phonemic inventory. Also, while /h/ is used in many dialects, in standard Spanish the velar fricative /x/ is used (e.g., *caja* 'box' as [kaha] versus [kaxa]). Lastly, in several dialects, /s/ may

be produced as voiced [z] when it is followed by a voiced consonant, such as in the word *mismo* [mizmo] ‘same’ (Centeno et al., 2007). The fricatives /v , ʃ , ʒ/ do not occur in a conservative Spanish dialect, but are seen in some dialects, as reported by Núñez-Cedeño and Morales-Front (1999). In conservative dialects, words that have an orthographic “v” are pronounced as /b/ (either the stop realization, [b], or the spirantized allophone [β] or [β̞], depending on the phonetic environment).

Nasals. The predominant difference between nasals in Spanish and English is the occurrence in Spanish of nasal assimilation, where a nasal that precedes a consonant will become more similar to the consonant in regards to place of articulation. Centeno et al. (2007) describe this process as “neutralization”, where the nasal’s place of articulation becomes closer to that of the following consonant, as in the word *infarto* ‘heart attack’ or ‘enlargement’, pronounced as [iɱfaɾto], where the alveolar /n/ is realized as a labiodental allophone due to the labiodental nature of the /f/ (Centeno et al., 2007).

Affricates. The differences in affricates between Spanish and English focus predominantly on the presence or absence of the affricate /dʒ/. In some dialects, /dʒ/ is substituted for the palatal glide /j/, such as in the word-initial consonant in *lluvia* ‘rain’. Depending on the dialect of the speaker, the initial phoneme of this word could be pronounced as /dʒ/, /j/, /ʃ/ or /ʒ/. Caribbean dialects favor /dʒ/, while Spanish-speakers from the River Plate region of Argentina and Uruguay tend to use /ʒ/ or /ʃ/ (Rona, 1964). Rona (1964) also reported that, in places such as Ecuador, Central America, Paraguay, northeast Argentina, /j/ is produced as either a groove fricative [ʒ] (a phenomenon referred to as žeismo) or an affricate [dʒ]. The other affricate, /tʃ/, is present in both English and Spanish and is represented by the digraph ‘ch’ (Centeno et al., 2007).

Rhotics. While General American English (GAE) has only one non-lateral liquid phoneme, /ɹ/, General Spanish has two, /ɾ/ and /r/, the first of which is referred to as a flap, a simple vibrant. The flap exists in GAE as an allophonic variation of /t/ and /d/, typically seen in casual speech when /t/ or /d/ occurs between two vowels. However, the GAE flap is articulated more posteriorly than the flap present in Spanish (Hammond, 2001). Hammond (2001) notes that, for a large number of Spanish speakers, the flap exists without allophonic variation; however, for the remaining speakers, /ɾ/ is associated with a large number of allophonic representations, as more variation has been noted in liquids than any other group of sounds in research of Spanish dialects (Hammond, 2001). Orthographically, /ɾ/ is represented by the letter 'r' except when in the word-initial position and when it follows the phonemes /n, l, s/.

The other rhotic in Spanish, /r/, is known as an alveolar trill and is produced when the tongue tip "flutters rapidly" on the alveolar ridge a minimum of three times (Bauman-Waengler, 2016, p. 224; Hammond, 2001). Orthographically, /r/ is represented by 'rr' or by the letter 'r' in word-initial position and when it follows the phonemes /n, l, s/. As with /ɾ/, there exist speakers of Spanish with no phonetic variation, as well as speakers that exhibit wide allophonic variation (Hammond, 2001).

Laterals. There is one principal lateral liquid phoneme in general Spanish, /l/, with several allophonic variations: dental [l̪], palatal-alveolar [lʲ], and palatal [ʎ]. The English /l/ and the Spanish /l/ phonemes are similar, but in Spanish it is produced more posteriorly. The primary distinction between lateral phonemes in English and Spanish is the presence of the velarized, or dark, allophone in English [ɬ] (Hammond, 2001). This distinction may cause second language learners of both Spanish and English to have difficulty, as native Spanish speakers may experience difficulty in producing [ɬ] and native English speakers may have difficulty not using

the dark allophone. The other allophones of /l/ are present in both languages, but in English occur only due to assimilation within words, while in Spanish assimilation can occur across word boundaries. Orthographically, /l/ is always represented by the letter 'l' in Spanish (Hammond, 2001).

Differences in phonological development. Phonological development of GAE and Spanish are somewhat difficult to compare due to the differences in research design across studies and the frequent variation in Spanish dialect, as explained in a subsequent section. English consonant acquisition has been extensively researched and described over the years, while research into Spanish acquisition is not as readily available. Templin (1957) reported seminal research in the development of GAE phonemes and her data represent the age at which sounds occur in all three word positions (initial, medial, final) at 75% accuracy. A visual representation of the data on GAE and Spanish phoneme acquisition can be found in Appendix A. Consonant sounds begin to be mastered by age three; however, all consonants are not typically mastered until age 7;0. Consonant clusters begin to be mastered later than their singleton counterparts. The first clusters to appear at 75% accuracy occur at age 4;0, with the last consonant cluster typically acquired at age 7;0. With regard to vowel and diphthong acquisition in GAE, Smit (2007) accumulated research from a variety of sources and determined that production of vowels in one and two syllable words is mostly accurate by age 3, with the exception of the r-colored vowels. Templin (1957), for example, found that vowel and diphthong production was 90-95% accurate by age 3. She also found that the rhotic vowels achieved 75% accuracy at age 3;6 and 90% accuracy at age 6;0.

Ages for Spanish consonant acquisition reported here were summarized from several studies by Goldstein (2007), in addition to data from Jimenez (1987) and can be found in

Appendix A. It should be noted that several Spanish dialects contain different consonants from the conservative Spanish dialect; data reported here are from children of Puerto Rican and Mexican descent, whose development may differ from children who speak a different dialect. The earliest developing sound is /m/, which is acquired by age 3;0, with the latest singleton consonant (i.e., trilled /r/) acquired by 6;0. Of the phonemes acquired in both languages, the order and ages of acquisition are generally the same between the GAE and Spanish; however, there are some differences other than the different sounds found in each language. For example, in GAE / l / is not acquired until age 6;0, while in Spanish it is correctly produced by 90% of 3;11-year-old children (Goldstein, 2007; Jimenez, 1987); however, norming the criteria for mastery was somewhat different in the studies. Templin (1957) uses criteria of 75% in the initial, medial, and final position, while Jimenez (1987) employs 90% in different word positions for each sound, with a minimum of initial and medial, as many Spanish syllables are open, reducing the number of words that end in a final consonant. There is little available research into the development of Spanish consonant clusters, which may be related to their infrequency relative to other languages. Bichotte, Dunn, Gonzalez, Orpi, and Nye (1993), however, found that five-year-olds of Puerto Rican descent produced consonant clusters at nearly 100%. It should be noted that Spanish allows for far fewer consonant clusters than does English (i.e., Spanish allows only plosive + liquid and fricative/approximant + liquid, with no /s/ clusters occurring in a syllable; Centeno et al., 2007). Vowel acquisition occurs early, most by 2 years, which is likely due to the fact that there are only 5 vowels in the Spanish language (Goldstein, 2007) and that the vowels have greater contrast.

Syllable structure. The syllable structures found in Spanish are also a relevant difference. The most common syllable structure is consonant-vowel (CV); therefore, Spanish is

predominantly a language of open syllables. In standard Spanish, consonant clusters found in word- or syllable-initial position must be of the combination plosive + liquid or fricative + liquid (e.g., /t + ɾ/ in *triste* 'sad' and /f + ɾ/ in *frío* 'cold', respectively). Therefore, combinations of three consonants do not occur in a single syllable, nor do /s/ blends (e.g., /st/) (Centeno et al., 2007). This feature of /s/ consonant blends explains the frequency of epenthesis seen in Spanish-English bilingual speakers (e.g., 'state' pronounced as [esteɨt]) (Goldstein, 2004).

Morphology. Differences in the rules of word formation also vary between Spanish and English. Morphemes, the smallest unit of language that can express meaning, influence the characteristics of a language. Specific morphological differences between Spanish and English center on inflection of nouns and verbs and case marking of pronouns.

Inflection. Morphological differences between Spanish and English arise due to the high level of inflection found in the Spanish language. Spanish contains multiple "inflectional affixes to indicate a variety of syntactic and semantic functions at both the NP [noun phrase] and VP [verb phrase] levels, and for pronoun cases" (Centeno et al., 2007, p. 16). At the NP level in Spanish, nouns are marked for both grammatical gender and number, which is in contrast to English in which gender is not marked. The feminine gender is typically marked by [a] (e.g., *la rosa* 'the rose') and the masculine by [o] (e.g., *el ladrillo* 'the hammer'), although there are numerous exceptions (e.g., *la mano* 'the hand'). Plural markers are similar in English and Spanish, using [-s] or [-es] depending on context (e.g., *la mesa* 'the table' to *las mesas* 'the tables' or *el ratón* 'the mouse' to *los ratones* 'the mice') (Centeno et al., 2007; Bedore, 2004). A primary difference when changing nouns from singular to plural in Spanish is that the article also changes in number, as seen in the examples above. In Spanish, all noun modifiers, such as

articles and adjectives, must also agree with the noun in gender and number, as illustrated above (Centeno et al., 2007; Bedore, 2004).

The rules that govern verb usage in Spanish are such that verbs use a high degree of inflection, which stands in stark contrast to the five verb forms in English (i.e., base form, third person singular in the present tense, past tense, past participle, and present participle). Spanish verbs convey the "tense, mood, aspect, person and number" of the subject, which entails a much more complex system of conjugation (Centeno et al., 2007, p. 18). Conjugated verbs in Spanish communicate first, second, and third person singular and plural.

Copulas. Spanish verb phrases can also contain copulas, as can verb phrases in English. While in English there is one 'to be', in Spanish there are two: *ser* and *estar. Ser* often refers to constancy or a state (e.g., *El sofá es rojo* 'The sofa is red'), while *estar* often refers to features that are "not permanent or fixed" (e.g., *Hoy está nublado* 'It is cloudy today'; Centeno et al., 2007). This distinction can, for example, change the meaning of a sentence. Vivas (1979) provides the following example to illustrate the difference in meaning between *ser* and *estar*: "*¡Qué bonita es!* 'She is [always] beautiful' versus *¡Qué bonita está!* 'She looks beautiful [now]'" (p. 95).

Case marking. The final category of morphological differences is pronoun case marking. Spanish pronouns can be divided into stressed (e.g., subject, possessive, and prepositional) and unstressed pronouns (e.g., object pronouns). In terms of subject pronouns, they are frequently "dropped" from utterances due to the high degree of inflection of Spanish verbs as well as the context of the sentence (Centeno et al., 2007). In fact, Spanish is widely considered a pro-drop (pronoun-dropping) language with respect to subject pronouns. For example, in a conversation about a family member who came to visit, one might say *Llegó ayer* '[He] arrived yesterday',

rather than *Él llegó ayer* 'He arrived yesterday', because the subject, 'he', was understood from the context of the conversation. When pronouns are included in an utterance, they likely are there to communicate emphasis or clarification as to the subject of the sentence. From the example above, saying *Él llegó ayer* could be used to indicate that 'he', in particular, arrived yesterday, not someone else. Also, while English generally uses the –s morpheme to demonstrate possession (e.g., "Larry's book"), in Spanish, possession is often demonstrated through possessive pronouns (e.g., *su libro*), prepositional pronouns (e.g., *Él se paró en frento de mí*), or prepositional phrases (e.g., *El libro de Susana*). Possessive pronouns must demonstrate agreement in number and gender with the noun that is possessed. Prepositional pronouns, on the other hand, must agree with the possessor in gender and number. Possessive adjectives can also be used to express possession in Spanish, as in English (e.g., *Mi gorra* 'My hat'). Lastly, the unstressed object pronouns consist of reflexive and non-reflexive varieties. Object pronouns are referred to as "clitics" due to the fact that they must always occur adjacent to the verb. They can occur before the verb, as in finite or negative imperative verb forms (e.g., *Ella me lo dio* 'She gave it to me'), or after infinitives, present participles, or affirmative imperatives, when they are attached to the end of the verb, as in the imperative, *Dámelo* 'Give it to me' (Centeno et al., 2007).

Syntax. The rule based system of word order and sentence formation is referred to as the syntax of a language. Syntactical differences between Spanish and English exist in the areas of word order, wh- questions, negative sentence formations, and complex sentences.

***Word order*.** While an overt subject in an English sentence is of the utmost importance in order to convey the full meaning of the sentence, this is often not the case in Spanish, as described above. The ability to "drop" a subject pronoun in Spanish derives from the high degree

of verb inflection, and results in much greater variety in word order (Centeno et al., 2007). As Bedore (2004) noted, the Spanish language has an overall greater leniency in word order, which is not only restricted to noun and verb phrases, but also overall sentence structure. A particularly salient difference in word order between Spanish and English is the formation of noun phrases. In English, adjectives typically precede nouns (e.g., 'the red table'), whereas in Spanish they generally occur after the noun (e.g., *la mesa roja*), with the exception of, for example, ordinal numbers, ordinal adjectives, numbers, attributive terms, such as *gran* 'great' in *la gran artista* 'the great artist' (Centeno et al., 2007) or reinforcing adjectives, such as *alta torre* 'tall tower' or *oscura noche 'dark night'*. Sentences are often manipulated to indicate a "shift in pragmatic focus" or to place emphasis on a feature of the utterance (Bedore, 2004, p. 165), whereas English must rely on inflection for such emphasis (Centeno et al., 2007). For example, the sentence 'The small girl walks to school alone' could be phrased in Spanish as *Camina a la escuela solita la niña pequeña* ('Walks to school alone the little girl' [The little girl walks to school alone]) to emphasize that 'the girl' was the one who walked to school alone (Bedore, 2004).

Wh-questions. While it is typically obligatory to invert the subject and verb in the Spanish language, the formatting of questions varies greatly across context and dialect. Typical subject-verb inversion, such as *¿Dónde come la secretaria?* 'Where eat the secretary?' [Where does the secretary eat?], is required by most dialects, but may be negated in some situations. For example, in some dialects, when the subject is a pronoun, the subject and verb need not be inverted for the sentence to be grammatical (e.g., *¿Dónde él come?* 'Where he eat?' [Where does he eat?], which is more similar to the English construction of questions (Centeno et al., 2007).

Negative sentences. Negative sentence formation is simpler in Spanish than English, typically only requiring that *no* be placed before the conjugated verb. For example, *Ella va a la*

escuela ‘She goes to [the] school’ becomes *Ella no va a la escuela* ‘She does not go to [the] school’. However, in some cases, a double negative is required, such as when a negative word is used (e.g., *nada, ninguno, nunca,* ‘none’, ‘nothing’, ‘never’); in this situation, *no* must be used before the verb (e.g., *No me dio nada* ‘no me gave nothing’ [He/She gave me nothing]; Centeno et al., 2007). English sentence construction with negative words differs from the Spanish in that the addition of ‘no’ is ungrammatical in English. ‘She ate nothing’ [She did not eat anything] is considered the correct construction in English rather than ‘She no ate nothing’, as it would be in Spanish, *Ella no come nada.*

Dialect. To understand the effect that Spanish and English have on each other in bilingual children, one must first understand the difference between a dialect and an accent, as well as the most typical features of Spanish-influenced English. According to ASHA, a dialect or communication difference “is a variation of a symbol system used by a group of individuals that reflects and is determined by shared regional, social, or cultural/ethnic factors. A regional, social, or cultural/ethnic variation of a symbol system should not be considered a disorder of speech or language” (ASHA, 1993). While there are countless dialects of the Spanish language itself, they can be classified into two broad categories: lowland and highland dialects (Lipski, 1994). The primary difference between the two groups is the production, or lack thereof, of syllable final consonants. In a lowland dialect, *escuela* ‘school’ could be pronounced as /ehkuela/ rather than /eskuela/, as it would be the case in a speaker of a highland dialect (Lipski, 1994). This is incredibly relevant to the treatment of a Spanish-speaking child, in that an SLP who was unaware of the characteristics of a lowland dialect may make the erroneous assumption that the child had either a phonological or language disorder. This brings to point the discussion of difference versus disorder and the knowledge of bilingualism and multiculturalism required of SLPs in the

treatment of such populations, after a brief discussion of the typical features of Spanish-influenced English.

Spanish-influenced English. Spanish-influenced English is the dialect found in many Spanish speakers that learn English as a second language or in those who live in an area where there is frequent contact between English and Spanish, such as Andorra, Belize, and the United States (Goldstein, 2007). Many of the dialect features that differ from General American English are due to the differences in consonants between Spanish and English, predominantly in those sounds that exist in English but not in Spanish (see Appendix A). Examples of consonantal features of SIE include substituting /t/ for [θ] and /d/ for [ð] and the addition of /ə/ or /e/ before initial /s/ clusters (Goldstein, 2004; Paul & Norbury, 2012). These two areas cause many of the differences noted in Spanish-influenced English. For example, aspirated stops do not exist in standard Spanish, nor do /s/ blends, nor do lax vowels (Goldstein, 2007). As mentioned above, the syllable structure of English and Spanish differ such that speakers of Spanish-influenced English may alter syllable shapes of English productions by deleting word-final consonants or breaking up /s/ blends through epenthesis.

Suprasegmental differences also exist in Spanish-influenced English due to differences in stress, pitch, and intonation patterns. The primary difference noted in stress is that while English is a stress-timed language, Spanish is a syllable-timed language with common and predictable patterns of stress (Hochberg, 1988). Pitch and intonation also differ between Spanish and English, in that pitch is modulated less in Spanish and that English utterances begin at a higher pitch than Spanish utterances (Hadlich, Holton, & Montes, 1968). These suprasegmental differences may alter the perceptual characteristics of the speech of speakers of Spanish-influenced English.

Other differences between Spanish and English can lead to features of SIE, including morphological and syntactical differences. For example, "it" may be dropped from a sentence when used as a referent to a previously mentioned subject, as may a previously mentioned subject (Paul & Norbury, 2012). Differences in the use of negatives may also lend to the formation of double negatives or the use of 'no' in the place of 'not' (Centeno et al., 2007; Paul & Norbury, 2012). Adjective-noun order may also be inverted in the English productions of speakers of SIE (Centeno et al., 2007).

