CHAPTER 1

Contexts for Language and Literacy Development among Dual-Language Learners

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The steady growth in the language-minority population—children and adults from non-English-speaking homes—constitutes an ongoing population shift with wide repercussions throughout the United States. The impact on schools has been and will continue to be especially pronounced, but no sector remains untouched. Health care and other social services, the judiciary, electoral politics, entertainment and the arts, the workforce, marketing, demands for goods and services—virtually all facets of U.S. society are undergoing important changes as a result of the changing linguistic landscape. More than ever, language has been catapulted into our collective awareness, becoming an increasingly complex and volatile topic as linguistic diversity is becoming a fact of life for more and more Americans.

The chapters that follow provide illustrations of the some of the work currently under way designed to deepen and broaden our understanding of language and literacy development in bilingual contexts. We set the stage by first sketching a broad statistical portrait of the language-minority populations in the United States and then providing a conceptual model for thinking about contextual influences on language and literacy development.

Finally, we use the model to report some findings from a large study of Spanish-speaking children in Texas and California.

The authors of the chapters in this book report on studies with many different types of populations and look at many different linguistic, psycholinguistic, and cognitive factors that might influence the course of language and literacy development among dual-language learners. The chapters focus largely on cognitive and psycholinguistic dimensions of language and literacy development, with some attention to contextual factors. We suggest that it is probably useful to keep in mind the larger social contexts in which children develop as we consider the theoretical and practical implications of the research reported here. The conceptual model we use here provides one way of doing so.

LINGUISTIC DIVERSITY IN THE UNITED STATES

"Dual-language learners" are children and youth who learn a language other than English at home and learn English simultaneously or sometime thereafter. Despite common characteristics, dual-language learners are highly diverse in many ways. This diversity is probably relevant for understanding the diversity of findings reported in the following chapters.

The number of *dual-language learners* in the United States has increased dramatically over the past decades. The most current estimates suggest that nearly 11 million children and adolescents—more than 20% of the 5- to 17-year olds enrolled in PreK to 12th grade—speak a language other than English at home (National Center for Education Statistics, 2008). Some dual-language learners are bilingual children whose English language skills are comparable to those of their English-only peers. However, nearly half of dual-language learners—5.1 million—are classified as *English language learners* (National Clearinghouse for English Language Acquisition, 2008), or ELLs. ELLs were formerly known as limited English proficient, or LEP. These students are limited in their English skills and therefore cannot benefit adequately from mainstream classroom instruction. About 10% of students in U.S. schools are ELLs and require some sort of instructional modification to assure they have meaningful access to the school curriculum.[1]

There are no reliable projections for how much either number—dual-language learners or the subset of English language learners—will grow,[2] but grow they surely will as the number of immigrants and children of immigrants continues to increase. Consider that by 2050:

- Nearly 1 in 5 U.S. residents will be foreign-born (compared with 1 in 8 in 2005).
- An additional 114 million U.S. residents will be immigrants or the children of immigrants.

- More than 1 in 3 children will be an immigrant or the child of an immigrant (compared with fewer than 1 in 4 in 2005).
- The number of foreign-born children ages 17 and younger will nearly double to almost 6 million, from just over 3 million in 2005 (Passel & Cohn, 2008).

Other developed countries have experienced and will continue to face growth in their immigrant—and therefore dual-language—populations, although the U.S. will continue to be by far the largest receiver of international migration in the world (United Nations, 2007). Children in the United States come from more than 400 different language backgrounds (Kindler, 2002). A large majority are Spanish speakers, but more than a million students speak one (or more) of dozens of other languages. Table 1.1 lists the 15 most common languages spoken by students who speak a language other than English at home. Of particular concern are those dual-language learners who are limited in their English proficiency. For educators charged with providing these students a comprehensive and comprehensible education, it is especially critical to understand the dynamics of dual-language development and its implications for literacy learning and other aspects of academic achievement.

The language-minority population is also socioeconomically diverse. Table 1.2 shows the income and education characteristics of Latinos and Asians in the United States. Not all Latinos and Asians are language minority, that is, speak a language other than English at home. Nonetheless, Latinos and Asians together comprise about 90% of the language minorities in the United States, so their characteristics provide a sense of how varied these populations are. Overall, Asians have higher incomes and levels of formal schooling than Latinos, but there is great diversity among Asian subgroups as well. For example, only 40% of Hmong have high school degrees and nearly 40% live below the poverty level; in contrast, among Filipinos, nearly 90% are high school graduates and only 6% live below the poverty level. Latino-origin subgroups also vary: Salvadorans have a 36% high school completion rate and higher than 20% poverty rate, while 63% of Cubans have high school diplomas and fewer than 15% are below poverty. Family education and income levels have important implications for children's educational outcomes, so the socioeconomic indicators shown in Table 1.2 also indicate likely differences in achievement levels across the subgroups. Children from some of the subgroups are clearly more at risk for poor school outcomes than others.

