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Language Maintenance versus Language of Instruction: Spanish Reading Development among Latino and Latina Bilingual Learners

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Latino/a children who attend schools in the United States must learn English well for schooling success. However, bilingualism is associated with achievement in both cognition and general literacy, which are core components of academic development. We examined the growth of Spanish reading comprehension among 101 Spanish-English bilingual Latino/a children in second through fifth grade in three urban U.S. districts. The students received literacy instruction in one of three groups: English-only, Spanish-only, and bilingual. Language of instruction had a significant effect on Spanish reading, but students who received Spanish language instruction were losing Spanish literacy skills relative to the norming sample for the reading assessment. English reading and Spanish vocabulary were predictive of Spanish reading, but socioeconomic variables were not. Heritage language loss is described as paradoxical because Spanish and English reading skills are

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intertwined and biliteracy is associated with better economic opportunities for Latino/as in the U.S. job market.

It has been well documented among the early waves of European immigration to the United States that heritage language loss occurred in lockstep fashion, with newly arrived immigrants maintaining their native languages and acquiring varying degrees of English proficiency while their children became bilingual, often preferring the societal language of English. When these first-generation children established families of their own, English typically took its place as the dominant language, with the heritage language present but relegated to a distinct minority status. Second-generation children tended not to develop strong heritage language proficiency and witnessed the last vestiges of these languages in their grandparents. By the third generation, the heritage language had all but vanished, replaced by English monolingualism (Alba, Logan, Lutz, & Stults, 2002; Fishman, 1972).

The generational language shift that characterized earlier waves of European immigration also characterizes the linguistic experiences of newer immigrant groups who came to the United States in the latter decades of the 20th century, and who continue to arrive today. Unlike the turn of the 20th century, however, immigration in the 21st century is marked by technology and globalization, which result in frequent travel and communication between the sending and receiving countries. Theoretically, then, there is both impetus and support for inter- and intragenerational language maintenance (Suárez-Orozco & Suárez-Orozco, 2001). Indeed, Portes and Hao (1998) explain that many new immigrants reside in racially and linguistically segregated areas of cities and regions, which augurs for the maintenance of heritage languages for both cultural and economic purposes.

Despite the 21st-century factors that ought to promote heritage language maintenance, there is evidence that immigrants today experience heritage language loss both within and across generation. Intragenerationally, Grosjean (1982) explained that younger immigrants in the United States are often motivated to learn English as a means to achieve social mobility, often at the expense of their native languages. Hurtado and Vega (2004) lend support to this insight, stating that "within 15 years of immigration, most Hispanic immigrants speak English, children of first-generation immigrant parents become fluent English speakers" (p. 139).

Intergenerationally, data increasingly indicate a marked decline in heritage language use across language groups. Alba et al. (2002) conducted a cross-sectional study assessing home English use among Chinese, Cuban, and Mexican immigrant children aged 6–15. Chinese Americans' English monolingualism increased from 29.4% in the second generation to 91.4% in the third, with increases from 12.3% to 64.1% for Mexican Americans, and 19.1% to 78.4% for Cuban Americans. Even in third-generation homes where heritage languages were still spoken, more than half of the children spoke English exclusively.

Finally, Hakimzadeh and Cohn (2007), in a recent study of Spanish speakers in the United States, found that English monolingualism increased dramatically as a function of generation. While only 23% of first-generation members claimed to speak English "very well," by the second and third generations, estimates of English fluency jumped to 88% and 94%, respectively.

Benefits of Bilingualism

The data reported by Grosjean (1982), Alba et al. (2002), Hurtado and Vega (2004), and Hakimzadeh and Cohn (2007) are distressing because bilingualism and biliteracy have been shown to be directly associated with increased literacy attainment and greater cognitive flexibility, both of which promote English schooling achievement. However, the use of Spanish and English by Latinos in the United States is a diglossic phenomenon, with English most commonly used in institutional domains, notably schooling, and Spanish being deployed as a means by which to promote socially and ethnically cohesive communities (Clément, Noels, & Deneault, 2001). Along with rising immigration have come English-only educational movements that promise litigation against teachers who provide literacy instruction in languages other than English (Crawford, 2004). Despite these somewhat draconian efforts, many students do indeed become biliterate through schooling, which accrues to general literacy attainment and cognitive flexibility. However, a consistent mediator of these variables is socioeconomic status (SES), which often influences their associations in myriad ways.

