



## FROM GRAMMAR TO DISCOURSE



# 8



## VERB MORPHOLOGY AND VOCABULARY IN MONOLINGUALS, EMERGING BILINGUALS, AND MONOLINGUAL CHILDREN WITH PRIMARY LANGUAGE IMPAIRMENT

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In the United States, bilingualism is more prevalent than ever. Because of the influx of immigrants to the United States, more non-English-speaking children are entering the schools every day. According to the U.S. Census Bureau projections (2009), the Hispanic population in the United States had reached 48.4 million people, or 16% of the population, by 2010. Given the number of Hispanics who speak Spanish, a large segment of the U.S. population is now Spanish–English bilingual. Knowledge of language acquisition in both monolingual and bilingual children is necessary in order to effectively assess and treat children with language disorders. The purpose of this chapter is to examine one aspect of acquisition, verb morphology, in typically developing monolingual and bilingual children and children with primary language impairment (PLI). (PLI is sometimes referred to as *specific language impairment* [SLI], and this latter term is used here in reference to previous studies.)

First I give a brief overview of issues related to verb acquisition in monolingual and bilingual Spanish speakers and in children with PLI. Then I present theoretical perspectives that aid in the understanding of the acquisition of the verb system. A description of the Spanish verb system from the perspective of both tense and semantic aspect is provided. Based on this information, I describe two studies of verb acquisition in groups of typically developing 20- and 28-month-olds. The analysis is then extended to an older group of Spanish-speaking children with PLI. A summary of findings is then presented in terms of assessment and intervention issues.

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In most of the early studies of language acquisition, little attention was paid to morphological issues. As more work is now being done on languages with rich morphology, studies of verb inflection have become of interest. Another reason for the emphasis on such studies is that morphology is one of the areas of language most affected in English-speaking children with SLI (Conti-Ramsden & Jones, 1997; Leonard, 1998). For example, Leonard (1998) has shown that English-speaking children with SLI use fewer verb auxiliaries and past tense markers (i.e., suffixes). In more inflected languages such as Spanish, Italian, and Hebrew, verb and/or noun inflections may be more complex depending on multiple language-specific principles (Bedore & Leonard, 2001; Dromi, Leonard, Adam, & Zadunaisky-Ehrlich, 1999; Leonard & Bortolini, 1998; Restrepo, 1998; Restrepo & Kruth, 2000; Sanz-Torrent, Aguilar, Serrat, & Serra, 2001).

Most research about verb acquisition in Spanish has addressed the acquisition of tense and person alone. Little if any systematic research available in Spanish has analyzed the relation of lexical aspect to verb inflection. Ample evidence has suggested that verb inflection is not an across-the-board phenomenon but is guided by lexical aspect (Shirai & Andersen, 1995) or, from another point of view, is item based (Tomasello, 2003). Furthermore, in order to provide for more appropriate assessment and intervention, information is needed about typical language development in the target language or languages. Bilingual children with language impairments may share processing limitations found in typically developing bilinguals (e.g., naming tasks take longer or referentiality when using clitics is confused). Thus, information about verb acquisition in monolingual children with PLI may aid experts in understanding the verb system. As Spanish is a highly inflected language, developmental data about verb inflection morphology need to be collected. More information is needed about verb morphology acquisition both to identify differences between typical and disordered language development and to determine how the system is acquired in monolingual and bilingual children.

## RELEVANT ISSUES IN BILINGUAL LANGUAGE ACQUISITION

One of the prevalent issues in the bilingual acquisition literature is whether language mixing and/or interference takes place in verb morphology at the first stages of simultaneous bilingualism. In order to understand the relationship between two languages, one must first define *interference*, *mixing*, and *transfer*. The terms *interference*, *mixing*, and *transfer* are often interchangeable. This chapter refers to *mixing* and *transfer* as interchangeable concepts. This chapter refrains from using the term *interference* because it implies research that considers processing time in which there is an imposition of one structure over another (Lanza, 1997).

Mixing does not usually imply a processing limitation. Language mixing implies that two systems interact, and then the structure of one language or the words used in that language are applied or used in the other. Reports on the amount and type of mixing vary considerably across studies (de Houwer, 1995; Lanza, 1997). In language transfer, structures from one language are borrowed in the other temporarily (Paradis, Crago, Genesee, & Rice, 2003). Further details on these distinctions can be found in Hammers and Blanc (2000), Paradis and colleagues (2003), and Paradis and Genesee (1996; see also Chapter 4).

Language mixing in bilingual children is an important issue because it lends support or rebuttal to two opposing positions of language representation in the brain: whether

the two languages being acquired coexist and interact as one system (also known as the *holistic view*), or whether bilinguals are like two monolinguals in one with two language systems (also known as the *fractionated system*; Kohnert & Bates, 2002; Kohnert, Bates, & Hernández, 1999; Lanza, 1997). Most of this discussion has pertained to *simultaneous bilinguals* (i.e., people who acquire both languages at the same time from birth), but research with sequential bilinguals has shown that both languages are processed in a similar way to simultaneous bilinguals depending on the number of years of contact with the second language (Kohnert & Bates, 2002; Kohnert et al., 1999). Both Vihman (1999) and Kohnert and Bates (2002) have added interesting proposals to the discussion, stating that what is important is not whether mixing occurs but rather what is mixed or undifferentiated.

Language transfer was viewed by Kohnert et al. (1999) from an interactive–activation account of language. Bilingualism is seen as a dynamic process in which transfer occurs from one language to the other. This transfer may be positive or negative (e.g., one language may aid in word recovery in the other because of cognates, or interference may slow processing when cognitive demands are high).

The issues of mixing and transfer are relevant to understanding the research presented in this chapter. Specifically, I examine whether a linguistic component that is quite different in English and Spanish—verb morphology—may be particularly susceptible to mixing or transfer when the two languages are in contact during early stages of language acquisition.