AN "UNRESTRICTED FIELD OF PROFFERED EXPLANATIONS"

While few dispute the centrality of language, numerous long-standing disputes over language acquisition, development, influences, and relationship

TABLE 1.1. 15 Most Common Languages Spoken by ELLs

Home language	Estimated % of ELLs who speak this language[a]	Approximate number of ELLs who speak this language[b]	% of population 5–17 years old who report speaking English with difficulty[c]
Spanish	79.05%	4,031,300	37.8%
Vietnamese	1.95%	99,600	45.7%
Hmong	1.55%	79,281	54.5%
Chinese, Cantonese	1.02%	52,055	35.2%[d]
Korean	0.97%	49,258	33.6%
Haitian Creole	0.93%	47,316	27.6%[e]
Arabic	0.91%	46,244	22.9%
Russian	0.82%	41,627	30.1%
Tagalog	0.75%	38,239	25.4%
Navajo	0.59%	30,280	33.5%
Khmer	0.59%	30,041	39.5%
Chinese, Mandarin	0.49%	25,065	35.2%[d]
Portuguese	0.46%	23,287	22.0%
Urdu	0.41%	20,892	23.1%
Serbo-Croatian	0.38%	19,227	31.6%

Note. Adapted from Goldenberg and Coleman (2010). Copyright 2010 by Sage Publications. Adapted by permission.

[a]Data from Kindler (2002).

[b]Based on estimated 5.1 million school-age ELLs.

[c]Data from Census 2000 PHC-T-37. Ability to Speak English by Language Spoken at Home: 2000 (Tables 1a and 1b). Percentages were obtained by subtracting values for population age 18 and over from values for population age 5 and over and coverting to percents. Percentages indicate percent of respondents, ages 5–17 years , who speak a language other than English at home and who reported (or whose parent/guardian reported) they speak English less than "very well."

[d]Kindler (2002) reports Cantonese and Mandarin separately, but no distinction is made between them in the Census data.

[e]Data are for French Creole, which includes Haitian Creole.

to other developmental processes (such as cognition) have occupied scholars for years, with no end in sight. Bialystok (2001) calls the study of language acquisition an "unrestricted field of proffered explanations" (p. 51). Her explanation is that we have no commonly accepted way of defining what we mean when we say someone speaks a language well (or not so well): "There is no consensus regarding a definitive set of criteria or definition for language proficiency" (p. 50). What does it mean to say a speaker's pronunciation is good, their vocabulary expansive, or their grammar correct? And what does each of these presumed thresholds actually mean?

Nevertheless, we all seem to believe we know what we mean when we

TABLE 1.2. Education and Income Characteristics of Select Hispanic and Asian Populations

	Total population	Percentage of high school graduates	Percentage with a BA or more	Per-capita income[a]	Percentage below poverty
White non-Hispanic	**194,552,774**	**85.5%**	**27.0%**	**24,819**	**7.9%**
Hispanic/Latino	**35,305,818**	**52.4%**	**10.4%**	**12,111**	**22.1%**
Mexican	20,640,711	45.8%	7.5%	10,918	23.3%
Puerto Rican	3,406,178	63.3%	12.5%	13,518	25.1%
Cuban	1,241,685	62.9%	21.2%	20,451	14.3%
Salvadoran	655,165	36.1%	5.5%	12,349	21.2%
Asian	**10,242,998**	**80.4%**	**44.1%**	**21,823**	**12.3%**
Chinese mainland	2,314,537	76.2%	47.1%	23,642	13.1%
Filipino	1,850,314	87.3%	43.8%	21,267	6.2%
Vietnamese	1,122,528	61.9%	19.4%	15,655	15.7%
Korean	1,076,872	86.3%	43.8%	18,805	14.4%
Cambodian	171,937	46.7%	9.2%	10,366	29.8%
Hmong	169,428	40.4%	7.5%	6,600	37.6%

Note. Data from Goldenberg and Coleman (2010) based on data from 2000 Census (*www.census.gov/population/www*).

[a]1999 dollars

say a person is a competent speaker of a language. We associate high levels of language use and proficiency with competence; low levels are considered problematic, even symptomatic of some underlying adverse condition. The growing linguistic diversity of the United States makes it increasingly important that we strengthen our understanding of language development, more specifically *dual-language development*, and the many factors that can influence it. If we believe, as Brea-Spahn and Silliman (Chapter 3, this volume) assert, that "all language learning outcomes … are experience driven," then we must consider the contexts in which children acquire and develop their language proficiencies, however these are defined.