Effects of bilingualism on literacy. Correlational and qualitative research indicate that native language literacy development can facilitate English literacy development (Cummins, 1979). Significant cross-language relationships have been demonstrated in emergent literacy skills (Chitiri & Willows, 1997; Durgunoglu, Nagy, & Hancin-Bhatt, 1993) as well as in emergent writing skills (Edelsky, 1982; Fashola, Drum, Mayer, & Kang, 1996; Zutell & Allen, 1988), especially among native Spanish speakers learning English. Over time, with appropriate instruction, these early relationships among literacy skills across languages give rise to more nuanced understandings about how languages relate to one another. For example, studies have demonstrated that older bilingual learners can be taught to recognize Spanish–English cognates as a means to promote English and Spanish reading comprehension (García, 1991, 1998).

Students who develop strong reading comprehension strategies (e.g., predicting, clarifying, visualizing) and attitudes (love of reading) in a heritage language are highly likely to deploy those same skills and attitudes to reading in English (Jiménez, García, & Pearson, 1995, 1996). For students who arrive in U.S. schools with stronger oral proficiency (and literacy skills) in a language other than

English, promoting heritage literacy development has the potential to affect English literacy development, which affects subsequent content-area learning.

Effects of bilingualism on language and cognition. From a cognitive perspective, literacy development is buttressed by learners' insights into the nature of linguistic structures, the lexicon, and the sounds that make up language. These insights into language are commonly referred to as metalinguistic awareness, and a good deal of research has explored how metalinguistic awareness relates to overall literacy attainment. Young children first make metalinguistic insights in relation to the phonology of spoken language (for a thorough review, see Snow, Burns, & Griffin, 1998), and become increasingly able to manipulate the sounds of language (e.g., being able to replace the /k/ in cat with a /b/ to produce the word bat). Over time, children's abilities to understand how words are put together, from simple plural endings (e.g., dog+s = dogs), to compound words (e.g., dog+s = dogs) toothbrush), to understanding how affixes affect word meanings (e.g., electric+ ity = electricity), become increasingly related to reading achievement. This developmental progression represents a sophisticated metalinguistic skill, and upper elementary students who are sensitive to these relations show stronger reading skills when compared with peers who do not (Nagy, Berninger, & Abbott, 2006).

Theory and research on bilingualism indicate that bilingual and biliterate individuals are more likely to make metalinguistic insights sooner, and with greater depth, than their monolingual counterparts. Galambos and Hakuta (1988), for example, found that bilingual students who performed well in both Spanish and English outperformed all other linguistic groupings of students (i.e., high English/low Spanish, low English/high Spanish, low English/low Spanish) on a variety of metalinguistic measures. While the research is far from incontrovertible, the social complexity of bilingualism, particularly its relation to the varying situational uses of different languages (Clément et al., 2001), combined with the cognitive complexity of understanding the associations between languages (Galambos & Hakuta, 1988) positions bilingual children to quickly develop insights about the properties of language and literacy (Bialystok, 2007), as well as their uses across societal domains (Clément et al., 2001; Deaux, 2006; Edwards, 1984).

Effects of socioeconomic status. The socioeconomic heterogeneity of the children of immigration is staggering. The sending and receiving contexts of immigrants today represent the very highest and lowest reaches of the socioeconomic ladder, and all points in between. Low SES among children has long been identified as a predictor of diminished school achievement (Coleman, 1968), which, along with a multitude of social-psychological factors, is too often linked to the educational expectations, experiences, and achievement of racially and linguistically diverse children (Guyll, Madon, Prieto, & Scherr, this issue; Proctor, 1984).

