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FIRST LANGUAGE LOSS IN SPANISH-SPEAKING CHILDREN

PATTERNS OF LOSS AND IMPLICATIONS FOR CLINICAL PRACTICE

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One of the most salient linguistic characteristics of immigrant populations across the world is that in language contact situations, first language (L1) skills will be affected. How these skills are changed in terms of structure and degree depends on a myriad of variables. Latino children living in the United States are not immune to this phenomenon, and practitioners coping with the complexities of assessing and treating children from dual language environments need to understand the phenomenon and how it is manifested in the children's use of Spanish, which is often their L1. Not understanding language contact phenomena may result in incorrectly interpreting performance, thus increasing the potential for the misdiagnosis of language ability or disability.

The purpose of this chapter is to describe Spanish-speaking children's patterns of use of their L1 as they begin to learn to use their second language (L2), which, in the United States, is usually English. In particular, the phenomenon of first language loss in children is described, with a particular emphasis on Spanish. By understanding what is known about L1 loss and how it is manifested in Spanish-speaking children, speech-language pathologists will be able to interpret L1 skill in the context of L1 loss and thus discern true disability in this population.

The chapter is divided into five main areas: 1) definition of terms and concepts as they are used throughout the chapter; 2) discussion of sociolinguistic factors that affect L1 skill; 3) description of patterns of use of the first language, focusing mainly on productive (i.e., expressive) skills; 4) discussion of research with children with language impairment; and 5) discussion of clinical implications for assessment and intervention.

Because the main focus of this chapter is on presenting data that will aid clinicians in distinguishing between true disability and language contact phenomena, the discussions are more descriptive than explanatory in nature, although theoretical explanations are provided. If the reader would like to learn more about the theoretical models proposed, it is suggested that he or she read the original sources cited in the chapter.

DEFINING LANGUAGE LOSS AND RELATED TERMS

Researchers in the field of bilingualism and second language acquisition are well aware of the many factors that affect L1 skills in immigrant communities. These factors interact in a variety of ways, resulting in various patterns of language use in communities characterized by language contact situations. Of particular interest are immigrant communities of people who speak a language different from that of the host country. Within this social context, it is usually the case that if the immigrant group's language is not considered high status by the host country, and if the country's policies—either covertly or overtly—foster monolingualism or the use of the country's dominant language, then various linguistic phenomena within the immigrant community typically emerge. Of course, the end result of this linguistic relationship between the immigrant community and the host nation varies greatly, even across groups from a similar linguistic background within the same country. For example, in communities of large Latino populations to which Spanish speakers continue to emigrate, the minority language—Spanish—will be better maintained within and across generations than it will be in a community that is small and isolated, with little, if any, continued immigration. Nevertheless, certain general patterns of language use have been noted in instances in which the languages in contact do not share equal status in the dominant society (Petrovic, 1997).

A common phenomenon reported in minority–majority language contact situations is that of *language shift*. This is a pattern of language use in which the relative prominence or use of the two languages changes across time and generations (Gutiérrez, 1990; Petrovic, 1997; Silva-Corvalán, 1986, 1991). The process is one in which, during the initial stages, the immigrant community's native language has prominence across various contexts. In short, it is the language of communication across situations. As community members increase contact with the majority language, especially in the areas of work and education, a movement grows toward adopting this language as the main means of communication. The majority language thus becomes used more frequently in contexts in which the native language was once central for communication. As the population of native-born individuals increases, use of the native language decreases while use of the host nation's language increases. The end result is a shift from the use of one language to the use of another, with a loss of skill—both expressive and receptive—in the native language. Language shift is usually reported across generations and is characterized by a pattern whereby members of the immigrant population are fluent in their native language with limited skill in the host country's language. The offspring of this generation (i.e., the second generation) becomes proficient in both the native language and the community's second language, usually resulting in higher proficiency or skill in the second language. Further movement toward monolingualism in the host country's language is evidenced when the third generation becomes fluent only in the host country's language; thus, the minority language is replaced as the first language for this population.

Language shift has been reported in many immigrant populations across the globe—for example, Turkish immigrants in The Netherlands (Boeschoten, 1992; Verhoeven, 1997) and Italian immigrants in Australia (Bettoni, 1986). It is a common phenomenon in the United States experienced by many immigrant Spanish-speaking groups (as well as other language-minority groups) in which there is a cross-generational movement toward English monolingualism (Fillmore, 1991; Orellana, 1994; Veltman, 1988; Zentella, 1997).

FIRST LANGUAGE LOSS AND ATTRITION

Language shift results in changes in native language use with an eventual erosion of abilities in the language. The process usually occurs across generations and is gradual in nature. *L1 loss*, however, refers to a more rapid shift from first language prominence to second language prominence. *L1 loss* has been defined as a process in which a person's L1 abilities, usually measured expressively, are reduced or diminished (Anderson, 1999a, 1999b, 2001; Fillmore, 1991; Kaufman & Aronoff, 1991; Orellana, 1994; Pfaff, 1991; Schiff-Myers, 1992; Silva-Corvalán, 1991; Turian & Altenberg, 1991). Although L1 loss has been described in the adult immigrant population, it is much more readily apparent in the children of this population. When it occurs in children, L1 loss can be described as a language shift phenomenon that occurs within—rather than across—generations. In this context, *L1 loss* describes patterns in L1 use in which there is a change toward earlier linguistic forms; in other words, the child evidences a reduction in linguistic skill in the L1 relative to his or her skill at a previous time.

In concordance with L1 loss, another phenomenon can also be observed—L1 attrition. *L1 attrition* describes patterns of language use in which an individual does not lose his or her ability in the L1 but does not advance in its use, either (Schiff-Myers, 1992). It co-occurs with L1 loss, whereby demonstrated skill in certain aspects of the language is reduced across time. Certain patterns are simultaneously present in which characteristics of the language do not continue to develop as in monolingual speakers of the target language.