Much information about Spanish-influenced English can be gleaned from a study of the differences in the two languages. It should be noted again that Spanish-influenced English is a dialect, which according to ASHA standards is a difference rather than a disorder, for which therapy is inappropriate. The speech and language of Spanish-speaking children who are learning English may also be affected by the differences in acquisition between Spanish and English.

Role of the Speech-Language Pathologist

When working with second language learners, the required competencies of SLPs state that one must be aware of all dialects of American English and recognize them as "rule-governed linguistic systems" (ASHA, 2003, para. 6), and thereby have the ability "to distinguish between those aspects of linguistic variation that represent regular patterns in the speaker's dialect and those that represent true disorders in speech and language" (ASHA, 2003, para. 5). When an SLP possesses a working knowledge of the most common dialects of American English and how to apply this knowledge to the assessment process, the likelihood of over-identification due to difference greatly decreases. While bilinguals and second language learners are over-represented in special education (Goldstein & Iglesias, 2007; Lewis, Castilleja, Moore, & Rodriguez, 2010),

Peña et al. (2011) found that bilingualism itself was not a statistically significant risk factor for a diagnosis of language impairment in a sample of 1,029 prekindergarten children.

Knowledge of not only the child's first language, but also of the process of second language acquisition is vitally important in order to provide the best standard of care to this growing population of clients. This is especially true in distinguishing those with a disorder from those who are simply in the process of learning English. According to Kohnert (2010), one must possess an understanding of typical bilingualism in addition to primary language impairment in order to provide the best service to second-language learners; however, the research contributing to this knowledge is complicated by factors inherent in the assessment and treatment of culturally and linguistically diverse populations.

According to Peña et al. (2011), bilingualism is perhaps best defined across a continuum, as considerable variation is expected in language ability across the developmental stages of dual language learners (Kohnert, 2010). Therefore, for research to be representative of and applicable to a particular facet of the population, much care must be taken to select the appropriate individuals. For example, if one designed a study focusing on early sequential Spanish-English bilingual children, measures must be taken to ensure that the children are in a similar developmental level in both of their languages. This difficulty is evidenced by the lack of research into culturally and linguistically diverse populations (Goldstein, 2012). This also presents a problem for evidence-based practice when serving bilingual clients, as explained by Goldstein in his 2012 article discussing the difficulty of using evidence-based practice when treating and assessing bilingual and multicultural clients considering the small body of research in the area.

In the midst of concern over of the scarcity of evidence into treatment for bilingual children, one must also be concerned about providing adequate support for both of the child's languages in treatment. This poses another road-block to effective treatment, as many clinicians do not have sufficient clinical competency in assessing and treating bilingual children with a language impairment (Kohnert, 2010). According to ASHA's School Caseload Report in 2012, 64% of respondents indicated that they had ELL students on their caseloads; of those respondents, only 16% reported providing services in the child's native language via interpreters, contracted bilingual SLPs, bilingual Speech Language Pathology Aides (SLPAs), or themselves, while the other 84% provided services in English (ASHA, 2012). In 2014, 5% of the ASHA membership (7,214 of 161,163 total members) identified themselves as a bilingual clinician after reading a detailed definition of a bilingual clinician. Of the 7,214 members who met the requirements to identify as a bilingual clinician, 58% (4,152) of them provided services in Spanish (ASHA, 2014). However, simply because a person is bilingual, it does not follow that he or she is competent to serve a culturally and linguistically diverse client (Kritikos, 2003). Rather than seek to match clients and clinicians based on language or culture, treatment should focus on providing culturally and linguistically appropriate therapy for each individual (ASHA, 2004). Restrepo and Gutiérrez-Clellan (2004) suggest that treatment should focus on providing direct instruction as to the shared and unshared features of the two languages used by the child, in addition to structured exposure to L1 to bolster the acquisition of the home language. They also support the targeting of grammatical structures, although they recognize that there is no research as to the efficacy of such treatment, as it can provide a framework for intervention.

The assessment process for children who are bilingual or learning a second language is equally muddied by a lack of research. Goldstein and Iglesias (2007) promote assessment free

from bias, meaning that the clinician keeps the child's cultural and linguistic variables in mind—including dialect— and possess an understanding of how these features may influence the assessment process. They go on to suggest that such an outlook will prevent language differences from being diagnosed as disorders (Goldstein & Iglesias, 2007). Lewis et al. (2010) insist that a thorough knowledge of the ELL's educational and linguistic experiences is a requirement of the assessment process, especially when considering the impact of a child's language experiences on his or her education. The authors also stress that the assessment process must consist of more than standardized assessments, with the clinician creatively crafting an assessment for each individual that probes for language, culture, developmental, family and educational history. Only then does the assessment result in sufficient evidence to plan accurate intervention, according to Lewis et al. (2010).

Research by Restrepo (1998) showed that a combination of parent interview and language sample analysis led to diagnostic sensitivity of 90%. Language sample analysis included mean length of terminable unit/sentence, and number of grammatical errors per sentence and parent interview covered family history of speech and language problems and parental concern over speech and language problems. The best predictive data set was parental concern of language and speech problems and the number of grammatical errors per sentence. In the absence of validated and standardized measures, multiple sources of information of the bilingual or English-language learning child's language skills are necessary to provide adequate diagnostic information. Restrepo (1998) suggests that parent and teacher approximations of language use and proficiency correlate to the child's grammatical performance in the target language and can therefore be used to determine bilingual status.

In addition, there is rampant evidence of both over- and under-diagnosis of English language learning children into special education services, including speech therapy. Restrepo and Gutiérrez-Clellan (2004) relate the misdiagnosis of Spanish-speaking children to several clinical practices: usage of English language and/or translated materials to assess; application of monolingual norms to a bilingual or second language learning child; and the use of materials that do not take into account the frequency of occurrence of language features in Spanish dialects.

Studies have been done to assess the application of various tests to Spanish-speaking children, with results indicating under- and over-diagnosis of language disorders. Generally speaking, the problem with using translated or adapted tests is that the questions do not assess forms or vocabulary that are typical in the Spanish-speaking population (Restrepo & Gutiérrez-Clellan, 2004). Translated or adapted tests, such as the *Preschool Language Scale-3: Spanish Edition* and the *Test of Auditory Comprehension of Language-Spanish Version*, may lead to over-diagnosis of Spanish speaking children due to the tendency for them to score significantly below the language norms for the English-speaking norming population (Carrow, 1973; Restrepo & Silverman, 2001). On the other hand, language tests may also under-diagnose when forms assessed are not sensitive to typical areas of difficulty for children with language impairments. Lack of diagnostic accuracy may also occur when language proficiency of the norming sample is not specified; as mentioned previously, language loss or attrition may affect performance in L1 such that scores suggest a language impairment (Restrepo & Gutiérrez-Clellan, 2004).

SLPs Knowledge, Confidence, and Training with Bilingualism & Multiculturalism

A growing body of research exists examining topics in the area of the training that SLPs receive in working with children from bilingual and multicultural backgrounds, as well as their confidence in doing so. A review of the current literature of the area is presented. The following

topics will be discussed: variables that may affect pre-service training, problems encountered in service delivery to English language learners, coursework taken in the area of bilingualism and multiculturalism, and self-perceptions of confidence and competence.

Confidence and Training of SLPs. Hammer, Detwiler, Detwiler, Blood, and Qualls (2004) performed a survey to assess SLPs' confidence and training in serving Spanish-English bilingual children. The researchers hypothesized that SLPs working in diverse urban areas would report more pre-practice training in multicultural issues as well as more confidence in service delivery to bilingual children and interactions with their families when the predominant language spoken by the child and family is Spanish. Data was reported in groups based on setting (i.e., rural and urban) and level of diversity in the SLP's setting. Participants were recruited from ASHA's list of members through a sampling procedure developed by one of the authors, who is a Geographic Information Systems analyst. Lengthy measures were taken to ensure that participants were selected evenly from the different demographic regions that the survey desired to evaluate. After analysis of population density and percentage of Hispanic population, 250 zip codes were randomly selected from each of the four categories: diverse rural, diverse urban, non-diverse rural, and non-diverse urban. Of the 1000 surveys mailed, 213 were used in the analysis. Approximately 90% of the respondents were White, 9% were Hispanic, and 15% responded that they were bilingual.

With regard to training received before entering their practice, one-third of respondents in each group reported that they received no training as students in multicultural issues, while 18 to 25% of each group received between one and several lectures in one or multiple courses during their academic career. Overall, SLPs received more instruction in the physical delivery of service rather than training in cultural issues, with one-third of the SLPs in each group reporting no

training in service delivery and one-half reporting no training in cultural aptitudes. Of the cultural topics covered, those concerning cultural differences in communication styles, perspectives on education, and customs and beliefs were the most commonly reported. The most commonly taught technical topic was the topic of difference versus disorder, while only one-third of the participants reported training in the topics of bilingualism, including second language acquisition in typical children and code switching. Lastly, around 75% of participants did not receive any pre-service training in the process of dynamic assessment, service delivery with interpreters, and the standardized tests used to assess bilingual children.

The confidence felt by the SLPs when providing services to multilingual and bilingual populations was a primary focus of Hammer's survey and was similar across the groups. Generally speaking, SLPs felt that they lacked confidence when the client or the client's family did not speak English as their primary language, but felt substantially more confidence when the child's primary language was English. A middling range of confidence was reported in working with bilingual parents and when utilizing interpreters. As was hypothesized by the researchers, there was a significant difference in the confidence levels of bilingual and multilingual speech-language pathologists when compared to their monolingual counterparts. Bilingual SLPs were more confident in all aspects of service delivery, with the exception of interpreters, in which there was no difference in confidence levels.

Limited English Proficient Students in the Schools. Roseberry-McKibbin and Eicholtz published a national survey in 1994 in order to assess SLPs services to limited English proficient (LEP) children in public schools. Their study was completed as the population of the United States was rapidly changing to include more people for whom English was their second language. The authors drew several conclusions from their research prior to the survey, as well

as from their personal experience: first, there was a great dearth of SLPs with adequate knowledge of another language to serve the LEP population; second, very few SLPs had experience serving multicultural children; and, third, there was a great desire by SLPs to expand their abilities in serving such populations. Roseberry-McKibbin also noted that there were no other surveys that asked SLPs what additional training they would like to receive on the subject of serving multicultural and multilingual populations.

The researchers were interested in determining the typical services offered to LEP children in public schools, as well as the respondents' beliefs in ways to improve services to the LEP population. Additionally, the survey probed for information on the composition of the SLPs' caseloads, in terms of cultural background and disorder, the SLPs' linguistic abilities, their use of bilingual SLPs and/or interpreters, their pre-service training on serving multicultural populations, and lastly, what assessment measures they typically used in the assessment of LEP children.

Participants were gathered from the 1989 ASHA Directory using a systematic random sampling procedure, from which 3,000 names were drawn, without concern for geographic area. Results indicated that 94% of participants had between 0-10 LEP students on their caseloads, with the greatest portion of LEP students coming from a Hispanic background (64.2 %). When asked about other languages in which they possessed enough fluency to assess or treat children, 90% indicated no second language. Of the 10% that indicated enough fluency to conduct therapy or assessments, Spanish was the most common language (77.4%), with French and German following (11.3% and 4.7%, respectively). Bilingual SLPs were contracted by 29% of those that responded to the question, with Spanish being the most common language spoken by the bilingual SLP.

With regard to problems encountered in providing services to the LEP population, the most common problems indicated were that they did not speak the same language as the children they were serving, a lack of appropriate assessments, and lack of other professionals who speak the same language as the child (65.7%, 52.3%, and 39.4%, respectively). Other options, listed in order of frequency of occurrence, were lack of developmental norms for the child's first language, lack of interpreters, lack of understanding of second language acquisition, lack of understanding of bilingualism, lack of understanding of the child's culture, and inability to differentiate between a language difference and a language disorder. In interactions with the parents of LEP children, 82.3% indicated that they used an interpreter.

An over-arching concern in service delivery to multicultural children was the lack of graduate-level coursework on the subject. Results from this study indicated that only 23.6% of the respondents had taken courses in the area of multiculturalism. In terms of additional training available to the respondents in the area of service to LEP populations, 39% indicated that in-service training was available to them, 38% indicated that workshops were available, and 23% indicated "other" opportunities.

As a follow-up to the original survey in 1994, Roseberry-McKibbin, Brice, and O'Hanlon (2005) created a survey to assess the views of speech-language pathologists (SLPs) in schools on how they provided services to English language learner (ELL) students. Their concerns centered on the growth of the non-English speaking population in the United States and the incongruous number of SLPs who are competent in another language. The authors' primary goals of this study were to investigate the relationships between the respondent's backgrounds and the problems they reported in the delivery of services to ELL populations, and to track the changes that occurred between 1994 and 2005 in terms of the answers to the survey. The survey questions

were the same used in the 1994 survey as the 2005 survey. Of the 6,000 surveys mailed to school-based SLPs, 1,736 were returned from all 50 states, producing a return rate of 29%.

Findings indicated a significant difference across regions as to whether respondents had taken coursework on the subject of service delivery to bilingual students. Analysis also showed a difference in university coursework across regions, with more respondents from the West who had taken coursework in this area, which indicated a higher degree of preparation from university coursework regarding service delivery to bilingual students than respondents from the other regions. Respondents from the Southwest were the second-most prepared in terms of coursework. Analysis revealed that years of experience dictated whether or not an SLP had taken part of a course versus no course, but did not discriminate between those who had taken a whole course from those who had taken part of a course. These findings illustrated that more recent graduates were receiving training in service delivery to ELLs as part of a course, while those with more experience had taken either a whole course or no course, the former of which may be due to instructors incorporating such topics into classes on other subjects.

Analysis of the data also revealed that region caused a significant difference in the percentage of ELLs on the caseload, although the region accounted for only a small percent of the overall variance in the percentage of ELLs on the caseload. The pattern of results from analyses on university coursework and its effect on the percentage of ELLs on caseloads showed that increased knowledge from coursework has a positive effect on the percentage of ELLs on caseloads, which suggests that those with greater knowledge may seek out opportunities to work with ELL students. Regional differences in reporting of problems in service delivery were revealed such that respondents from the West and Southwestern regions experienced problems with less frequency than respondents in other regions. Coursework had a similar effect on ratings

of perceived problems, such that those who had taken more coursework consistently reported that they experienced problems in service delivery less than those who had taken no courses. The authors determined that this finding held clinical relevance, in that more coursework could alleviate the frequency of the problems experienced by those providing services to the ELL population.

A comparison of the 1994 and the 2005 surveys found that the respondents in the 2005 survey had more experience than in the 1994 survey, as well as more ELL children on their caseloads. In both surveys, the predominant ethnic group was Hispanic, followed by Asian, and the most common type of therapy was for language disorders. The problems perceived by the respondents of both surveys were roughly similar. In both surveys, the most commonly reported problem was "don't speak the language of the student", followed by "lack of appropriate less biased assessment instruments". In terms of coursework, 23.6% of respondents in the 1994 survey reported that they had taken part of a course or a whole course, while 73% of respondents in the current survey indicated the same. While an increase in training is a positive finding, the issues which continued to be reported indicated that even more coursework or in-service training could be valuable for SLPs serving ELL children.

Perceived Competence in Service Delivery. In 1992, Campbell and Taylor published a national survey sent to ASHA-certified SLPs examining the self-perceptions of their perceived competence in three general areas: evaluation and treatment skills, general skills, and administrative skills. The theoretical framework for the study was based on the Discrepancy Evaluation Model (DEM), developed by Provus (1971), which allows for the systematic evaluation of suspected areas of discrepancy between program inputs and expected outputs (i.e., pre-service training and service needs, respectively). In other words, the researchers set out to

determine if programs for speech-language pathology at the university level were sufficient for instilling adequate skills. Therefore, the DEM was used to determine the relationship between the requirements of the ASHA certificate of clinical competence and institutional requirements for a master's degree in speech-language pathology. Furthermore, the researchers also wished to examine the perceived competence of SLPs in a national survey in the skills mentioned above. The researchers determined the possible areas of discrepancy through a study of the literature, and then compared their results to the suggested discrepancies from the literature.

The study instrument was mailed to selected participants who were actively providing speech therapy services and did not have a solely supervisory position. In the survey, respondents were asked to rate their level of competency on 32 skills on a 4-point scale (not competent, somewhat competent, competent, and very competent). Demographic questions included employment information, type of certification, state of residence, academic degrees, and major service population. Participants were selected from the national group of master's level SLPs who did not have any higher degrees. States of inclusion were selected after the 10 federal regions were condensed to five, based on geographic location. Then, six states were selected from each of the five regions: the largest and smallest in terms of population, the largest and smallest by per capita income, and the largest and smallest in terms of cultural diversity. The overall sample was 1,140 subjects, with 38 coming from each state. Of the invited participants, 766 surveys were returned, creating a response rate of 67%, and the total number of participants selected for the study was 713.

Of the 32 skills assessed, most SLPs felt competent in only 14, and none of the skills prompted a very competent rating from a majority of the participants. The skill area that received the highest percentage of competent ratings was general skills (45.0%), and the skill area that

received the highest percentage of non-competent ratings was administrative (43.0%). In analysis, competent and very competent responses were grouped, as were not competent and somewhat competent.

The results indicated to the authors that a severe discrepancy exists between the skills needed to competently provide services as an SLP and the requirements for a master's degree and the certificate of clinical competence. Many different suggestions were offered to explain the apparent discrepancies, including incongruence between faculty perceptions of skills and student-perceived competence of their own skills, that the skills assessed are not expected for entry-level SLPs, or that those who preside over training programs struggle to cover the broad spectrum mandated by ASHA. The researchers suggested that the evident discrepancies indicate not only a shortcoming of the training programs at a master's level, but also an insufficiency in ASHA certification requirements.

Of interest to the current study of SLPs' confidence and competence in distinguishing dialectical differences from true errors in the speech of Spanish-English bilingual children, skills involving services to bilingual speakers or speakers of a linguistic variant were frequently ranked as a non-competent skill. Percentages of respondents who considered themselves to be non-competent were as follows: evaluation of bilingual speakers (83.30%), treatment of bilingual speakers (79.90%), evaluation of speakers of variations of the linguistic standard (67.70%), and treatment for variations of the linguistic standard (66.60%).