CONTEXTS FOR DUAL-LANGUAGE AND LITERACY DEVELOPMENT

Family and Community Contexts

Our conception of contexts of language development derives from a language socialization perspective (Zentella, 2005), which examines how chil-

dren become competent speakers of one or more languages. This perspective considers factors such as activities in which children engage with more competent speakers of the language and shared beliefs and assumptions surrounding appropriate uses of language that shape interactions during these activities. Researchers have studied many aspects of children's social contexts and their influence on language and literacy development. As a result there is a large body of empirical work going back for years that has studied numerous populations and identified a wide range of home and family factors that influence the language and literacy development of both dual-language learners and monolingual speakers. These factors include talking with and to children, reading and other literacy events, storytelling, books and other learning materials in the home, going to the library, doing homework with children or following up on school lessons, and home–school communications (e.g., Booth & Dunn, 1996; Delgado-Gaitan, 1990; Goldenberg, 1987; Hart & Risley, 1995; Hess & Holloway, 1984; Hoff, 2003; Kainz & Vernon-Feagans, 2007; Mercado, 2005; Oller & Eilers, 2002; Reese, Goldenberg, Loucky, & Gallimore, 1995; Roca, 2005; Valdés, 1996; Vasquez, Pease-Alvarez, & Shannon, 1994; Zentella, 1997, 2005).

Families do not raise children in isolation, however, and the ways in which children experience language at home presumably varies, at least partly in response to opportunities for and restrictions on language use in the settings outside of the home in which children participate. There are clear differences in community sociodemographic characteristics and language and literacy resources, any of which might enable or constrain children's language and literacy experiences (e.g., Neuman & Celano, 2001; Reese & Goldenberg, 2006; Reese, Linan-Thompson, & Goldenberg, 2008; Smith, Constantino, & Krashen, 1997). The literature on community influences on child language and literacy development (in fact, on child outcomes in general) is not as extensive as that on family influences. The research that does exist suggests that neighborhoods and communities have less impact on child outcomes than do families (Ellen & Turner, 1997; Klebanov, Brooks-Gunn, McCarton, & McCormick, 1998; Sanbonmatsu, Kling, Duncan, & Brooks-Gunn, 2006; Shonkoff & Phillips, 2000). Nonetheless, neighborhood and community characteristics might influence the language and literacy opportunities children have, even though for young children in particular we would expect those influences to be largely mediated by families.

For bilingual children growing up in U.S. contexts, the dynamics of language use in the home and community are necessarily more complex than are those for monolingual speakers of English. For example, Vasquez et al. (1994) documented ways in which immigrant families responded to the challenges of living in an English-dominant community, working together to maximize comprehension of unfamiliar English texts. Immigrant children

are often called upon to serve as translators for their families in a variety of domains including legal, financial, residential, and religious (Orellana, Dorner, & Pulido, 2003; Orellana, Reynolds, & Dorner, 2003).

Home Language Use

The issue of language use in the home—specifically, whether and to what degree English or a non-English language is used—is, of course, unique to families that speak a language other than English. Thus, in addition to the many contextual factors that influence children's language and literacy development, we must also consider the language in which those factors play themselves out. For example, if reading with children and speaking with children promote literacy and language development, are the effects different depending on what language is used?

Saunders and O'Brien (2006) reviewed several studies that examined the relationship between family characteristics and child language development among English language learners. The most straightforward, and perhaps unsurprising, finding of these studies was that more English used in the home and with peers led to greater English proficiency among children. Goldenberg, Rueda, and August (2006) came to similar conclusions in their review of studies that examined family context effects on English learners' literacy achievement: Generally—but not in all studies—more English in the home was associated with higher literacy achievement in English.

This literature has several limitations; perhaps the most important is that it is almost exclusively correlational. It is therefore impossible to determine whether more English in the home and among peers leads to greater language and literacy attainment in English, or as children (and families) acquire more facility in English they engage more with others in English, or if some combination of the two explains the correlation. Three experimental studies of early literacy development suggest a more complex relationship than might at first appear and, indeed, point to the possible benefits—*in terms of second language outcomes*—of parents using the home language in their literacy interactions with young children.

Hancock (2002) studied the effects of kindergarten children taking home books in either English or Spanish to read with their parents. Providing reading materials in Spanish led to more enhanced preliteracy skills (e.g., concepts of print) in English than did providing English reading materials for children to take home. Consistent with these findings, Koskinen et al. (2000) found that sending home and promoting the use of books and tapes in English had *no* effect on first-grade English learners' English literacy development. More recently, Roberts (2008) reported two experiments involving Spanish- and Hmong-speaking children. Roberts compared the effects of sending home storybooks in English or a child's home language on

children's acquisition of storybook vocabulary in English. In the first study, children who received the home-language storybooks learned more storybook vocabulary, as measured in English; in the second study there were no differences.

We should bear in mind that these studies did not manipulate the language generally used by parents and children in the home, but rather the language used during fairly circumscribed reading events. Limited as these manipulations were, the findings do suggest that enhancing home literacy experiences for English learners in their first language can have positive effects on early literacy development *in English*. Although we have far too little research to reach firm conclusions about the relative effects of first- and second-language use in the home, this finding is consistent with the school-based literature on the positive effects of home-language instruction on reading achievement in English (Goldenberg, 2008).