From a literacy development perspective, lower SES has also been associated with more limited access to spoken language and print materials in the home (Foster, 2002). Initial differences in access to spoken and written language have been strongly tied to family income (Neuman & Celano, 2006), as books for the home are simply not affordable in many low-SES households. Parents' level of education has also been shown to have long-term effects on English and Spanish literacy development among bilingual children. Reese, Garnier, Gallimore, and Goldenberg (2000), for example, found that parents' education and occupation were distal predictors of both Spanish and English literacy development.

The Present Study

Given the links between bilingualism, literacy achievement, cognitive flexibility, and SES, and the role of the school in promoting bilingualism and biliteracy, the present study sought to explore the degree to which Spanish reading develops over time, the extent to which English reading is related to Spanish reading, and how SES influences Spanish literacy development. The data reported here were collected during a 4-year longitudinal study of the acquisition of English and Spanish literacy skills among bilingual Latina and Latino children. At the end of the 4-year study, 101 students remained in the sample, having participated from the second through the fifth grades. We asked three research questions:

- 1. Does language of instruction (English-only, Spanish-only, or bilingual) promote or hinder English and Spanish reading comprehension among bilingual students?
- 2. Are Spanish and English reading skills related to one another? If so, how? Do these relationships vary as a function of language of instruction?
- 3. Do socioeconomic characteristics of the home lives of the children (i.e., parents' level of education and household income) affect the Spanish reading achievement of the students?

Method

Participants

One hundred and one students, enrolled in three schools in El Paso, Texas, Chicago, Illinois, and Boston, Massachusetts, participated in the study. Students across the three sites were enrolled in three types of instructional programs: English-only, Spanish-only, and bilingual. In the bilingual program, students transitioned out of Spanish instruction into English after second, third, or fourth

grade, once a student had attained second-grade proficiency in Spanish literacy testing. Of the 34 students in the bilingual group, 50% had been enrolled in a U.S. preschool program, while the remainder began formal U.S. schooling while enrolled in kindergarten (40.9%) or first grade (9.1%). The 22 students in the Spanish-only group were highly likely to have enrolled in a U.S. preschool program (85.7%), while the remainder began formal U.S. schooling in kindergarten (9.5%) or first grade (4.8%). Finally, for the 45 students in the English-only group, the majority (66.7%) had been enrolled in a U.S. preschool program, while the remainder began formal U.S. schooling in kindergarten (30%) or first grade (3.3%).

Procedure

We collected Spanish and English reading and language data at five points in time from participating students: the end of second grade, the beginning of third grade, the end of third grade, the end of fourth grade, and the end of fifth grade. Data collected at the end of third grade were excluded because students were tested in English only. Also in fifth grade, the students' parents completed a questionnaire regarding home language use and SES.

Measures

English and Spanish reading comprehension. The Passage Comprehension subtest of the Woodcock Language Proficiency Battery–Revised (Woodcock, 1991; Woodcock & Muñoz-Sandoval, 1995) was used as a measure of the students' Spanish and English reading. On these individually administered cloze tests, the students silently read passages in the order of increasing difficulty and produced an oral response to an unfinished sentence. Raw scores were used for all analyses. Spanish reading data were collected across all 4 years while English reading data were collected in Grade 5 only. The test–retest reliability was reported as .90 for English and .92 for Spanish (Woodcock, 1991; Woodcock & Muñoz-Sandoval, 1995).

Spanish oral vocabulary. The Vocabulario Sobre Dibujos subtest of the Woodcock-Muñoz Language Proficiency Battery—Revised (Woodcock & Muñoz-Sandoval, 1995) was used to measure students' Spanish oral vocabulary knowledge. Students named pictured objects ordered by increasing difficulty. Data were collected in fifth grade only. Raw scores were used for all analyses. The test—retest reliability was .75 (Woodcock & Muñoz-Sandoval, 1995).