Monolingual versus Bilingual SLPs and their Beliefs. In a survey assessing SLPs' beliefs about language assessments in bilingual and/or bicultural individuals, Kritikos (2003) endeavored to discover if differences existed between monolingual and bilingual SLPs in their beliefs about and proficiency in assessment of bilingual and/or bicultural children. To assess

these questions, Kritikos divided bilingual SLPs into those that acquired their second language in an academic setting (AS) and those that acquired it at home or abroad as part of a cultural experience (CE); monolingual (M) SLPs made up the third group. This division of bilingual SLPs acted to differentiate SLPs on the basis of whether or not bicultural experiences played a part in their second language acquisition, based on the belief that it would positively affect their understanding of bilingual children and therefore aid in the assessment process.

Participant states were identified through analysis of the proportion of their population that spoke a language other than English at home. Through this method, a state was chosen in each of six regions: New York (New England and Mid-Atlantic region), Michigan (North Central region), Florida (South Atlantic region), Texas (South Central region), New Mexico (Mountain region), and California (Pacific region). Bilingual members of state ASHA organizations were obtained for each state. Of the 2,337 surveys mailed, 811 were returned completed. Of the 811 participants, 365 (45%) were monolingual (M), 185 (23%) were bilingual from an academic setting (AS), and 261 (32%) were bilingual from cultural experience (CE).

In terms of the linguistic background of participants, 55% indicated that they spoke and/or understood a language other than English, with the most frequent languages being Spanish, French and German. From the AS participants (n = 185), 88% spoke Spanish, 20% spoke French, and 5% spoke German. A majority of the AS group reported that they were not proficient or somewhat proficient in listening, speaking, and writing in their second language. In the CE group (n = 261), 193 respondents indicated at-home learning of a language other than English and 68 learned a language other than English while abroad. As with the AS group, the three most common languages in the CE group were Spanish (86%), French (17%), and German (13%), but the CE group reported 20 languages not used by the AS group, for a total of 38. In

contrast to the AS group, a majority of participants from the CE group scored themselves as proficient or very proficient in listening, reading, writing, and speaking a language other than English.

An analysis of the general background of the respondents found no significant variances in the members of the three groups in terms of gender, employment status, and year of work as a certified SLP. As would be expected from the bilingual population surveyed, Chi-square analysis showed significant differences in the racial composition of the three groups, with the bilingual groups having significantly more Latino members than the monolingual group. A majority of participants from all three groups worked in a school setting (60%), with the next most common workplace being private practice (30%).

Client characteristics were also queried through Kritikos's survey. A large majority of participants (95%) indicated that they had at least one child on their caseload that spoke a language other than English, with Spanish (98%) and Chinese (13%) being the most commonly reported languages. Interestingly, 109 respondents reported working with clients who spoke Chinese in the home, yet only 3 of the SLP participants spoke or understood Chinese. The percentage of clients who spoke a language other than English at home was similar across groups, with most respondents choosing the category of "less than 25%". Even with this similarity, Chi-square analysis found significant differences between the groups in response to this survey item. The M group was most likely to indicate the smallest percentage ("less than 25%") and the CE group reported higher percentages.

As seen in Hammer et al. (2004), Kritikos (2003) also assessed pre-service training and continuing education. Questions probed whether or not coursework or workshops had been completed in several areas concerning multilingualism and multicultural issues. The most

coursework was taken by CE SLPs, followed by AS, and lastly M. Across the groups, the least amount of training was received in the use of interpreters (20% and 25% pre-service and in-service, respectively), laws concerning assessment (22% and 28%, respectively), and assessment tools (32% and 42%, respectively). Problems SLPs encountered during the assessment process with bilingual individuals were reported as well. The problems included: 1) difficulty in differentiating a language difference from a language disorder (reported by 29% of the SLPs in the survey), 2) finding interpreters who speak the client's language (44%), 3) scarcity of bilingual SLPs (64%), and 4) lack of developmental norms and standardized tools for bilinguals by 70%. After identifying problems faced in assessments, SLPs were asked to rate possible solutions on a 5-point Likert scale in regard to their importance. The most common solutions were seminars (87%), additional coursework (85%), and access to bilingual SLPs (85%). Other highly rated solutions include additional practicum experience with bilingual children (84%), recruitment of more bilingual SLPs (83%), and publishing of a greater number of journal articles on the subject of bilingualism (70%).

While the information provided by these studies is an important step, further investigation is needed to identify SLPs' true competence and skills in service delivery to bilingual and multicultural populations. By not only inquiring about perceived competence, but also including a practical knowledge section, a more realistic conclusion can be drawn about the current state of SLPs' knowledge as it relates to serving clients from multicultural and bilingual backgrounds. This information will contribute to the small body of research surrounding this topic and will increase awareness of how to best serve this growing population of Spanish-speaking individuals.

Chapter 3

Justification

The over-representation of bilingual or second language learning children in special education (including speech-language pathology) is often attributed to over-diagnosis due to language differences. Equally problematic is a late diagnosis due to clinicians regarding a true disorder as a difference (Goldstein & Iglesias, 2007). Kritikos (2003) also found that SLPs were 40% less likely to refer a bilingual child for therapy than a monolingual child, which indicates a bias against providing services for children with input in more than one language that may lead to under-diagnosis. This was the case for both monolingual and bilingual SLPs. The Spanish and English language differ across all linguistic domains, and an understanding of these differences is a crucial aspect of clinical competence for speech-language pathologists who have or may have Spanish-speaking children or adults on their caseloads. When engaged in service provision to bilingual individuals, knowledge of the differences caused by dialect is crucial in order to prevent over-diagnosis; however, of the five surveys reviewed, Hammer's (2004) survey was the only one in which difference versus disorder was a commonly taught topic in pre-service coursework.

Bilingualism and second language learning is a progressively relevant topic in the field of speech-language pathology and will continue as the population of the United States becomes increasingly diverse. Speech-language pathology is a profession that is directly affected by this change. The ASHA Code of Ethics, under which all certified SLPs operate, mandates culturally and linguistically appropriate practice, as do governmental agencies, such as Medicaid and Medicare, and the Individuals with Disabilities Education Act (IDEA; ASHA, 2013). As the

Spanish-speaking population continues to grow, so does the need for research in the areas of bilingualism and the clinical implications of bilingualism.

Goldstein (2012) reports a shortage of evidence in the area of cultural and linguistic diversity, resulting in practice that is not evidence based. In a 2012 article on the subject, a search of three ASHA journals found only 42 papers published with the words "culturally and linguistically diverse" in the abstract since the year 1991, with most of them having been published in the last decade. Goldstein calls for a greater amount of research in the area, and current research is rising to this need, with recent surveys often focused on pre-practice training in multi-cultural issues and SLPs' confidence level in serving culturally and linguistically diverse populations. One survey by Campbell and Taylor (1992) assessed perceived competency levels of SLPs, but no research has examined practical competency levels in service to this population, focusing on dialectical differences (i.e., English productions that are influenced by Spanish and may be perceived as an error by speakers of GAE, although they are considered dialectical features of Spanish-influenced English). Therefore, the current research has been designed to build upon current knowledge, including that illustrated in Kritikos (2003), and answer the following questions:

1. Does a relationship exist between the number of areas of coursework or in-service training in multiculturalism and confidence in serving bilingual populations?
2. Does a relationship exist between the number of areas of coursework or in-service training and competence in distinguishing dialectical differences from true errors in sentences and/or identifying the acceptable rules of Spanish-influenced English dialect?

3. Is there a relationship between the percentage of an SLP's caseload that speaks Spanish and their confidence or competence in distinguishing dialectical differences from true errors in identifying the acceptable rules of a Spanish-influenced English dialect?
4. Does a person with cultural (CE) or cultural-academic (CE/AS) Spanish language learning experience have greater confidence and/or competence than a person with academic (AS) Spanish language learning experience and a monolingual individual in distinguishing a dialectical difference from a true error in identifying the acceptable rules of a Spanish-influenced English dialect? Does a person with cultural (CE) or cultural and academic (CE/AS) Spanish experience have more Spanish-speaking children on his or her caseload and/or have more pre-service or in-service training in bilingual and multicultural issues than a monolingual (M) or person with academic (A) Spanish experience?
5. Does a relationship exist between respondents' self-reported confidence in serving bilingual populations and their competence in distinguishing dialectical differences from true errors and identifying the acceptable rules of Spanish-influenced English dialect?

Chapter 4

Method

Participants

A total of 99 respondents completed the survey. Eligible participants were American Speech-Language-Hearing Association (ASHA)-certified speech-language pathologists or clinical fellows and had experience working with children. If neither of these conditions were met they were taken to the end of the survey and their responses were not used for analysis. All respondents had achieved either a master's degree (*n* = 89; 90%), Ph.D. or Ed.D. (*n* = 9; 9%) or other advanced degree (*n* = 1; 1%). All respondents reported they had clinical experience working with children and reported working in a variety of locations. The majority of participants reported working in the schools (*n* = 62; 62%), while 10 participants (10%) reported working in "other" areas. Typed "other" responses included early intervention, private practice and contract work. The remaining 27 (28%) participants reported working in university clinics, hospitals, home health, outpatient clinics, other clinics, HeadStart, rehabilitation centers, or were currently not employed. Respondents were practicing in 31 different states and represented all five regions of the United States (South, Northeast, Midwest, Southwest, and West); however, of the 96 respondents that answered this question, the largest number of participants reported living in the South (39%; n = 37), followed by Southwest (22%; n = 21), Northeast (19%; n = 18), West (12%, n = 12), and Midwest (8%; n = 8).

Materials

A 28-question web-based survey using Qualtrics software (see Appendix A) was created in order to gain insight on the SLP respondents and answer questions in five main areas: a) background, b) language history, c) academic preparation in Spanish, d) academic coursework in

multiculturalism and bilingualism, and e) clinical confidence and competence in serving Spanish-speaking English-language learning children. The questions were based on Campbell and Taylor (1992), Hammer, Detwiler, Detwiler, Blood, and Qualls (2004), and Kritikos (2003), with greater emphasis on academic and cultural experience with Spanish and competence in serving the Spanish-speaking English-language learning population.

- Part I questions focused on background and demographic information, including the percentage of the respondents' caseloads that spoke Spanish.
- Part II questions were used to divide the respondents into different language groups: monolingual, academic learner of Spanish, cultural learner of Spanish, and cultural/academic learners of Spanish. The academic learner group was comprised of those respondents who indicate that they learned Spanish in school (question 15) and rated themselves as intermediate, advanced, superior or distinguished in speaking and listening according to the American Council on the Teaching of Foreign Language (ACTFL) Proficiency Guidelines (questions 16 and 17; Swender, Conrad, & Vicars, 2012). The cultural-learner group was composed of those respondents who indicated that they learned Spanish in their home or another cultural setting and rated themselves as intermediate, advanced, superior or distinguished in speaking and listening according to the ACTFL Proficiency Guidelines (questions 16 and 17). The cultural/academic learner group was composed of those participants that indicated that they learned Spanish in a combination of settings including school and home or abroad (question 15) and rated themselves as intermediate, advanced, superior or distinguished in speaking and listening according to the ACTFL Proficiency Guidelines (questions 16 and 17).

- Part III questions assessed the level of academic experience with Spanish for self-identified Spanish-speakers and monolingual speakers, queried by asking the number of Spanish courses taken in school.
- Part IV questions assessed the types of coursework and in-service training in bilingualism and multiculturalism received during the course of the respondents' degrees in speech-language pathology and once entering the field.
- Part V questions assessed the respondents' confidence in serving bilingual children and families and their competence in evaluating the acceptable rules of a Spanish-influenced English dialect and distinguishing dialectical differences from true errors in short written phrases.

Procedure

Prior to launching the web-based survey, a pilot of the survey was completed in order to discover any potential problems with the survey itself or the material covered. The states of Colorado and Florida were selected as pilot states due to their exclusion from the participant states in the primary recruitment. Department chairs for Communication Disorders or professors with multicultural research interests were contacted at universities in each state with a request to forward the survey link to their faculty in order to participate in the pilot of the survey. Certified SLPs from the Speech and Hearing Clinic at Auburn University were also invited to participate in the pilot. A total of 16 people participated and no issues as to content or survey mechanics were reported.

After the pilot of the survey, recruitment for the current project began. Participants were recruited by three methods. Initially, the coordinators for ASHA's Special Interest Groups 14 (Cultural and Linguistic Diversity) and 16 (School-based Issues) were contacted regarding the

project. The Special Interest Group (SIG) 14 was selected due to their focus on service provision to individuals from multicultural backgrounds and the resulting probability that many of their members may be working with individuals who are second language learners. SIG 16 was selected due to the group's focus on serving children, which was part of the selection criteria for this project. An introductory email, containing the weblink to the online survey, was sent to the coordinator of these divisions and then distributed on the listservs. The weblink to the survey was posted to SIG 14 directly by the first author, due to membership in the SIG. The weblink was distributed to SIG 16 listserv one time and to SIG 14 twice.

Following the initial recruitment attempts, a search of the ASHA membership directory was conducted to find potential participants who: (a) held ASHA certification in speech-language pathology; (b) listed their current place of work as a school or other location where the predominant population is pediatric; and (c) were employed in one of 15 selected states based on the percentage of Hispanics in the population as reported in the 2010 U.S. Census (U.S. Census Bureau, 2011). For the current investigation, the 5 with the highest percentage, the 5 with the median percentage, and the 5 with the lowest percentage were chosen. This method was used in an effort to create a representative level of diversity in the caseloads of respondents, and was based off the method of Campbell and Taylor (1992). The states chosen, in order of percent Hispanic from greatest to least were as follows: New Mexico, Texas, California, Arizona, Nevada, Georgia, North Carolina, Maryland, Delaware, Virginia, South Dakota, North Dakota, Vermont, Maine, and West Virginia. The range of percent Hispanic in the states' population was 1.2-46.3%. Participants were selected randomly using stratified random sampling (i.e., every n^{th} name was selected) and selected participants were emailed the information letter and the weblink to the survey through the ASHA Community. One week after the initial email, a reminder email

was sent to all participants, once again containing the information letter and the weblink to the survey.

Lastly, a short description of the survey and an invitation to participate with the link to the online survey was posted to the ASHA Community and the ASHA Facebook page. Participants that elected to click on the embedded link were then directed to the survey, where the first question contained the text of the information letter, after which the participants had the opportunity to provide consent by selecting "yes" or "no".

The survey was administered through the online survey tool Qualtrics, which is a secure Internet-based software program. In this study, all data was collected anonymously and stored on a secure server. A total of 1,500 emails were sent and 58 potential participants initiated the survey after receiving the invitation via email. After filtering responses for completion, 48 (49%) responses remained in the participant pool, resulting in a response rate of 3% for this recruitment method. The remaining participants included in the participant pool were recruited from the ASHA Special Interest Group 14 (n = 23; 23%), ASHA Special Interest Group 16 (n = 11; 11%), ASHA Community page (n = 8; 8%) and the ASHA Facebook page (n = 8; 8%). One respondent did not answer this question and therefore was not included in these calculations. Response rates cannot be calculated for these recruitment methods.

Survey Development and Distribution. Dillman, Smyth, and Christian (2014) note that the dynamics of surveying have drastically changed as technology continues to evolve. While technology allows for greater access to people through electronic surveying, it also enables potential survey participants to avoid or ignore it. One of the primary reasons for low response rates is general reluctance to respond to surveys. As such, the following safeguards suggested by

Dillman and colleagues (listed in the sections below) were taken in the development and distribution of the current survey.

Social Exchange Theory. Using concepts of the social exchange theory is a suggested method to reduce reluctance to respond to surveys. Social exchange theory claims that "people are more likely to comply with a request from someone else if they believe and trust that the rewards for complying with that request will eventually exceed the costs" (p. 24). Essentially, one must build a sense of trust, reciprocity, and altruism in potential survey participants in order to increase the likelihood of participation. The essence of employing the social exchange theory in an email or web-based survey is presenting a survey with a holistic design, without an overload of information, and with multiple attempts to contact to each participant. To that end, the current survey employed a continuity of formatting, in addition to an initial information letter that was as succinct as possible, while still adhering to the guidelines set forth by the Institutional Review Board for the Protection of Human Subjects in Research (IRB) at Auburn University. In addition, a follow-up email containing the weblink to the survey and the information letter was sent as a reminder to each selected participant one week after the initial contact attempt.

Subject and "From" Lines. In order to increase the likelihood that recipients of the email will open the message, the authors suggest that the subject line remain short, while conveying all of the important information to the reader, namely, the name of the institution or company and the topic. Continuing the application of the social exchange theory, Dillman et al. recommend asking for help from participants in the subject line rather than asking them to share their opinions, in order to further increase response rate. With these suggestions in mind, the subject line for the initial contact of the current survey was "Help Auburn University Develop Knowledge on Bilingual Service Provision". The subject line for the reminder email was

"Participate in Survey for Auburn University Master's Thesis". The sender of the email seen in the "from" line must also be configured to convey a sense of professionalism and continuity across all contacts. Dillman et al. suggest that a respectable email address and full name appear in the "from" line, rather than a personal email address and nickname. The "from" line appeared as "Kelsey Smith has sent you a message from community.asha.org", which lent credibility to the correspondence.

Spam Filters. Dillman et al. define spam as "unsolicited bulk messages for which there is no preexisting relationship between the sender and the recipient" (p. 339). Spam filters commonly exist in email accounts without the need of configuration by the user. Their existence requires surveyors who intend to use email to contact participants to design their email contacts in such a way that the email will not be sent to the spam folder without being seen by the intended recipient. To avoid this potential problem, plain text communications were used instead of HTML, due to the fact that many spam filters flag the features of HTML messages into the spam folder. Bulk emails were also avoided, as were the "CC" or "BCC" fields (p. 339). Words such as "offer, free, cash, win, promo, prize, and so on" (p. 339) were also avoided.

ACTFL Proficiency Guidelines. The American Council on the Teaching of Foreign Language (ACTFL) Proficiency Guidelines (Swender, Conrad, & Vicars, 2012) were used to estimate respondents' proficiency in Spanish. A detailed description provided by ACFTL can be found within the content of the survey instrument in Appendix B. According to ACTFL, the proficiency guidelines are intended to provide a method for evaluating functional language ability. Proficiency guidelines exist for speaking, writing, listening, and reading; the guidelines for speaking and listening were used in this project due to the impact of speaking and listening skills in providing speech and language services to Spanish-speaking clients. The respondents

were asked to rate their speaking and listening skills based on the proficiency guidelines when provided with the descriptions of each ranking found in the ACTFL publication.

