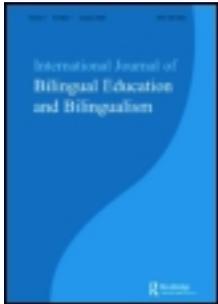


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## International Journal of Bilingual Education and Bilingualism

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/rbeb20>

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Published online: 17 Dec 2013.

To cite this article: Kathryn Lindholm-Leary , International Journal of Bilingual Education and Bilingualism (2013): Bilingual and biliteracy skills in young Spanish-speaking low-SES children: impact of instructional language and primary language proficiency, International Journal of Bilingual Education and Bilingualism, DOI: [10.1080/13670050.2013.866625](https://doi.org/10.1080/13670050.2013.866625)

To link to this article: <http://dx.doi.org/10.1080/13670050.2013.866625>

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## **Bilingual and biliteracy skills in young Spanish-speaking low-SES children: impact of instructional language and primary language proficiency**

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*(Received 19 June 2012; accepted 15 August 2013)*

The purpose of this research was to better understand the bilingual and biliteracy skills of Spanish-speaking low-socio-economic status (low-SES) children who attended an English or a bilingual programme during preschool and kindergarten/first grade, and to determine whether their outcomes varied according to instructional language and primary language proficiency. Subjects included 254 kindergarten through second grade (ages 4–7 years) Hispanic students who were low-SES, spoke Spanish as their primary language, and who had parents with low levels of formal education. Results showed that these children entered preschool with very low levels of language and literacy skills in Spanish and English, but made excellent gains regardless of the language instructional programme they attended. Children in English vs. bilingual instruction had significantly higher scores in Spanish and English language and literacy skills at preschool entry than children entering bilingual programmes, but these differences disappeared by first or second grade entry, and children instructed in English showed deteriorating Spanish language scores. Finally, among children instructed bilingually in the early years, those who were Mostly Proficient in Spanish at entry scored significantly higher on the English language proficiency test than those who were Mostly Limited in Spanish. Results provide evidence for the advantage of bilingual instruction at preschool through first grade levels for low-SES language minority children.

**Keywords:** bilingual; preschool; low-SES; Hispanic; language proficiency; academic readiness

### **Introduction**

Little research has focused on the development of bilingual and biliteracy skills in young children of low-socio-economic status (low-SES) language minority groups attending preschool and early elementary programmes in a bilingual vs. English environment. This article will address this gap with research focused on the bilingual and biliteracy skills of low-SES Spanish-speaking children to determine whether their language and (pre) literacy outcomes are associated with language of instruction in preschool and then kindergarten and first grade. In addition, this research systematically examines a major gap in our understanding of children's bilingual and biliteracy outcomes relating to the various configurations of instructional language from preschool through first grade (bilingual throughout, combinations of bilingual and English instruction). Finally,

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another gap this research addresses is to examine in young children the extent to which proficiency in the primary language is associated with proficiency in the second language (English).

### ***Demographic contexts***

According to National Center for Educational statistics in the USA (Planty et al. 2009) about 10.8 million school-aged children (or 20% of the total) spoke a language other than English at home, and 5% (2.7 million) spoke English with difficulty. They are currently the fastest growing population in the USA and the number of English Language Learners (ELLs) is expected to increase another 50% by 2025 (Passell and Cohn 2008). Hispanic children represent the largest number of children who speak English with difficulty (2.1 million).

The National Center for Education Statistics reports that children in Hispanic families are more likely to live in poverty, and they are less likely to have parents with a college degree and more likely to have parents with less than a high school education than other ethnic groups (Aud, Fox, and KewalRamani 2010). These are important demographic factors since research shows a strong link between child schooling outcomes and SES, including parent education (e.g. Aud, Fox, and KewalRamani 2010; Planty et al. 2009). For instance, SES is the strongest predictor of academic achievement throughout the K-3 grade spans (National Task Force on Early Childhood Education for Hispanics 2009). These risk factors of low-SES and parent education, combined with lack of proficiency in the majority language, can lead to a very shaky start at school entry for these children, which can negatively impact their future schooling success.

### ***Language and literacy development in young immigrant children***

Universal preschool, which is available in many other countries, has been hailed as a promising approach for closing the large achievement gap that divides children across ethnic, racial, linguistic and economic backgrounds (Frede and Barnett 2011; Haskins and Rouse 2005). While the achievement gap problem has received significant attention, it has been largely discussed with respect to the school-aged population. However, more educators are noting that the gap actually begins in the preschool years (Barnett and Hustedt 2003; Frede and Barnett 2011; Haskins and Rouse 2005). For example, in the Early Childhood Educational Longitudinal Study (ECLS), which is a nationally representative sample of kindergarten students in the USA, results show that already by kindergarten entry, there is a noticeable and significant achievement gap in reading and math readiness skills (West, Denton, and Reaney 2001). In addition, Spanish-speaking preschoolers begin preschool with low levels of phonological awareness, letter identification and emergent literacy skills in English, and they perform below monolingual children of the same age in both languages (Paez, Tabors, and Lopez 2007).