The phenomena of language shift and L1 loss/attrition is of great relevance to clinicians working with children who are either bilingual or learning English as a second (or other) language. It is especially salient among those working with Latino populations in the United States. Research on the status of Spanish in many Latino communities suggests that there is cross-generational language shift with concomitant structural changes to the Spanish language. Some examples include the use of the Spanish copulas *ser* and *estar* (Silva-Corvalán, 1986), mood distinctions (Morales, 1992; Silva-Corvalán, 1994, and the imperfect/perfect tenses within narrative discourse (Silva-Corvalán, 1991). In addition, it is often the case that English becomes the dominant language of many individuals who began their lives as primarily Spanish speakers (Anderson, 1999a, 1999b, 2001; Veltman, 1988; Zentella, 1997). Language shift and L1 loss have both been reported in many Latino communities. Studies focusing on the Spanish language skills of children in various Latino groups have reported a pattern whereby these expressive skills in Spanish are reduced across time (see “Why Does Language Loss Occur? Factors that Affect First Language Skill”; Anderson, 1999a, 1999b, 2001; Fillmore, 1991; Pueyo, 1992).

When one is assessing children who may be experiencing a language shift such that Spanish structural changes are evident in the community's speech, and when one is assessing children who are experiencing L1 loss, the main concern is differentiating between language difference and language disability. Because some of the patterns that are observed in situations of language shift or loss may mimic what has been noted in children with true language disabilities, correctly diagnosing language impairment in this population is not a trivial matter. Relying on Spanish monolingual norms during Spanish language assessment procedures would provide inaccurate information. Understanding the factors that affect L1 ability and having information about observed patterns of L1 loss will aid clinicians in correctly identifying language disorders in Latino children in the United States.

Why Does Language Loss Occur? Factors that Affect First Language Skill

Language loss occurs primarily in a context in which minimal support is provided for the use and maintenance of the L1. Thus, the sociolinguistic environment plays a critical role in the emergence of L1 loss (and language shift). Most often, L1 loss occurs in a context in which there is a minority–majority language dichotomy and in which different values are placed, either overtly or covertly, on each of these languages. This is the case for many immigrant communities who speak a language other than that of the host country. Two examples of this pattern have been reported in the literature, for Turkish speakers in The Netherlands (cf. Boeschoten, 1992; Verhoeven, 1997) and Spanish speakers in the United States (cf. Fillmore, 1991; Silva-Corvalán, 1991; Veltman, 1988). In both contexts, the majority language—Dutch in The Netherlands and English in the United States—can be described as having higher status than the two minority languages in question. *Higher status* in this case means that these languages are the languages of education and ones that must be mastered in order for the individual to obtain a better paying job (Petrovic, 1997). This sociolinguistic imbalance results, then, in a movement within the community toward the more prestigious language (language shift) as well as a movement within a generation toward reduced productive skill in the L1 (language loss/attrition).

The disparity between the L1 and L2 results in a concomitant reduction in the domains of L1 use. As children leave their immediate home environment, they begin interacting within other contexts in which the majority language is used for communication, especially in educational settings. As a result, the L1 is relegated to restricted contexts, primarily those of the home (Chávez, 1993; Petrovic, 1997). For example, in the United States, most language-minority children, including children from Latino communities, attend schools in which English is the language of instruction. Only 16% of Latino children who are eligible to attend bilingual programs are actually enrolled in them (Petrovic, 1997). Although bilingual programs are sometimes offered, most of these are transitional in nature; that is, they do not have as a goal the maintenance of the L1 but rather focus on the use of the L1 to support the learning of English. Thus, as Latino children enter school in the United States, the environment or domains for speaking English increase, whereas those for speaking Spanish diminish.

How does this shift in relative use and exposure from the L1 to English affect maintenance of the L1? Changes in relative input and, in turn, in a child's actual use of the L1 result in a reduction of instances in which he or she hears the L1 (in this case Spanish). Thus, the opportunities to use the language are also diminished. These patterns in turn have an impact on the child's L1 skill, especially in the context of a more dominant language. This is because reduction in use and in input (i.e., listening to the language) hampers the furthering of skills in the language as well as the maintenance of acquired skills, especially at the productive level (Anderson, 1999a, 1999b, 2001; Fillmore, 1991). In addition, the limited domains of use also bring forth a narrower range of use of certain linguistic forms and concepts in the minority language. Specific vocabulary used for different topics or contexts becomes limited to that which is used within the domains in which the L1 is spoken, whereas the vocabulary used in contexts in which the language of interaction is the L2 tend to become known only in that language. For example, on the one hand, if the child only uses the L1 within the home environment, only concepts and terms that are used in that context will be known in that language. On the other hand, if the child only uses the L2 in a school

setting, then concepts and terms within that context will be known in that language and not in the L1.

Thus, changes in the relative use of each language, with a movement toward the greater use of the L2—English—across domains (e.g., situations and topics), affect children’s skill in their L1. The main sociolinguistic variable that affects this process is that of the relative status of the minority language, and thus of the minority-language speakers, within the greater context of the host nation. As mentioned previously, this relative status of each language is readily identified within the society by the importance placed on speaking each of the languages in securing better jobs and thus economic opportunities. Language status is also a factor in educational advancement.

Although this pattern appears to guide language shift and loss, the reality is much more complex. The relative status variable interacts with other demographic, social, and individual variables to result in differing degrees of loss across communities and individual families. Thus, people working with Spanish-speaking children in a context such as that common to the United States must consider the myriad factors that influence maintenance and loss of the L1. Factors that tend to foster L1 loss are summarized in Table 10.1.

Certain demographic variables affect the occurrence of language shift and loss in immigrant communities. In a study of various Mexican American populations that included elementary and middle school students from New Mexico, factors such as gender, rurality, socioeconomic status, and employment patterns influenced individuals’ perceived Spanish language skills as well as test scores measuring Spanish proficiency (Chávez, 1993). Generally speaking, girls tended to have lower Spanish expressive skills and concomitant higher English skills than boys. This was especially noted in more rural communities, where there is a tendency toward higher Spanish maintenance than in urban communities. In addition, higher education levels and higher paying jobs also tended to correlate with lower Spanish skills and greater English proficiency.