Demographic survey. The parent questionnaire was administered in person in El Paso, and through phone interviews in Boston and Chicago. The parent questionnaire was administered in Spanish or English, depending on preference.

Results

Home Context

Parents' country of origin and educational history differed among the three instructional groups. The great majority of parents of the bilingual and Spanish-instructed children were from Mexico, the Dominican Republic, Puerto Rico, or the United States. In contrast, the majority of parents of the English-instructed children were U.S. born, with smaller percentages from Mexico or the Dominican Republic. While all groups showed a range of educational attainment for mothers and fathers, a relatively high percentage of mothers of the bilingually instructed children had less than a ninth-grade education (31.3%, compared with 9.6% for the Spanish-instructed children and 8.3% for English instructed) while mothers of the English-instructed children had the highest percentages of education beyond high school (25%, compared with 12.6% of bilingual instruction, and 9.6% of Spanish instruction).

The bilingual and Spanish instruction groups had the lowest family incomes on average. Between one half and three fourths of families earned under \$20,000 per year. Somewhat less than one third of the families reported earnings of between \$40,000 and \$49,000. Finally, a small percentage (4.5%) of the Spanish-instructed children's families earned between \$60,000 and \$69,999. For the English-instructed children, family incomes were higher than for the other groups, with only 16.6% of the families earning under \$20,000 per year, 66.6% of the families earning between \$20,000 and \$39,000, 4.2% of the families earning between \$40,000 and \$49,000, and 12.5% earning \$80,000 or over.

Instructional Effects on Spanish Reading Growth

Table 1 shows the descriptive statistics for the different instructional groups' Spanish reading from Grades 2 through 5, and English reading and Spanish oral vocabulary at fifth grade. Chi-square comparisons of instructional groups showed that students in the Spanish, $\chi^2(1, N=101)=62.2, p<.01$, and bilingual, $\chi^2(1, N=101)=36.9$), p<.01, groups significantly outperformed their English-instructed counterparts in Spanish reading, and students in Spanish instruction outperformed bilingual students, $\chi^2(1, N=101)=17.7, p<.01$. Spanish-instructed students were significantly more orally proficient in Spanish than bilingually instructed students, $\chi^2(1, N=101)=9.0, p<.01$, who in turn outperformed the English-instructed students, $\chi^2(1, N=101)=34.1, p<.01$. English,

Table 1. Means (SDs) for Spanish and English Literacy Raw and Standard Scores by Type of Instruction and Grade

English Grade 2 3 4 5 5							
ng 6.9 8.4 10.9 (6.6) ndard 63.0 (5.6.4) (22.0) ulary dard	Grade	Bilingual Grade	Grade		Spanis	Spanish Grade	
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6.9 8.4 10.9 (6.4) (6.9) (6.6) 63.0 65.5 68.6 (31.0) (26.4) (22.0)							
6.9 8.4 10.9 (6.4) (6.9) (6.6) 63.0 65.5 68.6 (31.0) (26.4) (22.0)							
(6.4) (6.9) (6.6) 63.0 65.5 68.6 (31.0) (26.4) (22.0)	12.2				21.3	24.6	26.4
ndard 63.0 65.5 68.6 (31.0) (26.4) (22.0) ulary v ndard ng		(3.8)	(3.6) (3.1)	(4.1)	(5.2)	(4.4)	(3.2)
(31.0) (26.4) (22.0) ulary / ndard ng	0.89				104.3	100.1	96.4
ulary v ndard ng	(16.3)		6.0) (5.4)		(12.7)	(10.5)	(7.1)
ndard 18							
ndard y	20.9		26.7				29.5
ndard 1g	(5.5)		(3.0)				(3.2)
gr.	59.2		91.8				104.1
St.	(29.8)		(13.9)				(13.0)
(3.3)	22.6		21.1				18.0
	(3.3)		(4.2)	~			(5.9)
Standard 97.2	97.2		93.8				88.2
(9.4)	(9.4)		(10.8)				(14.7)

 $\chi^2(1, N=101) = 10.3, p < .01$, and bilingually, $\chi^2(1, N=101) = 4.5, p < .05$, instructed students were stronger English readers than their Spanish-instructed counterparts, but did not differ significantly from one another, $\chi^2(1, N=101) = 3.0$, ns, indicating that bilingual instruction did not disadvantage children in their English reading.