While many educational organisations and educators recognise the value of at least some primary language instruction in preschool, there is considerable pressure to promote English proficiency over primary language proficiency, with some states developing English language arts standards, but no accountability or professional development for teachers instructed in the primary language. The accountability for English language development and lack of professional development in other languages means that many Spanish-speaking or bilingual preschoolers experience English-only instructional approaches. Yet, research indicates that a strong first language can serve as an important foundation for the second

language and can lead to stronger achievement and second language development at the preschool (Barnett et al. 2007; Espinosa 2007, 2009; Lopez and Greenfield 2004) and elementary and secondary levels (Genesee et al. 2006; Goldenberg 2008; Lindholm-Leary and Genesee 2010; Lindholm-Leary and Hernandez 2011; Lindholm-Leary and Howard 2008). Such research would suggest the importance of primary language or bilingual instruction in preschool.

However, Lindholm-Leary and Borsato (2006) and Lindholm-Leary and Genesee (2010), in large-scale reviews of the research literature on ELLs, also point out that research and evaluation studies conducted in the early years of a programme (grades K-3) typically revealed that students in bilingual education scored below grade level (and sometimes very low) and performed either lower than or equivalent to their comparison group peers. In contrast, almost all evaluations conducted at the end of elementary school and in middle and high school showed that the educational outcomes of bilingually educated students were at least comparable to, and usually higher than, their comparison peers. These findings would suggest that it might be difficult to detect any advantages of bilingual education at early grade levels. Yet, there are a few studies that show differences favouring preschool children educated in bilingual over English settings (Barnett et al. 2007; Espinosa 2007, 2009).

In addition, there is little information, especially focused on early learners, about the impact of moving children from one language of instruction to another (from bilingual to English or vice versa). Furthermore, while educators have lamented the attrition of the primary language among potentially bilingual youngsters who are instructed through English (Espinosa 2007, 2009; Hammer, Lawrence, and Miccio, 2008; Oller and Eilers 2002), there is little systematic research showing the impact of English or bilingual instruction on preschool children's primary language development. Thus, it is important to add further clarity to this important research topic, as the findings can impact decisions made about language of instruction for children in the early primary grades.

The purpose of this study was to better understand the bilingual and biliteracy skills of Spanish-speaking low-SES children entering preschool through second grade. More specifically, this study focuses on the language and (pre)literacy outcomes in English and Spanish children entering preschool, kindergarten and first and second grades to address two important points: (1) whether language and (pre)literacy outcomes in the two languages vary according to instructional language; and (2) whether children's language and literacy outcomes in English at entry to kindergarten, first and second grade are associated with level of Spanish language proficiency.

## **Methodology**

### ***Sample***

The participants were 283 kindergarten through second grade students who had been enrolled in a bilingual or English-only programme in preschool (for children aged four years) and then kindergarten (for five year olds) through second grade. Of these children, 80 were kindergartners, 105 were first graders and 98 were second graders. There were slightly more males (54%) than females (46%). All of these children were Hispanic, low-SES, spoke Spanish as their primary language, and were identified as an English language learner at kindergarten entry. In addition, formal education was fairly low for the children's parents, with 59% of parents having less than a high school education, 25% possessing a high school diploma, 14% having some college or technical training and 2% graduating from college.

From a parent survey of 106 parents in this sample (described below), parents were asked to provide their level of formal education to further clarify how much education parents in the lowest category ('non high-school graduate') had actually attained. Two-thirds of the mothers (61%) had not graduated from high school; of these, 37% had 7–11 years of education, 17% had 4–6 years of education and 8% had 0–6 years of formal education. Thus, these Spanish-speaking parents have far lower levels of formal education than the parents of the average student in California; 84% of the sample mothers vs. 45% of parents of California students have a high school diploma or less. In addition, the sample parents have lower levels of education than a national sample of Hispanic parents in the Early Childhood Longitudinal Programme national study, where 56% of parents have at least some college compared to only 18% of sample mothers. Overall, most sample parents have at least rudimentary literacy skills in Spanish, though few parents have basic literacy or oral language skills in English. In looking at the language of communication with the child in the home, most children were spoken to in 'only Spanish' or 'mostly Spanish', by most of their nuclear and extended family members.

### ***Preschool programme description***

The children were attending a preschool (four-year-olds) and early elementary (grades K-2, or ages 5–7) programme that promotes language and literacy enrichment in English or in both languages. The model, called SEAL (Sobrato Early Academic Literacy), was designed to focus on Spanish-speaking children who are thought likely to enter kindergarten with little or no English proficiency, and who are thus designated as ELLs. The programme is being implemented in two Northern California school districts and three school sites, all of which have elementary-level bilingual and English mainstream strands and serve a large population of Spanish-speaking ELL children. The preschool programmes exist at neighbourhood schools, and parents can choose whether to have their children participate in the SEAL preschool or another nearby neighbourhood preschool programme.