The five levels of proficiency are distinguished, superior, advanced, intermediate and novice. ACTFL also describes listening and reading sub-rankings of high, mid, and low for the rankings advanced, intermediate, and novice, but these sub-rankings were not used for this project. Each level of proficiency is accompanied by a description of tasks in which speakers and listeners can functionally participate at each level, in addition to limitations found at each level (Swender et al., 2012). Respondents were asked to rank themselves based on self-report according to the descriptions of proficiency of both speaking and listening separately, which is not the original intention of the ACTFL proficiency guidelines; however, due to the scope of this project and the use of a web-based survey, it was not practical to have all respondents complete full ACTFL proficiency testing. Reported proficiency will be used in creating language-learner groups for use in data analysis.

Chapter 5

Results

Data Analysis

Survey responses were filtered for completion. In conjunction with the creation of the web-based survey, a spreadsheet was created to combine and analyze the research data. Upon closing the survey, responses were transferred to the spreadsheet for analysis. To determine a mean response for each item, the responses for all participants who responded were averaged. In cases where some participants selected not to respond to a question, the averages were calculated using the number of respondents who answered that item, as opposed to the number who completed the survey.

Background

A total of 99 participants completed the survey and met inclusion criteria. With regard to the location in which participants were currently practicing and professionally licensed, participants represented demographic regions of the South, Northeast, Midwest, Southwest, and West. The largest percentage of participants reported currently practicing and being professionally licensed in the South (see Table 1). It should be noted that participants responded from states other than those targeted by the initial recruitment method of direct email, having encountered the survey in the ASHA SIGs, the ASHA Facebook page, or the ASHA community page, resulting in a larger number of states represented.

Respondents were asked to report the date range in which they received their highest degree: 1979 or prior, 1980-1989, 1990-2003, 2004-present. The majority of respondents indicated that they graduated between 2004-present (n = 55; 56%), with fewer participants graduating between 1990-2003 (n = 31; 31%), 1980-1989 (n = 11; 11%) and 1979 or prior (n = 2; 2%). Amount of experience was also queried and 98 respondents answered the question. The

responses of these participants ranged from 5 years or less to 21 years or more, with 28% (*n* = 27) indicating 5 years or less, 25% (*n* = 24) indicating 21 years or more, 21% (*n* = 21) indicating 6-10 years, 14% (*n* = 14) indicating 16-20 years, and 12% (*n* = 12) indicating 11-15 years.

Table 1
States in Which Participants were Currently Practicing

Area of Residence	***n* (%)**
South	
Alabama	11(11.5)
Arkansas	2 (2.1)
Florida	6 (6.3)
Georgia	7 (7.3)
North Carolina	4 (4.2)
South Carolina	2 (2.1)
Tennessee	1 (1.0)
Virginia	2 (2.1)
West Virginia	2 (2.1)
Midwest	
Illinois	2 (2.1)
Iowa	1 (1.0)
Michigan	1 (1.0)
Minnesota	1 (1.0)
North Dakota	1 (1.0)
South Dakota	1 (1.0)
Wisconsin	1 (1.0)
Northeast	
Delaware	5 (5.2)
Maine	1 (1.0)
Maryland	1 (1.0)
Massachusetts	2 (2.1)
New Hampshire	1 (1.0)
New Jersey	1 (1.0)
New York	1 (1.0)
Pennsylvania	3(3.1)
Vermont	3(3.1)
Southwest	
Arizona	7 (7.3)
New Mexico	5 (5.2)
Texas	9 (9.4)
West	
California	7(7.3)
Nevada	3 (3.1)
Washington	2 (2.1)

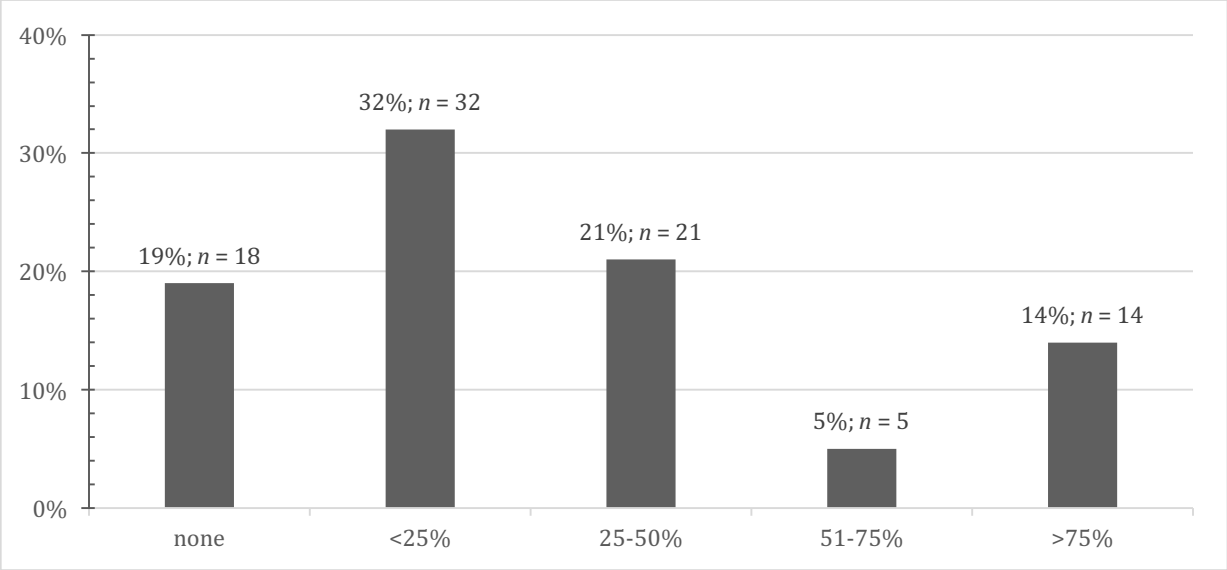
Note. n = number of respondents; % = percentage of respondents

Race of the respondents was asked in the same format used in the U.S. Census (U.S. Bureau of the Census, 2011), with the respondents able to select all that applied of the following options: White, Black or African-American, Asian, Native American or other Pacific Islander, Native American or Alaskan Native, or other. If other was selected, respondents had the option to type an alternate response. The majority of the respondents to this question (*n*= 86; 87%) reported their race as White, while 7 respondents (7%) reported being Black or African-American, 2 respondents (2%) reported Native American or other Pacific Islander, 1 respondent (1%) reported Asian descent, 1 respondent (1%) reported Native American or Pacific Islander, and 6 respondents (6%) indicated other (i.e., Hispanic, Native American, biracial white and Hispanic, or Latina). A separate question was asked about Hispanic, Latino, or Spanish origin, following the format of the U.S. Census. All 99 respondents answered the question, with the majority (*n* = 85; 86%) reporting that they were not of Hispanic origin. Of the remaining respondents, 7 (7%) indicated Mexican descent, 5 (5%) indicated another place of descent, and 2 (2%) indicated Cuban descent. The other places of reported descent, which were typed responses, were Colombia, mixed Spanish, Colombia and German, Honduran, and Peru.

Respondents were asked to report an estimate of the percentage of their current caseload that came from a home where Spanish was the predominant language spoken (see Figure 1). Of the 99 respondents who answered the question, 19% (*n* = 18) reported having no one on their current caseload from a Spanish-speaking home, while almost one-third indicated their caseload was less than 25% Spanish-speaking. Collapsing together the remaining selections, results indicated that 41% of participants reported a caseload with at least 25% Spanish-speakers. For analysis, the percentages were coded as integers 1-5, with 1 representing ‘no Spanish-speaking children on caseload’, 2 representing ‘less than 25%’, etc.

Figure 1

Percentage of Current Caseload from a Home Where Spanish is Predominant Language



Language Experience & Learning

Respondents were asked whether or not they spoke or understood Spanish. All of the 99 respondents provided an answer, and the majority (54%; *n* = 53) indicated that they did not, while 46% (*n* = 46) indicated they did speak or understand Spanish. Those who responded that they did speak or understand Spanish were asked to report to which language they were first exposed. The majority (78%; *n* = 36) responded English, while 18% (*n* = 8) responded Spanish and 4% (*n* = 2) responded English and Spanish simultaneously. Respondents who indicated they were first exposed to English (78%; *n* = 36) were next asked at which age they first began to learn Spanish. The majority (55%; *n* = 20) responded 12-18 years, while 28% (*n* = 10) responded after age 18, 8% (*n* = 3) responded 4-7 years, 6% (*n* = 2) responded 8-11 years, and 3% (*n* = 1) responded birth to 3 years.

The 46 respondents who reported speaking and/or understanding Spanish were next asked where they learned Spanish: school, home, abroad, or other. Respondents were able to select all of the options that applied to them. The majority (74%; *n* = 34) reported learning

Spanish at school, with 41% (*n* = 19) learning Spanish at home, 33% (*n* = 15) learning Spanish abroad, and 13% (*n* = 6) selecting other. "Other" responses included: working with native speakers, university courses, in-services/worked in east L.A., on my own, on the job, and community. These responses, in conjunction with proficiency rankings (to be discussed in the following section), were later used to categorize the respondents into the following language learner groups: monolingual (the M group), academic learner of Spanish (the AS group), cultural learner of Spanish (the CE group), and cultural/academic learner of Spanish (the CE/AS group), which is described below.

Proficiency. Participants who reported speaking or understanding Spanish (*n* = 46) were then asked to categorize their Spanish skills in speaking and listening according to the ACTFL Proficiency Guidelines (Swender et al., 2012). The majority of participants (85%; *n* = 35) ranked themselves equally in speaking and listening; however, in the case of a discrepancy, the listening ranking was used due to the tendency for receptive language skills to exceed expressive skills. For one to be able to verbalize a higher level of language than he or she is able to understand is counter-intuitive. In the case that one of the questions was not answered, the level selected in the answered question was used. Lastly, the combined ACTFL ratings of distinguished and superior were collapsed due to the high level of skill associated with each of these proficiency levels and to reduce the number of groups to be used in analysis (see Tables 2 and 3).

Responses to questions querying proficiency and where knowledge of Spanish was acquired were used to create the groups for later analysis (see Figure 2). Those whose combined proficiency level was novice (24%; *n* = 11) were combined with those who reported not speaking and/or understanding Spanish to create the M group. This decision was made due to the low level of proficiency associated with the novice level, such that their language skills were too low to

include them in the Spanish-speaking groups. The AS group was composed of those who reported an ACTFL proficiency ranking above novice and those who reported learning Spanish only at school. The CE group was comprised of those who ranked above novice in proficiency and who reported learning Spanish at home and/or abroad. The CE/AS group was composed of those who reported proficiency above novice and reported learning Spanish in a combination of environments including school, home or abroad.

Table 2
ACTFL Proficiency Levels of Respondents

ACTFL Proficiency Level	**Speaking (n = 45)**	**Listening (n = 41)**
	n (%)	*n* (%)
Distinguished	6 (13%)	7 (17%)
Superior	8 (18%)	9 (22%)
Advanced	10 (22%)	10 (24%)
Intermediate	9 (20%)	7 (17%)
Novice	12 (27%)	8 (20%)

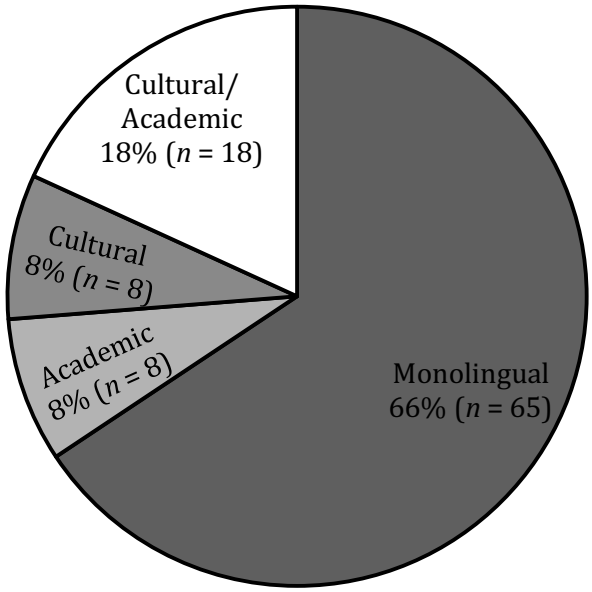
Note. *n* = number of participants; % = percentage of participants

Table 3
ACTFL Proficiency Levels Combined

Combined ACTFL Proficiency Level	
(n = 45)	*n* (%)
Distinguished/Superior	16 (36%)
Advanced	10 (22%)
Intermediate	8 (18%)
Novice	11 (24%)

Note. *n* = number of participants; % = percentage of participants

Figure 2
Language Learner Groups (*n* = 99)



Spanish Language Coursework. Respondents were next asked if they took any Spanish language classes in school, in order to further assess experience with the Spanish language, regardless of proficiency. The majority of respondents (70%; *n* = 69) indicated they had taken Spanish as a foreign language classes, with the remaining 30% (*n* = 30) responding that they did not take such classes. Of the 69 respondents who answered yes, 41% (*n* = 28) had taken 3-4 classes, 36% (*n* = 25) had taken 1-2 classes, and 23% (*n* = 16) had taken more than 5 courses.

Training in Bilingualism and Multiculturalism. Respondents were next asked about their experience in coursework and in-service or workshop training in areas of bilingualism and multiculturalism (see Table 4). With regard to coursework, the majority of participants reported that they received coursework addressing the topic areas of second language learning, differential assessment of bilingual vs monolingual individuals, language disorder versus language difference, code switching, and dynamic assessment, with the highest percentage

reporting coursework on the topic of language difference versus disorder. The topic areas of assessment tools for bilingual individuals and use of standardized tests were reported by slightly less than 50% of participants, with communication patterns in Spanish-speaking cultures being reported by the smallest number of participants. With regard to in-service training, the largest percentage of participants also selected the topic of language disorder versus language difference. The majority of respondents also reported attending in-service training on second language learning, differential assessment of bilingual vs. monolingual individuals, assessment tools for bilingual individuals, dynamic assessment, and use of standardized tests in bilingual populations. Fewer respondents, although still approaching 50%, reported attending in-services on communication patterns in Spanish-speaking cultures, and code-switching.

Table 4
Coursework and In-service Training in Bilingualism and Multiculturalism

Area of Training	**Coursework** (N = 81)	**In-service** (N = 73)
	n (%)	*n* (%)
Second language learning	43 (53%)	49 (67%)
Communication patterns in Spanish-speaking cultures	25 (31%)	34 (47%)
Differential assessment of bilingual vs. monolingual individuals	46 (57%)	46 (63%)
Assessment tools for bilingual individuals	39 (48%)	42 (52%)
Language disorder vs. language difference	74 (91%)	59 (81%)
Code-switching	50 (62%)	35 (48%)
Dynamic assessment	43 (53%)	41 (56%)
Use of standardized tests in bilingual populations	39 (48%)	38 (52%)

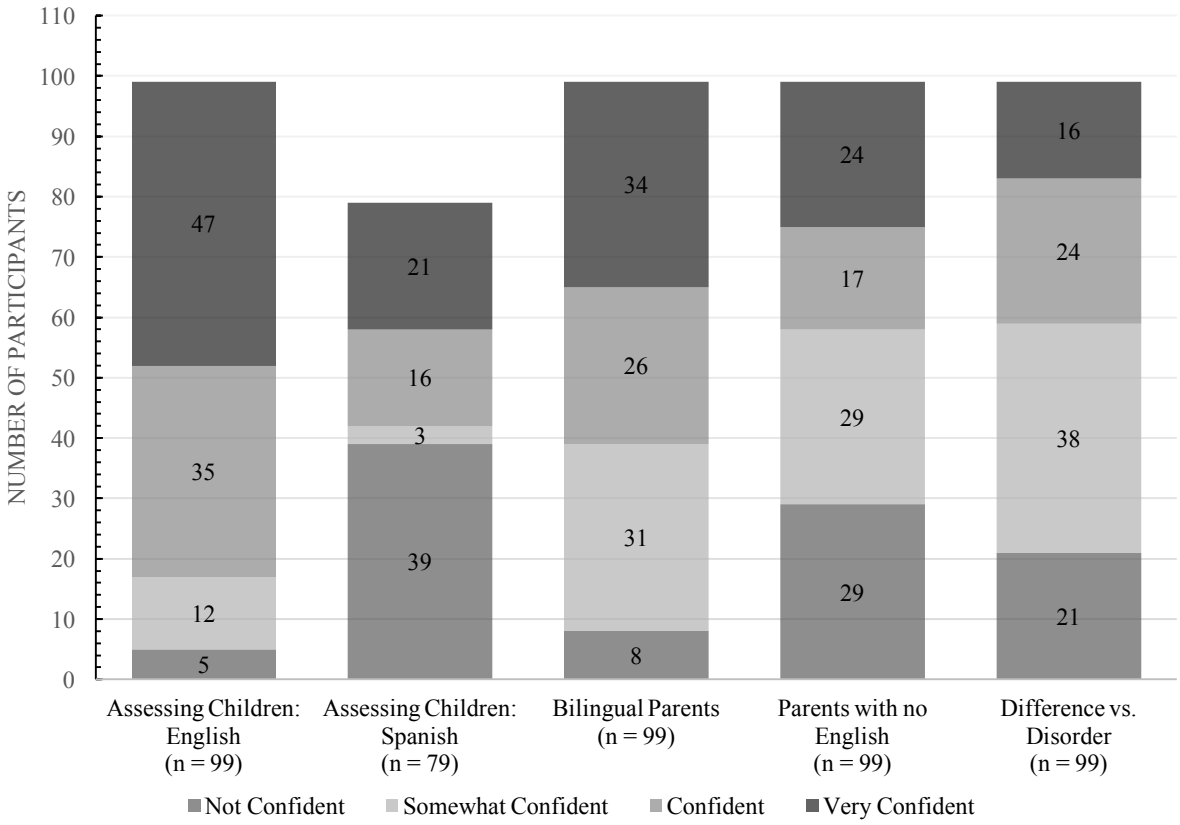
Note. *n* = number of participants; % = percentage of participants

Confidence in Service Provision. Confidence of the respondents in serving bilingual children and their families was the next area assessed (see Figure 3). Respondents were asked to rate their confidence on a 4-point Likert scale: not confident, somewhat confident, confident, and very confident. Confidence was ranked in five areas: assessing bilingual children whose primary language is English, assessing children whose primary language is Spanish, working with

bilingual parents, and working with parents who do not speak English. Respondents were also asked to rate their confidence in differentiating a dialectical difference from a true error in speakers of Spanish-influenced English. In calculations, the mean level of confidence for each participant across the 5 questions was used. This was calculated by assigning a value of 1 to not confident, 2 to somewhat confident, and so on and taking the arithmetic mean of the 5 questions.