There are several possible explanations for these findings. One is that language, literacy, and cognitive skills are learned most easily in one's first language, and then transfer to one's second language, making this a more efficient pathway for literacy learning. Another possibility is that language, literacy, and cognitive skills learned in one's primary language promote enhanced language, literacy, and cognition in general, creating a stronger foundation for subsequent and ongoing development. (See Part II of August & Shanahan, 2006, "Cross-Linguistic Relationships in Second-Language Learners.")

Regardless, these data both challenge and support the complex findings reported in the chapters that follow of positive, negative, and no transfer across languages. Stated differently, we find evidence for the facilitating, interfering, and nil effects of L1 on L2 language and literacy acquisition (e.g., Brea-Spahn & Silliman, Chapter 3; Gottardo, Gu, Mueller, Faroga, & Pauchulo, Chapter 6; Méndez Barletta, Klinger, & Orosco, Chapter 9; Bialystok & Feng, Chapter 5; Oller, Jarmulowicz, Pearson, & Cobo-Lewis, Chapter 4, this volume). These chapters also address two additional complicating factors. One is transfer across languages with alphabetic and nonalphabetic scripts (e.g., Cheung, McBride-Chang, & Tong, Chapter 7; Leong, Chapter 8; Marinova-Todd & Uchikoshi, Chapter 2, this volume), where phonological representations and other linguistic features will differ; the relative importance of orthographic, lexical, and phonological processes in reading might also differ. The other is diagnosis and intervention when learners experience difficulties of different sorts (e.g., Brea-Spahn & Silliman, Chapter 3; Geva & Lafrance, Chapter 10; Joshi & Aron, Chapter 12, Manis & Lindsey, Chapter 11, this volume). In all cases, however, as Cheung et al. and others argue, instruction is likely to play an important role in facilitating the development of L2 literacy skills, regardless of the languages used and the challenges learners face. Where we need continued effort, as

exemplified by the work of many of these authors, is in understanding the nature of that instruction and how and whether effective instruction differs for different groups of learners learning in different languages.

WORKING MODEL OF COMMUNITY AND FAMILY INFLUENCES

Drawing on the literature briefly reviewed above, we present a working model that attempts to bring together a large number of potential community and family influences on children's developing language skills in their first and second languages. This is a functionalist perspective; that is, it assumes "language emerges out of children's ordinary experiences to fulfill specific cognitive, social, and communicative functions" (Bialystok, 2001, p. 40). In contrast to formalist language theories, which presume (or propose) that language is the result of innate structures, themselves the result of human evolutionary adaptation, functionalist theories are based on the premise that the language children learn is largely the result of interactions with their environments. Formalist theories such as Chomsky's (1965) argue that all children will acquire language, given some (usually undefined) threshold of environmental stimulation. Functionalist theories, in contrast, presume more of a direct association between environmental input and/or demand on the one hand and children's acquisition of language on the other.

The model derives from considerable theoretical and empirical work centered in the child development literature (e.g., Bronfenbrenner, 1979; Shonkoff & Phillips, 2000) and research in literacy and language socialization (e.g., Delgado-Gaitan, 1990; Zentella, 1997, 2005), families as learning environments (e.g., Booth & Dunn, 1996; Hart & Risley, 1995; Hess & Holloway, 1984), and community and neighborhood influences on developmental outcomes (e.g., Lara-Cinisomo, Pebley, Vaiana, & Maggio, 2004; Sanbonmatsu et al., 2006). The constructs and variables depicted in the model were derived from a conceptual analysis of this literature.

In brief, the model maps out eight broad classes of variables; four at the community level—demographics, language, language of literacy, and literacy resources—and four analogous classes of variables at the family level—characteristics, language practices, language of literacy, and literacy practices. The model was developed to try to bring together a large number of community and family contextual factors into a single coherent framework. This framework can be used to guide data collection and analysis in order to determine the relative impact of factors at the community (boxes 1–4) and family (boxes 5–8) levels. Each box in Figure 1.1 contains examples from the class of variables within the box.

There are many possible paths of influence illustrated in the model—for

example, community demographics can influence community language and literacy resources, which in turn can influence family language and literacy practices, which then affect child outcomes. Family characteristics might also influence language and literacy practices, which then influence child outcomes. Alternatively, children's proximal experiences with language and literacy might be independent of community demographics and family characteristics. The model only provides a framework to address the question of contextual influences on children's language and literacy development. We are far from a clear and comprehensive understanding of how the dimensions represented in Figure 1.1 actually function to influence dual-language learning outcomes.

FINDINGS FROM A STUDY OF SPANISH-SPEAKING DUAL-LANGUAGE LEARNERS

We have used this model to analyze qualitative and quantitative data from a sample of approximately 1,400 Spanish-speaking children in 35 communities from the time they entered kindergarten until they finished second grade. The communities are located in urban and suburban settings in Southern California and urban, suburban, semirural and border Texas.