The SEAL model includes six components:

- (1) academic language and literacy in both English and Spanish (though some children only received the programme in English);
- (2) language-rich instruction, using GLAD [Guided Language Acquisition Design], an instructional model that blends academic language and literacy with approaches that aim to promote effective interactions among students and between teacher and student – see [www.projectglad.com](http://www.projectglad.com) and other strategies, with a strong focus on oral language development and vocabulary;
- (3) a text-rich curriculum and environment providing active engagement with a variety of print media;
- (4) development of language through an enriched academic curriculum, including science and the arts;
- (5) an affirming learning environment that includes a culture and climate of respect and promotes healthy socio-emotional development; and
- (6) teachers and parents working together to support strong language and literacy development at home and at school.

In this programme, teachers and parents work together to support strong language and literacy development at home and in school. Teachers have received training in how to implement these various strategies and thus, the preschool teachers are likely better trained in dealing with the needs of this group than the preschool teachers in the nearby non-SEAL preschool programmes.

For analyses below, children were classified as receiving instruction in preschool either through both languages (Bilingual,  $n = 261$ , or 92%) or only in English (English,  $n = 22$ , or 8%); nearby non-SEAL preschools also provided the option of bilingual or English instruction. Language of instruction in elementary school is more complicated, in that children did not always receive the same language of instruction they received in preschool. In this sample, most children either received:

- (1) Bilingual instruction in all grades from preschool through first grade (Bilingual,  $n = 225$ , 80%);
- (2) Combination of bilingual in preschool and English in kindergarten and first grades (Combo: Bil–Eng,  $n = 36$ , 13%); or
- (3) English in preschool and bilingual in kindergarten and first grades (Combo: Eng–Bil,  $n = 16$ , 6%).

Unfortunately, the number of children who received English instruction in all grades from preschool through first was extremely limited ( $n = 6$ , 2%), making analyses of this group untenable.

Children who received bilingual instruction were instructed for half or more of their time in Spanish, but also received 20–50% of their time in English. Thus, no child received only Spanish instruction, though some children received only English instruction.

### ***Comparison sample***

A comparison sample was also included, comprising children who shared the same demographic characteristics as the sample children; that is, they were Hispanic Spanish-speaking and low-SES children whose parents had the same low levels of formal education as the sample children. These 33 first- and 18 second graders lived in the same neighbourhoods as the sample children but they attended a different neighbourhood preschool (community or Head Start), though they did attend the same elementary programme as the sample children. Of these children, 37% attended a bilingual preschool and 63% an English preschool. The comparison sample received the same model in grades K-1 as the sample preschool children. Originally, the intent was to offer one strand of the SEAL programme and one strand of the regular programme, but the school district administrators wanted all teachers trained in the SEAL approaches and all children to receive the SEAL programme. It should also be noted that there were no data for the comparison sample for preschool, though there were complete data for grades K-2. Thus, the comparison sample is not as good a ‘comparison’ group as originally hoped, but is useful nonetheless.

### ***Measures and procedures***

Three instruments were used to measure language proficiency and preliteracy skills in the sample. These instruments, which were all administered in the beginning of the school year, are briefly described below.

*Desired Results Developmental Profile*

This was developed by the California State Department of Education to improve the results achieved for children within child development/childcare settings. It has a number of items classified into seven domains. Each of the Desired Results Measures has a set of measurable indicators, such as 'The child uses language to communicate with increasingly complex words and sentences'. For each indicator, students are scored on their developmental level, using one of the five categories: 'Not Yet', 'Exploring', 'Developing', 'Building', or 'Integrating'. Teachers complete the Desired Results Developmental Profile (DRDP) by observing the child's behaviour, interaction with others and work samples. The DRDP was completed in Spanish and was administered both at entry into preschool and again at the end of the year. District personnel entered scores into a computerised database.

*Language Assessment Scale*

Language Assessment Scale (LAS) for preschool through second grade (PreLAS for preschool through first grade, LAS for second grade). This measures the language proficiency and (pre)literacy skills of learners in early childhood education (De Avila and Duncan 2005). The assessment, which is available in English and Spanish, is divided into five areas: Sound/phrase recognition, Sound/phrase reproduction, Vocabulary, Comprehension and Story Retelling. Each subscale has points that contribute to a final score, from which a level of proficiency is assigned. While there are five levels, the classification of proficiency ranged from No Proficiency (Level 1) to Limited (Levels 2–3) and Proficient (Levels 4–5). The children's teachers or teacher aides completed this one-on-one assessment.