Respondents' confidence in assessing bilingual children whose primary language is English was most commonly very confident (47%; $n = 47$), followed by confident (35%; $n = 35$). Fewer than a quarter of the respondents felt somewhat confident or not confident. Respondents felt substantially less confident about assessing children whose primary language is Spanish, with 49% ($n = 39$) indicating they were not confident. In working with bilingual parents, respondents most commonly reported feeling very confident (34%; $n = 34$) or somewhat confident (26%; $n = 26$), with very few (8%; $n = 8$) feeling not confident. Respondents' confidence in working with parents that do not speak English was more equally divided than in other areas, such that percentages of each response ranged from 17-29%, a much lower degree of variation than seen in other answers. Respondents were most likely to feel not confident (29%; $n = 29$) or somewhat confident (29%; $n = 29$) in working with these parents. In differentiating a dialectical difference from a true error, respondents most frequently reported feeling somewhat confident (38%; $n = 38$), followed by confident (24%; $n = 24$).

Figure 3
Reported Confidence of SLPs in Areas of Multiculturalism



Note. Data labels represent the number of respondents that indicated the corresponding level of confidence.

Competence in Recognizing and Identifying Spanish-influenced English. The final section of questions assessed the participants' competence in identifying appropriate features of a Spanish-influenced English dialect and in distinguishing between dialectical differences, true errors, and correct productions in short English phrases. The first segment of questions dealt with identifying changes that would be expected in the speech and language of the Spanish-influenced English dialect. Respondents were asked to identify which of the 8 features would be acceptable in the English productions of Spanish speakers. Six of the 8 choices were correct, and the percentage of accurate responses for each choice ranged from 36%-88% (see Table 5). Inverting adjective-noun order was the response with the highest percent of accurate responses, followed

by substitution of /t/ for /ʃ/ and /d/ for /ʒ/, which is not a feature of Spanish-influenced English. The feature with the lowest amount of accuracy was stopping of the fricatives /f/, /v/, /θ/, and /ð/, which was not a correct response; however, a majority of respondents indicated that it was. Dropping the subject of a sentence was also a response with a low level of accuracy, with a majority of the respondents responding incorrectly that it is not a feature of Spanish-influenced English. The other choices were answered correctly by a majority of the respondents: formation of double negatives, substituting /t/ for /θ/ and /d/ for /ð/, addition of a schwa /ə/ to words with initial /s/ blends, and dropping of "it" as a referent to a previously mentioned subject. It should be noted that one of the correct answer choices, 'addition of a schwa to words with initial /s/ blends', is mentioned in some literature as a feature of Spanish-influenced English (Paul, 2012), while the majority of authors indicate that /e/ is added in epenthesis (Goldstein, 2004). However, a majority (65%) indicated that a schwa in epenthesis is a feature of Spanish-influenced English. The mean percent correct for this section of questions was 60%, with a standard deviation of 1.5.

Table 5
Identification of Appropriate Features of Spanish-influenced English (*n* = 96)

Feature	**%[a] (*n*)**
Dropping the subject of a sentence	45% (42)
Inverting adjective-noun order	88% (83)
*Stopping of the fricatives /f/, /v/, /θ/, and /ð/	64% (60)
Formation of double negatives	71% (67)
Substituting /t/ for /θ/ and /d/ for /ð/	66% (62)
*Substitution of /t/ for /ʃ/ and /d/ for /ʒ/	26% (24)
Addition of a schwa /ə/ to words with initial /s/ blends	65% (61)
Dropping of "it" as a referent to a previously mentioned subject	62% (58)

Note. *n* = number of participants; % = percentage of participants; * = Incorrect responses are indicated by an asterisk; [a] = percentage listed refers to the number of participants that indicated the choice as *correct*

The second segment of competency questions assessed respondents' ability to differentiate between a dialectical difference, a true error, and a correct production in the English

output of speakers of Spanish-influenced English. The questions were separated into a section of short, 2-6 word phrases (see Table 6) and a section of longer/multiple sentences (see Table 7). Five of the choices were a dialectical difference, 4 were a true error, and 2 were correct, with no error. The dialectical differences were answered accurately by the majority of respondents, ranging in accuracy from 82-93%, with "she no do the homework" reaching the highest level of accuracy. The choices with a true error were answered correctly by a majority of the respondents, with the exception of "I can feel the /hɪt/ [heat]", which was answered correctly by only 24% of the respondents. Percentage of accurate responses on choices with a true error ranged from 24-97%, with "He has a /gal/ [ball]" the choice with the greatest accuracy. The correct, or no error, responses were answered accurately by an overwhelming majority of the respondents, ranging from 97-98%. The mean percent correct of the sentences section was 83% with a standard deviation of 1.7.

Table 6
Dialectical Differences versus True Errors and Correct Productions: Short Sentences

Utterance	**Dialectical Difference**	**True Error**	**No Error**
	% (*n*)	% (*n*)	% (*n*)
Hers hair is red. (*n* = 95)	23% (22)	*75% (71)	2% (2)
She no do the homework. (*n* = 97)	*93% (90)	6% (6)	1% (1)
Look at the /t ɪ p/! [ship] (*n* = 94)	26% (24)	*70% (66)	4% (4)
She no ate nothing. (*n* = 96)	*89% (85)	10% (10)	1% (1)
Who are you? (*n* = 96)	3% (3)	0 (0)	*97% (93)
/tæŋk ju/ [Thank you]. (*n* = 97)	*86% (83)	8% (8)	6% (6)
He has a /gal/ [ball]. (*n* = 97)	1% (1)	*97% (94)	2% (2)
The puppy little barks. (*n* = 96)	*82% (79)	16% (15)	2% (2)
Put the cake in the /aβan/ [oven] (*n* = 97)	*82% (80)	12% (12)	5% (5)
I can feel the /hɪt/ [heat] (*n* = 96)	55% (53)	*24% (23)	21% (20)
I want the apple. (*n* = 97)	1% (1)	1% (1)	*98% (95)

Note. * = Correct answers are marked with an asterisk; *n* = number of participants; % = percentage of participants

The longer/multiple sentences were included in order to allow for a greater amount of context, which permitted different types of errors to be introduced. The first choice, "You need to wash the plate. Is dirty." is an example of a dialectical difference of subject dropping (in this case, dropping "it" when there is a previously mentioned referent, namely, 'plate'). This was answered accurately by a large majority of the respondents, with few responding that it was a true error. "Mama is coming today. She is taking a plane from Mobile." was a correct response with no error. A majority of the respondents answered this question correctly, and a few indicated that it was a dialectical difference. "Look, I see a /taet/ [cat] and a /dɔd/ [dog]" was the choice with a true error and was answered accurately by all but two respondents. It should be noted that the two sets of sentences (short sentences and longer/multiple sentences) were combined in data analysis to provide a representation ability across differing levels of sentence complexity.

Table 7
Dialectical Differences versus True Errors and Correct Productions: Longer/Multiple Sentences

Utterance	**Dialectical Difference**	**True Error**	**No Error**
	% (*n*)	% (*n*)	% (*n*)
You need to wash the glass. Is dirty. (*n* = 98)	*92% (90)	8% (8)	0 (0)
Mama is coming today. She is taking a plane from Mobile. (*n* = 98)	4% (4)	1% (1)	*95% (95)
Look, I see a /taet/ [cat] and a /dɔd/ [dog]! (*n* = 98)	0 (0)	*98% (96)	2% (2)

Note. * = Correct answers are marked with an asterisk; *n* = number of participants; % = percentage of participants

Relationships Between Coursework, In-service Training, and Confidence

Correlation coefficients were calculated among reported number of coursework areas (*M* = 3.63; *SD* = 2.75), reported number of in-service areas (*M* = 3.47; *SD* = 2.96), and an average of

reported confidence in serving Spanish/English speaking children (M = 2.61; SD =.89). The results of the correlational analysis show that all 3 correlations were statistically significant. The correlations between coursework and confidence, $r(97)$ = .343, p = .001, and in-service and confidence, $r(97)$ = .448, p < .001, reached a moderate level of significance, with a somewhat stronger correlation between in-service areas and confidence. The correlation between number of areas of coursework reported and number of areas of in-service reported was also significant, r(97) = .258, p = .01.

Relationships Between Coursework, In-service Training and Competence

Relationships were also investigated between pre-professional training, continuing education, and ability to both identify the rules associated with Spanish-Influenced English (SIE), as well as recognize dialectical differences of SIE when presented in written phrases and sentences in English. Competence was measured by taking the arithmetic mean of responses.

Identification of linguistic aspects of Spanish-influenced English. Correlation coefficients were calculated among reported number of coursework areas (M = 3.78, SD = 2.70), reported number of in-service areas (M = 3.62, SD = 2.93), and competence in identifying phonological, morphological, and syntactical aspects of SIE (M = 4.78; SD = 1.53). Competence was assessed by calculating the number of correct responses out of 8 items. The correlation among number of coursework areas and number of in-service areas was significant, $r(97)$ = .258, p = .01, as was the correlation among number of in-service areas and performance in identifying aspects of SIE, $r(92)$ = .226, p = .03. The correlation among number of coursework areas and identification of aspects of SIE was not significant, r(92) = .154, p = .14.

Differentiation of dialect from true error. Correlation coefficients were calculated among reported number of coursework areas (M = 3.78, SD = 2.70), reported number of in-

service areas (M = 3.62, SD = 2.93), and competence in differentiating between a true error, a dialectical difference, and a correct production in both sets of sentences (M = 11.62; SD = 1.65). Competence was measured by the total number of questions correct out of 14. All 3 of the correlations were significant: coursework and competence, $r(93) = .277$, $p = .007$, in-service training and competence, $r(93) = .264$, $p = .01$, and coursework and in-service training, $r(93) = .206$, $p = .045$.

Relationship Between Caseload and Confidence

A Pearson correlation coefficient was computed to determine if a relationship existed between the percentage of a respondent's caseload that speaks Spanish (M = 2.65, SD = 1.31) and the respondent's confidence in serving bilingual or multicultural children (M = 2.67, SD = .87). Results of the correlation were statistically significant, $r(84) = .70$, $p < .001$.

Effect of Caseload on Competence

To analyze the effect of caseload on competence, as measured by performance in identifying aspects of SIE and differentiating between a dialectical difference and a true error, respondents were placed into two categories: those with ≤ 25% Spanish-speakers on their caseloads and those with >25% Spanish-speakers on their caseloads. The groups were collapsed due to a high level of similarities in the group means (see Table 8). This created two groups for analysis, Group 1 ('none', '<25%') and Group 2 ('25%-50%', '51%-75%', '>75%').

Table 8
Mean Competence by Percent Caseload

Reported % Caseload	None	<25%	25%-50%	51%-75%	>75%
	(n = 16)	(n = 31)	(n = 20)	(n = 5)	(n = 14)
Mean: Aspects of SIE	4.31	4.52	5.45	5.60	5.36
Mean: Difference vs. True Error	11.31	11.32	12.05	12.80	12.07

Note. n = number of participants; % = percentage of participants

Group differences in identification of features of Spanish-influenced English. An independent-samples *t* test was computed to assess the hypothesis that respondents with a higher percentage of their caseload that speaks Spanish would demonstrate greater competence in identifying features of SIE. A *t* test was chosen for analysis in order to analyze the differences in means between the two groups. The test was significant, $t(84) = -3.21$, $p = .002$, supporting the hypothesis that those with a higher percentage of caseload demonstrate a higher level of competence. Respondents in Group 1 ($M = 4.46$, $SD = 1.56$) had significantly lower means than Group 2 ($M = 5.45$, $SD = 1.22$).

Group differences in differentiation of dialect from true error. Another independent-samples *t* test was conducted to assess the hypothesis that those with a higher percentage of caseload that speaks Spanish would demonstrate higher competence in differentiating a dialectical difference from a true error or correct production in both short written phrases and longer/multiple sentences, using Groups 1 and 2 from above. The test was significant, $t(84) = -2.46$, $p = .016$, supporting the hypothesis that those with a higher percentage of Spanish-speakers on their caseload would demonstrate higher competence. The mean for Group 1 ($M = 11.33$, $SD = 1.77$) was significantly lower than the mean for Group 2 ($M = 12.16$, $SD = 1.20$).

Effect of Language Learning and Experience on Confidence

An ANOVA was calculated in order to determine the differences in confidence between the language groups, with reported confidence on a 4-point Likert scale as the dependent variable (see Figure 4). Levene's test for homogeneity of variance was used to test for lack of homogeneity of variance due to unequal sample size. Correction was not necessary as none of the analyses produced a violation of this assumption. The result of the ANOVA was significant with a moderate effect size, $F(3,82) = 18.558$, $p < .001$, $\eta^2 = .404$, indicating a significant

difference in at least one of the language groups in terms of confidence. Post hoc measures were completed to further analyze group differences (see Table 9). Results of the Tukey HSD showed significant differences in confidence between the M group and the CE group and the M group and the CE/AS group ($p < .001$). Group means were not significantly different between the M group and the AS group ($p = .087$), the AS group and the CE group ($p = .475$), the AS group and the CE/AS group ($p = .224$), and the CE group and the CE/AS group ($p = .993$).

Figure 4
Mean Confidence Level of Language Group ($n = 86$)

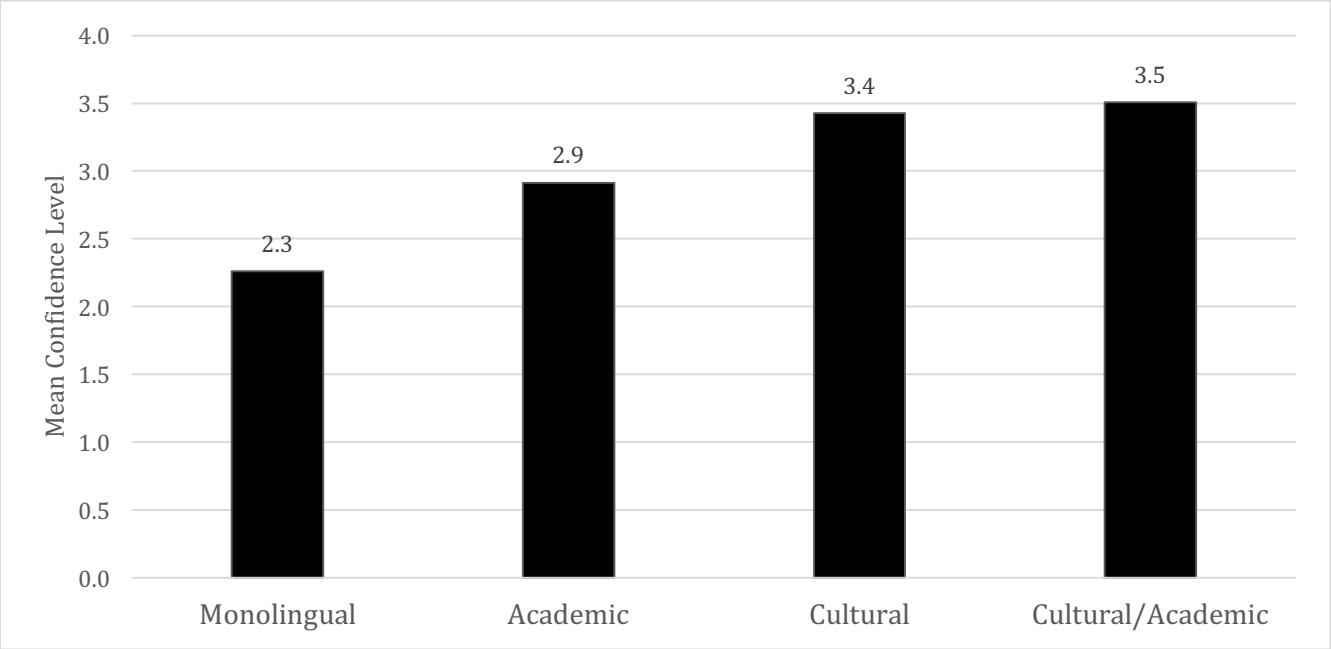


Table 9
Differences in Confidence by Language Group

			95% Confidence Interval	
Group	Mean	Std. Error	Lower Bound	Upper Bound
M ($n = 54$)	2.26	.09	2.07	2.44
AS ($n = 7$)	2.91	.26	2.40	3.43
CE ($n = 8$)	3.43	.24	2.95	3.91
CE/AS ($n = 17$)	3.51	.17	3.18	3.84

Note. n = number of participants

Effect of Language Learning and Experience on Competence

Identification of linguistic aspects of Spanish-influenced English. An ANOVA was calculated to measure the relationship between language learner group and a respondent's ability to identify features of SIE (see Figure 5). The independent variable was the language group (M, AS, CE, CE/AS) and the dependent variable was the competence in identifying the features of SIE. Competence was determined by counting the correct number of responses out of 8. Levene's test for homogeneity of variance, computed in order to identify unequal variance due to unequal sample size, surfaced as non-significant. The results of the ANOVA, on the other hand, were statistically significant, $F(3, 90)= 7.177$, $p < .001$. This finding indicates that at least one of the groups has a statistically significant difference from the others (see Table 10).