Table 10.1. Some examples of factors that foster first language (L1) loss

1. Gender (females tend to experience L1 loss more than males)
2. Early immersion in English preschool programs
3. Low status of the minority language for Vocational advancement Educational advancement
4. Limited bilingual programs that foster maintenance of L1
5. Lack of L1 peer interactions
6. Speaking English with younger siblings
7. Perception (and reality) that the general status of the L1 is low relative to that of the second language
8. Limited contact with L1 speakers outside the home environment
9. Parents who are bilingual
10. Small minority population in the community
11. Lack of L1 monolingual speakers in the community
12. Diminished use of the L1 across domains

These observed patterns can be explained in various ways. As Chávez (1993) noted, women in these communities (as well as in other immigrant communities) obtained jobs in which it was necessary for them to speak English. Some examples are domestic services and white-collar jobs. In addition, in the communities studied by Chávez, Spanish was used as a group marker, and males were more prone to use it as a symbol of their ethnicity. As expected, higher education resulted in higher English skills with concomitant loss of Spanish skills because English was the primary language of instruction and of vocational attainment.

Language use within the home and in the larger community (including school) also affects the occurrence of L1 loss. Most studies that have looked at groups of immigrant children in which the use of the L1 is restricted to the home environment have found that L1 loss tends to occur rapidly (Anderson, 1999b, 2001). This is especially true if the parents can speak the L2, because the children can use the L2 and still be understood by the parents. L1 loss has also been reported in studies of families whose children were immersed in an English-speaking environment in school or child care at a young age. A survey study conducted by Fillmore (1991) of a large group of immigrant families indicated that L1 loss was evident in children who attended English-only preschools, even in families in which parents had limited English skills. On the one hand, Fillmore suggested that the younger a child is when he or she is immersed in English, the more dramatic the child's L1 loss will be. On the other hand, other studies have followed children who are raised in contexts in which Spanish is an integral part of the community and in which the children attend bilingual preschools or stay at home until elementary school with a Spanish-speaking parent. They have found that these children tend to maintain their Spanish language with no apparent loss of skill (Winsler, Díaz, Espinosa, & Rodríguez, 1999). This maintenance has been reported for children between the ages of 3 and 5; changes after age 5 in skill due to exposure to educational experiences and interactions outside of the community have not been studied. Nevertheless, loss of Spanish skill is lessened in communities in which there is strong support for the L1 through specific educational programs and in which the language has a strong presence in the media, church, and commerce, in contrast with communities in which there is no such support.

Other factors that have been reported to affect L1 skills include peer interactions in the language and the child's role within the family. In consonance with Fillmore's (1991) observation of the rapid L1 loss in contexts of preschool English immersion programs, a lack of input from peers can also affect L1 skill (Kravin, 1992). In case studies in which children were exposed to a language via parental input only, the tendency was for that language to attrite or not to be acquired at the level of skill expected for the child's age. Having peers and siblings who continue to speak the L1 is a positive factor for L1 maintenance (Anderson, 1999b, 2001; Kravin, 1992). Within the home environment, the level of L1 skill can vary from sibling to sibling. This is because of a variety of factors, including some that were mentioned previously, such as a child's gender or his or her age when immersed in the L2. In addition, the role the child plays within the family may affect his or her level of L1 skill. For example, some children serve as parents' interpreters and thus need to maintain a certain level of L1 skill in order to be able to function in this capacity. As this role is usually relegated to the firstborn or older children, it has been noted that birth order may correlate with L1 skill. This correlation may also be due to the fact that firstborn children,

unlike later born children, do not have English input from other siblings, and thus their exposure to English occurs later (Anderson, 1999b, 2001). Older siblings often provide English input to younger siblings early on, thus giving their brothers and sisters earlier exposure to the L2.

The factors that influence L1 maintenance and loss are varied and complex. The intermingling of macrosocial, microsocial, and individual variables creates an environment that does or does not support L1 maintenance. The clinician's responsibility, then, is to understand these factors and how they may be evidenced in the Latino population with whom he or she is working. In this way, a more comprehensive picture of what should be expected relative to L1 and L2 skill can be established, and thus better identification of true language-learning disability will result.

Patterns of First Language Loss in Spanish-Speaking Children

Most research in the area of L1 loss has indicated that the lexicon and the grammatical system are the areas most affected by the phenomenon. As mentioned in the previous section, a reduction in the frequency of the use of the language and in the domains of use results in a narrowing of the lexicon that is actually produced during conversation. This in turn affects an individual's ability to access the lexicon quickly and may even result in the loss of vocabulary across time (Kravin, 1992).

Reduction in input and output also has an impact on grammatical skill. Several patterns of loss have been identified. These can be summarized as 1) a progressive reduction in inflectional morphology (Anderson, 1999b, 2001; Bayley, Alvarez-Calderón, & Schechter, 1998; Bettoni, 1986; Dressler, 1991; Maher, 1991; Schmidt, 1991; Silva-Corvalán, 1991), 2) a leveling of grammatical distinctions with a resulting regularization of irregular forms (Maher, 1991; Martínez, 1993; Silva-Corvalán, 1991), 3) a tendency to use coordinated sentences with a reduction in the use of embedding (Maher, 1991), and 4) the transfer of L2 syntactic structure to the L1 (Anderson, 1999a; Turian & Altenberg, 1991).

Lexical Patterns Various researchers in the field of L1 (and L2) language loss have indicated that lexical knowledge is particularly vulnerable to loss (Gal, 1989; Smith, 1989; Weltens & Grendel, 1993). This is because of the already mentioned phenomena in many bilingual communities in which individuals experience a reduction in the domains of use of the L1. A consequence of this reduction in use and input is an attenuation of the speaker's access to the L1 lexicon. Thus, if input and output are critical for maintaining lexical connections and the strength of lexical items, it would be expected that rapid decline or even loss of the lexical item at the storage level would occur. Patterns noted in children experiencing L1 loss suggest lexical loss. This may translate to an individual's ability to retrieve items or to actually lose items and may also include reduction in L1 productive vocabulary with a concomitant use of general terms and lexical innovation.