*California English Language Development Test*

This is the English language assessment developed by the State of California to fulfil the legal requirements of initially and annually testing ELLs. The California English Language Development Test (CELDT) covers four skill areas: listening, speaking, reading and writing. CELDT results assign students to one of five proficiency levels: Beginning, Early Intermediate, Intermediate, Early Advanced or Advanced. Students receive an individual proficiency level for each skill and an overall proficiency level. The CELDT was administered according to state procedures, and completed by district personnel. Scoring sheets were submitted to the California Department of Education for scoring.

All assessment scores and background information were submitted to the author for data entry and analysis. The coordinators at each school site provided preLAS data, and school district assessment personnel submitted the remaining assessment and student background data to the author. Guidelines for confidentiality and ethical treatment of children and their families were carefully followed, and human subjects' protection was obtained through the author's University Human Subject Protection Committee.

In addition, 185 parents of kindergarten and first graders completed a survey that requested information about the language and literacy activities in the home, along with some information about the parents' education and level of literacy. The teachers sent these surveys, which were provided to parents in Spanish and English, home and the parents were given a \$15 gift card to a nearby department store when they completed the

consent form and survey and returned them to the teacher. Parents were also notified that they could complete the survey via a phone or in-person interview.

## Results

### *Spanish language and preliteracy development*

Scores from the language and literacy subtest of the DRDP administered early and later in the academic year (see Table 1) revealed that preschoolers began their preschool year with Spanish language scores that were very low, scoring level 2 out of four levels, in each of the items: comprehends meaning, follows increasingly complex instructions, expresses self through language and uses language in conversation. Similarly, with respect to their Spanish preliteracy development, children largely scored a level 1 or 2 in the beginning of the preschool year in each item (interest in literacy, concepts about print, phonological awareness, letter and word knowledge and emergent writing). Over the course of the preschool year in both language and preliteracy, the children showed a significant gain of about one level on each item, with 72–82% (language) and 63–85% (preliteracy) of the students scoring at level 3 or level 4 by the end of the year; a score at level 3 is considered to represent expected performance at the end of preschool. Thus, in Spanish language and preliteracy development, children had attained expected end-of-preschool scores. In a comparison of the sample preschoolers with other preschoolers in the same school district with similar background characteristics, the sample preschoolers started with much lower scores, but made greater gains than their similar background peers.

Children were also administered the LAS in Spanish at their entry to preschool and at entry to kindergarten, first and second grades. At preschool *entry*, the four-year-old children had very low levels of proficiency in their primary language of Spanish. As Table 2 shows for Spanish, a third (31%) of entering preschoolers were at the lowest level (No Proficiency), well over a third (42%) were Limited and only a quarter (27%) were Proficient in their primary language. In the subtests of Story Retelling and Vocabulary,

Table 1. DRDP – Spanish language and preliteracy item means (SD) in preschool at fall and spring ( $n = 160$ ).

	Mean (SD) fall	Mean (SD) spring	Gain	Per cent at highest two levels
Language items				
Comprehends meaning	2.1 (0.9)	3.1 (0.9)	1.0***	74
Follows complex instructions	2.1 (1.0)	3.2 (0.8)	1.1***	82
Expresses self through language	2.1 (1.0)	3.2 (0.9)	1.1***	72
Uses language in conversation	2.1 (0.9)	3.0 (1.2)	0.9***	74
Preliteracy items				
Interest in literacy	1.9 (0.8)	3.2 (0.8)	1.3***	78
Concepts about print	1.4 (0.8)	2.8 (0.9)	1.4***	65
Phonological awareness	1.2 (0.8)	2.7 (0.9)	1.5***	63
Letter and word knowledge	1.5 (0.7)	2.9 (0.8)	1.4***	69
Emergent writing	1.9 (0.9)	3.3 (0.7)	1.4***	85

Note: \*\*\* $p < .001$ .

both academic language components, students were also weak, scoring only 14 points out of a possible 40 points.

Overall, the results from these two language proficiency measures (DRDP and PreLAS) indicate that the preschool children had low levels of proficiency in their native language of Spanish. However, the children made gains, measured both cross-sectionally and longitudinally, over the course of the next years. On the (Pre)LAS, comparing, from a cross-sectional perspective, the *entering* preschool, kindergarten, first and second grade students, it is clear in Table 2 that at each succeeding grade level, there were far fewer children in the No Proficiency category (from 31–20% to 5–7%) and far more children in the Proficient category (from 27–38% to 59–39%). Thus, by first grade, over half of the children were Proficient (59%). As Table 2 shows, the academic language domains of Story Retelling and Vocabulary were still weak, though students made significant gains across the grade levels in Story Retelling, though they did not make significant gains in Vocabulary. It is important to remember that the second grade test is different and more challenging than the first grade test, as reflected in the lowered scores from grade 1 to grade 2, with a typical 10-point drop.

