Preschool Bilingual Learners’ Receptive Vocabulary Development

in School Readiness Programs

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Abstract

This article reports on a two-year study of the receptive language development of forty-five native Spanish speaking preschool children who were placed by parent request in three different program models—English with Spanish support, Transitional Bilingual (TBE) and Dual Language—with varying exposure to English and Spanish instruction. Outcomes on measures of receptive vocabulary skills in both English and Spanish were examined. Professional development for teachers and paraprofessionals is also described. Results indicate that all programs show significant learning effects, providing further support for the value of quality preschool instruction for bilingual learners and validate the practice of providing program choice to families. All programs showed significant gains in English and none suffered significant losses in Spanish. However, analysis at the individual student level reveals a bi-modal distribution of gains in each program. The results suggest the need for further inquiry into: 1) the optimal level of native language support children need based on a language profile taking first and second language competence into consideration; 2) on-going use of data for instructional design; and 3) the value of differentiated, high quality professional development based on scientifically-based reading research.

Keywords: bilingual preschool, professional development, native language, assessment.
Introduction

This research was supported by a federally funded Early Reading First grant: Community Partners in Early Literacy (CPEL) project. Early Reading First (ERF) is a competitive grant initiative sponsored by the Department of Education under the No Child Left Behind (NCLB) Act. ERF focuses on preschoolers’ readiness to enter kindergarten with the language, cognitive, and early reading skills that are prerequisites to academic success (Garcia & Wiese, 2009). The ERF initiative supports scientifically-based reading research (SBRR) in preschool practice and does not privilege a particular program model, curriculum, or staff development scheme. The CPEL grant was a partnership between a small state liberal arts university and a local education agency in New England.

This study, part of the larger grant project, examines outcomes of forty-five Spanish speaking English Language Learners (ELLs) over a two year period. The students were distributed across three different program models in the partner preschool center at a hosting school district. After describing the characteristics of the three program models and outlining the professional development that all staff received, we present matched scores on pre/post Peabody Picture Vocabulary Test IV (PPVT) and Test de Vocabulario en Imagenes Peabody (TVIP) to represent gains in receptive vocabulary in both English and Spanish. ELL outcomes at the preschool level are of particular interest to the participating district due to a long standing, high academic achievement gap between ELLs and non-ELL students.

The partner district sought assistance from the authors to institute an early literacy program based on SBRR. Preschool programs designed to prepare ELLs for entry into kindergarten seek to maximize language and literacy development while supporting the social, cultural, and emotional development of the young child. The purpose of this study was to
provide quantitative data on the three programs so that district officials and the community might make informed decisions about the programs and about how to advise parents on placement. Due to differing long-term program goals, short-term outcomes vary and often cause confusion. Although they are not specifically under the auspices of NCLB, preschool programs are keenly aware of the challenge of meeting adequate yearly progress (AYP), as well as the pressure to send students to kindergarten ready to access the grade-level core curriculum. According to Wright (2010), Title III (Language Instruction for Limited English Proficient and Immigrant Students) and Title I (Improving the Achievement of the Economically Disadvantaged) are the major federal programs that impact ELLs upon entering the public schools. Accordingly, ELLs entering kindergarten must be placed in a “language instruction program” that teaches both English and academic content. Instruction in the native language is optional. Wright points out that federal policy under NCLB no longer recognizes the personal and societal benefits of bilingualism and bilingual education, specifically instruction in two languages. Program design, professional development, and student placement are left for the local schools to determine.

In an attempt to best serve the needs of young children, families, and communities, many preschools continue to offer a range of native language (L1) program models and supports. They recognize the value and benefits of L1 development for English language acquisition (L2), as supported by evidence-based research of the last five decades (Justice & Vukelich, 2008). Additionally, there is awareness of research findings which demonstrate that “balanced bilinguals” evidence a number of cognitive, metacognitive, metalinguistic, and sociolinguistic advantages when compared to monolinguals. Also, significant loss of proficiency in L1 may disrupt parent-child communication and family relationships. This interference may set a child on a high-risk developmental course (Winsler, Diaz, Espinosa, & Rodriguez, 1999).
Standardized assessments have a legitimate role in preschool programs; however, the use of these assessments is often limited and restricted to research and special education purposes. Standardized assessments yield data of importance for program evaluation (cf. Bryan, Ergul & Burnstein, 2008; Peña & Halle, 2011). Review of students’ matched scores over a two year period provides an invaluable opportunity for examination and reflection on instructional planning and practice. In particular, analyses of these data may offer insight into specific aspects of language development at both group and individual levels.