Swain and Wesche (1975) and Vihman (1999) found that simultaneous bilinguals mixed morphological forms from one language to another. Because mixing may be context and/or person oriented (see Lanza, 1997), language mixing in *emergent bilinguals* (i.e., individuals who speak primarily one language but who are acquiring another) may provide important information about the influence of one system on the other.

## **VERB MORPHOLOGY ACQUISITION WITH SPECIAL REFERENCE TO SPANISH**

Most studies of verb acquisition that are not based solely on English have addressed the development of the morphology of the verb system, most specifically person and tense or the use of irregular forms. For example, multiple studies on Spanish language acquisition have shown that children as young as 20 months begin using the present and preterit with first and third person markers, as well as the imperative forms (Ezeizabarrena Seguro, 1997a, 1997b; Fernández Martínez, 1994; Gathercole, Sebastián, & Soto, 1999; González, 1983; Hernández Pina, 1984; Maez, 1983; Sebastián, Soto, & Gathercole, 2001). The early appearance of these morphological markers is followed by the emergence of the present progressive, negative imperative, periphrastic future, and, to a lesser extent, other forms (see Anderson, 1995; and Bedore, 1999, for a brief review of the literature).

Several other studies on Spanish have supported the perspective that the acquisition of the verb system is gradual. The influential work of Tomasello (1992), among others, has laid the groundwork for many researchers to examine Spanish language development. A number of researchers have shown that children acquire mostly one form for each verb in the initial stages of acquisition (Childers, Fernández, Echols, & Tomasello, 2001; Gathercole, Sebastián, & Soto, 2000; Sanz-Torrent et al., 2001; Sebastián et al., 2001; Serrat & Aparici, 2001). Later, these children exhibit gradual increases in verb complexity, contrasting both person and

tense. Data on Italian, a Romance language that is closely related to Spanish, have also supported this perspective (Pizzuto & Caselli, 1992, 1994).

Verb inflection has also been examined by observing the relationship between tense and lexical aspect. In English, impending verbs have no marker, ongoing and action verbs use an *-ing* ending, and completion or result verbs usually use an *-ed* ending (Behrend, 1990, 1995; Behrend, Harris, & Cartwright, 1995; Dowty, 1979; Tomasello, 1992; Tomasello & Kruger, 1992). In other Romance languages, contrasts between impending and result verbs have been found as well. Antinucci and Miller (1976) and Pizzuto and Caselli (1992, 1994) proposed that the development of the verb inflection system in Italian is influenced by different linguistic components. Thus, tense/aspect and person may be acquired differently depending on input, pragmatic and cognitive contrasts, and language-specific restrictions. Similar results have been found for French (Bronckart & Sinclair, 1973). These researchers found that the *imparfait* (imperfect; e.g., *elle marchait*, she walked) marked an ongoing action, whereas the *passé composé* (perfect; e.g., *elle a marché*, she walked) gave a resultative meaning, even with the same verb. Bassano (2000), also studying French speakers, showed that nonaction verbs were produced mostly in the present, whereas action verbs were inflected with a diversity of forms. In contrast, Cortés and Vila (1991) did not find a tense/aspect relation in Spanish-speaking children. Thus, most studies have shown a relation between specific morphological forms and tense/aspect relations. Only Cortés and Vila showed conflicting results, but those results may have been a product of methodological issues.

Jackson-Maldonado and Maldonado (2002) suggested that inflection is not applied in an across-the-board manner. Rather, they found that forms appeared gradually and with specific inflections related to verb semantic aspect depending on mean length of utterance in words (MLUw) or verb vocabulary levels. Following a cognitive paradigm for the description of verb morphology, they suggested that lexical aspect “pulls” inflection in monolingual Spanish-speaking toddlers (Jackson-Maldonado & Maldonado, 2002; Jackson-Maldonado & Maldonado, 2011). They proposed a classification of verb content based on Dowty (1979), Mourelatos (1981), Talmy (1985, 1991), and Vendler (1967) and extending Shirai and Andersen (1995), Smiley and Huttenlocher (1995), and Tomasello (1992; see also “Lexical Aspect Categories”).

### **Verb Morphology Acquisition in Typically Developing Bilingual Children**

Studies of verb morphology in bilingual children have examined the acquisition of verb tense and person. In a series of studies with bilingual English–Spanish children between the ages of 19 and 36 months old that used both natural language samples and experimental studies, researchers found accurate production of present, past, and infinitive forms in terms of both number and person markers (first and third person; Bedore & Leonard, 2001). Childers and colleagues (2001), in a comprehension elicitation task, proposed that third person singular forms were understood by age 3 with little or mostly incorrect use of plural forms.

Ezeizabarrena Seguro (1997a, 1997b) addressed the acquisition of the verb system in bilingual Euskera-Castilian Spanish-speaking-children. Her findings showed that the first and third person singular were first to appear and that singular forms were substituted for

plural ones in Spanish. Thus, her data confirmed what has been proposed in other studies of monolingual children.

### **Verb Morphology Acquisition in Children with Primary Language Impairment**

Children with SLI are consistently less efficient in terms of information processing than their typically developing peers. Still, compared with bilingual children, there is an overlap of linguistic characteristics between typically developing and children with SLI (Paradis, 2010). Results from multiple studies have shown processing differences in children with SLI in terms of nonword repetition, picture-naming grammaticality judgments, and morpheme production, among others (see Kohnert, 2010). These same components most surely are affected in Spanish-speaking children, but language-specific aspects need to be studied.

A significant body of research addresses the differences between typically developing children learning a second language and English-only children with SLI (see Kohnert, 2010; Paradis, 2010). Kohnert and colleagues (1999) have suggested that there are some similarities and multiple differences, particularly on nonlinguistic tasks. Although multiple factors have been explored, little is known about verb morphology in these groups, particularly as it is related to lexical aspect.

Children with SLI who are acquiring inflectionally rich languages such as Spanish have more difficulty acquiring particles (e.g., clitics) and arguments that are linked to the verb system than inflection markers. Thus, they may produce errors, such as omitting the clitics (e.g., *peino* for *me peino*, or “[I] comb” for “[I] comb myself”), but the verb inflection remains intact. Some aspects of verb inflection are acquired differently in children with SLI. Restrepo and Kruth (2000) reported fewer verb errors than noun errors among bilingual (Spanish–English) children with SLI. The verb errors that the children committed consisted of person–verb agreement errors or failure to use the imperfect and subjunctive forms in obligatory contexts.