From a longitudinal perspective, children also showed good gains in Spanish language proficiency from preschool to kindergarten, and to first grade on the PreLAS; children demonstrated a highly significant gain of 18 points from preschool to first grade ( $t(174) = 13.76, p < .001$ ). Furthermore, children's progress in Spanish language development was examined by determining whether they stayed at the same level or moved up or moved down a level from preschool to kindergarten, and then from kindergarten to first grade. Over a half of the children stayed at or moved up from Limited to Proficient (55%); over a third were largely Limited (moved from No Proficiency to Limited, stayed at Limited, or moved down from Proficient, 37%), and a small proportion were mostly classified as No Proficiency (stayed at No Proficiency or moved down from Limited, 8%).

Spanish PreLAS scores for sample children were compared to the comparison children who had similar language and socio-economic backgrounds. In these comparisons with kindergarten and first grade children, the sample children scored significantly higher in both kindergarten ( $t(296) = 4.19, p < .001$ ) and first grade ( $t(249) = 2.52, p < .01$ ).

Table 2. (Pre)LAS – means (SD) and distribution of proficiency levels in preschool (Spanish and English) and from kindergarten to grade 2 (Spanish).

	Preschool mean (SD), <i>n</i> = 265	Kindergarten mean (SD), <i>n</i> = 268	First grade mean (SD), <i>n</i> = 201	Second grade mean (SD), <i>n</i> = 95
(Pre)LAS Spanish	63.4 (20.5)	74.7 (14.8)	81.6 (11.8)	71.2 (14.6)
Spanish subscales				
Story Retell (max 40)	14.5 (9.9)	18.9 (8.9)	26.2 (7.6)	34.7 (7.8)
Vocabulary (max 40)	14.2 (5.7)	16.6 (3.2)	17.3 (3.2)	17.0 (4.7)
	Spanish	Spanish	Spanish	Spanish
% No Proficiency	31	20	5	7
% Limited	42	42	36	54
% Proficient	27	38	59	39

Analyses were also included to examine the impact of parent education on children's Spanish language proficiency scores on the PreLAS. On the Spanish PreLAS scores, parent education was not a significant main effect.

### ***English language and preliteracy development***

Children were also administered the Language Assessment Scale (PreLAS) in English at entry to preschool. At preschool *entry*, the four-year-old children had very low levels of proficiency in their second language of English. As [Table 2](#) shows, most preschoolers were in the lowest level of No Proficiency (88%), with 10% rated as Limited, and only 2% as Proficient. Thus, this language proficiency assessment confirms that the Spanish-speaking preschool children had very low levels of proficiency in their second language of English, as expected, at entry to preschool.

The potential effect of parent education on children's English language proficiency scores on the PreLAS was also examined. In contrast to the Spanish PreLAS, parent education was a significant main effect on the English PreLAS scores ( $F(2, 132) = 3.12, p < .05$ ), with children of college-educated parents scoring significantly higher in English than children of parents with less than a high school diploma. These results suggest that parent formal education has a significant impact on English, but not Spanish, proficiency for children entering preschool.

Another assessment of English proficiency comes from the CELDT, a required assessment for students identified as ELLs. As indicated previously, the CELDT provides both a scale score and a classification of students into one of five proficiency levels: Beginning, Early Intermediate, Intermediate, Early Advanced and Advanced. [Table 3](#) presents the percentage of students at each classification level on the CELDT, which is given at entry into a grade level (e.g. entry into kindergarten or first grade). At kindergarten entry, students were largely classified into one of the three lowest levels: Beginning, Early Intermediate or Intermediate; almost all students (80–96%) were at the lowest two levels (Beginning or Early Intermediate) in all subtests and the Total test. By first grade, only half of students were still at Beginning or Early Intermediate in Listening and Speaking (44–51%), though most of the students were still at the lowest two levels in Reading and Writing (83–91%). By second grade, far fewer students were at the lowest two levels, and more were at the Intermediate, or even Early Advanced or Advanced levels; however, their oral proficiency (Listening and Speaking, 35–37% Intermediate and 29–31% Early Advanced or Advanced) was stronger than their literacy proficiency (Reading and Writing, 18–32% Intermediate and only 3–4% Early Advanced). It is not surprising that literacy was more challenging for these children as many of these children were learning to read and write primarily in Spanish and thus would not be expected to score as well in English. Finally, one can also see the growth on the CELDT by examining the mean scores, which increase significantly across all three grade levels and in all four subtests.

### ***Summary of Spanish and English language and (pre)literacy development***

In summary, the data show that these Spanish monolingual, or at least Spanish dominant, children entered preschool with very low primary language and preliteracy skills in both languages. In fact, 30% of the children had No Proficiency in either language and only 1% was rated as Proficient in both languages. Furthermore, the sample children entered preschool with even lower scores in Spanish than similar peers in the same school district.