While students' average raw scores increased for Spanish reading over time, these raw scores, when converted to standard scores, showed decreases in Spanish reading over time for the bilingual and Spanish-instructed students (see Table 1). Relative to the native Spanish speakers on whom the passage comprehension assessment was normed (Woodcock & Muñoz-Sandoval, 1995), the bilingual and Spanish-instructed students were in fact losing ground over time. The English-instructed children showed level growth, but their performance, on average, was consistently more than two standard deviations below the norming mean of 100 (SD=15) between Grades 2 and 5, indicating that this group was essentially nonliterate in Spanish.

Table 2 displays growth trend analysis for each instructional group's Spanish reading gains. The intercept mean indicates the differences that existed between the groups at grade 2. While all groups started significantly different from 0, the English-instructed children were significantly outperformed by both the Spanish, $\chi^2(1, N=101)=45.5, p<.01$, and bilingually, $\chi^2(1, N=101)=42.3, p<.01$, instructed children, though these groups were comparable to each other, $\chi^2(1, N=101)=1.6$, ns. The slope means represent the average rate of growth for each group between second and fifth grade, and all groups grew significantly over time. Average growth for the English- and Spanish-instructed children was comparable,

Growth Factor	Group	В	SE	z	р
Time 1 shift	English	1.7	0.67	2.5	<.05
	Bilingual	1.7	0.35	4.7	<.01
	Spanish	0.98	0.70	1.4	0.16
Intercept mean	English	8.5	1.25	6.8	<.01
	Bilingual	19.8	0.66	29.9	<.01
	Spanish	21.3	0.98	21.7	<.01
Slope mean	English	1.4	0.33	4.1	<.01
•	Bilingual	0.87	0.40	5.2	<.01
	Spanish	1.9	0.28	6.7	<.01

Table 2. Spanish Reading Comprehension Growth Models by Group

Note. Time 1 shift is reported because between the end of second grade and the beginning of third grade there was an increase in performance that could not be explained by linear growth alone. Time 1 shift indicates a statistical control for this Wave 1 to Wave 2 increase. No chi-square statistics are reported because instructional groups were not compared on this measure.

 $\chi^2(1, N=101)=1.3$, ns, and Spanish-instructed students outperformed their bilingually instructed counterparts, $\chi^2(1, N=101)=8.2$, p<.01, but English-instructed students did not differ statistically from bilingual students, $\chi^2(1, N=101)=3.0$, ns. While the English-instructed group did show growth, at Grade 5 there remained two standard deviations below the norming average, suggesting an absence of Spanish reading proficiency.

Predicting Spanish Reading Comprehension

Multiple regression was used to determine whether English reading and Spanish oral vocabulary predicted Spanish reading comprehension in fifth grade only, with the referent group in the model (Spanish-instructed students) outperforming both the bilingual and English instructional groups. Not surprisingly, correlational analysis of these predictor variables disaggregated by language of instruction showed strong and significant associations between Spanish oral vocabulary and Spanish reading comprehension (r = .63, .45 and .77, p < .01 for Spanish, bilingual, and English-instructed children, respectively). Only for the Spanish and bilingual instructional groups, however, did Spanish and English reading comprehension correlate significantly (r = .61 and .77, respectively, p < .01).