Bedore and Leonard (2001) found significant differences between participants with SLI and age- and MLU-matched controls groups mostly on noun morphology. There was, however, a high percentage of infinitive substitutions for finite forms in participants with SLI and MLU controls (e.g., the form *a comer*, let’s eat, literally “to eat,” was used instead of finite forms such as *como*, [I] eat). Differences were found, but not for all verb inflections, between the children with SLI and the age-matched controls but not the language-matched controls. Lower scores were found for person inflections in children with SLI. They had similar production to younger children, at least in this task.

Sanz-Torrent and colleagues (2001) compared monolingual Catalan and Spanish children with SLI with monolingual and bilingual age- and MLUw-matched controls. They analyzed verb productivity by using the Sebastián, Martí, Cuetos, and Carreiras (1996) categories to divide verbs into different classes based on typology and argument (such as whether the verb was transitive or intransitive, the types of subjects and the types of complements the verb took). Verb typology consisted of general all-purpose verbs, concreteness, familiarity, and imageability. Argument structure was described as the number of arguments and the semantic/syntactic structure of the following categories: external activity, self-activity, locatives, attention, temporality, and state of possession. Most differences

between groups were related to the number and type of verb arguments. Children with SLI used more concrete verbs and general all-purpose verbs and used fewer arguments, sometimes omitting them. It is worth noting that participants in these studies were not separated for language preference, so monolinguals and bilinguals were grouped together; thus, the influence of bilingualism on verb use was not established.

Dromi and colleagues (1999) reported more errors in past tense than in present tense inflections in Hebrew-speaking children with SLI. Leonard and Bortolini (1998) found that Italian-speaking children with SLI used similar inflections but had difficulty with articles and certain pronouns or clitics, such as those that substitute for objects (e.g., *Monica li ha visti*, Monica [them] saw).

Two studies have addressed the relation between lexical aspect and tense in children with SLI. Leonard et al. (2009) observed the use of the past and progressive forms in English with verbs that differed in lexical aspect. They showed that whereas typically developing children with a mean age of 5 years were sensitive to tense/lexical aspect relations, children with SLI were relatively less sensitive to these relations. In another study, Leonard & Deevy (2010) used a different experimental paradigm with completion/noncompletion and present/past counterintuitive items. Once again, children with SLI were not sensitive to completion cues. The researchers concluded that tense and aspect might be conflated in early language development.

### **Types of Errors in Verb Morphology**

The studies summarized above mostly analyzed the appropriate use of verb forms. Yet children also make mistakes in production. This has been shown in several studies of children between ages 1;7 and 3;10. Many found errors or inconsistencies in both typically developing children and children with SLI, although the types of errors varied.

Most monolingual and bilingual studies have addressed error production tangentially as part of larger verb morphology studies (Bedore & Leonard, 2001; Ezeizabarrena Seguro, 1997b; Fernández Martínez, 1994; Gathercole et al., 1999; Hernández Pina, 1984; Serrat & Aparici, 2001). Most inconsistencies were similar across studies, with small differences. There were person errors, such as using third person singular for third person plural; overgeneralizations, such as regularizing irregular forms, using infinitives for negative imperatives and for other forms; and incorrect use of the two forms of the verb *to be* (*ser* and *estar*) in Spanish-speakers. There were also inconsistencies in tense markers, as the preterit and progressive were often changed for the present tense. Most authors reported that most of these substitutions disappeared with age.

Studies of children with SLI have shown that most errors produced by these children are similar to those made by MLU-matched controls (younger children), which again suggests an effect of maturation. Still, in general, verb errors were reported to be quite infrequent. Serrat and Aparici (2001) found that only 7.2% of utterances had verb errors.

The remainder of this chapter analyzes the use of the Spanish verb system in emerging bilingual children and monolingual children with PLI (Jackson-Maldonado & Maldonado, 2002; Jackson-Maldonado & Maldonado, 2011; Sánchez Aguilar, 2009). In order to fully show how the system works, I give a brief description of the Spanish verb system and a lexical-semantic description of verbs before presenting data from *emergent bilinguals*, who

**Table 8.1.** Example of a verb stem inflected for person and number for the *-ar* conjugation in the present indicative

Person	Number	Verb <i>amar</i> ("to love")
First	Singular	<i>am<u>o</u></i>
Second	Singular	<i>am<u>a</u>s</i>
Third	Singular	<i>am<u>a</u></i>
First	Plural	<i>am<u>a</u>mos</i>
Third	Plural	<i>am<u>a</u>nan</i>

are defined in this chapter as potential bilingual children whose parents report that they speak only the home language, Spanish.

### Spanish Verb Forms and Inflections

In Spanish, three verb classes correspond to an equal number of thematic vowels: root + *-ar* (e.g., *caminar*, to walk), root + *-er* (e.g., *comer*, to eat), and root + *-ir* (e.g., *subir*, to go up). These verb classes are inflected for person, number, mood, tense, and aspect. Each person and number has a different form. Table 8.1 shows one verb stem inflected for person and number for the *-ar* conjugation in the present indicative.

### Lexical Aspect Categories

As is well known, lexical aspect is distinguished from morphological aspect. Whereas the former is part of the semantic composition of the verb, the latter is a marker indicating a perfective, imperfective, or progressive configuration of a specific event. This chapter assumes a three-way contrast based on the lexical aspect categories of verbs: states, activities, and changes of state (see Table 8.2).