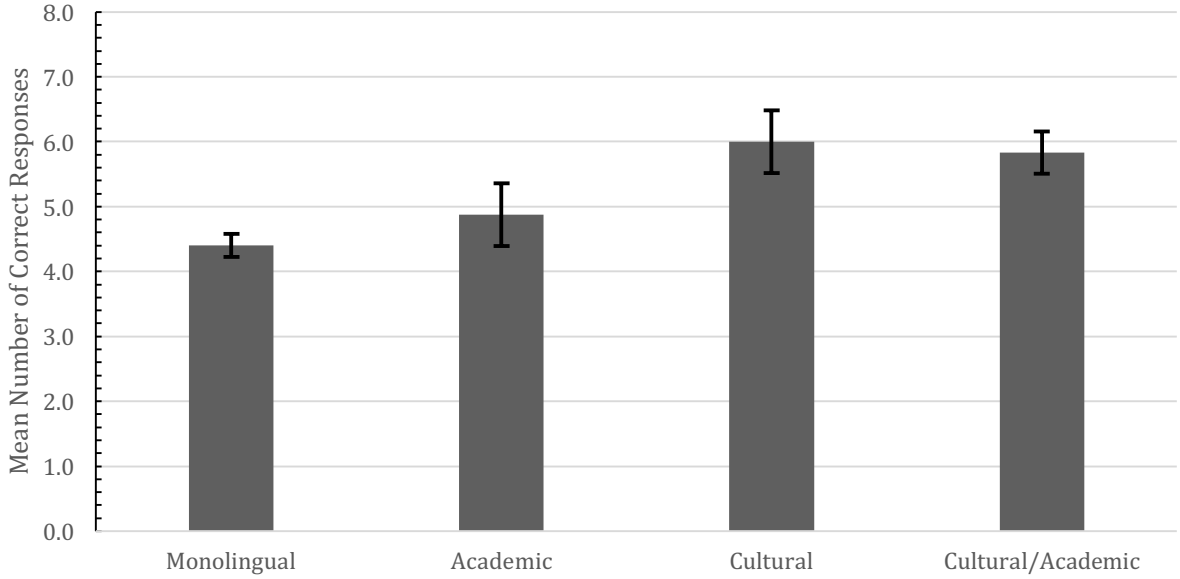
Post hoc measures were completed to further analyze the difference between the groups. A Tukey HSD test was run in order to control for error. Results of the Tukey HSD test indicated a statistically significant difference between the M group and the CE group ($p = .013$) and the M group and the CE/AS group ($p = .001$). A non-significant difference was found between the M and the AS groups ($p = .792$) and the CE and the CE/AS groups ($p = .992$).

Table 10
Differences in Identifying Features of SIE by Language Experience Group

			95% Confidence Interval	
Group	Mean	Std. Error	Lower Bound	Upper Bound
M ($n = 60$)	4.40	.18	4.05	4.75
AS ($n = 8$)	4.88	.48	3.92	5.83
CE ($n = 8$)	6.00	.48	5.04	6.96
CE/AS ($n = 18$)	5.83	.32	5.19	6.47

Note. n = number of participants

Figure 5
Language Experience and Identifying Features of SIE



Group difference in differentiation of dialect from true error. An ANOVA was also run to determine if group differences existed between language group and competence in differentiating a dialectical difference from a true error and correct production in sentences (see Figure 6). The independent variable was language group (M, AS, CE, CE/AS) and the dependent variable was competence, measured by counting the number of correct responses out of 14. Levene's test for homogeneity of variance was not violated in this analysis. The results of the ANOVA were statistically significant, $F(3, 90) = 4.461$, $p = .006$ (see Table 11).

Post hoc measures were completed to further analyze group differences. A Tukey HSD was computed and results showed a statistically significant difference between the M group and the CE/AS group ($p = .009$). Group differences were found to be non-significant between the M group and the AS group and the CE group, between the AS group and the CE and the CE/AS groups, and between the CE group and the CE/AS group. In contrast to the previous ANOVA, Group AS differed greatly (though not significantly) from the M group ($p = .189$).

Figure 6
Language Experience and Identification of Dialectical Differences versus True Errors

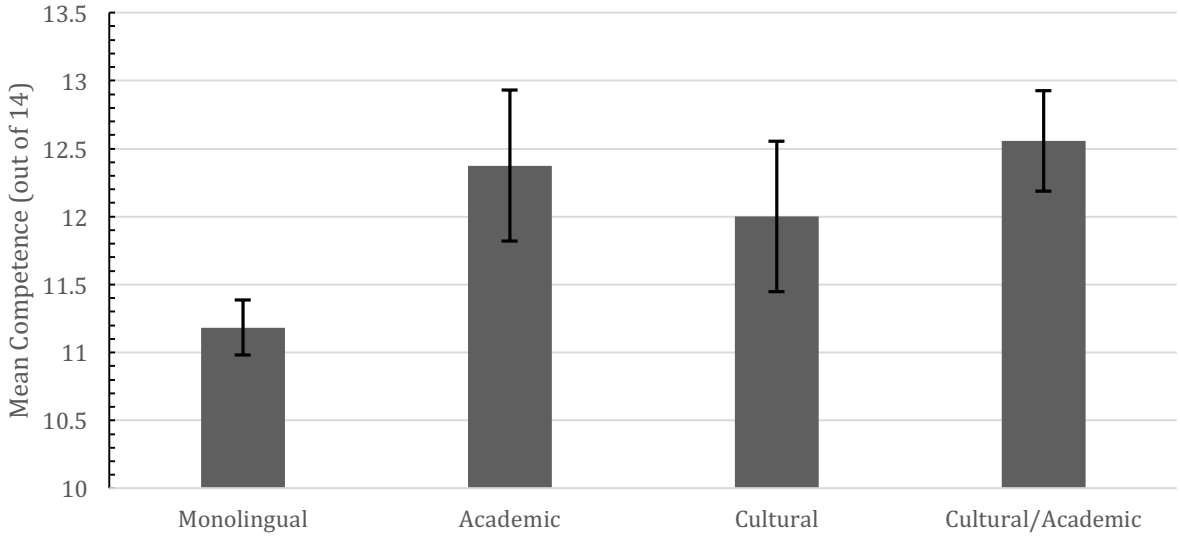


Table 11
Differences in Difference vs. Error by Language Group

			95% Confidence Interval	
Group	Mean	Std. Error	Lower Bound	Upper Bound
M (*n* = 60)	11.18	.20	10.78	11.59
AS (*n* = 8)	12.37	.55	11.27	13.48
CE (*n* = 8)	12.00	.55	10.90	13.10
CE/AS (*n* = 18)	12.56	.37	11.82	13.29

Note. *n* = number of participants

Effects of Language Experience on Other Variables

The effect of language experience on confidence and competence was analyzed, in addition to the relationship between language experience, percent caseload, and coursework and in-service training. Language experience groups (M, AS, CE, and CE/AS) were compared against all of these variables in order to analyze the relationship of language experience with these features of service provision.

Group differences in language experience and coursework/in-service training. An ANOVA was completed to determine the variance between language groups in terms of reported

number of areas of coursework (see Figure 7). The dependent variable was reported areas of coursework, while the independent variable was language group (M, AS, CE, CE/AS). Levene's test for homogeneity of variance was computed and was not violated. The results of the ANOVA were significant, $F(3,82) = 4.516$, $p = .006$, with a moderate effect size ($\eta^2 = .40$). Pairwise comparisons between the four language groups were computed using Tukey's HSD, and there was a significant difference between the M group and the CE/AS group ($p = .006$; see Table 12). The M group was not significantly different from the AS group ($p = .286$) or the CE group ($p = .423$). The AS group was not significantly different from the CE group ($p = .993$) or the CE/AS group ($p = .964$), and the difference between the CE group and the CE/AS group was also non-significant ($p = .843$).

Figure 7
Mean Number of Coursework Areas by Language Group

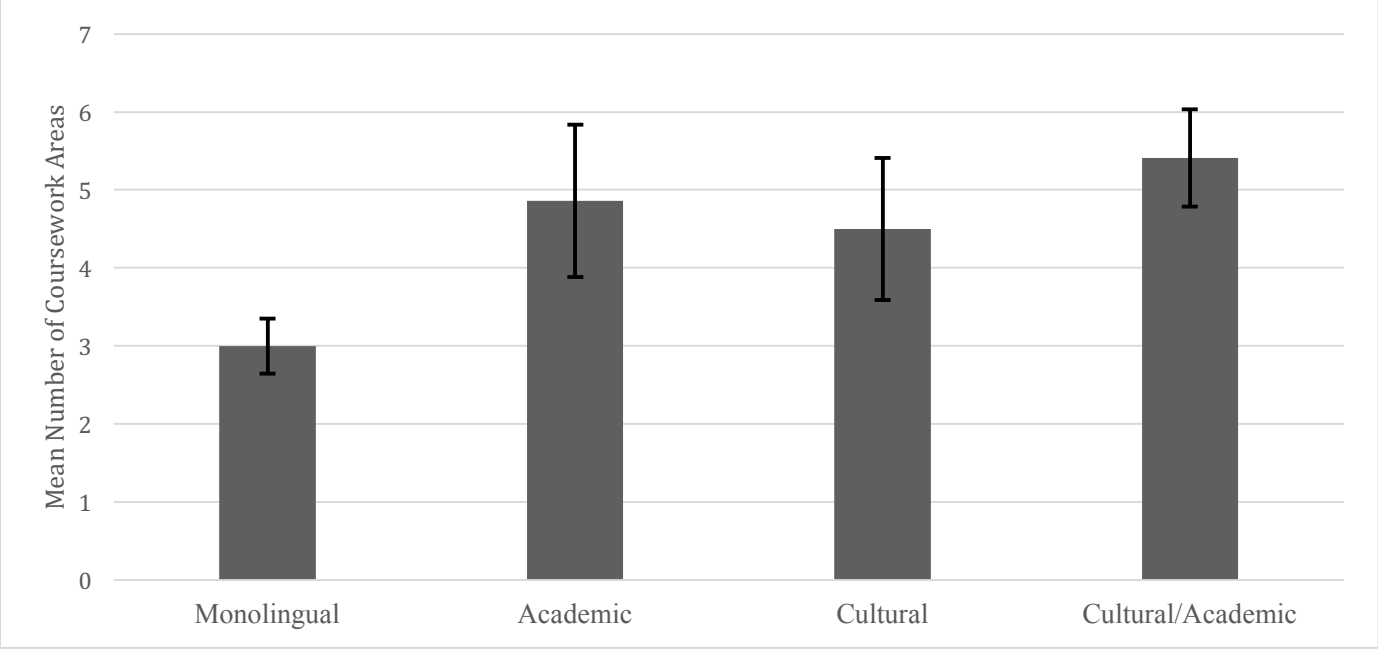


Table 12
Differences in Coursework Areas by Language Group

			95% Confidence Interval	
Group	Mean	Std. Error	Lower Bound	Upper Bound
M (*n* = 54)	3.00	.35	2.30	3.70
AS (*n* = 7)	4.86	.98	2.92	6.80
CE (*n* = 8)	4.50	.91	2.68	6.32
CE/AS (*n* = 17)	5.41	.63	4.17	6.66

Note. *n* = number of participants

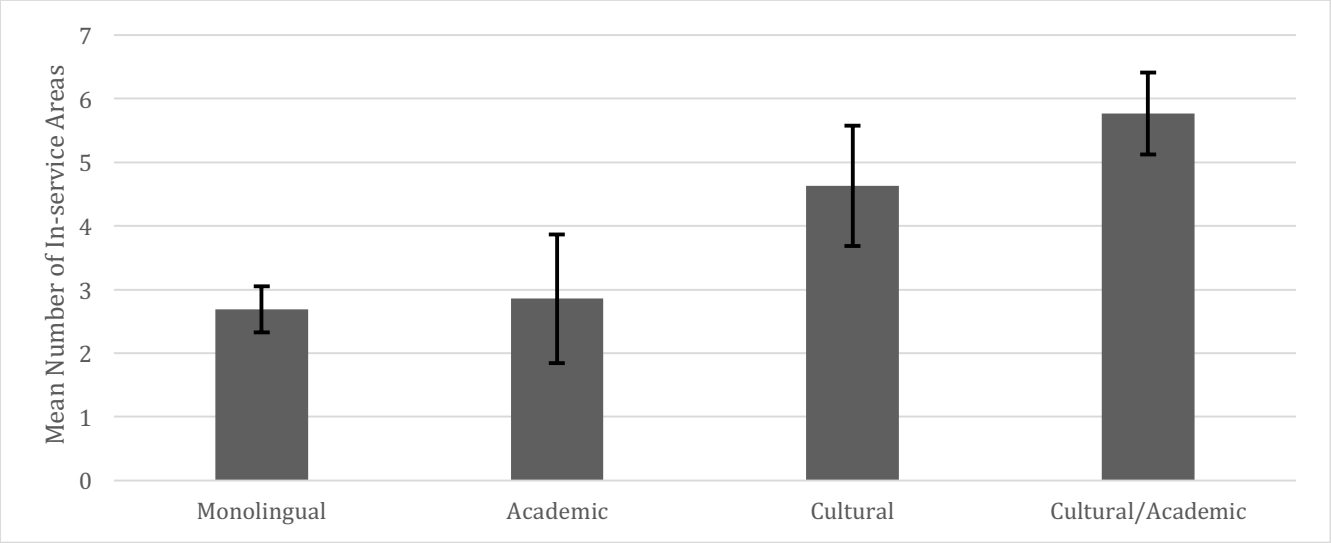
An ANOVA was also calculated between language group and number of areas of in-service training, with the dependent variable being the number of in-service areas (see Figure 8). Results of the ANOVA were statistically significant, $F(3,82) = 6.35$, $p = .001$, and Levene's test for homogeneity of variance was not violated (see Table 13). Post hoc pairwise analyses were conducted to further analyze the differences between groups using the Tukey HSD test. Results showed significant differences between the M group and the CE/AS group ($p < .001$). The M group and the CE group also had a large mean difference; however, the comparison was not significant ($p = .229$). Group means were very similar between the M group and the AS group, leading to a non-significant difference between the groups ($p = .999$). The AS group and the CE group did not have a significant difference in means ($p = .579$), but the difference between the AS group and the CE group approached significance ($p = .081$). Lastly, the CE group and the CE/AS group did not share a significant difference in means ($p = .753$).

Table 13
Differences in In-service Areas by Language Group

			95% Confidence Interval	
Group	Mean	Std. Error	Lower Bound	Upper Bound
M (*n* = 54)	2.69	.36	1.96	3.41
AS (*n* = 7)	2.86	1.01	.85	4.87
CE (*n* = 8)	4.63	.95	2.75	6.50
CE/AS (*n* = 17)	5.77	.65	4.48	7.05

Note. *n* = number of participants

Figure 8
Number of Reported In-service Areas by Language Group



Group differences in language group and caseload. An ANOVA was completed to calculate the relationship between language group (M, AS, CE, and CE/AS) and percentage of caseload that speaks Spanish (see Table 14). The independent variable was language group and the dependent variable was percentage of caseload (no children on caseload, less than 25%, 25-50%, 51-75%, or greater than 75%). Levene's test for homogeneity of variance was computed and the assumption was not violated. The results of the ANOVA were statistically significant, $F(3,82) = 12.330$, $p = .000$, with a small-moderate effect size ($\eta^2 = .311$). Post hoc measures were then calculated to further assess the relationship between groups using a Tukey HSD test of pairwise comparisons.

Table 14
Differences in Percent Caseload by Language Group

			95% Confidence Interval	
Group	Mean	Std. Error	Lower Bound	Upper Bound
M ($n = 54$)	2.15	.15	1.85	2.45
AS ($n = 7$)	2.57	.42	1.74	3.40
CE ($n = 8$)	3.50	.39	2.72	4.28
CE/AS ($n = 17$)	3.88	.27	3.35	4.42

Note. n = number of participants

Results of the Tukey test indicated that the mean percent caseload was significantly different for the M group and the CE group ($p = .01$) and for the M group and the CE/AS group ($p < .001$), in addition to the AS group and the CE/AS group ($p = .048$). The M group was not significantly different in terms of caseload from the AS group ($p = .776$) and the CE group was not significantly different from the CE/AS group ($p = .851$) or the AS group ($p = .372$).

Relationship between Confidence and Competence

Correlation coefficients were computed between reported confidence ($M = 2.67$, $SD = .87$) and competence in identifying features of SIE ($M = 4.85$, $SD = 1.50$). The results of the correlation were significant $r(92) = .247$, $p = .016$. This result indicates that there is a small to moderate relationship between reported confidence and the ability to identify features of SIE. Correlation coefficients were also computed between reported confidence and competence in differentiating between a dialectical error, a true error, and a correct production in sentences ($M = 11.62$, $SD = 1.65$). Results of the correlation were not statistically significant $r(92) = .151$, $p = .148$.

Chapter 6

Discussion

The purpose of this study was to explore SLPs' training, experience, confidence, and competence in serving bilingual or ELL children, and the relationship between these findings and respondents' language experience. The findings indicated that those with cultural experience with Spanish tend to have more Spanish-speakers on their caseloads, report more confidence in serving these children, and demonstrate greater competence in recognizing the effects of Spanish-influenced English (SIE) in the speech and language of children. Results highlight the importance of cultural experience with a language, in addition to the positive effects of participating in in-service or workshop training in topics of bilingualism and multiculturalism to improve service provision to bilingual and ELL children. Survey data provided information about participant demographics, language experience, coursework and other training in multicultural issues, confidence in serving bilingual children, and competence in identifying features of SIE and differentiating dialectical differences from true errors and correct productions.

Background and Language Experience

Demographic information from respondents was somewhat similar to that in other surveys (Hammer et al., 2004; Kritikos, 2003; Roseberry-McKibbin, & Eicholtz, 1994; Roseberry-McKibbin, Brice, & O'Hanlon, 2005). The percentage of the respondents that reported Hispanic origin was 14%, which is slightly higher than found by Hammer et al. (2004), but comparable to that of Kritikos (2003). However, in Kritikos (2003), recruitment procedures targeted bilingual SLPs, which may have caused a disproportionate increase in Hispanic respondents compared to the general population. The increase in Hispanic respondents in the

current project may be due to the increased interest in the survey area by respondents of Spanish-speaking backgrounds. In terms of percent of caseload that speaks Spanish or comes from a home where Spanish is the predominant language, the ASHA Schools Survey Report (2012) found that 36% of respondents had no English language learners on their caseloads, while we found that only 18% of respondents had no Spanish speakers on their caseload. This decrease could potentially be due to differences in the survey sample or due to this survey's inclusion of other employment areas. In addition, the ASHA Schools Survey report included English language learners with a variety of L1s, while this project asked only about Spanish speakers, which creates a difficulty in comparison.

In the current project, 46% of the participants indicated that they "understood or spoke Spanish," although after sorting out those who indicated their ACFTL proficiency level was novice, 34% of the participants were included in the Spanish-speaking groups. This is a much higher ratio than was found in Hammer et al. (2004) and Roseberry-McKibbin and Eicholtz (1994), where only 9% and 10% of respondents were bilingual, respectively, but smaller than that found by Kritikos (2003), whose sample included 55% bilingual SLPs; however, Kritikos (2003) targeted bilingual SLPs when selecting her sample and had lower requirements than this and other studies for a classification of bilingual (Roseberry-McKibbin & Eicholtz, 1994). The current project refrained from labeling participants as bilingual and instead reported level of proficiency, as measured by ACTFL proficiency guidelines. The percentage of ASHA's total membership, including audiologists, SLPs, hearing scientists and other professionals, that reported speaking a language other than English is 5%, with 58% of those individuals, or 4,152 professionals, reporting providing services in Spanish (ASHA, 2014). Therefore, the results from

the current project represent a higher proportion of Spanish-speakers than is seen in the overall SLP community.