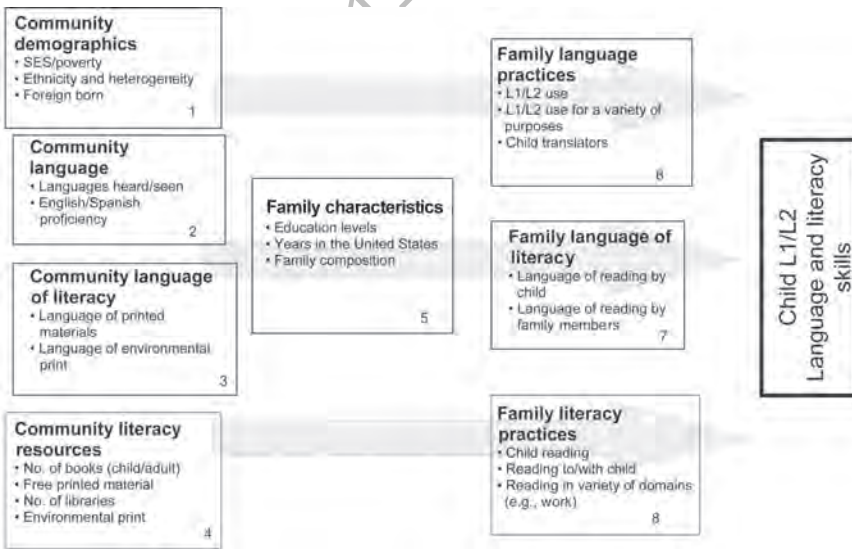

FIGURE 1.1. Community and family influences on language and literacy.

Children attended one of four types of instructional programs (for sampling frame, see Reese & Goldenberg, 2006, 2008; Reese, Goldenberg, & Saunders, 2006). Some of the children were in *all-English* instruction (sometimes called English immersion). Other children were in one of three bilingual programs, where they received instruction in Spanish for substantial portions of the school day. The three bilingual programs were *early transition* (children learn literacy and academic skills in the home language for the first few years of elementary school, then transition to English instruction); *maintenance (or developmental) bilingual* (students continue with Spanish instruction even after beginning to receive substantial amounts of instruction in English); and *dual-language (or two-way)* (Spanish-speaking children and English-speaking children receive instruction in both languages, the goal being bilingualism and biliteracy for both groups). Table 1.3 provides a breakdown of children by program and geographic region.

Data for this study came from different sources. We used "American Factfinder" on the U.S. Census website (*census.gov*) to gather data on community income and education, ethnic composition, and percent foreign-born. Data on language use and availability of literacy materials in the community were collected as part of day-long area surveys conducted by teams of two or three researchers. We noted and rated (e.g., 1–5 scale, with 1 = all Spanish and 5 = all English) the prevalence of English and Spanish use and the amount of written materials in either English or Spanish that was available in the community.

Family-level data were collected through parent questionnaires sent home by the children's teachers. Questionnaires asked about family demographics (e.g., occupation, income, family size, place of birth, and time in the United States) and language and literacy practices in the home (e.g., language spoken with the child by various interlocutors, reading frequency and language by child and others in the household, frequency of child's translating for family members). The return rate for the surveys was 76%.

Children's language and literacy achievement, in English and Spanish, was measured using the Woodcock Language Proficiency Battery—Revised

TABLE 1.3. Participating Children, by Program and Region

	All English	Early transition	Maintenance bilingual	Dual language
Border Texas	77	239	0	133
Urban Texas	82	363	0	60
Urban California	267	78	84	34
Total	426	680	84	227

(WLPB-R; Woodcock, 1991; Woodcock & Muñoz-Sandoval, 1995). The WLPB-R is perhaps the most widely used assessment of language and literacy achievement in the United States. It has parallel forms in English and Spanish, thereby permitting comparisons of achievement within and across languages.

Diversity across Communities

One theme that clearly emerges from our analyses is community diversity. The communities where the young dual-language learners in our sample resided and attended school are diverse in virtually every respect defined by our working model (Figure 1.1; boxes 1–4)—socioeconomic and ethnic characteristics, language use, availability of literacy materials in English and Spanish (Reese & Goldenberg, 2006; Reese et al., 2006, 2008). For example:

- Median family income (adjusted for cost of living, which itself varied considerably across the sample) in the communities ranged from $12,000 to nearly $80,000 (mean = $32,000).
- Percent high school completion among Latinos in the community ranged from 12.3% to 91.5% (mean = 39.4%).
- Percent of population that speaks only English in the community ranged from 3.0% to 91.4% (mean = 30.3%).
- Language heard when walking around the community ranged from only Spanish to only English, with most communities falling somewhere in between.
- Signs, newspapers, and free printed material in the communities ranged from being mostly in Spanish to only in English.
- Percent of reading material for sale in Spanish ranged from 0% to 100% (mean = 21.9%).
- Number of books and magazines estimated to be available in public places (libraries, bookstores, etc.) ranged from 0 in communities with no library, bookstore, or any local store with books and magazines for sale, to more than 1 million in communities with a library, bookstores, and grocery and drug stores with books and magazines for sale (mean = 51,000 books and magazines).