- *States* are homogeneous temporal processes that endure or persist over unbounded stretches of time. They cannot be qualified as actions because they involve no dynamics and the state does not constitute a change.
- *Activities* express actions with no culmination or clear anticipated result. Every part of the process is of the same nature as the whole event. Most activities take present, future, and progressive tenses.
- *Change-of-state* verbs are *telic*; that is, they denote a process with a punctual result or outcome. Changes of state involve heterogeneous processes that designate some result

**Table 8.2.** Lexical aspect categories

States	Activities	Changes of state
<i>dónde está</i> ("where is it")	<i>duerme</i> ("she sleeps")	<i>se cayó</i> ("it fell")
<i>cabe</i> ("it fits")	<i>camina</i> ("she walks")	<i>se fue</i> ("he left")
<i>quiere</i> ("[she] wants")	<i>vamos a buscar</i> ("let's go look")	<i>para cortar</i> ("to cut")
<i>sirve</i> ("it works")	<i>come</i> ("he eats")	<i>siéntate</i> ("sit down")

or outcome within a temporal stretch. The distinction between events is developed in a punctual manner. Verb vocabularies are not extensive enough in young children to merit a contrast between accomplishments and achievements. *Accomplishments* are process actions that end in a sudden result, whereas *achievements* are actions that culminate in the actual moment. Both imply a change of state. Thus, this class includes both accomplishments (e.g., *break a glass*) and achievements (e.g., *find the keys*).

## Tense

All tenses in Spanish are marked by a set of suffixes inflected for number and person. The most frequent tenses found in expressive child language are the periphrastic future, progressive, present, and past. The imperative, which is a mood rather than a tense, carries the inflection of the third person present (e.g., *bájame*, get me down). The periphrastic future expresses an imminent future action that parallels the functions of the English *gonna* (i.e., a child's or slang version of *going to*). It is composed of the verb *ir* (to go) + the main infinitive verb root: *voy a jugar* ([I'm] gonna play).

The present progressive designates actions that are actually being carried out at the moment of speech. It is formed by the verb *estar* (current *to be*) + the main verb root + gerund: *está jugando* (he is playing). The past designates actions carried out before the moment of speech. It carries a specific inflection by verb class and person: *corrí* (ran), first person singular; *corrió* (ran), third person singular.

The present tense is the unmarked form in Spanish (see Jackson-Maldonado, 2011). Some verbs are inflected with a present form although they only partially coincide with or are relevant to the present moment or the moment to which the utterance makes reference. Thus, although marked with a present morpheme, they may refer to the past, the future, or habitual actions. Only performatives may fully coincide with the moment of speech: "I hereby name you John" (Langacker, 1987). Other present inflection forms may denote habitual future actions: *Corro todas las mañanas* (I run every morning) and *Ahora vengo* (I will be back soon; literally "I come back now"). The present is also marked for person: *camino* (walk, first person singular) and *camina* (walk, third person singular).

Here I present a comparison of verb inflection and semantic aspect using the categories outlined. The results of a study with monolingual Spanish speakers (Jackson-Maldonado & Maldonado, 2002; Jackson-Maldonado & Maldonado, 2011) are described, and then these individuals are compared with emerging bilinguals. Both groups are then contrasted to a sample of monolingual children with SLI.

Because of the limited amount of contact with English in the bilingual group, we predicted that the developmental process of morphology of the emerging bilingual children would be similar to that of their monolingual peers in the Jackson-Maldonado & Maldonado (2002) study. We also hypothesized that there would be a relationship between tense/aspect and verb inflection in which aspect pulled tense and that the process would be directly related to the size of the verb lexicon. We addressed the influence or mixing between languages as we described inflections and verb use that were specific to these emerging bilinguals. We also predicted that the children with PLI would follow similar developmental patterns but that the tense/aspect relationship would hold. We predicted that more errors would be found in the emerging bilingual and PLI groups. This is particularly important for

both assessment and intervention because it signals whether the acquisition of the verb system is affected when children have initial contact with two languages and whether children with PLI follow similar morphological processes than typically developing children.

## LEXICAL ASPECT AND VERB MORPHOLOGY IN TWO STUDIES

In this section I present data from two different studies consisting of three different groups of children. In the first study, monolingual and emerging bilingual children aged 20 and 28 months were observed. In the second study, children with PLI and age-matched controls between 5 and 7 years of age participated (Sánchez Aguilar, 2009).

The first set of participants was composed of monolingual children being raised in two cities in central Mexico. The monolingual Mexican residents were described in Jackson-Maldonado and Maldonado (2002, 2011). There were a total of 40 children (20 who were 20 months old and 20 who were 28 months old) divided into two groups based on their verb vocabulary or MLUw.

The second set of participants was composed of monolingual speakers of Spanish being raised in Southern California who had contact with a second language through their community (emerging bilinguals). Participants in the emerging bilingual group had limited contact with English through television or the environment in which they were living and often had school-age siblings who were learning English in school. A total of 39 children participated in this group (19 were 20 months old and 20 were 28 months old).

Although U.S. participants were recruited as Spanish speakers, 70% of parents reported that their children had had contact with a second language. Of these, a total of 59% of the children had between one and five English words in their total word vocabularies. This meant that the use of English by these children was incipient, and second language contact was already manifested in language use. Most of the children's vocabularies consisted of Spanish words, yet this early contact with English influenced their use of Spanish forms.

The third group of participants consisted of a small sample of 10 monolingual Spanish-speaking children with PLI (5 with PLI and 5 age-matched controls). Children were between 6 and 7 years of age and were identified as having PLI by scores less than 1.25 *SD* on at least two different measures: the Expressive One-Word Picture Vocabulary Test–Spanish-Bilingual Edition (Brownell, 2000a), the Receptive One-Word Picture Vocabulary Test–Spanish-Bilingual Edition (Brownell, 2000b), or the Spanish Clinical Evaluation of Language Fundamentals–4 (Semel, Wiig, & Secord, 2006). An exclusionary questionnaire was given to the parents to rule out other types of impairment. None of the participants had any emotional, motor, cognitive, or auditory loss and all had IQs above 85.