Table 3. CELDT– means (SD) and per cent of students at levels beginning/early intermediate and intermediate in kindergarten, first grade and second grade.

	Kindergarten, <i>n</i> = 270		First grade, <i>n</i> = 203		Second grade, <i>n</i> = 98	
	% Beg.	% Int.*	% Beg.	% Int.*	% Beg.	% Int.*
CELDT – total	90	10	49	39	57	32
CELDT – read	96	4	91	7	79	18
CELDT – write	80	18	83	14	64	32
CELDT – listen	87	12	51	36	32	37
CELDT – speak	81	17	44	39	36	35
	Mean scores (SD)					
CELDT – total	317.4 (73.2)		390.7 (65.8)		432.8 (51.6)	
CELDT – read	273.7 (36.3)		340.4 (44.9)		405.0 (67.2)	
CELDT – write	346.7 (33.8)		392.1 (22.9)		434.5 (57.8)	
CELDT – listen	328.0 (72.8)		393.8 (67.9)		449.3 (67.0)	
CELDT – speak	308.2 (110.9)		393.9 (91.6)		449.1 (62.6)	

\*Beg. = first two levels of CELDT – Beginner and Early Intermediate; Int. = third level of CELDT (Intermediate); not shown are the highest two levels of CELDT (Early Advanced and Advanced), which can be determined by subtracting the sum of Beg. and Int. from 100%.

However, the sample children made significant gains in all areas of language and preliteracy so that by the end of preschool, most children reached the minimal grade level expectations for kindergarten entry.

Students made good gains during kindergarten as well, with close to half of the children rated as Proficient in Spanish. In addition, they were very weak in English, as expected for a group of low-SES native Spanish speakers, and they entered kindergarten primarily as Beginners in both the oral and literacy measures. Over the course of kindergarten and first grade, they made good gains, though with lower scores in the literacy measures than oral language measures. By second grade, these children were still scoring at relatively low levels in their oral and literacy development in English, and half of the students were still not proficient in their primary language of Spanish, particularly in the more academic language domains. Thus, it is important to examine whether language of instruction during preschool and then kindergarten and first grade had any impact on children's Spanish and English language and literacy development.

### ***Language and preliteracy outcomes according to language of instruction***

#### *Language outcomes in Spanish*

PreLAS scores were examined with respect to language of instruction, first in preschool and then in preschool, kindergarten and first grade. As discussed above, the options in preschool were bilingual or English-only. It was noted that the group of children in English instruction entered preschool with significantly higher scores on the Spanish PreLAS than did the children in bilingual instruction [ $M = 79.3$  (SD = 8.6) vs.  $M = 62.4$  (SD = 20.6);  $t(248) = 3.0$ ,  $p < .01$ ], and they maintained significantly higher scores in kindergarten and first grade, but similar scores in second grade. Part of the reason for the apparent success of children enrolled in the English programme who scored as well in Spanish as children enrolled in bilingual is that many of the children who were instructed in English in preschool were enrolled in a bilingual programme in kindergarten and then

Table 4. PreLAS in Spanish – means (SD) in preschool, kindergarten, first grade and second grade by language of instruction.

Language of instruction	Preschool mean (SD), $n = 265$	Kindergarten mean (SD), $n = 54$	First grade mean (SD), $n = 10$	Second grade, mean (SD), $n = 10$
Bilingual	61.2 (18.6)	80.7 (11.6)	84.1 (8.2)	75.0 (11.4)
Combo: Eng–Bil	80.5 (8.3)	85.8 (6.3)	88.4 (7.1)	73.2 (15.6)
Combo: Bil–Eng	56.8 (26.1)	73.9 (12.7)	68.9 (17.8)	54.3 (22.4)

Note: Combo refers to combination; for example, *Combo: Eng–Bil* refers to children who received English in preschool and bilingual provision in grades K-1.

first grade ( $n = 16$ ). Similarly, some children who received bilingual instruction in preschool were then switched to English instruction in kindergarten and first grade ( $n = 36$ ). Table 4 presents the (Pre)LAS scores in preschool through second grade entry for children participating in these different language instruction configurations. The results reported in this table are from a longitudinal analysis, which is why the number of subjects is very small for the two combination groups ( $n = 10$ ). However, a cross-sectional analysis showed similar trends and findings.