At the earliest stages of L1 loss, lexical loss occurs in the production of nouns, followed by verb lexemes. In a longitudinal case study of a Spanish-English bilingual child who was experiencing L1 loss, Anderson (1999a) reported a significant decline in the use of different nouns and verbs across time. This was attested by the child's use of fewer noun and verb types and her use of more general terms, especially when the target form was a noun. For example, across time, the child expanded her use of general terms such as demonstrative

pronouns (e.g., *éste*, this one; *eso*, that one; *ésa*, that one [feminine]). The range of verb forms was also reduced, with the child using fewer action words across time. Thus, lexical loss or access is apparent in L1 loss, and nouns (as well as some verb forms) are affected most by this phenomenon.

Another pattern that suggests that L1 vocabulary loss has occurred, or at least that rapid access to the lexicon has diminished, is the increase of L2 vocabulary items in a child's L1 productions. This is what is commonly called *language mixing* in the bilingual development literature (e.g., Zentella, 1997). This increase in language mixing at the lexical level has been reported in children who are evidencing a shift to the L2 (Kravin, 1992). Although language mixing by itself is not necessarily an indication of L1 loss, as it is typical of vibrant bilingual communities, it should nevertheless be considered in children for whom L1 loss is suspected.

In consonance with these patterns, children who are experiencing L1 loss may also present a pattern of *lexical innovation*, that is, of using words in the L1 in a way that is distinct from what is typical of speakers of the language. Again, this phenomenon is not limited to L1 loss but is also observed in bilingual individuals who are competent speakers of the L1. Thus, although it occurs in this context, lexical innovation by itself is not an identifier of L1 loss. Rather, a change in the use of particular words across time as well as the presence of other patterns associated with L1 loss suggests that L1 loss is occurring. A pattern of lexical innovation noted in L1 loss (and in bilingual communities) is meaning extension. *Meaning extension* refers to changes in the meaning of a particular word. A word's meaning can be extended to include the range of meanings present in the L2. For example, a word in Spanish may be used in contexts that seem incorrect for the Spanish meaning of the word; the word is substituted where a similar word in the L2—English—would be used. One example is the Spanish word *vaso*, which in English is *glass*, or a receptacle from which a person drinks. In English, *glass* describes not only glasses from which people drink a variety of beverages but also the special glass that is used to serve wine or similar drinks. In Spanish, another word for this particular type of glass, *copa*, is used instead. An individual would be practicing a meaning extension if he or she used *vaso* instead of *copa* to describe a particular type of glass.

Another pattern of lexical innovation that occurs in child L1 loss (as well as in bilingual communities) is lexical borrowing or assimilation of words from the L2 to the L1. Unlike in code-switching, the individual incorporates a word into the L1 with a change in the phonology, and sometimes the morphology, that is in consonance with the rules of the L1. For example, a Spanish-speaking child experiencing L1 loss may produce a phrase such as “*Dame un break*” (Give me a break), with the English word following the Spanish phonology (e.g., the use of a tap or trilled /r/). The child may also use words such as *taquear* for the Spanish word *hablar* (to talk), evidencing the use of an English form that has been incorporated into his or her Spanish lexicon by the addition of morphological markers to indicate a verb form (e.g., *-ar* ending and person conjugation, such as *taqueo* for “I talk”). What is interesting about this pattern is that it demonstrates that the child has knowledge of Spanish grammar and phonology as he or she modifies these English words to fit the Spanish grammatical rules. Although not verified in the research, it is possible that this type of lexical innovation may diminish in frequency as the child becomes less fluent in the L1.

Grammatical Patterns in First Language Loss Studies of Spanish grammar in language contact situations have mainly focused on cross-generational studies conducted to identify aspects of Spanish that change as a result of language shift. Although a discussion of these studies is beyond the scope of this chapter, these patterns of language shift need to be considered when one is evaluating children's Spanish language abilities. The community's use of Spanish, not the language of monolingual speakers or speakers of other Spanish-English bilingual communities, should be used as the norm. The studies that have addressed grammatical patterns of L1 loss in Spanish have pointed to specific aspects of morphology as being particularly vulnerable to loss. These include features of the noun phrase, verbal morphology, and word order.

The most significant pattern of L1 loss noted in Spanish-speaking children at the level of the noun phrase is that of errors in gender agreement (Anderson, 1999a, 1999b). In Spanish, both the article and the adjective (in most instances) have to agree with the noun with respect to its grammatical gender. Each noun is ascribed a gender that is arbitrary in nature (Gariano, 1984). Although general rules apply (e.g., words ending in *-o* tend to be masculine, and words ending in *-a* or *-é* tend to be feminine), exceptions abound. For example, the word *café* (coffee) is masculine (*el café negro*, the black coffee), whereas the word *mano* (hand) is feminine (*la mano negra*, the black hand). The exception to this arbitrariness is words that describe concepts that have a defined gender, such as mother (*la mamá bonita*, the pretty mother) and brother (*el hermano favorito*, the favorite brother).

Research by Anderson (1999a, 1999b) on the Spanish skills of two children who were experiencing L1 loss indicated that the main error observed was that of gender agreement. Limited problems were noted in the actual production of articles, in that these were generally not omitted, and indefinite/definite (i.e., *un/el, una/la*, a/the) distinctions were maintained. When omission occurred, it was in instances in which the neutral *lo* was used with more abstract terms such as *lo bueno* (the good). Although the incidence of gender errors varied, they were evident in both children, with a greater increase in one of the children across time. The most common gender error noted was the use of a masculine article for a feminine article (e.g., *el mesa/la mesa*, the table [masculine and feminine]). Of note, this trend toward gender errors and the use of masculine forms for feminine forms has also been noted in adult Spanish-English bilinguals who demonstrate good Spanish comprehension skills but who have difficulty speaking Spanish and individuals who have been described as passive bilinguals (Lipski, 1993). Use of the plural forms was maintained across the two children, thus suggesting that grammatical gender is the form that is most vulnerable to L1 loss in Spanish-speaking children (Anderson, 1999b). As mentioned previously, this pattern may vary across typical child Spanish speakers. For example, in a 3-year longitudinal study of Spanish-speaking children acquiring English via school immersion, gender distinctions were maintained in typical learners, at least through the third grade (Anderson & Márquez, 2009).