For the younger monolingual and emerging bilingual children, data were obtained from natural language samples that were transcribed using the Child Language Data Exchange System (MacWhinney, 1995). Children were classified according to their verb vocabulary based on a parent report, the *MacArthur Inventarios del Desarrollo de Habilidades Comunicativas: Palabras y Enunciados* (Jackson-Maldonado et al., 2003). In the second study, children were observed in a storytelling task in which they narrated the text-less picture book *Frog, Where Are You?* (Mayer, 1969). In this case, samples were transcribed using Systematic Analysis of Language Transcripts (Miller & Iglesias, 2006).

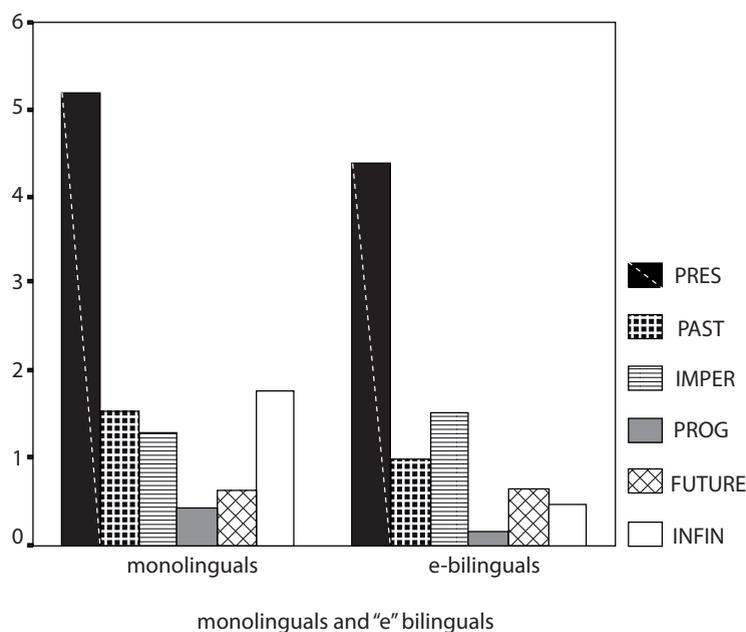
**Verb Inflection Findings** In the first study, findings were consistent both for stage of verb morphology acquisition and for the relation between verb morphology and lexical aspect. Children in the second study were older, and thus this analysis was not pertinent in that study. First, general verb inflection acquisition coincided with the findings of studies on Spanish mentioned previously (see also summaries in Anderson, 1995; Bedore, 1999; and Serra, Serrat, Solé, Bel & Aparici, 2000). Second, strong relations between lexical aspect and verb inflection were established, as in previous studies in other languages. Similar tendencies were found for all four groups of children.

Developmental patterns of verb inflection were quite consistent. Participants who were at the beginning stages of production (a verb vocabulary of 50 words and an MLUw of 1.0–1.5) used mostly first and third person present and preterit. Examples included *quiere* ([he] wants) and *tengo* ([I] have); the imperatives *sácalo* (take it out) and *toma* (have this); and *cayó* ([it] fell) and *rompi* ([I] broke [it]). There were very few productions of infinitives (by one or two children and one or two verb types only; e.g. *cortar*, to cut) or progressives (e.g., *está jugando*, [he] is playing). Imperatives appeared early for most children, but they did not continue to develop across age or language level. The same verbs usually appeared inflected with the imperative marker: *dame* (give me), *ten/toma* (literally “have this”), *siéntate* (sit down), and *bájate* (get down). Moreover, as verb vocabulary size increased, the use of imperative forms decreased.

As children matured linguistically with an increase in MLUw (1.5–3.2) or verb vocabulary (more than 50 verbs), other inflections appeared with more verb types. The present and preterit continued to be produced frequently but with more verb roots. Whereas at the earlier stage there might have been 10 change-of-state verbs in the present, at the second stage there were 33 (see Table 8.3). Furthermore, person inflections, including first person plural, became more common. Examples included *ayudamos* ([we] help), *jugamos* ([we] play), and third person plural present forms such as *aquí están* (here [they] are) and *suenan* ([they] sound). Person markers also developed in the preterit, with third person plural

**Table 8.3.** Number of verbs by aspect and inflection among advanced monolinguals and wemerging bilinguals

Inflection	States		Activities		Changes of state	
	Bilingual	Monolingual	Bilingual	Monolingual	Bilingual	Monolingual
Imperative	0	0	8	5	18	9
Present	26	28	22	31	37	33
Preterit	3	3	2	3	33	21
Periphrastic future	2	0	12	13	11	14
Progressive	0	0	8	16	0	5
Infinitive	0	0	11	10	13	16
Imperfect	2	1	0	0	0	0
Subjunctive	0	1	2	1	3	3
Negative imperative	0	0	0	2	0	0
Total verbs	33	33	65	81	115	96



**Figure 8.1.** Comparisons of inflection among monolinguals and emerging bilinguals (e-bilinguals). PRES, present tense; IMPER, imperfect; PROG, progressive; INFIN, infinitive.

forms such as *se cayeron* ([they] fell) and first person plural forms such as *va quitamos éste* ([we] took this one off).

Other inflections began to appear with more frequency in the more advanced group as well. Periphrastic future forms were observed with different person and number inflections, for example, *vamos a buscar* ([we] are going to find), *va a comer* ([he] is going to eat), and *voy a jugar* ([I] am going to play). Progressives were produced mostly with singular inflections: *está llorando* ([she] is crying). Infinitives were produced with periphrastic structures: *quiero dormir* ([I] want to sleep) and *para hacer* (literally “for do”). Subjunctives (*para que se despierte* [literally “for to wake up”]), imperfects (*pensaba*, [she] thought), and negative imperatives (*no hables*, do not talk) appeared but with only one or two exemplars from one or two children. Thus, inflection types become more diversified with language maturity.

Participants from the emerging bilingual group showed similar processes (see Figure 8.1). Although they consistently had smaller verb type vocabularies, the number of total occurrences, or tokens, was similar to that of their monolingual peers (see Table 8.3). In monolinguals, the order of frequency was infinitives > past > imperatives, although all forms were quite similar in their mean frequency of occurrence. For emerging bilinguals, the mean frequency of occurrence was imperatives > past > infinitives, but infinitives were much less frequent than past tense forms.