There are several important points about the findings that should be noted. First, children who entered a bilingual preschool scored similarly ( $M = 61.2$  vs.  $56.8$  for Bilingual and Combo: Bil–Eng), and significantly lower than children who entered an English preschool ( $M = 80.5$ ). Second, after one year in preschool, both bilingual groups (Bilingual and Combo: Bil–Eng) had increased 17–20 points, for a highly significant gain in Spanish. However, the children who had received English during preschool (Combo: Eng–Bil) only showed a gain of 5 points, though their scores were still higher than the bilingual groups by kindergarten entry. At kindergarten level, there was no statistically significant difference among the three groups in their Spanish as there had been at preschool entry. By first grade entry, the children who had received bilingual during kindergarten (i.e. both Bilingual and Combo: Eng–Bil) had increased another 3.5 points while the children who had received English had decreased by 5 points. This trend continued into second grade where children who had received English in kindergarten and first grade showed a decrement of 14.5 more points in their Spanish scores in addition to their loss from kindergarten to first grade. Children in the other combination group also showed a loss of 15 points and those in the bilingual group a loss of 9 points in the more difficult second grade test. However, the continuing loss for the English group meant that even though they started out the most proficient in Spanish in preschool, by second grade, half were Limited in Spanish and a third were considered No Proficiency, for a total of 86% of students with No Proficiency or Limited in Spanish. This contrasts with the groups who received bilingual instruction during elementary school (in the Bilingual programme and in Combo: Eng–Bil), where close to half were Proficient (44–46%) and most of the remainder were Limited (46–55%). This finding suggests some Spanish language loss on the part of the students receiving English instruction. Given that there was an insufficient number of students who received English from preschool through first grade for analysis, it is not possible to analyse this further.

### Outcomes in English

In terms of English proficiency using the CELDT for the Total score, Table 5 shows the students' Mean scores for kindergarten, first and second grade according to language of

Table 5. CELDT means (SD) for students in kindergarten, first grade and second grade by language of instruction.

	Kindergarten	First grade	Second grade
	Mean (SD)		
CELDT – Total bilingual, $n = 71$	310.3 (79.1)	387.9 (66.8)	431.4 (48.4)
Combo: Eng–Bil, $n = 14$	321.3 (80.2)	415.5 (40.8)	431.4 (73.5)
Combo: Bil–Eng, $n = 11$	288.9 (88.1)	415.6 (64.1)	440.4 (54.8)
Comparison group: Bil, $n = 21$	333.7 (72.1)	393.2 (77.9)	407.8 (63.5)

instruction. At each grade level there was no significant difference between the three languages of instruction groups. As Table 5 illustrates, the most growth occurred for the combination group that received English during kindergarten and first grade (Combo: Bil–Eng), though they only scored 9 points above the two bilingual groups. What this analysis indicates is that children who received bilingual instruction across all grade levels did not score statistically lower than students who received English during preschool or children who received English during kindergarten and first grade. Further, students who were enrolled in bilingual for all years made more *growth* across the grades than their peers who were currently instructed bilingually but had spent preschool in English.

The sample students who were instructed bilingually were compared to the comparison sample of children who were instructed bilingually (for both groups, Bilingual and Combo: Eng–Bil). Table 5 presents the total CELDT scores for the comparison group. As Table 5 indicates, the scores of the comparison group were stronger at kindergarten entry than any SEAL group, but they were lower by second grade, though this difference was not statistically significant.

### ***Language and preliteracy outcomes in English according to level of Spanish proficiency***

This last analysis was run to address theory and research showing the importance of developing a strong primary language base to promote higher English (or second) language proficiency. Because there are language of instruction differences and because there are too few children in the various language instruction groups for valid statistical analyses, only the children who had received bilingual instruction for grades K-1 (i.e. Bilingual and Combo: Eng–Bil) were selected for analysis.

Table 6 presents the means (and SD) for the total CELDT (i.e. English) scores at entry to kindergarten, first and second grades for children who were Mostly Proficient vs. Mostly Limited in Spanish (using the procedure described earlier to consider current level of proficiency and change in proficiency as well). As Table 6 indicates, at all grades, children who were Mostly Proficient scored significantly higher than children who were Mostly Limited in Spanish [multivariate analysis of variance (MANOVA), Wilks'  $\lambda = 0.863$ ,  $F(1, 68) = 3.4$ , partial eta squared = 0.137, power = 0.74]. Because the sample size for children who had scores at all three grade levels was limited, this analysis was also performed cross-sectionally, which yielded similar results.

Table 6. CELDT means (SD) in English in preschool, kindergarten, first grade and second grade by overall Spanish proficiency in bilingual instruction K-1.