Data on Spanish verb morphology changes in children experiencing L1 loss, as well as data on the use of verb phrases, indicate interesting patterns. As noted for children's use of noun phrases, certain aspects of verb morphology and of the verb phrase are more vulnerable to loss. These include the use of mood, aspect, person, and number distinctions and the production of clitics or object pronouns. With respect to verb morphology, the following characteristics have been reported: 1) diminished use of aspectual distinctions across time

(i.e., perfect/imperfect tense; Anderson, 2001; Bayley et al., 1998), 2) reduction and lack of use of the Spanish subjunctive (Anderson, 2002), 3) loss of person and number distinctions across time (Anderson, 2001), and 4) regularization of irregular verbs (Anderson, 2001).

Bayley and colleagues (1998) used narrative tasks and Anderson (2001) used conversational samples to examine the use of aspect distinctions among Spanish-speaking children. Both types of data revealed a movement toward the use of the perfect tense (e.g., *Yo comí*, I ate) for the imperfect tense (e.g., *Yo comía*, I was eating) in instances in which the imperfect form was obligatory. Children did use the imperfect tense but mainly in stative verbs such as *gustar* (to like), *estar* (to be), and *ir* (to go). These verbs are frequently used in the imperfect tense in Spanish, as they denote actions with no clear beginning or end and thus have an inherent “imperfective” bias. This particular pattern suggests that factors such as frequency of use as well as the semantic relevancy of the morphological marker for the particular verbal lexeme affect the pattern of maintenance and loss in children. Tense distinctions, such as present, future, and past, tend to be maintained in children who are experiencing L1 loss, at least during the initial stages of language contact (Anderson, 1999a, 2001). The pattern of tense distinctions noted is one in which those forms that are acquired early by Spanish-speaking children are maintained (Anderson, 1995); for example, the present indicative (e.g., *Yo camino*, I walk), the present progressive (e.g., *Yo estoy caminando*, I am walking), and the simple past (e.g., *Yo caminé*, I walked).

Anderson (1999a, 2001) reported on mood errors, which are characterized by a tendency to use the indicative mood for the subjunctive mood (e.g., *Yo no sé que ibas a ir*, I do not know you were going to go; *Yo no sabía que ibas a ir*, I did not know you were going to go). It is interesting that the shift toward the use of the indicative for the subjunctive mood has been reported in adult speakers of Spanish in language contact situations in the United States, with third-generation speakers utilizing fewer mood distinctions than first-generation speakers of the same community (Ocampo, 1990). With Spanish-speaking children, especially if the L1 loss occurs early or in the preschool years, mood distinction errors may be due not only to loss in L1 skill but also to incomplete acquisition. The subjunctive mood is acquired over a protracted period of time, usually beginning when the child is 3 years old and continuing until his or her ninth birthday (Pérez-Leroux, 1998), and its use across contexts is related to cognitive as well as linguistic maturity. It is plausible, then, that difficulties in the use of mood distinctions are related more to incomplete learning than to actual loss of skill.

Verb person and number distinctions are aspects of morphology that are particularly vulnerable to L1 loss in Spanish-speaking children. Analysis of the verb forms used by the two children studied by Anderson (2001) indicated that most of the nontarget responses or errors occurred in the use of the correct person and/or number. Thus, subject–verb agreement is affected by L1 loss. Both children evidenced agreement errors in their productions, with one of them showing a consistent trend toward an increase in such errors. Most frequently, the direction of the errors was one of the use of singular for plural forms (e.g., *él/ella camina*, he or she walks; *ellos/ellas caminan*, they walk) and the use of the third person singular form for all other people (e.g., *él/ella camina*, he or she walks; *Yo camino*, I walk). The pattern thus noted in the use of verb agreement morphology is toward a reduction of the person/number paradigm in the language with a tendency to collapse forms to one general form, in this case the third person singular form.

Anderson (2001) reported one final pattern of verb use. This pattern pertains to the use of *irregular* verb forms, that is, verbs that do not follow the general rules for the formation of tense and person/number distinctions. For example, a regular verb in English is *walk*, for which the past tense is the form *walked*. The verb *eat* is irregular; its past tense form (*ate*) does not follow the general rules for English. The data collected by Anderson (2001), in consonance with data from other studies on language shift and attrition with other L1s (cf. Kravin, 1992; Seliger, 1989), indicated that the children participating in these studies tended to regularize irregular forms in Spanish. For example, the verb *saber* (to know) is irregular for some person distinctions, in particular the first person, in the present tense. If the verb were regular, the first person form would be *yo sabo*. The actual form is *yo sé*. A child who is regularizing verb forms may produce *yo sabo* and not *yo sé*. Of interest is that this pattern tended to be inconsistent and tended to be evidenced in certain (but not all) irregular verbs. Inconsistency in production suggests that perhaps it is rapid lexical access to the form that is affected in L1 loss, at least for particular forms and at the beginning stages of loss. The fact that regularization occurred with certain and not all irregular verbs indicates that some forms are more vulnerable to loss, and factors such as frequency of occurrence in the input and output may be responsible for this pattern. For example, irregular verbs such as *estar* (to be), *ser* (to be), and *ir* (to go), which were very frequent in the children's output and which have been identified as frequently occurring verbs in the language (Alameda & Cuetos, 1993), were not produced in error.

Clitic production, or the use of object pronouns, is also affected in language contact situations. The pattern of error most frequently observed is one of substitution, with errors of omission occurring less frequently. In a study of bilingual children in Los Angeles by Pueyo (1992), the most frequently observed error in the children's corpora was that of gender and/or number error in the use of the third person direct object pronouns *la* (her/it [feminine]), *lo* (him/it [masculine]), *las* (them [feminine]), and *los* (them [masculine]). As noted in the noun phrase data from Anderson (1999b), the direction of the error was one toward the use of the masculine form in contexts in which the referent was feminine. The least frequently occurring errors of omission were in instances in which Spanish requires marking the object twice, for example *Lo vi a él* (Him I saw him). In these cases, the children tended to omit the object pronoun and maintain the prepositional phrase, as in *Vi a él* (I saw him).