Thus, a general pattern emerged that was consistent with what has been reported for most monolingual Spanish-speaking children: the early appearance of the present, the preterit, infinitives, and imperatives, with lower frequencies of progressives and the periphrastic future. The present tense inflection form was the most frequent. The preterit and imperatives were relatively equally frequent in both groups. Still, the emerging bilingual sample

produced more imperatives than preterit (although the difference was not significant); the opposite was the case for monolingual children.

One interesting finding in the monolingual data is that the present tense was acquired early and was a highly productive form. Our data indicated that the meaning did not relate to a current moment. For example, a child's production of *le cerramos* ([we] close it) meant "we habitually close it" (i.e., we closed it before, we close it now, and we will close it in the future). It did not refer to the single act of closing in the present moment. Most of the present forms (particularly in change-of-state verbs) were produced as answers to questions about the future, relating to habitual actions, announcing future actions, or implying an imperative action rather than referring to the here and now. This is particularly important both for assessment and for intervention because children may use the present form to relate to time frames outside of the here and now. We also found a strong overuse of the present tense, suggesting that children might have been talking not only about the present but also about future events. Thus, in intervention, present forms should be used to refer not only to current actions but also to the future.

Data from the children with PLI are not relevant for the discussion of inflection development, as these children were considerably older and had acquired most forms. Still, one issue is of interest. As data were from a narrative and not from a language sample, different inflections would be expected to occur. In narratives, settings are usually expressed using imperfect forms, and the perfective forms are mostly commonly used for the story sequence. In this study (Sánchez Aguilar, 2009), preterits were very frequent, followed by imperfect forms. The difference between groups was in other aspects of the verb morphology. Typically developing children had a slightly higher number of composite or periphrastic verb forms. Thus, they used imperfect periphrastic forms such as *quería ver* ([he] wanted to see) and *iban a perseguir* ([they] were going to chase), present perfect forms such as *se había caído* ([it] had fallen down), and imperfect progressive forms such as *andaba gritando* ([he] was screaming). Children with PLI also used simpler forms, such as the simple imperfect *gritaba* (he was screaming).

In contrast to the younger typically developing children, whose data came from natural language samples, the present tense was almost nonexistent in children with PLI narratives. This was mostly due to the fact that a narrative task does not contain present forms unless a more mature adult speaker who uses this stylistic form tells the story. What is curious, though, is that children with PLI did have multiple occurrences of the present tense. This result could have been a manifestation of less mature verb use, as it simulated the pattern found in younger children. When later stage forms, such as the imperfect tense (*no lo encontraba*, [he] couldn't find it), were used, children with PLI used the simple imperfect and typically developing children used a compound progressive imperfect form: *se iba a caer* (it was going to fall), *iba corriendo* ([he] went running).

It is worth noting, as well, that a narrative task induced verb forms that were not so frequent in language samples, such as imperfect and progressive imperfect forms. This information is useful for intervention strategies and suggests the use of narratives to elicit more elaborate verb forms.

### Relations Between Lexical Aspect and Tense

As illustrated in Jackson-Maldonado and Maldonado (2002, 2011) and for children with PLI as well, clear relationships exist between inflection type and the semantic aspect of the

verb. For example, state verbs do not occur in the preterit and are produced mostly in the present (*quiere*, [he] wants), and change-of-state verbs are mostly inflected with the imperative (*ten/toma*, have this; *dame*, give me) and preterit (*acabó*, [it] finished) forms. Activity verbs are produced mostly in the present tense (*peino*, I comb) and at later stages in the progressive (*estoy comiendo*, I am eating) and periphrastic future (*voy a jugar*, I am going to play). This same pattern is observed as verb vocabulary increases (see Table 8.3). As children acquire more verbs in their vocabulary, tense/aspect inflection is used with more verb types and more person and number markers, although the same pattern of verb aspect is being paired with distinct inflections. As compound inflections are used, they appear mostly with activity verbs. It must be noted, though, that present tense forms appear with change-of-state verbs, as well. This runs contrary to theoretical predictions. Most of these occurrences are not true present tense verbs, although they carry the present tense form. This was explained in the previous section.

Tense/aspect relations were also similar between older typically developing children and children with PLI, although numbers of occurrences differed slightly. Typically developing children used fewer states, and children with PLI used slightly fewer activities (see Table 8.4).

What is of most interest, though, is that tense/aspect relations followed the same tendencies that would be expected based on the theoretical proposals discussed in this chapter. Thus, as can be observed in Table 8.4, preterits appeared mostly with activity and change-of-state verbs, and states were used with the imperfect. Once again, verb morphology is selective and related to the lexical aspect of the verb.

The information available that shows the relation between tense/aspect and the semantic aspect of the verb is similar among monolinguals, emerging bilinguals, and children with PLI. This finding suggests that the verb system proposed by Dowty (1979), Vendler (1967), and Shirai and Andersen (1995), among others, is supported by Spanish data from monolingual and bilingual children as well as from children with PLI. It further suggests

**Table 8.4.** Number of verbs by aspect and inflection among children with PLI and age-matched controls

Inflection	States		Activities		Changes of state	
	PLI	Control	PLI	Control	PLI	Control
Present	9	1	5	1	3	0
Preterit	1	2	49	36	72	73
Imperfect	26	18	4	2	3	1
Gerund	0	0	2	0	0	0
Infinitive	0	0	1	1	1	0
Past perfect	0	0	0	1	0	5
Progressive	0	0	3	0	0	0
Progressive imperfect	0	0	9	16	0	0
Imperfect periphrastic	0	0	3	3	1	0
Perfective periphrastic	0	0	2	4	1	4
Total verbs	36	21	78	66	81	84

Key: PLI, primary language impairment.

that verb inflection acquisition is a process that is highly dependent on the semantics of the verb and is not applied arbitrarily to any verb inflection.