Measures of Competence

Performance was higher in the section on categorizing sentences as dialectical differences or true errors than in the section on identifying rules of SIE. This result was somewhat unexpected, as it was thought that those with basic knowledge of Spanish would be able to identify the aspects of SIE but demonstrate less ability in categorizing utterances as differences or errors. The results of the current project, however, reflected the claim of Hartwell (1985) and Francis (1954) that one can use the grammar of a language without possessing the ability to discuss the implicit rules, also known as metalinguistic skill. Results showed that the mean performance on identifying acceptable aspects of SIE was significantly lower than mean performance on recognizing a dialectical difference versus a true error in a sentence, thereby supporting this idea.

As argued by Hartwell (1985) and Francis (1954), it is not necessary for one to possess the ability to discuss the grammar of a language for the person to be able to use the grammar constructs of said language. Francis (1954) defines three types of grammar: one that is employed in speaking (Grammar 1), one that is grammar in the metalinguistic sense (Grammar 2), and one that encompasses the social propriety of language (Grammar 3). The current study aimed to assess the respondents' ability to recognize aspects of the Grammar 1 of SIE, by means of categorizing sentences or phrases as a dialectical difference, a true error, or a correct production, and the metalinguistic ability associated with Grammar 2, through recognizing features of SIE written out of context (i.e., morphologic, syntactic or phonological changes to English evidenced in SIE).

For example, the SIE feature ‘dropping the subject of a sentence’ was missed by the majority of the participants in the aspects-of-SIE section, but was answered correctly by a large majority of respondents in the section where respondents were asked to differentiate dialectical differences from true errors. This could perhaps be explained by the idea of metalinguistic knowledge, in that the aspects of SIE presented more difficulty than identifying an aspect of dialect in the context of an utterance.

Areas of Coursework and In-service

The majority of participants reported receiving coursework in multicultural issues, while Hammer et al. (2004) found that only one-third of participants had received training in multicultural issues, which was similar to other studies (Roseberry-McKibbin & Eicholtz, 1994; Roseberry-McKibbin, Brice, & O’Hanlon, 2005). The possibility exists that recent graduates are receiving more coursework than graduates in previous studies, as the majority of respondents (*n* = 55; 56%) in the current study reported graduating from their highest degree since 2004. The mean years of experience in Hammer et al. (2004) was 21 years, but 49% of respondents in the current project reported less than 10 years of experience. As Hammer’s study was conducted in 2004, the latest that her respondents could have graduated was 2004 or prior, while in the current investigation the majority graduated after this time. Perhaps the discrepancies noted by Campbell and Taylor (1992) between coursework training and expected competencies for SLPs in multicultural issues have been remediated by changing coursework requirements in training programs.

Kritikos (2003) reported data on the following in-service and coursework areas asked in this study: second language acquisition, communication patterns in Spanish-speaking cultures, differential assessment of bilingual versus monolingual individuals, assessment tools for

bilingual individuals, and language disorder versus language difference. Percentages in the current study were higher in all areas but one--communication patterns in Spanish-speaking cultures. The other areas (code-switching, use of standardized tests with bilingual populations, and dynamic assessment) were not included in Kritikos (2003), but were surveyed by Hammer, Detwiler, Detwiler, Blood, and Qualls (2004) as coursework areas. Some of the areas in Hammer et al. (2004) and Kritikos (2003) were also queried in the current survey. The percentage of participants that selected each area was higher in the current study with only one exception, that of communication patterns in Spanish-speaking cultures; Kritikos (2003) found that 47% of respondents reported coursework in this area, while the current study found 31%. Hammer et al. (2004) also found that one of the most commonly taught subjects was communication styles of other cultures, but that cultural competencies were less frequently taught than more technical service delivery topics. Perhaps results of the current survey reflect this notion, because communication patterns in Spanish-speaking countries was the only purely cultural topic surveyed and was the least frequently indicated.

Training and Confidence. The first experimental question aimed to assess the relationship between (coursework and in-service) training in bilingual and multicultural issues and confidence in serving bilingual and ELL children. While both relationships were statistically significant, the relationship between in-service and confidence was found to be stronger than the number of areas of coursework and confidence. This may have occurred because in-services are sought out during the career, rather than required as part of an academic training program as is in the case with coursework. If in-services are sought out, it may indicate that those who report a larger number of areas have a greater interest in the area of bilingualism or multiculturalism and would therefore have more confidence in serving the population. Confidence may also be more

strongly related to in-service areas because in-services were completed more recently than coursework, leading to more confidence in the knowledge. As noted by Campbell and Taylor (1992), there existed a discrepancy between preservice training and perceived competence, such that practicing clinicians did not perceive competence in areas that are mandated to be covered in academic programs. While Campbell and Taylor (1992) assessed perceived competence and the current project assessed reported confidence, this discrepancy between coursework and competence was found in each study. In fact, the two areas Campbell and Taylor (1992) probed that deal with bilingualism and dialectical variation were among the 10 areas with the highest percentage of perceived incompetence (83.3% and 66.6%, respectively).

Training and Competence. Number of reported in-service areas had a significant relationship with competence, while coursework did not have a significant relationship with performance on identifying acceptable features of SIE. As coursework was not related to performance on identifying aspects of SIE, it is possible that without continuing education, metalinguistic knowledge is not sufficiently developed. Therefore, by continuing study of multicultural or bilingual issues through in-services or workshops, respondents developed the ability to apply metalinguistic knowledge more so than if they had only taken coursework in the area.

While this finding differs from Roseberry-McKibbin, Brice, and O'Hanlon (2005) who found that those with more coursework experienced fewer problems in service delivery, it should be noted that the prior study used a self-report measure, where the current investigation used a task based on application of knowledge. While there have been studies investigating perceived competence, self-reported competence, and problems of service delivery (Campbell & Taylor, 1992; Kritikos, 2003; Roseberry-McKibbin & Eicholtz, 1994; Roseberry-McKibbin, Brice, &

O'Hanlon, 2005), currently, there is no literature examining SLPs practical competence in bilingual service provision with which to compare the data from the current investigation.

Effects of Language Experience

The effects of language experience were analyzed across the variables of confidence, competence, number of areas of training, and percentage of caseload that speaks Spanish. Language experience groups (M, AS, CE, and CE/AS) were compared against all of these variables in order to analyze the relationship of language experience with features of service provision.

Confidence of Language Groups. Survey data showed that reported confidence was highest for language groups with cultural experience, which was of interest. The confidence questions were formatted after those of Hammer et al. (2004), and results were similar, in that Hammer et al. (2004) found increased confidence in bilingual SLPs than in monolingual SLPs. In the current project, survey results showed significant differences between the M group and the CE group as well as the M group and the CE/AS group in terms of their confidence in serving bilingual or multicultural children. The CE group and CE/AS group were very similar and both group means differed from the M group, with the AS group falling in the middle. Highlighting the importance of cultural experience in Spanish-language acquisition, this finding suggests that participants with cultural experience with Spanish feel increased confidence in serving bilingual or multicultural children when compared to monolingual SLPs. Kritikos (2003) also found an increase in confidence, measured in her study as personal efficacy, in the academic group and cultural group versus the monolingual group, with no significant difference between the academic and cultural group. Results of the current project were similar, with an upward trend in confidence across groups (M, AS, CE, and CE/AS, from least to most reported confidence).

However, it should be noted that Kritikos' questions probed competence in serving children who spoke a language not understood by the SLP. Of the five areas of confidence surveyed, respondents reported the least confidence in assessing children in Spanish and in working with parents who do not speak English, which was similar to previous findings (Campbell & Taylor, 1994; Hammer et al., 2004).

Competence of Language Groups. Respondents in the CE and the CE/AS groups were found to have significantly higher competence in identifying features of SIE than respondents in the M group, which was the hypothesized effect of cultural experience. Group means showed a very small difference between the M and the AS groups and the CE and the CE/AS groups in their mean ability to categorize sentences as dialectical differences, true errors, or correct productions. The similarity in means indicates that the groups are highly similar in terms of the ability measured in this survey and that those respondents with cultural experience of Spanish were better able to identify features of SIE.

Competence in categorizing sentences produced different results across language groups. In contrast to the statistical findings from the previous comparison, the AS group differed greatly from the M group in the ability to categorize sentences as dialectical differences, true errors, or correct productions. The AS group was more similar to groups CE and CE/AS in this calculation, which suggests that those with academic knowledge of the Spanish language are able to use Francis' (1954) Grammar 1. Therefore, while those with cultural experience of Spanish demonstrate improved ability to apply metalinguistic knowledge, those with academic experience are able to apply Grammar 1, as seen in differentiating dialectical differences from true errors in context.

Coursework and In-service Training of Language Groups. The relationship between number of areas of coursework and language group was significant, with a greater mean number of coursework areas in the groups with Spanish experience. The M group presented with a lower mean number of areas of coursework than did the groups with Spanish experience (AS, CE, CE/AS), which indicates that those respondents with both cultural and academic experience of Spanish have significantly more preservice training in topics of bilingualism and multiculturalism than do monolingual respondents. This result may be due to choice of academic program, where those with an interest in the Spanish language or in service provision in Spanish seek out academic programs that provide more instruction in bilingualism or multicultural issues.

Respondents in the CE/AS group reported nearly double the amount of in-service areas as those in the M group and the AS group, with a significant difference found between the M group and the CE/AS group. Group means were very similar between the M group and the AS group, indicating a similar number of reported in-service areas. These results indicate that those respondents with cultural language experience either sought out or were provided with in-services or workshops in a larger number of areas concerning bilingualism or multiculturalism. Similarly, Kritikos (2003) found that AS participants reported more coursework and in-service areas than did M participants, and that CE reported more coursework and in-service areas than did AS.

Caseload by Language Group. Overall, a higher percent caseload of children who come from a home where Spanish is spoken was associated with higher competence in identifying aspects of SIE and in differentiating dialectical differences from true errors among the sample of the survey. While of interest, the direction of this relationship remains to be seen. It is possible that with the greater amount of experience associated with a higher caseload, a higher level of

competence would result, but it is also possible that those with higher competence receive or seek out a higher caseload of Spanish-speakers.

When analyzed according to language group, results of data analysis indicated that the mean percent caseload was significantly different for the M group and the CE group and for the M group and the CE/AS group, with a higher percentage of Spanish-speakers in the CE and CE/AS groups. The M group was not significantly different in terms of caseload from the AS group and the CE group was not significantly different from the CE/AS group, which indicates group similarities between the M and AS groups and the CE and CE/AS group. The AS group was also significantly different from the CE/AS group; this is the only comparison in which the AS group differed significantly from the CE/AS group. This result is similar to that of Kritikos (2003), who found the cultural experience group to have a higher percent caseload of bilingual children.

The possibility exists that the groups with cultural experience have more children from Hispanic backgrounds on their caseloads because they have a greater understanding of and more experience with the children's cultures. The possibility exists that the groups with cultural experience have more children from Hispanic backgrounds on their caseloads because they have a greater understanding of and more experience with the children's cultures. Ríos (1996) calls to light the importance of teachers' experiences in their ability to interact with people of a different culture, such that it may be difficult for a Euro-American teacher to fully understand the worldview of a Hispanic student. If this assertion is correct, it may be that the ability of SLPs with experience of Hispanic culture to better see and understand the worldview of Spanish-speaking students better equip them to serve these children. Another explanation may be that the place of work dictates the composition of an SLPs caseload, such that SLPs with greater cultural

competence have a greater number of Spanish-speakers on their caseload due to their experience and increased comfort with the language.

Relationship between Confidence and Competence

Survey results indicated that there was a significant relationship between competence in identifying aspects of SIE and confidence in serving bilingual or multicultural children, but there was not a significant relationship between differentiating a dialectical difference from a true error and confidence in serving children. The lack of significance in the second correlation may be due to overall lack of variation in performance on that section of survey questions or the occurrence of a ceiling effect, such that mean performance was much higher than 50%, as would be expected for a normal distribution. This may also be another instance where application of metalinguistic knowledge is associated with what seems to be more advanced skill, such that those who are able to apply the metalinguistic knowledge of SIE are more confident service providers, as seen in the strong correlation of confidence and competence in identifying features of SIE. Furthermore, there are many variables that play into confidence, including personal efficacy, which were not probed in this survey.

Limitations and Further Directions

The primary limitation of this survey is the small sample size, which may affect the survey's representation of the target population. Of the 1,500 potential participants, 48 of the 99 total respondents completed the survey through the email recruiting method, producing a 3% response rate. Participants were also unequally distributed across regions, with a higher percentage responding from the South, which may also have affected the representation of the target population. However, the demographic results from the current survey were similar to those found in the ASHA 2014 Schools Survey, which may increase the chance of

generalization. In the ASHA 2014 Schools Survey, the largest number of respondents worked in the South (32%).

Another potential limitation is the possibility that primarily SLPs who are interested in bilingual service provision may have responded to this survey. For instance, the percentage of respondents who reported speaking or understanding Spanish is high when compared to ASHA data on bilingual service providers. If an SLP was highly interested in this subject, he or she may seek out more information and be better informed than other SLPs in the field with less interest in bilingualism. Therefore, there exists a possibility that knowledge of dialectical features is not as high as indicated by the results of this survey. Caseload information could also be affected by this limitation.

Another limitation is that in-service and coursework training were surveyed in terms of breadth rather than depth. Respondents were not asked for the total number of hours of training received in each area, which may limit the interpretability of the results, as it is possible that a person could have many hours of training across few categories or few hours of training across several categories.

In creating the language experience groups, respondents were asked to provide a self-assessment of their language skills based on the ACTFL proficiency guidelines, which could have potentially affected the sample size of the groups due to inflation or deflation of proficiency. Statistical analysis was also limited by the uneven sample sizes of each group, creating large standard error measurements.

Lastly, analysis of the section of questions concerning competence of categorizing sentences as dialectical differences, true errors, or correct productions was limited by the small variance in performance and the ceiling effect seen in responses. It appeared after analysis that

the sentences presented too little of a challenge, such that mean performance was far higher than expected.

The recruitment method of this survey was random, such that group size varied greatly among the language groups. It would be of interest to re-administer the survey to a sample of controlled groups in order to further assess the effect of language experience on bilingual service provision. It would also be of interest to add further questions about the availability of in-service and/or workshop training in different regions and to assess the relationship between in-service availability and the percentage of an SLP's caseload that speaks Spanish.

Another potential area of future research would be to survey additional factors associated with the percentage of one's caseload that speaks Spanish. For example, do those with a higher percent caseload of Spanish-speakers have this caseload because of their desire to serve that population or is it a function of region, workplace, or other variables? This question could be answered through qualitative study, in an effort to study the interplay of factors that play into caseload. Results from this study showed a relationship between language experience and metalinguistic knowledge, which would be another interesting area of study. Another area of further research could be quantitative analysis of Spanish-influenced English in order to determine the most common characteristics noted, as much of the current research into the topic is qualitative. Lastly, it would be of interest to analyze the relationship between personal efficacy and confidence and competence in serving bilingual children, in order to assess if personal efficacy also contributes to these constructs.

Conclusions and Clinical Implications

The results of this study are consistent with previous findings regarding the effect of cultural experience on bilingual service provision (Kritikos, 2003). Those respondents that

reported learning Spanish in a cultural environment, be it home, abroad, or in another community setting, experienced higher confidence and competence, in addition to more preservice and in-service training. Those with cultural experience also reported a higher percentage of Spanish-speakers on their caseloads. Respondents in the cultural groups (CE and CE/AS) had at least an intermediate level of proficiency, which may not be attainable for every practicing SLP; however, SLPs who serve those from a different culture should take every opportunity to experience the culture of their clients in order to better understand their worldview and provide a higher level of service (Ríos, 1996). Although cultural experience was related to higher competence and confidence, respondents who reported only academic experience with Spanish were more confident and competent—although not always significantly so—than SLPs in the M group, which suggests that some experience with Spanish is a positive indicator of increased confidence and competence.

The importance of in-service opportunities was also a salient result from this survey, with higher numbers of in-service areas relating to increased confidence and competence in serving bilingual Spanish-English or ELL children. SLPs should continue to seek out in-services or other training in areas associated with bilingual service provision and employers should consider providing more training opportunities on the topic in an effort to provide the highest level of service possible to these children. Overall, SLPs should continue to seek out opportunities to better understand the background and culture of their clients, be it through cultural experiences with the culture or through in-service or workshop training that focuses on culture or dialect.