The last grammatical pattern noted in Spanish L1 loss in children is the tendency to apply L2 (English) word order rules to Spanish. This results in a more restricted word order configuration in Spanish, in which such order is much more flexible than in English. Yet a more inflexible word order in the manner of subject-verb-object aids the communication process when other aspects of the language, such as agreement morphology, may be compromised. Anderson (1999a) reported two examples of word order changes influenced by English word order—one that affected the noun phrase and the other that affected question formation with prepositions. One of the children studied by Anderson (1999a) exhibited a change in word order in Spanish noun phrases that contained an adjective corresponding to the English noun phrase word order. Instead of producing a noun phrase with the typical Spanish order of article + noun + adjective, she began using the order of article + adjective + noun in instances in which it was inappropriate (e.g., *la grande casa*, the big house, instead of *la casa grande*, the house big). The other pattern noted was one in which the preposition

in questions was used in the clause-final position, as is acceptable in English (e.g., “Who do you want to play with?”). In Spanish, this construction is unacceptable, and such a clause would be considered ungrammatical (e.g., *¿Qué estás hablando de?* What are you talking about? instead of *¿De qué estás hablando?* About what are you talking?). L1 word order may thus be influenced by the L2, and this influence may be manifested in different ways and in different children who are native speakers of the same language.

First Language Loss in Spanish-Speaking Children with Language Impairment

Research on L1 loss with atypical child populations has been limited, and thus generalization of results to all children with language-learning impairments is premature. Nevertheless, the data do point to some interesting patterns that may help differentiate typical from atypical learners in Spanish-English contact situations in the United States. Although it did not specifically address the phenomenon of L1 loss, a case study of a Spanish-speaking child with specific language impairment (SLI) by Restrepo and Kruth (2000) provided some insights into how Spanish is affected in bilingual children with SLI. Restrepo and Kruth collected spontaneous speech data on both English and Spanish in a child with a diagnosis of SLI. The data were contrasted to those obtained from a child with a similar language background but with typical language skills. Longitudinal (1-year) data were collected for the child with SLI, thus providing useful information on changes in relative Spanish skill across time. Certain patterns noted in the child’s Spanish skills across time corresponded to what has been observed in typical language learners. For example, Restrepo and Kruth found a significant reduction in utterance length mainly due to an increase in single-word responses and a reduction in sentence complexity. During the second data collection period, the child’s sentences were characterized by simple clause types with no embedding. In addition, errors in gender agreement, certain tenses, and use of the subjunctive were also noted. Although many of these patterns have been noted in typical learners, what differentiates the children with SLI is how quickly the L1 (Spanish) changes. In this case, significant changes were noted within a 1-year period. In contrast, a more protracted pattern of loss was reported in studies with typical learners (Anderson, 1999a, 1999b, 2001).

Anderson and Márquez (2009) provided further support for this pattern of a steeper decline in children with language impairments. In a 3-year longitudinal study, the researchers followed a group of 12 Spanish-speaking children with typical language skills and 4 with a diagnosis of SLI. The children were from similar language backgrounds, and all received, for the duration of the study, English as a second language instruction in their schools. The research focused on the children’s use of Spanish grammatical gender, specifically as it is marked in the articles. Both spontaneous speech samples (picture description, conversation during play, and story retell) and experimental procedures were used to collect information on article use. Although typical children maintained correct gender marking and accurate production of articles across time, children with SLI presented a changed pattern of error when it came to article use. Children with SLI initially made errors of omission, but by the second and third years of data collection, most of the children’s errors were of gender. Other aspects of the article, such as plural and definite/indefinite distinctions, were maintained. In fact, by the last taping session, there was no evidence of gender marking (i.e., contrastive use of gender) in three of the children’s article paradigms. As with

Restrepo and Kruth's (2000) investigation, the rate of loss in children with SLI was faster than that in their typical peers.

Summary of Main Patterns

A summary of the main patterns noted in the Spanish of children who are experiencing L1 loss is presented in Table 10.2. As previously described, both the lexical and grammatical skills of children are affected. Grammatical skill is differentially affected in that some aspects of the language are more vulnerable to loss than others. It is important that clinicians not lose sight of the fact that some of the characteristics present in L1 loss are also part of many vibrant and strong bilingual communities. It is also important to remember that because language shift is part of the linguistic reality of the Latino population in the United States, any comparison of skill in the L1 has to rely on what is typical of a child's community in the United States and not of a particular country of origin.

Table 10.2. Patterns of first language (L1) loss reported in Spanish-speaking children

Patterns	Example
Lexical	
Code-mixing at the word level (mainly nouns)	<i>un dog</i> (a dog)
Use of general terms in Spanish	<i>Yo quiero esto.</i> (I want this.)
Lexical innovations	
Meaning extensions	Use of the word <i>embarazada</i> (pregnant) to include the English meaning <i>embarrassed</i>
Lexical borrowing/assimilation	<i>Emtiar/Vaciar</i> (made-up word using English word to empty)
Morphology	
Noun phrase	<i>el casa rojo/la casa roja</i> (the red house [masculine]; the red house [feminine])
Gender agreement errors	
Verbal morphology/verb phrase	<i>Yo camina/Yo camino</i> (I walk [third person singular]/ I walk [first person singular])
Person/number errors	<i>Ellos come/Ellos comen</i> (they eat)
Use of third-person singular default form	(see above example)
Aspectual errors (perfect/imperfect substitution)	<i>Yo fui/Yo iba</i> (I went/I used to go [implying habitual action])
Mood errors	
(indicative/subjunctive substitution)	<i>Yo lo hago/Yo lo haría</i> (I do it/I would do it)
Gender errors in the use of third-person object pronouns	<i>lo busqué/la busqué</i> (referent: <i>la pluma</i> ; I looked for it)
Syntax	
More rigid word order (subject-verb-object)	Consistent use of subject-verb-object forms
Transfer of English word order	<i>el grande vaso/el vaso grande</i> (the large glass/the glass large)

One final caveat concerning Spanish L1 loss must be made. Only a limited amount of research exists specifically on L1 loss/attrition of Latino children with and without language impairment. The data presented in this section, although in agreement with what has been reported in other language contact situations, are based on a limited number of children. Nevertheless, the data do provide information concerning possible patterns of loss, the structural aspects that are more vulnerable to loss, and the relative rate of loss in children with language impairment compared with typical learners.