In summary, the data on monolinguals show that a pattern of inflections is used first but that, most important, not all inflections are used with all verbs. A clear pattern of the production of certain inflections emerges according to the semantic aspect of the verb. Furthermore, the present tense is a more generic tense whose use covers actions that can occur in the past, present, or future.

### Errors in Verb Production

The findings that have been outlined so far were based on accurate verb production. Yet typically developing children misuse language or make errors that are part of the developmental process. Moreover, bilingual children may mix or transfer information from one language to the other, similar to that noted by Vihman (1999), who found that her young son borrowed morphological forms from one language to the other. Also, the language skills of children with PLI are characterized by production errors in verb morphology. The data in our studies also contained a variety of error types.

In studies exposed in this chapter, and contrary to many Spanish studies (Hernández Pina, 1984; Serra et al., 2000), no inaccurate forms appeared in the language of typically developing younger children. As children grew older (5 to 7 years), however, there were divergent forms. Both the emerging bilinguals and the children with PLI produced a variety of errors. As different authors have noted (Bedore & Leonard, 2001; Fernández Martínez, 1994; Serrat & Aparici, 2001), person substitutions (e.g., third person for second person), tense substitutions (present and subjunctive changes), and overgeneralizations occur, but not frequently and not in all children. Furthermore, bilingual children produced errors that had not been described previously.

Some errors were consistent with results from previous studies: nonfinite for finite forms, the absence of clitics and obligatory prepositions, substitutions of *ser/estar*, tense/mood substitutions, and errors in subject–verb agreement (person substitutions). Table 8.5 gives examples of most error types by participant group. As can be seen in the table, several types of errors were shared among the groups, and others characterized one group. For instance, argument structure deletion (omission of obligatory subject or objects, location, time) and subject/verb disagreement were present in all groups. Only children with PLI exhibited predicate deletion (omission of predicates of copulas) and agreement problems (singular predicates with plural copulas).

No real borrowed forms were found in the emerging bilingual children, although some forms seemed to adapt part of the structure of one language to the other. Thus, forms reported in the literature, such as the addition of *-ed* past morphemes and the overuse of infinitive forms, were not found; English auxiliaries did not appear; and there were no bare verb roots. Errors that did appear were person disagreement and substitution of finite for infinite forms. There were also tense substitutions that were clearly not borrowed from the other language. Other errors that occurred in the bilingual children were the confusion of grammatical categories and *ser/estar* substitutions. For instance, they used a verb like a noun: *le dio come aquí* (he gave eat here) or *está un peine* (this is a comb). Moreover, emerging bilinguals were mostly in control of their verb use system, but the incipient effects of

**Table 8.5.** Examples of verb errors in all groups

Type of error	Example	Translation	Comment	Group
Tense substitution	<i>se duerman</i>	"they go to sleep"	Subjunctive <i>duerman</i> for present <i>duermen</i>	Bilingual
Person substitution	<i>Yo me sienta</i>	"I sit down"	<i>sienta</i> for <i>siento</i>	Bilingual
Finite for infinite forms	<i>voy a enseña una cosa</i>	"[I] will show you something"	<i>Enseña</i> instead of <i>enseñar</i> , periphrastic future with finite	Bilingual
<i>Ser/estar</i> substitution	<i>está el peine</i>	"It's a comb"	<i>Está</i> for <i>es</i>	Bilingual
Subject/verb disagreement	* <i>se durmió (durmieron) el perro y el niño</i>	"The dog and the boy slept" (singular)	Plural verb with singular subject and/or clitic substitution of <i>la</i> for <i>se</i> or deletion	PLI, control, bilingual
Clitics	<i>El niño llamó a su rana pero allí no *la encontró</i> <i>Se los subió (se le subieron)</i>	"The boy called his frog but didn't find there" "It went up" (singular verb, plural subject)	Deletion, change of case ( <i>la</i> for <i>se</i> ), referent disagreement	PLI, control, bilingual
Argument deletion	<i>El perro dice* or el perro *le dice</i> <i>Entonces el niño metió el panal *location</i>	"The dog says" "Then the boy put the diaper"	Verb requires an object Verb requires a locative	Bilingual PLI, control, bilingual
Predicate deletion	<i>Entonces el perro y el niño lo estaban</i> <i>El niño no está *X de rana</i>	"Then the dog and the boy were" "The boy was not the frog"	Predicate is missing for both verbs	PLI
Predicate agreement	<i>La rana el perro están feliz</i>	"The frog, the dog are happy" (singular)	Plural subject with singular predicate	PLI
Overgeneralization	<i>Se había rompido la jarra</i>	"The pitcher had broken"	Use of regular particle form on irregular verb	Control

Note: Asterisks indicate deletion.

Key: PLI, primary language impairment.

contact with a second language began to appear, because children produced errors that were neither borrowed forms from English nor errors that typically developing monolinguals make.

Clitics were either misused or omitted in the emerging bilingual group, the older control group, and the children with PLI. Although Hernández Pina (1984) reported such omissions, other data on monolinguals from a larger corpus did not show these types of errors (Granados Velázquez, 1999; Jackson-Maldonado & Maldonado, 1998). Thus, clitic

use is complex and merits a more in-depth analysis in future research. What is clear, though, is that it is not just bilinguals who have difficulties with clitics.

The data from the older typically developing children included a type of error that has been discussed as part of morphological developmental processes: overgeneralizations of irregular verb forms. This error was not found in the younger children in this study, although it has been cited in the Spanish acquisition literature (Hernández Pina, 1984; Fernández Martínez, 1994; Serrat & Aparici, 2001). It is well known that children say *rompido* for *roto* (broken), *sabo* for *sé* (know), *dijí* for *dije* (said), and *puedí* for *pude* (could) at early stages of development. Still, only one instance of that type of error was found in this corpus: *rompido*. What is interesting is that this form was still present when the child was 6 years of age.