Professional development is an important component of teacher support that impacts student achievement at all levels. The authors ascribe to what Justice & Vukelich (2008) described as a new vision for high quality professional development, characterized by activities that are intensive, sustained, and classroom-focused. The CPEL project developed and delivered differentiated professional development predicated upon the big ideas of early literacy (oral language, phonological awareness, print awareness, and alphabetic knowledge) to all staff members across program models. “With dramatic and amazing demographic shifts occurring all over the United States, there have been greater demands placed on new and experienced teachers to expand their understanding and skills to meet the needs of English language learners” (Garcia, 2003, p. 205). Thus, a large part of our work involved the provision of relevant, effective, data-driven, classroom-embedded professional development.

Theoretical Framework

Many ELLs struggle in school and do not have successful educational experiences (August & Shanahan, 2006). Under NCLB, ELLs are a subgroup that is specifically monitored for AYP. Typically this subgroup underperforms when compared to non-ELL general education students in reading and mathematics, leading to an academic achievement gap. According to
Restrepo and Dubasik (2008) “ELLs entering kindergarten are often behind their language majority peers in the skills necessary for reading” (p. 243). Thus the gap is already present when children enter the school system. Notably, the gap is also viewed and assessed from a monolingual perspective: i.e., how does the child perform on English assessments? For young ELLs, however, consideration of their L1 development as a measure of language development is a valid consideration. Using native language in educational settings has been demonstrated to yield positive influence on English skill development and school readiness, in addition to supporting success in the academic core (National Research Council, 1998; Winsler et al., 1999).

In Pre-K and Latinos: The Foundation for America’s Future, Garcia and Gonzalez (2006) note that “research is required to determine which types of programs are most effective for which types of children” and further state that “experts need to move beyond mere program labels and toward identification of a set of program features that work best for children in a given community” (p.12).

Careful attention should also be paid to the development of early language and literacy skills through assessment and reflection on the nature of each child’s bilingual development and family’s goals. Research from the Center for Applied Linguistics’ Early Childhood Study of Language and Literacy Development of Spanish-Speaking Children (e.g., Lopez, 2005; Miccio, Tabors, Paez, Hammer & Wagstaff, 2005; Paez, Tabors & Lopez, 2007) report a paucity of research on bilingual preschoolers’ language and literacy development and recommend examining both L1 and L2 language development. Capturing language choice and language shift is a complex challenge (Faulstich Orellana, 1994; Pease-Alvarez, 2002). However, based on parent report and initial staff observation, it may be a critical component of instructional design...
not presently accounted for by the focus on program placement. This study describes one preschool center’s programs, context, and results.

High quality preschool experiences that support native language development and English acquisition for ELLs are critical components of an effective response to the challenge of the academic gap. According to Restrepo and Dubasik (2010), “The goal of an excellent preschool program for ELLs should be to support the continued development of children’s native/home language, because it facilitates a variety of positive outcomes”. (p. 245). They cite positive family interactions, knowledge transfer from first to second language, and increases in academic achievement as critical considerations. Chronic shortages of bilingual bicultural teachers, combined with inadequate teacher preparation in both areas of early literacy and the needs of ELLs, make the importance of high quality professional development ever more critical. Sustained, embedded professional development is necessary for systemic change. Professional development that addresses the individual needs of all staff is important to maximize the potential benefits of any effort to change practice.

Vocabulary development is critical to early literacy development and academic success. Preschool age children’s oral language development, both expressive and receptive, is dependent on their early language experiences. Vocabulary development, specifically, is one of the skills shown to be predictive of elementary reading achievement (Justice & Vukelich, 2010). Receptive vocabulary is an important measure of language competence. Native language vocabulary is one predictor of second language word level reading (Lesaux & Geva, 2006). There are indications that Spanish vocabulary knowledge is important for English comprehension for young elementary students (Proctor, August, Carlo, & Snow, 2006). Hence it is important to consider the L1 and L2 language development of ELLs throughout their academic careers. Standardized
assessments allow for cautious examination of language proficiency and development in both languages.