Diversity across Families

Families were sampled from a population that is predominantly Spanish speaking and low in socioeconomic status (see Table 1.2). Nonetheless, as would be expected, there was also some diversity among families along the dimensions identified in the model (boxes 5–8). For example:

- Reported annual family incomes ranged from below $10,000 (nearly one quarter of the sample) to more than $40,000 (nearly 11%), with some families reporting annual incomes above $60,000.
- Parents' level of schooling ranged from only having finished elementary school (approximately 35% of parents) to receiving post–high school vocational training or university education (approximately 15% of parents). Nearly 30% had at least a high school degree or its equivalent.
- Approximately 82% of parents were foreign-born, all but a handful in Mexico; in contrast, 84% of children were born in the United States.
- Parents reported that they or an older sibling read to children approximately two to three times per month in Spanish and an equal amount of time in English; the range for both was zero to daily.
- Parents' reading language tended to be mostly in Spanish, but the reported range was from only Spanish to only English.
- Books for children in the home ranged from 0 to 700, with a mean of 46; for adults the range was 0 to 900, with a mean of 40.

Associations with Student Outcomes

We are, of course, interested in seeing the degree to which the dimensions identified in our analytical model predicted student language and literacy achievement, as measured by the WLPB-R. Analyses are incomplete and still under way, but a number of patterns are emerging (Grunow, Goldenberg, Reese, & Bryk, 2008; Reese & Goldenberg, 2008; You, Reese, Rumberger, & Goldenberg, 2009). Results are complex and to some extent depend on the type of analysis. In addition, relationships between predictor variables and child outcomes varied depending on the language being measured.

Community-level variables were at best weakly associated with student outcomes. This is consistent with the literature on community influences on child outcomes (e.g., Ellen & Turner, 1997; Sanbonmatsu et al., 2006; Shonkoff & Phillips, 2000). However, *family-level variables* were associated with variations in student outcomes. Home language environments predicted children's oral language scores, and home literacy predicted reading scores. In Bronfenbrenner's (1979) terms, the "microsystem" comprising those factors closest to the child on a daily basis has the most effect on child outcomes.

Language-Specific Correlations

There were language-specific associations in both reading and oral language. That is, home language use and literacy activities in English tended

to predict higher English language and literacy scores and lower Spanish scores among the children (at each grade level); conversely, home language and literacy in Spanish predicted higher Spanish and lower English scores. For example, greater prevalence of English in the home (e.g., oral language use, television viewing, reading language) was associated with higher English oral language and lower Spanish oral language scores when children began kindergarten. However, the effect of language use in the home was not uniform. There were also interlocutor effects that varied by language: Language spoken with adults predicted Spanish (but not English) scores; language spoken with children predicted English (but not Spanish) scores. This finding resonates with what Oller et al. (Chapter 4, this volume) report regarding the role of peers in language shift.

As we discussed previously, these are correlations, so we must be cautious about interpretations. It is very difficult to tease out cause and effect: More use of English might produce higher English—and lower Spanish—achievement, but it can also be the case that as children develop more facility in English they tend to use English more (particularly with friends) and Spanish less; and of course both can be true—language use and language facility might affect each other in reciprocal fashion. Some variables, however, suggest a particular direction of effects. For example, correlations between parents' reading language and children's reading and language scores were language specific, as described above. The direction of effects is more likely to be from parents' reading language (or whatever aspect of the home environment that variable indexes) to child language and literacy outcomes rather than the reverse. But even here we must be very cautious: Parents' reading language was correlated with other measures of home-language use, so it is impossible to know whether the correlations between parents' reading language and children's language scores indicate a possible cause–effect relationship or are spurious; that is, the result of causal relations between children's oral language and other variables, all of which are associated with parents' reading language.

Family SES and Student Outcomes

The relationship between family SES (income and parent occupation and education) and child outcomes depended on language and the type of analysis. In simple bivariate correlations, SES predicted higher scores in English oral language and reading but was only weakly and inconsistently associated with scores in Spanish. In contrast, an analysis using hierarchical linear modeling (HLM), which takes into account the "nested" structure of the data (i.e., children are not randomly distributed among communities), found that SES was significantly associated with oral language scores in both English and Spanish at the beginning of kindergarten (Grunow et al., 2008). But

an analysis using structural equation modeling (SEM)—which can analyze Spanish and English outcomes simultaneously while also taking into account that children are nested within community—found (1) no SES effect on Spanish oral language in kindergarten, but (2) a significant effect on English oral language in kindergarten (You et al., 2009). Neither analysis found that SES contributed to language growth between kindergarten and second grade. Growth analyses on reading outcomes have not yet been conducted.