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Appendix A
Spanish Consonants (Allophones)

	Bilabial		Labiodental		Interdental		Alveolar-Dental		Post-Alveolar		Palatal		Velar		Glottal	
	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Plosive	B	p					d	t					g	k		
Fricative	β *			f	ð *	θ *	z	s	ʒ	ʃ			ɣ *	x		h
Affricate									dʒ	tʃ						
Nasal	m		ɱ *				n ɳ		ɳ		ɲ		ŋ			
Lateral									l							
Tap							ɾ									
Trill							r									
Glide	w										j					

(+) indicates a voiced allophone & (-) indicates a voiceless allophone (*) indicates a consonant whose production is different in English from Spanish or that does not exist in Standard English

Adapted from Centeno et al. (2007)

Consonant Inventories of Standard Spanish and General American English (Phonemes)

	Bilabial	Labiodental	Dental	Alveolar	Post-alveolar	Retroflex	Palatal	Velar	Glottal
Plosive	p* b*			t* d*				k* g*	
Nasal	m*			n*			[ɲ]	ŋ	
Trill				[r]					
Tap or Flap				[ɾ]					
Fricative		f * v	ð θ	s* z	ʃ ʒ			[x]	h
Lateral Fricative									
Affricate					tʃ * dʒ				
Approximant	w*			ɹ			j *		
Lateral Approximant				l *					

Note: * = phonemes in both English and Spanish are indicated with an asterisk

Adapted from Goldstein (2007)

[ ] = phonemes found only in Spanish are marked with brackets

Age of Acquisition of Phonemes and Clusters

Phoneme	English (Templin, 1957) 75% accuracy	Spanish (Goldstein, 2007; Jimenez, 1987) 90% accuracy
m	3;0	3;0
n	3;0	4;0
ŋ	3;0	
ɲ		4;0
h	3;0	
w	3;0	3;7
p	3;0	4;0
f	3;0	4;0
j	3;6	3;11
b	4;0	4;0
d	4;0	4;0
k	4;0	4;0
g	4;0	5;0
ɹ	4;0	
ɾ		5;0
r		6;0
s	4;6	4;6
ʃ	4;6	
tʃ	4;6	4;0
t	6;0	4;0
v	6;0	
θ	6;0	
l	6;0	3;11
ð	7;0	
z	7;0	
ʒ	7;0	
dʒ	7;0	
x		4;0

Appendix B
Dialectical Differences of Spanish-influenced English in Children: Confidence and Competence of SLPs

1. We appreciate your participation in this survey! How did you hear about it?
    - Email
    - ASHA Community Discussion Board
    - ASHA Facebook Page
    - ASHA Special Interest Group 1: Language Learning and Education
    - ASHA Special Interest Group 14: Cultural and Linguistic Diversity
    - ASHA Special Interest Group 16: School-based Issues

2. What is the highest degree you have earned?
    - Bachelor's Degree (BA, BS, etc.)
    - Master's Degree (MS, MCD, MA, etc.)
    - PhD or Ed.D
    - Other advanced degree

3. In your career, have you had clinical or research experience with children?
    - Yes
    - No

4. In which of the following settings do you currently work?
    - School
    - Hospital
    - Clinic
    - University
    - Home Health
    - Outpatient Clinic
    - HeadStart
    - Rehabilitation Center
    - Other (if "other" please enter the setting below) _____
    - Currently Not Employed

5. In what state are you currently employed?

- Alabama
- Alaska
- Arizona
- Arkansas
- California
- Colorado
- Delaware
- Florida
- Georgia
- Hawaii
- Idaho
- Illinois
- Indiana
- Iowa
- Kansas
- Kentucky
- Louisiana
- Maine
- Maryland
- Massachusetts
- Michigan
- Minnesota
- Mississippi
- Missouri
- Montana
- Nebraska
- Nevada
- New Hampshire
- New Jersey
- New Mexico
- New York
- North Carolina
- North Dakota
- Ohio
- Oklahoma
- Oregon
- Pennsylvania

- Rhode Island
- South Carolina
- South Dakota
- Tennessee
- Texas
- Utah
- Vermont
- Virginia
- Washington
- West Virginia
- Wisconsin
- Wyoming
- Puerto Rico
- Guam
- Northern Marianas
- U.S. Virgin Islands
- American Samoa
- Other

6. Date received highest degree?
   - 1979 or prior
   - 1980-1989
   - 1990-2003
   - 2004-Present

7. How many years have you been employed as a certified Speech-Language Pathologist?
   - 0-5 years
   - 6-10
   - 11-15
   - 16-20
   - 21+

8. What is your race? Select all that apply
   - White
   - Black or African American
   - Asian
   - Native American or other Pacific Islander
   - Native American or Alaskan Native
   - Other _____

9. Are you of Hispanic, Latino, or Spanish origin?
   - No, not of Hispanic, Latino, or Spanish origin
   - Yes, Mexican, Mexican-American, or Chicano
   - Yes, Puerto Rican
   - Yes, Cuban
   - Yes, another Hispanic, Latino, or Spanish origin: please enter other nationality _____

10. Sex:
   - Male
   - Female
   - If other, please specify: _____

11. What is your best estimate as to the percentage of your current caseload that comes from a home where Spanish is the predominant language?
   - None
   - Less than 25%
   - 25% - 50%
   - 51% - 75%
   - More than 75%
   - I do not currently have a caseload that includes children

12. Do you speak and/or understand Spanish?
   - Yes
   - No

13. To which language were you first exposed?
   - English
   - Spanish
   - English and Spanish simultaneously

14. At what age did you begin to learn Spanish?
    - Birth to 3 years
    - 4 - 7 years
    - 8 - 11 years
    - 12 - 18 years
    - Over 18 years

15. Where did you learn Spanish? Please select all that apply:
    - School
    - Home
    - Abroad
    - Other, please specify _____

16. For the purposes of this survey, the American Council on the Teaching of Foreign Languages (ACTFL) Proficiency Guidelines 2012 will be used to define proficiency. For more information, the following link is provided: http://www.actfl.org/publications/guidelines-and-manuals/actfl-proficiency-guidelines-2012/english According to the definitions below, please rate your proficiency in Spanish for listening:
    - Distinguished: At the Distinguished level, listeners can understand a wide variety of forms, styles, and registers of speech on highly specialized topics in language that is tailored to different audiences. Listeners at the Distinguished level can understand language such as that found in classical theater, art films, professional symposia, academic debates, public policy statements, literary readings, and most jokes and puns. They are able to comprehend implicit and inferred information, tone, and point of view, and can follow highly persuasive arguments. They are able to understand unpredictable turns of thought related to sophisticated topics. In addition, their listening ability is enhanced by a broad and deep understanding of cultural references and allusions. Listeners at the Distinguished level are able to appreciate the richness of the spoken language. Distinguished-level listeners understand speech that can be highly abstract, highly technical, or both, as well as speech that contains very precise, often low-frequency vocabulary and complex rhetorical structures. At this level, listeners comprehend oral discourse that is lengthy and dense, structurally complex, rich in cultural reference, idiomatic and colloquial. In addition, listeners at this level can understand information that is subtle or highly specialized, as well as the full cultural significance of very short texts with little or no linguistic redundancy. Distinguished-level listeners comprehend language from within the cultural framework and are able to understand a speaker's use of nuance and subtlety.

However, they may still have difficulty fully understanding certain dialects and nonstandard varieties of the language

- Superior: At the Superior level, listeners are able to understand speech in a standard dialect on a wide range of familiar and less familiar topics. They can follow linguistically complex extended discourse such as that found in academic and professional settings, lectures, speeches, and reports. Comprehension is no longer limited to the listener's familiarity with subject matter, but also comes from a command of the language that is supported by a broad vocabulary, an understanding of more complex structures and linguistic experience within the target culture. Superior listeners can understand not only what is said, but sometimes what is left unsaid; that is, they can make inferences. Superior-level listeners understand speech that typically uses precise, specialized vocabulary and complex grammatical structures. This speech often deals abstractly with topics in a way that is appropriate for academic and professional audiences. It can be reasoned and can contain cultural references.
- Advanced: At the Advanced level, listeners can understand the main ideas and most supporting details in connected discourse on a variety of general interest topics, such as news stories, explanations, instructions, anecdotes, or travelogue descriptions. Listeners are able to compensate for limitations in their lexical and structural control of the language by using real-world knowledge and contextual clues. Listeners may also derive some meaning from oral texts at higher levels if they possess significant familiarity with the topic or context. Advanced-level listeners understand speech that is authentic and connected. This speech is lexically and structurally uncomplicated. The discourse is straightforward and is generally organized in a clear and predictable way. Advanced-level listeners demonstrate the ability to comprehend language on a range of topics of general interest. They have sufficient knowledge of language structure to understand basic time-frame references. Nevertheless, their understanding is most often limited to concrete, conventional discourse.
- Intermediate: At the Intermediate level, listeners can understand information conveyed in simple, sentence-length speech on familiar or everyday topics. They are generally able to comprehend one utterance at a time while engaged in face-to-face conversations or in routine listening tasks such as understanding highly contextualized messages, straightforward announcements, or simple instructions and directions. Listeners rely heavily on redundancy, restatement, paraphrasing, and contextual clues. Intermediate-level listeners understand speech that conveys basic information. This speech is simple, minimally connected, and contains high-frequency vocabulary. Intermediate-level listeners are most accurate in their comprehension when getting meaning from simple, straightforward speech. They are able to comprehend messages found in highly familiar everyday contexts.

Intermediate listeners require a controlled listening environment where they hear what they may expect to hear.

- Novice: At the Novice level, listeners can understand key words, true aural cognates, and formulaic expressions that are highly contextualized and highly predictable, such as those found in introductions and basic courtesies. Novice-level listeners understand words and phrases from simple questions, statements, and high-frequency commands. They typically require repetition, rephrasing and/or a slowed rate of speech for comprehension. They rely heavily on extralinguistic support to derive meaning. Novice-level listeners are most accurate when they are able to recognize speech that they can anticipate. In this way, these listeners tend to recognize rather than truly comprehend. Their listening is largely dependent on factors other than the message itself.

17. According to the ACTFL definitions below, please rate your proficiency in Spanish for speaking.
    - Distinguished: Speakers at the Distinguished level are able to use language skillfully, and with accuracy, efficiency, and effectiveness. They are educated and articulate users of the language. They can reflect on a wide range of global issues and highly abstract concepts in a culturally appropriate manner. Distinguished-level speakers can use persuasive and hypothetical discourse for representational purposes, allowing them to advocate a point of view that is not necessarily their own. They can tailor language to a variety of audiences by adapting their speech and register in ways that are culturally authentic. Speakers at the Distinguished level produce highly sophisticated and tightly organized extended discourse. At the same time, they can speak succinctly, often using cultural and historical references to allow them to say less and mean more. At this level, oral discourse typically resembles written discourse. A non-native accent, a lack of a native-like economy of expression, a limited control of deeply embedded cultural references, and/or an occasional isolated language error may still be present at this level.
    - Superior: Speakers at the Superior level are able to communicate with accuracy and fluency in order to participate fully and effectively in conversations on a variety of topics in formal and informal settings from both concrete and abstract perspectives. They discuss their interests and special fields of competence, explain complex matters in detail, and provide lengthy and coherent narrations, all with ease, fluency, and accuracy. They present their opinions on a number of issues of interest to them, such as social and political issues, and provide structured arguments to support these opinions. They are able to construct and develop hypotheses to explore alternative possibilities. When appropriate, these speakers use extended discourse without unnaturally lengthy hesitation to make their point, even when engaged in abstract elaborations. Such discourse, while coherent, may still be influenced by language

patterns other than those of the target language. Superior-level speakers employ a variety of interactive and discourse strategies, such as turn-taking and separating main ideas from supporting information through the use of syntactic, lexical, and phonetic devices. Speakers at the Superior level demonstrate no pattern of error in the use of basic structures, although they may make sporadic errors, particularly in low-frequency structures and in complex high-frequency structures. Such errors, if they do occur, do not distract the native interlocutor or interfere with communication.

- Advanced: Speakers at the Advanced level engage in conversation in a clearly participatory manner in order to communicate information on autobiographical topics, as well as topics of community, national, or international interest. The topics are handled concretely by means of narration and description in the major time frames of past, present, and future. These speakers can also deal with a social situation with an unexpected complication. The language of Advanced-level speakers is abundant, the oral paragraph being the measure of Advanced-level length and discourse. Advanced-level speakers have sufficient control of basic structures and generic vocabulary to be understood by native speakers of the language, including those unaccustomed to non-native speech.
- Intermediate: Speakers at the Intermediate level are distinguished primarily by their ability to create with the language when talking about familiar topics related to their daily life. They are able to recombine learned material in order to express personal meaning. Intermediate-level speakers can ask simple questions and can handle a straightforward survival situation. They produce sentence-level language, ranging from discrete sentences to strings of sentences, typically in present time. Intermediate-level speakers are understood by interlocutors who are accustomed to dealing with non-native learners of the language.
- Novice: Novice-level speakers can communicate short messages on highly predictable, everyday topics that affect them directly. They do so primarily through the use of isolated words and phrases that have been encountered, memorized, and recalled. Novice-level speakers may be difficult to understand even by the most sympathetic interlocutors accustomed to non-native speech.

18. While in school (high school, undergraduate, graduate or higher level), did you take a Spanish as a foreign language class?
    - Yes
    - No

19. If yes, how many?
    - 1 - 2
    - 3 - 5
    - 5+

20. Have you ever had any speech-language pathology course work in the following areas? Please check all that apply:
    - Second language acquisition
    - Communication patterns in Spanish-speaking cultures
    - Differential assessment of bilingual vs. monolingual individuals
    - Assessment tools for bilingual individuals
    - Language disorder vs. language difference
    - Code-switching
    - Dynamic assessment
    - Use of standardized tests with bilingual populations

21. Have you attended any in-services or workshops that address the following areas over the course of your career? Please check all that apply:
    - Second language acquisition
    - Communication patterns in Spanish-speaking cultures
    - Differential assessment of bilingual vs. monolingual individuals
    - Assessment tools for bilingual individuals
    - Language disorder vs. language difference
    - Code-switching
    - Dynamic assessment
    - Use of standardized tests with bilingual populations

22. How confident do you feel when completing the following?

	Not confident	Somewhat Confident	Confident	Very Confident
Assessing bilingual children whose primary language is English	❍	❍	❍	❍
Assessing bilingual children whose primary language is Spanish	❍	❍	❍	❍
Working with bilingual parents	❍	❍	❍	❍
Working with parents who do not speak English	❍	❍	❍	❍

23. How confident do you feel in differentiating a dialectical difference from a true error in a Spanish speaking, English language learning child's speech?
    - Not at all confident
    - Somewhat confident
    - Confident
    - Extremely confident

24. Which of the following phenomena would be expected in the English productions of a native Spanish speaker? Please select all that apply:
    - Dropping of the subject of a sentence
    - Inverting adjective-noun order
    - Stopping of the fricatives /f/, /v/, /θ/, and /ð/
    - Formation of double negatives when using negative words (e.g., nothing, no one)
    - Substituting /t/ for /θ/ and /d/ for /ð/
    - Substitution of /t/ for /ʃ/ and /d/ for /ʒ/
    - Addition of a schwa /ə/ to words with initial /s/ blends
    - Dropping of "it" as a referent to a previously mentioned subject

25. Please indicate if the following sentences contain a dialectical error, a true error, or no error:

	Dialectical Error	True Error	No Error
Hers hair is red.	❍	❍	❍
She no do the homework.	❍	❍	❍
Look at the /t ɪ p/! [ship]	❍	❍	❍
She no ate nothing.	❍	❍	❍
Who are you?	❍	❍	❍
/tæŋk ju/ [Thank you].	❍	❍	❍
He has a /gal/ [ball].	❍	❍	❍
The puppy little barks.	❍	❍	❍
Put the cake in the /aβan/ [oven]	❍	❍	❍
I can feel the /hɪt/ [heat]	❍	❍	❍
I want the apple.	❍	❍	❍

26. Please read the following utterances and determine if there exists a dialectical error, a true error, or no error: You need to wash the glass. Is dirty.
    - Dialectical Error
    - True Error
    - No Error

27. Please read the following utterances and determine if there exists a dialectical error, a true error, or no error: Mama is coming today. She is taking a plane from Mobile
    - Dialectical Error
    - True Error
    - No Error

28. Please read the following utterances and determine if there exists a dialectical error, a true error, or no error: Look, I see a /tæt/ [cat] and a /dɔd/ [dog]!
    - Dialectical Error
    - True Error
    - No Error

Appendix C
Information Letter

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL STAMP WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

INFORMATION LETTER
for a Research Study entitled
"Dialectical Differences of Spanish-influenced English in Children: Competence and Confidence of Speech-Language Pathologists"

You are invited to participate in a research study to learn about speech-language pathologists' competence and confidence of the dialectical differences common in the speech and language of Spanish-speaking children who are learning English as a second language. This study is being conducted by Kelsey E. Smith, Master's student in Communication Disorders at Auburn University, and Dr. Allison M. Plumb, associate professor in the Auburn University Department of Communication Disorders. You were selected as a possible participant because you are currently working as an ASHA certified speech-language pathologist and have experience working with children and are age 19 or older.

What will be involved if you participate? If you decide to participate in this research study, you will be asked to complete an online survey form. Your total time commitment will be approximately 15 minutes.

Are there any risks or discomforts? The risks associated with participating in this study is the ever-present risk of breach of confidentiality with surveys. To minimize these risks, we will keep all responses completely anonymous with no identifying information whatsoever being collected and use all reasonable and customary security measures. The data will be stored behind a secure firewall and all security updates are applied in a timely fashion.

Are there any benefits to yourself or others? There is no direct benefit to you for participating in this study, but it is hoped that the results of this study will add to the current knowledge of the competence of speech-language pathologists in recognizing dialectical differences in native Spanish speakers, in addition to providing information about training in multicultural and multilingual issues. This information will contribute to the understanding of the effects of dialect in the speech and language of English language learners in an effort to reduce the over- and under-representation of English language learners in special education nationwide.

Will you receive any compensation for participating? There is no compensation for completing this survey; however, your participation would be greatly appreciated.

Are there any costs? If you decide to participate, there are no costs associated with this study, except for the few minutes of your time that it takes to complete this survey.

If you change your mind about participating, you can withdraw at any time by closing your browser window. Your participation is completely voluntary. Once you have submitted anonymous data, if cannot be withdrawn due to it being unidentifiable. Your decision about whether or not to participate or to stop participating will not jeopardize your future relations with Auburn University or the Department of Communication Disorders.

Any data obtained in connection with this study will remain anonymous. We will protect your privacy and the data you provide by NOT asking for any identifiable information. Information collected through your participation may be presented at state or national conferences and may be published in a professional journal.

If you have questions about this study, please contact Dr. Allison Plumb at amp0016@auburn.edu.

If you have any questions about your rights as a research participant, you may contact the Auburn University Office of Research Compliance or the Institutional Review Board by phone (334) 844-5966 or email at IRBadmin@auburn.edu or IRBchair@auburn.edu.

HAVING READ THE INFORMATION ABOVE, PLEASE DECIDE IF YOU WISH TO PARTICIPATE IN THIS RESEARCH STUDY. IF YOU DECIDE TO PARTICIPATE, INDICATE THAT YOU AGREE TO DO SO BY CLICKING ON OR COPYING AND PASTING THE FOLLOWING LINK INTO YOUR BROWSWER WINDOW TO ACCESS THIS SURVEY.

I AGREE TO PARTICIPATE:

http://auburncla.az1.qualtrics.com/SE/?SID=SV_3PhgIkY4N56Sk7j

YOU MAY PRINT A COPY OF THIS LETTER TO KEEP FOR YOUR RECORDS.

Kelsey E. Smith, Master's Student September 22, 2015

Allison M. Plumb, Ph.D., CCC-SLP September 22, 2015

The Auburn University Institutional Review Board has approved this document for use from September 11, 2015 to September 10, 2018. Protocol #15-382 EX 1509.