Model 1 in Table 3 tested the effects of three socioeconomic variables collected with the demographic survey: Mother's education (range = 1-16 years),

Table 3. Summary of Multiple Regression Analyses Predicting Spanish Reading Comprehension with Instructional Variables, Linguistic Variables, and Socioeconomic Variables

Variable	Model 1 B(SE)	Model 2 B(SE)	Model 3 B(SE)
Intercept		69 (2.8)	-3.4(5.0)
Instructional variables			
Bilingual group		-2.8(.96)*	35(1.5)
English group		$-7.5(1.3)^*$	-4.0(2.1)
Linguistic variables			
Spanish vocabulary		.77 (.08)*	.87 (.14)*
English reading		.28 (.08)*	.24(.12)*
Socioeconomic variables			
Mother's education	.08 (.32)		.05(.16)
Father's education	25(.27)		14(.12)
Annual household income	-1.30(.71)		05(.36)
F	1.9	94.8*	29.0*
R^2	.06	.82	.86

Note. *p < .05.

fathers' education (range = 1-18 years), and household income (ranging from less than \$10,000 to greater than \$80,000). The results showed minimal, indeed negative, yet nonsignificant, effects of SES on Spanish reading comprehension. Model 2 shows that both Spanish oral vocabulary and English reading comprehension significantly predicted Spanish reading comprehension when language of instruction was taken into account. There were no significant interactions between language of instruction and the predictor variables. The model suggested that students who develop the strongest Spanish reading comprehension benefit most from Spanish-only instruction and possess strong Spanish oral language skills. However, the development of English reading comprehension skills is also implicated in the model, suggesting that English and Spanish literacy skills are interrelated. Model 3 reintroduced the socioeconomic variables once language of instruction and linguistic variables were controlled, and showed no significant associations with Spanish reading.

Discussion

The results from this study highlight the important role of formal Spanish instruction in preserving Spanish language and literacy skills among Latino/a students. The results showed that language of instruction had a measurable effect on students' Spanish reading skills at each grade level (from the beginning of Grade 2 through the end of Grade 5). Students in the Spanish and bilingual groups performed comparably in Spanish reading at the end of fifth grade, and significantly outperformed the English-instructed group over time. Yet the rates of Spanish reading growth for all students were small, averaging between 0.9 and 1.9 raw score increases each year. The minimal growth in raw scores translated into pronounced decline for the bilingual and Spanish instruction groups on standard score indicators. These standard decreases of 10.9 for the bilingual group, and 9.2 for the Spanish instruction group were large given that the standard deviation for standardized scores is 15 (Woodcock, 1991). Thus, the bilingual and Spanishinstructed students dropped 73% and 61% of a standard deviation, respectively, in Spanish reading comprehension between Grades 2 and 5. The declining Spanish literacy performance mirrors the linguistic trends of the early 20th century and lends credence to the intragenerational observations of heritage language loss made by Grosjean (1982) and Hurtado and Vega (2004).

Ironically, increased globalization has created the demand for a workforce with the skill and disposition to use languages in addition to English. Fry and Lowell (2003) reported evidence that workers with bilingual skills have higher earnings than their monolingual counterparts, though much of this advantage appears to be conferred by higher levels of education that are associated with bilingual skills, again presenting a confound between bilingualism and other social and economic factors at play in the lives of linguistically diverse populations. The

gradual decline in Spanish proficiency among these Spanish-English bilingual students ought to raise concerns about the loss of a linguistic resource that could offer long-term economic advantages to Latino students.

We have also argued that well-developed language and literacy skills in two languages have been shown to improve literacy attainment and may promote cognitive flexibility. The results presented here paint a distinctive picture for each of the three instructional groups in these domains. The English-instructed children were the least likely to attain any genuine degree of bilingualism and biliteracy simply because they did not receive Spanish language instruction and came from households where English was the dominant language. The linguistic and cognitive benefits of bilingualism, then, will not be available to these students; however, achievement in English becomes the standard by which we measure progress among the Spanish and bilingual instructional groups.

The most encouraging findings relate to the bilingual instruction group. These students were comparable to their English-instructed peers in English reading, which suggests that Spanish language instruction does not impede literacy development in English. Furthermore, despite their decreasing Spanish reading scores, the bilingually instructed students were the most genuinely biliterate students in the sample, and thus the most likely to reap the cognitive and linguistic benefits of bilingualism and biliteracy. The results presented in Table 3 echo this potential, as the bilingually instructed children would be the best equipped to deploy the well-developed Spanish oral vocabulary and English reading skills that were predictive of Spanish reading comprehension.