### **IMPLICATIONS FOR ASSESSMENT AND INTERVENTION**

What the verb data from monolingual and emerging bilingual Spanish children and information from monolinguals with PLI have shown is that the relation between tense/aspect and semantics in the acquisition of the verb system is highly systematic and specific. Children produce specific verbs with specific inflections. Past tense appears with change-of-state and later with activity verbs, progressive tense appears with activity verbs, and present tense appears with state and activity verbs. In older children, imperfect forms appear with state verbs. Clearly, three inflections appear early on: present, preterit, and imperative. Later, the imperfect and more elaborate periphrastic and compound forms emerge.

Most language tests or intervention programs do not follow tense/aspect and semantic aspect relations and do not include the most frequent inflections. In the *Test de Vocabulario en Imágenes Peabody* (Dunn, Padilla, Lugo, & Dunn, 1986), verbs appear in the infinitive form. In the Preschool Language Scale-3 (Zimmerman, Steiner, & Pond, 1993) and Preschool Language Scale-4 (Zimmerman, Steiner, & Pond, 2001), the first test items with verbs are presented in the progressive form, followed by the preterit. In the Screening Test of Spanish Grammar (Toronto, 1973), the change-of-state verb *subir* (to go up) appears in the future tense rather than the preterit tense (Jackson-Maldonado, 1988, 1999). Also, natural language samples and narratives may elicit different types of verb forms. It is clear that in narratives, the high frequency of present tense forms may be replaced with diverse types of verb inflections. In intervention, stress is usually placed on the dominance of one verb inflection at a time independent of the semantic type of each verb. The results of from this study and previous ones by Jackson-Maldonado (1988, 1999, 2002) would suggest that language tests use more verb inflections and that they should be applied to the specific verb semantic aspect. It is clear that in intervention, inflections need to be taught in a more diverse way and should relate to verb semantics.

Another result that has implications both for assessment and intervention is the fact that imperatives are forms that are acquired early, but they do not develop at the same rate as other inflections. Imperatives are most useful both in comprehension and in production at the earliest stages of development. Present and past tense markers, rather than the imperative, should be used initially for verb comprehension and production. Progressive and periphrastic future tenses should be introduced subsequently.

The implication for assessment is that appropriate verb roots need to be selected for testing specific tense forms. Thus, change-of-state verbs should not be used to elicit present forms but should be used specifically with the preterit tense and later with the periphrastic future tense. State verbs should be used to elicit the present and imperfect tenses but not the past tense. Activity verbs are more diverse and appear with the present, present progressive, preterit, and periphrastic future tenses. Imperatives appear first with specific change-of-state verbs mostly related to definite actions, such as the interchange of objects and movements: *siéntate* (sit down), *párate* (stand up), *tapa* (cover up), and *toca* (touch). Overall, change-of-state verbs are the most frequently used type of verb in early acquisition. This is true for both monolinguals and emerging bilinguals. In older children, change-of-state and activity verbs are the most frequently used.

Another important issue is the appearance of production errors. What the literature has shown is that typically developing children produce errors, although they do so less frequently than children with SLI (Restrepo, 1998). Some errors are a result of the ways in which children manifest their use of the verb system, most specifically by producing over-generalizations of irregular forms. Other errors may reflect contact with a second language, but they do not constitute language disorder. When or if a second language begins to influence the first language may depend on the complexity, frequency, salience, and informativeness of the items. General verb inflection is an area of strength, but when verbs appear with clitics and prepositions, omissions may be more likely. Furthermore, the *ser/estar* distinction may be affected by contact with a language that does not have such a distinction.

Information from older children shows that, in intervention, the full representation of an event in verb acquisition should be taught. It is important not only to inflect the verb but also to understand that some verbs require the expression of who receives or directs the action, where the action takes place, or whether instruments and location are required. Without this understanding of the system, it is probable that children will not use the verbs correctly. The bottom line is that errors should be expected; the frequency and type of the error is what should be considered.

Several other implications are indicated for assessment and intervention. Tests need to be based on Spanish language developmental data in order to determine the ages or levels at which verb or verb argument errors are acquired. Many errors have been considered a sign of a disorder when actually they may be a manifestation of a typical developmental process. A child who is committing many errors may be beginning to reflect or think about language and may be beginning to put into practice a set of morphosyntactic rules. This would be a positive process. The types of errors that the child exhibits during intervention should be carefully monitored to determine whether he or she is following a rule system that will lead to appropriate verb morphology or whether he or she understands the rules for certain types of verbs—for example, whether verbs are transitive (and can take object predicates) or whether they are intransitive (and do not require object predicates). As clitics and prepositions (related to verb arguments) are items that are easily substituted or omitted, special attention needs to be paid to the early and frequent introduction of these forms. Sentences in which verbs appear with object clitics could be introduced and monitored frequently. It should be noted that verbs that are paired with prepositions in Spanish (*se subió a la silla*, he got up on the chair) are not equivalent to frequently occurring motion verbs in English, such as *went out*, *stood up*, and so forth, because Spanish is not a

“verb-satellite” language (see Slobin, 1996, Slobin & Bocaz, 1988). Thus this type of structure has a different internal structure that could be more complicated in Spanish and require special attention in intervention. These are elements that are less salient and thus can be more affected. By attending to them, experts might also stimulate strategies for working on other less salient items (e.g., articles).

Data from monolingual children indicate that verb inflection increases in productivity as a result of increases in verb vocabulary. This means that in order to create a more diverse inflection system, one must teach new verbs. It also implies that in order to evaluate verb inflection in assessment, one must consider the total number of verbs in a child’s lexicon. If the child has few verbs in his or her lexicon, he or she will probably produce few inflections.

The study of verb morphology has become a topic of interest as languages other than English have become the focus of language researchers’ attention. As more bilingual children require services for language intervention, there is a greater need to understand how children’s first language (if it is not English) may influence their acquisition of their second language and how they process language in general. This information may be applied for both assessment and intervention. The data on verb inflection development presented in this chapter may aid in the development of better language tests that take into consideration how the Spanish verb system is acquired. The relation between inflection, the semantic verb system, and verb vocabulary should be considered. The verb inflection system is a window into the relation between words and grammar. This relation may be held constant in the treatment of monolingual and bilingual children.

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