Translating by Children

Children are sometimes asked to translate for family members who are more limited in their English proficiency. Studies of adolescents have suggested that this language-intensive activity might have positive effects on children's language development (e.g., Orellana, Dorner, et al., 2003; Orellana, Reynolds, et al., 2003). In our study we found that children as young as kindergarten were called upon to translate for family members an average of approximately one to two times/month and that frequency of translating was associated with higher language scores. Associations were stronger and more consistent for Spanish than for English. That is, kindergarten children who translated more frequently for family members had significantly higher Spanish language scores than children who translated less frequently or not at all. English language scores were also higher for children who translated more frequently, but the effect was not as strong or consistent.

The magnitude of the associations depended on the analysis. In the HLM analysis, the association between translating and English oral language did not quite reach significance, whereas the association with Spanish oral language did. In the SEM analysis, translating effects on Spanish were significant at $p < .001$; they were significant, but weaker, for English. We are still not certain why the inconsistency. It might be because outcomes in both languages are analyzed simultaneously in SEM, thereby applying better statistical control and better isolating the relationship between translating and English oral language. In any case, it seems as if Spanish language proficiency, more so than English, is implicated in children's translation activities in the family. Again, we cannot separate correlation from causation: It might be that children with stronger language skills (particularly in Spanish) are asked to translate; it might also be that translating promotes stronger language skills; or both might be true.

Oral Language Growth from Kindergarten Entrance to End of Grade 2

In analyses of oral language growth in English and Spanish, we have found that several variables predicted growth, either positively or negatively:

whether children were born outside the United States, how prominent English was in the home, how much literacy was in the home, whether parents read or told stories in Spanish to children, and the number of people in the household. Neither SES nor translating was associated with language growth in either language. The relationships we found were complex and hard to encapsulate simply; they sometimes varied by time of the year (academic year vs. summer). For example:

- Children born outside the United States gained more in English than children born in the United States This accelerated gain was only observed during the summer, not during the academic year. The first part of this finding is explained by the fact that children born outside the United States began kindergarten with lower levels of English proficiency; they then tended to "catch up" relative to their U.S.-born peers. But it is unclear why this should happen only in the summer. In a related finding, children born in the United States and whose parents were also born in the United States showed greater growth in Spanish, reflecting the fact that they began with lower levels of Spanish oral language and between kindergarten and second grade tended to catch up with children born outside the United States or whose parents were born outside the United States. There were no differences in growth rates between the academic year and summer

- Children living in homes where there was greater prevalence of English showed slower oral language growth in Spanish. This finding is easily understood if we assume that more exposure to English means less exposure to Spanish, which then leads to decreased Spanish language growth. However, there were two findings that seemed somewhat contradictory—or at least create a more complex picture:

    - First, there was no effect of *English prevalence* in the home on oral language *English growth*. A possible explanation is that although there was more English in the homes of some of the children, homes were still heavily Spanish dominant. There might not be sufficient English use, or quality of English use, to affect English oral language growth on the WLPB-R, which tends to gauge academic rather than what is sometimes called everyday or "conversational" language (Saunders & O'Brien, 2006).

    - Second, greater frequency of telling or reading stories *in Spanish* to children led to greater oral language growth *in English* (but only during summers). This finding is consistent with experimental findings (and theory regarding L1 to L2 transfer) reported previously, indicating that home literacy events in the home language—in contrast to L2 home literacy events—produce stronger effects on English literacy outcomes. However, this finding is *not* consistent with the language-specific effects

of home language and literacy use we reported previously. Associations between home language use and oral language development thus seem to be different depending on whether "language development" is gauged at one point in time (consistent language-specific correlations) or as growth trajectories over different times of the year (more complex picture).

- Children living in larger households gained less in Spanish than children living in smaller households, but only during the academic year. Again, we can explain part of this finding fairly easily: Parents mostly spoke Spanish to their children, and adult use of Spanish, and relative absence of English, was a significant predictor of child language scores in Spanish. Family size is known to correlate negatively with child language skills and other achievement outcomes, probably because more children in the family diminishes the amount of verbal interaction between parents and any one child (e.g., Blake, 1989; Qi, Kaiser, Milan, & Hancock, 2006). However, again, it is unclear why this effect was found during the academic year and not in the summer. It is also unclear why family size had an effect on Spanish language *growth* but not on language skills at kindergarten entry.

Taken together, this set of findings suggests that family factors associated with achievement and growth in one language typically do not play the same role for another language the child is learning. For example, children in families that use more English have higher English oral language scores but lower Spanish language scores at kindergarten entry; more English in the home is then associated with slower growth in Spanish oral language but is unrelated to language growth in English. Interlocutors also seem to matter differently for different languages. Moreover, some associations varied by time of the year: some family variables predict language growth during the academic year, others during the summer, and yet others show no difference across the year. These and other findings summarized here suggest that family context effects on dual-language learners matter, but they matter in complex and myriad ways, some of which we do not yet fully understand.