However, the decline in Spanish reading proficiency for students who received Spanish instruction was a discouraging finding. One possible explanation for the decline in the bilingual instruction group was the duration of Spanish literacy instruction. Reading comprehension at the lower elementary grades is far more dependent on strong decoding skills. Students who are able to sound out the words in a text are likely to comprehend it because, at a second-grade level, the language demands of text are quite low. Development of these lower level skills is a strong focus of early elementary education, but by fifth grade, the language demands of grade-level texts have increased considerably, and strong decoding skills, while necessary, must be accompanied by strong oral language proficiency and increasingly strategic reading skills. The fact that bilingually instructed students were transitioned to English instruction after attaining only a second-grade proficiency in Spanish literacy suggests that only lower level Spanish skills were being developed, after which monolingual English instruction was implemented.

Declining Spanish reading achievement may also have been due to the instrumental value that has been historically placed on native language instruction. The primary motivation behind native language instruction in the United States has been the notion of linguistic interdependence, in which Cummins (1979) hypothesized that literacy skills developed in the first language transfer to promote second language and literacy acquisition. As such, teaching children to read in Spanish becomes a time- and proficiency-delimited mechanism for improving English. Once learners spend a requisite amount of time in Spanish instruction and/or have achieved a predetermined grade level of Spanish literacy, they are mainstreamed into English-only instruction. Much less common today are bilingual programs that develop Spanish for its own sake (Crawford, 2004).

A final possible contributing factor is the general societal mentality that views languages other than English as unnecessary, or even detrimental, to students' educational and social attainment (Perreira, Fuligni, & Potochnick, this issue). Brisk (2006) described the work of two sets of researchers investigating the English literacy outcomes of students enrolled in different bilingual education models. When Zappert and Cruz (1977) found comparability in English outcomes among students in bilingual and English only instruction, they concluded that the bilingually instructed students had received the additive benefit of having become literate in English and another language. Rossell and Ross (1986), finding similar results, took a subtractive perspective and determined that literacy development in the first language did nothing for the students and was ultimately an unnecessary use of extra resources.

Another common predictor of academic success is SES. Since the Coleman Report (Coleman, 1968), income and education have been relentlessly tied to achievement, yet these variables did not predict the Spanish reading performance of students in any instructional group. One explanation for the findings presented in Model 3 is that language of instruction and SES were confounded. More children who received Spanish instruction came from low-income households, while the children in English instruction tended to reside in higher income households. However, even when the SES variables were entered into the model without language of instruction or linguistic variables taken into account, the socioeconomic variables did not predict Spanish reading. Indeed, the trends were negative, suggesting that higher levels of education and income were associated with decreased Spanish reading skill.

While the correlational nature of this work does not imply causality, the results reported here should serve to alleviate concerns held amongst English-only advocates that native language instruction is promoting Spanish literacy maintenance over time (Rossell & Ross, 1986). While many of the students showed appreciable levels of bilingualism and biliteracy, the intragenerational trend of heritage language loss is consistent with research by Hurtado and Vega (2004), and points to a subtractive, rather than an additive bilingualism, despite the social and cognitive benefits of the latter (Romaine, 1995).

We agree with Hill and Torres (this issue) that society and schools must assume new cultural norms and practices if outcomes are to improve for Latino and Latina children. Improvements in social attitudes toward bilingualism are of paramount

importance if quality of instruction is to become commonplace across languages of instruction. In pursuit of this goal, educational programming must move away from the instrumental views of Spanish instruction where Spanish helps only insofar as it promotes English. Language maintenance models, where graduation from high school indicates that students are proficient enough to apply and be accepted to Latin American and U.S. universities alike, must become commonplace if the U.S. educational system is to produce linguistically and culturally proficient students who can represent the genuine heterogeneity of 21st-century America.

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