	Kindergarten	First grade	Second grade
CELDT scores for English	Mean (SD)		
Mostly Proficient in Spanish, $n = 36$	337.9 (71.7)	414.0 (51.9)	444.6 (57.5)
Mostly Limited in Spanish, $n = 32$	286.0 (73.4)	374.7 (61.3)	423.8 (41.7)

## Discussion

The findings here show that young Spanish-speaking children from low-SES homes enter preschool on average with very low levels of proficiency in both their primary language of Spanish and in English. However, there is considerable variability among them, with about a quarter of children entering preschool with high scores in Spanish (Proficient), less than half with somewhat limited proficiency (Limited), and about a third with little proficiency (No Proficiency) according to the PreLAS assessment. The DRDP assessment also provided corroborative information demonstrating low levels of language and literacy skills on the part of entering preschoolers. These results showing low levels of primary and second language proficiency among Spanish-speaking low-SES children are consistent with the research literature (Espinosa 2009; Hammer, Miccio, and Wagstaff 2003; Lindsey, Manis, and Bailey 2003; Paez, Tabors, and Lopez 2007; Roberts, Mohammed, and Vaughn, 2010). However, studies have demonstrated that Spanish speakers tend to have very low-SES in general, and that SES is likely a very significant factor in explaining the lower achievement and language proficiency of Spanish-speaking children (e.g. Lindholm-Leary and Borsato, 2006; Lindholm-Leary and Genesee 2010; Roberts, Mohammed, and Vaughn 2010). Furthermore, even for these primarily low-SES children, parent education had a significant impact on entering preschool children's English, but not Spanish, oral language proficiency. Further research is clearly needed to examine the effects of parent education and literacy on immigrant and language minority children's language and literacy development.

Another factor that can impact on children's outcomes was also examined, and that is language of instruction. The results reported here showed that it is not a simple case of whether children experience greater gains through a bilingual or English programme; in fact, it is far more complicated. Preschool children instructed through English entered school with significantly higher levels of Spanish proficiency than preschool children instructed through both languages, and they continued to score higher in kindergarten and first grade. On the basis of this finding, one might conclude that Spanish-speaking children ought to be provided early education in English. However, language of instruction did not remain consistent over kindergarten and first grade for the sample of children who received preschool English instruction. While most children received bilingual instruction at all grade levels, very few children received English-only instruction at all grade levels (only six in fact), and some children received combinations of language (some bilingual in preschool followed by English in kindergarten and first grade, and vice versa). When we then look at the language of instruction for those in bilingual and combination programmes, we see that children in bilingual programmes start out lower than children in English, but they go on to make greater gains in Spanish, while the children who receive English in grades K-1 show deteriorating Spanish scores

even though they had been instructed bilingually in preschool. By entry to second grade, half of these children were Limited in Spanish and a third were categorised as No Proficiency. Thus, continued bilingual instruction seems to result in enhanced Spanish language development while English instruction appears to result in Spanish language attrition, which would suggest a benefit for bilingual over English instruction at the early grades with respect to primary language development.

Furthermore, English language development was not negatively impacted by bilingual instruction; that is, children who were instructed bilingually across all grade levels did not differ significantly in their English language development as measured by the CELDT from children who received English during preschool or children who received English during kindergarten and first grade. Further, students who spent all three years in bilingual instruction made more growth across the grades than their peers who were instructed in English during preschool. These results suggest that there is no significant disadvantage to being instructed bilingually and no significant advantage to being instructed through English.

Considered collectively then, children who were instructed bilingually were as likely to demonstrate progress in English language and literacy development and less likely to demonstrate primary language attrition compared to their peers instructed in English (i.e. combinations of bilingual and English in preschool or kindergarten/first grade). Unfortunately, the number of children instructed through English who had scores for all years was small, which limits our generalizability and conclusions about children who receive all English language instruction. However, these findings are important in what they suggest about children who receive combinations of language instruction.

Finally, in examining the impact of Spanish language proficiency on English language development, results showed that, for children in bilingual instruction in kindergarten and first grade, those who were Mostly Proficient in Spanish scored significantly higher in English than children who were Mostly Limited in Spanish. These results provide evidence that there may be transfer of academic language and literacy skills across languages, and thus, that providing instruction in Spanish may help language minority children develop both Spanish and English language and literacy skills. This research joins a growing literature base in early childhood education showing that primary language instruction/bilingual approaches can provide an important foundation for the development of language and literacy skills in the majority language, while also developing the minority language (Barnett et al. 2007; Espinosa 2007, 2009; Genesee et al. 2006; Goldenberg 2008; Lindholm-Leary and Genesee 2010; Lindholm-Leary and Hernandez 2011; Lindholm-Leary and Howard 2008; Lopez and Greenfield 2004; Winsler et al. 1999).

In conclusion, these results provide further evidence that any policies for universal preschool with young language minority children from low-SES homes should seriously consider how to promote primary language and literacy development. There are three reasons for this recommendation. First, there are no disadvantages for children instructed in bilingual settings over children in English settings with respect to English language and preliterate skills. Second, there are disadvantages for the children in English settings in second grade, as their Spanish language and preliterate skills deteriorate relative to children in bilingual programmes. Third, because of the findings that primary language proficiency is related to English language proficiency, then bilingual instruction would be considered an additional advantage.

## Acknowledgement

The Sobrato Family Foundation provided funding for the language-intensive SEAL pilot and evaluation research. Considerable appreciation is extended to the reviewers of this manuscript for their excellent suggestions for revision.

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