Relationship with School Program

In analyzing potential influences and correlates of student language and literacy development, we have also found that different school programs draw from different populations of families (Goldenberg, 2006; Reese et al., 2006). For example, two-way programs are in more affluent, English-speaking communities; transition programs are in poorer, more heavily Spanish-speaking communities. Moreover, compared to families in primary language programs, families in English immersion programs have higher

incomes; parents have been in the United States longer and read more in English, and families use more English and less Spanish. Finally, compared to families in other types of programs, families in dual-language programs have higher incomes; parents have more formal education, higher occupation levels, and are more likely to be U.S.-born; and children are more likely to have attended preschool.

Readers should keep in mind that our sample of California and Texas students was heavily—75%—Mexican-origin; almost all the rest were either U.S.-born or born in Central America. It is possible that the relationships among background characteristics and language program could be different for different populations of Latino families. For example, whereas the Mexican-origin population tends to have income and education levels below national means, Cuban Americans in Miami are much closer to mainstream norms (Oller & Eilers, 2002; see also Table 1.2, above). These and other population differences, as well as differences in programs in states other than Texas and California, could limit the generalizability of our findings. Nonetheless, the more important point suggested from data regarding children's school program and family characteristics is that, without controlling for family background characteristics, comparisons among different language programs are likely to be misleading.

Particularly noteworthy in this regard is our finding that children who are in English-only programs begin kindergarten with higher English and lower Spanish oral language scores (Grunow et al., 2008; You et al., 2009). However, although children began school with greater proficiency in English, over the next 3 years, being in an English immersion program did not predict growth in English oral language. On the other hand, being in an English immersion program did predict declining Spanish oral language growth (You et al., 2009). Additional analyses have found that the growth patterns differ during the academic year and summers: During the academic year, being in an English immersion program predicted higher growth in English oral language than being in a Spanish language program. During the summer, however, children in English immersion programs essentially lost whatever gains were observed during the school year (Grunow et al., 2008). The net result was no difference in English growth as a result of being in an English immersion program, but a negative effect on Spanish oral language growth (You et al., 2009).

CONCLUSION: TOWARD A MORE ENLIGHTENED LANGUAGE POLICY

Dual-language learners in the United States represent a large and growing segment of our school-age population. They live and go to school under

very different conditions and circumstances, some far more supportive of language and literacy growth in one or more languages than others. We need continued, comprehensive efforts to understand influences on and mechanisms of language and literacy development; to document ways in which two (or more) languages interact and influence the other—both positively and negatively; and to determine how home, school, and possibly community conditions can promote high levels of proficiency. We should strive for high levels of proficiency in two or more languages, given the potential social, economic, cultural, and intellectual advantages of bilingualism (Bialystok, 2001; Saiz & Zoido, 2005). Such a goal is not only appropriate for dual-language learners but also for the monolingual English population.

To accomplish this, we must be mindful of what Kenji Hakuta discusses in his provocative and insightful concluding chapter (see Chapter 13). That is, due to the volatile and contentious debates over language of instruction, language education policy seems to proceed largely oblivious to the findings of scientific research. English-only advocates, convinced that use of the home language in school necessarily means a degradation of English attainment, or perhaps worse, a dilution of Anglo-American culture, have spearheaded efforts at the national and state level to eliminate the use of languages other than English in school. This is indeed a shame, since it means that the linguistic resources of 11 million dual-language learner children in U.S. schools are not used to good effect. These resources can both help them acquire literacy in English *while* maintaining their home language, thereby becoming functioning bilingual, biliterate citizens and residents. Discounting these linguistic resources is a loss not only to them but also to the society as a whole. We can only hope that at the beginning of the second decade of the 21st century a more progressive view of language and language policies will be begin to emerge, guided by research such as that in the following chapters.

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NOTES

1. In a landmark 1974 case, *Lau v. Nichols* (414 U.S. No. 72-6520, pp. 563–572), the Supreme Court ruled that schools are required to teach ELLs so that they have "a meaningful opportunity to participate in the public educational pro-

gram" (p. 563). The court did not specify what kind of pedagogy must be used, but "sink or swim" was deemed unconstitutional and a violation of students' civil rights.

2. In previous publications (e.g., Goldenberg, 2008), we have cited a figure of 1 in 4 as the projected ELL population by 2025, based on comments made several years ago by former U.S. Department of Education Secretary Margaret Spellings (retrieved February 14, 2006, from *www.ed.gov/news/speeches/2005/12/12012005.html*) and contained in a report by the U.S. Department of Education (2005). However, we have been unable to confirm this number with statisticians and analysts at the U.S. Census Bureau, National Center for Education Statistics, National Clearinghouse for English Language Acquisition, and Office of English Language Acquisition (U.S. Department of Education).

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