IMPLICATIONS FOR ASSESSMENT AND INTERVENTION

Due to the complexities inherent in language contact situations, specifically as these pertain to child bilingualism, it is imperative that clinicians modify both assessment and intervention procedures. These modifications will result in more valid assessment results and language intervention strategies that foster that maintenance of the child's L1.

ASSESSMENT

The reality of L1 loss makes it important for clinicians to develop dynamic models of assessment—models that do not rely only on a comparison of performance with an ideal Spanish norm. These models must be based on an intimate knowledge of a child's linguistic community, be it one family or a large group of families and individuals. They must also be based on the realization that in language contact situations, the relationship between L1 and L2 is not static but is one in which change is constant. Thus, clinicians need to move from a view that each language has to be assessed separately (i.e., L1 assessment and L2 assessment) to a more encompassing approach that answers the question of what a child knows about language and not what the child knows about language X and language Y separately (Backus, 1999).

Professionals' understanding of the sociolinguistic reality of the community is of primary importance. This includes knowledge of how both languages are used across settings and situations (i.e., domains of use); how code-switching and code-mixing are used; and how the Spanish spoken deviates from standard forms, especially in the area of morphosyntax. Clinicians should thus gain knowledge about the Spanish variant spoken in the community—not necessarily the variant spoken in the community's home country—because the patterns may be different as a result of language contact.

Such information can be obtained through various means. A cultural informant who is fluent in or familiar with the Spanish variant spoken in the community can provide useful input about which patterns are similar to—and which deviate from—the expected norms of the home country. In addition, the informant can help in identifying the patterns noted in children that may deviate from the community's norm, including how child speakers in the community use Spanish.

Obtaining speech samples from various community members may also be helpful for discerning morphosyntactic patterns of the Spanish variant. Information concerning L1 and L2 use across domains and the particular Spanish variant spoken by a variety of community members can thus be used to identify expected patterns of performance.

Table 10.3. Areas of inquiry when interviewing parents and teachers

Areas of inquiry when interviewing parents	Areas of inquiry when interviewing teachers
Language use by the child At home At school With peers	Present educational placement
Use of language across topics, contexts, and situations	Changes in educational placement across time
Language use with the child At home by each family member At school By peers	
Changes in use of Spanish and English across time by the child	Instruction in each language Time spent using each language during classwork Areas taught in each language
Changes in language input for Spanish and English across time	Literacy (and preliteracy) skills in each language
Parental concern about the child's language-learning ability	Academic concerns
Parental attitude toward maintenance of Spanish skill	Language use by the child within the school setting Language input to the child within the school setting

Because each child has unique experiences concerning language input in Spanish and in English, each child's linguistic background must be carefully scrutinized. Interviews with family members and educators familiar with the child's background will provide the necessary information on L1 and L2 use and changes in use across time (Anderson, 2002). A summary of topic areas to cover in interviews with both the family and teachers is presented in Table 10.3. As can be seen from the table, questions need to be asked regarding both language input and output (i.e., use by the child) and changes in both areas across time. Parents should also be asked to indicate whether they have noticed changes in the child's relative ability in Spanish and English across time and, if changes have occurred, to explain how these are manifested (i.e., types of changes and rate of change). It is important to inquire as to the parents' perceptions regarding their child's skills in each language as well as their concerns about their child's language ability, because parents are good judges of their children's linguistic skills (Restrepo, 1998). Teachers should be asked about the child's educational experience in each language. If the child has been in a bilingual program, detailed information concerning how the program was run and how each language was used is essential for understanding what should be expected in terms of the child's academic skills in each language. The data gathered from both parents and teachers will provide a detailed view of the child's previous and current language experiences. These data will also point to the possibility of L1 loss as being part of the child's linguistic reality. Reports from parents and teachers that indicate an increase in the child's use of English with a reduction in Spanish use, as well as parent reports that the child's Spanish skill appears to have

decreased, point to the possibility of L1 loss. A rapid decrease in Spanish skill with limited growth in English may be suggestive of language impairment.

If there is a possibility that a child who was referred for assessment is experiencing language loss, it is essential for the clinician to consider alternatives to traditional testing. In addition to obtaining information concerning actual performance in the areas of lexical, morphological, and syntactic skill, the clinician will need to address other areas, such as pragmatic abilities, strategies used to communicate in each language and in bilingual contexts, comprehension of both Spanish and English, language-processing skills, and learning potential. Having obtained the necessary information concerning the Spanish variant spoken in the community, as well as L1 and L2 use patterns, the clinician can collect and analyze language samples across settings and listeners. Language samples should incorporate a variety of linguistic tasks, such as narratives and conversations, because different tasks result in the use of different linguistic structures (Anderson, 2002).

Because the language used may be dependent on aspects such as topic and listener, more than one sample needs to be collected. This will provide a more panoramic view of the child's linguistic skill. With knowledge of the child's language experiences, the clinician can then choose the topics, activities, and interactants that will provide a comprehensive view of the child's linguistic skill. These samples need not be long, but they do need to be comprehensive enough to encompass the child's varied language environments. The particular environments chosen will vary by child but should be those in which the child interacts most frequently. Speech samples should be at least 15 minutes in length.

Analyses of the obtained samples should address the child's morphosyntactic skill as contrasted with community norms as well as the various communicative strategies that the child uses and their effectiveness within each context sampled. Strategies that suggest that the child is being innovative in his or her use of language include lexical innovations, lexical borrowings and assimilations, use of code-mixing with bilingual speakers, and nonverbal strategies for supporting communication. Thus, although the main purpose of language samples is to aid in assessing productive use of structural aspects of the language, they can also aid the clinician in assessing how effective the child is communicating across contexts.

In addition to language samples that provide information on the child's present level of performance, other procedures can be used to identify a possible language-learning disorder. These include dynamic assessment and processing tasks. Because these do not rely on present linguistic performance for identifying language disability but instead address areas that affect language skill, they are particularly relevant for use in assessing a child who may be experiencing L1 loss. As these tasks have been effective in differentiating between language impairment and language difference, they have the potential for distinguishing a child who may be presenting patterns that mimic language disability but who may in fact be experiencing L1 loss from a child with a true language-learning disability. Dynamic assessment measures such as those described by Gutiérrez-Clellen and Peña (2001), which consist of a test-teach-retest methodology, are particularly applicable for use with children in bilingual environments who may be experiencing L1 loss. Process-dependent measures such as those that focus on processing nonlinguistic information and that include tasks that address aspects such as attention and memory may be particularly adequate for making a differential diagnosis in this population. Although few studies in the area of processing tasks with diverse populations have looked at second language learners (cf. Campbell,

Dollaghan, Needleman, & Janoski, 1997; Rodekohr & Haynes, 2001), studies with bilingual children have suggested that this area of testing may potentially serve as a reliable means of identifying language disability in bilingual children (Kohnert & Windsor, 2002, 2003). The research in the area also points to potential effects of the language of testing; thus, care should be taken when administering tasks and evaluating children's performance on them (Kohnert, Windsor, & Yim, 2006). Of course, these two procedures are used to differentiate between difference and disorder and are not effective for describing regularities in linguistic performance. Such regularities in performance need to be identified through the use of language sample analyses and child-specific language probes.

A final area that needs to be considered during the assessment of children who may be experiencing L1 loss is comprehension skills. Recall that most of the patterns noted in L1 loss occur at the productive or expressive level. Evaluating a child's ability to understand Spanish, using both informal (i.e., conversational and observational data) and formal (i.e., comprehension probes, grammaticality judgment tasks) measures, will provide additional information concerning the child's language skills. In fact, comprehension should be a salient component of the assessment of children who are experiencing language loss (Anderson, 1999a). As with spontaneous speech, the comprehension tasks need to conform to expected patterns noted in the community's use of Spanish (and English), especially if the comprehension tasks are probing morphosyntactic skill and if grammaticality judgments are being used as an assessment tool. An example of a comprehension probe is one in which the person distinctions noted in the verb are presented without the subject (e.g., *como*, eat [subject understood] versus *yo como*, I eat) and the child has to indicate which participant is performing the activity. A grammaticality judgment task would include providing a child with correct and incorrect productions of certain morphosyntactic features, such as perfect/imperfect tense, and then asking him or her to identify the productions that are made correctly.

In conclusion, assessment needs to consider the possibility of L1 loss in the population of Spanish-speaking children in the United States. A summary of characteristics typical of language loss during assessment is presented in Table 10.4. Because some of these characteristics, especially in the area of morphosyntactic skill, may also be noted in children with language-learning disorders, diagnosis should consider performance across all areas assessed. Spanish language performance should be evaluated using the child's linguistic community as the yardstick. It is essential that clinicians gain insight into the linguistic characteristics of the child's community because these—and not monolingual norms—should be used for comparison. In addition, clinicians need to obtain pertinent information concerning the child's use of both languages and changes in his or her relative proficiency across time. Actual assessment instruments should include language sampling across a variety of settings as well as evaluate the child's comprehension and pragmatic skills. Dynamic and processing tasks should be used in addition to parental input for distinguishing difference from disorder in this child population.

INTERVENTION

When one is working with children who are experiencing L1 loss, the main issue concerns the language of intervention. A comprehensive discussion on this topic is beyond the scope of this chapter (cf. Gutiérrez-Clellen, 1999; Kohnert, Yim, Nett, Kan, & Durán, 2005), but

Table 10.4. Expected language performance of typical language learners experiencing language loss during assessment

Type of Assessment	Expected performance
Parent/teacher report	Noted decrease in productive use of Spanish across domains
Language sample	Perceived decrease in expressive Spanish language skill No parental concern regarding language development Presence of morphosyntactic errors typical of Spanish first language loss Code-mixing at the lexical level User of general terms Reduced sentence complexity (e.g., use of embedding) Ability to choose language according to speaker and context characteristics
Comprehension tasks	Generally good comprehension skills in Spanish conversational situations Comprehension skills noticeably better than expressive skills
Pragmatic skills	Adequate conversational skills Efficient use of nonverbal communication to facilitate interaction
Dynamic and processing assessment tasks	Expected performance of a typical learner

certain aspects of this choice within the context of L1 loss are presented briefly. It is important for the clinician to consider the parents' attitudes toward the child's maintenance of Spanish skills. It is also essential to be cognizant of the parents' English skills, as parent-child interactions will be negatively affected in situations of L1 loss if the parents and the child will not have a shared language (i.e. Spanish) for conversation (Fillmore, 1991). If the parents want the child to maintain and improve his or her Spanish skills, and if there is a concern for maintaining Spanish as a necessary tool for parent-child interaction, every effort should be made to use Spanish as a language of intervention. This can be done in a variety of ways: 1) providing intervention primarily in Spanish, either by a bilingual clinician or through the use of a paraprofessional (cf. Langdon & Cheng, 2002); 2) providing services in both English and Spanish; or 3) incorporating the parents as essential members of the intervention team and providing them with activities that will enhance their child's use of Spanish. Obviously, these three alternatives are not mutually exclusive, and parents should be part of any intervention program that considers both cultural and linguistic diversity in its implementation. Incorporation of Spanish into the intervention will provide the child with opportunities to use this language in contexts in which perhaps it is covertly (or overtly) viewed as less acceptable than English, thus raising its perceived status for the child and the family. It will also aid in maintaining the linguistic ties between the child and the family. As a consequence, it may also enhance the positive perception of being bilingual for the child, the family, and the community. As with assessment, the intervention goals in Spanish should reflect what is known about Spanish language development, and expected performance should be that which parallels language use in the child's community. In addition to aiding the child in developing language skills, such an intervention will help him or her maintain the use of his or her native tongue.

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