Winsler et al. (1999) acknowledged that “relatively high quality truly bilingual preschool experiences promote the development of both Spanish and English language competence” (p. 358). Additionally, Winsler et al. called for systematically exploring the bilingual educational contexts that promote or constrain balanced bilingualism, rather than pursuing questions that average across different types of programs. We were interested in both the averages across programs and the individual student learning trajectories.

In this study we compared the pre/post scores of the forty-five students on measures of receptive vocabulary. Our first goal was to identify whether there were significant differences in growth in the native language across the three instructional models. This was determined by comparing the pre/post receptive vocabulary in L1 over the two years of instruction. We also wanted to determine whether there were significant differences in growth in the second language across the three instructional models by comparing the pre/post receptive vocabulary in L2.

Methods

Context

The present study utilizes a convenience sample of ELLs from an ERF grant project conducted in a high-poverty suburban New England school district, to determine language growth using matched receptive vocabulary scores. The study was designed to investigate outcomes from various program models using the pre/post profiles of ELL students attending the three models. The preschool center serves one of the poorest, lowest performing districts in the state. Closing the academic achievement gap between ELL and non-ELL students is a priority goal.
of the district. ELL children represent a growing number of public school students and comprise over seventy percent of the elementary population in the school district discussed here.

At the time of registration, parents were asked to decide which of three instructional models they would like to have their child experience for the next two years. They were given the choice of: 1) English with Spanish support, where instruction is provided in English, with some L1 support; 2) a Transitional Bilingual Education program (TBE), where instruction is provided in Spanish, with ESL support, or, 3) a Dual Language program, where instruction is provided equally (50/50) in Spanish and English. These instructional settings will be described further in the section on fidelity.

Participants

For the purposes of this study the English Language Learners (ELLs) were three- and four-year-old children who, upon registering for preschool at the age of three, were identified by parents and staff as having Spanish as a first or primary language. The registration process included a home language survey, parent self-report, and staff observations. Participants included children who had exposure to English from birth (simultaneous bilinguals), as well as those who did not (sequential bilinguals); however, registration procedures did not formally distinguish between the two.

Measures

The untimed Peabody Picture Vocabulary Test-IV (PPVT: Dunn & Dunn, 2007) assesses the receptive vocabulary of students of all ages, without requiring reading or writing. The Test de Vocabulario en Imágenes Peabody (TVIP: Dunn, Padilla, Lugo, & Dunn, 1986) is a Spanish adaptation of the PPVT, measuring receptive vocabulary in Spanish. The two tests present the same receptive vocabulary task. Students are provided with a one word auditory prompt and the
child is asked to point to one of four pictures presented on a single page that best represent the prompt word. The scores yielded are standardized for age.

The PPVT and TVIP were administered during the first year of attendance, when each child was three years old. Administration of the tests was conducted by trained, calibrated assessors. Inter-rater reliability was greater than 97%. On both of the standardized, objective measures of receptive vocabulary (PPVT-IV and TVIP), words increase in difficulty as the test proceeds. Children were assessed again as four-year-olds in an effort to measure growth in receptive vocabulary in both languages. Only same-test comparisons were made, which allowed the authors to examine growth of individual students. Additionally, same-test comparisons also allowed for an examination of student vocabulary growth across the three instructional models.

**Fidelity of Instructional Models**

One of the strengths of this study is the range of data available to compare the classrooms across programs. Classroom Profiles were developed and maintained by an external evaluator on each classroom throughout the grant project. The classroom profiles provided data on staffing, language of instruction, assessment data on students, staff, and classroom environment.

The authors and trained observers, regularly employed checklists to document indicators of teachers incorporating literacy strategies to support students’ developing oral language (including vocabulary), phonological awareness, print awareness, and alphabetic knowledge into instructional routines and practice.

According to Baker’s Typology of Program Models for ELLS (2006), there are three levels of programs; monolingual (English), weak bilingual, and strong bilingual. Distinctions among programs depend upon the amount of native language support provided. Program models examined in this study fall into the monolingual and strong bilingual categories: 1) the English
program provides English instruction with some L1 support; 2) the transitional bilingual education program (TBE) provides Spanish instruction with ESL support, and 3) the dual language program provides 50/50 instruction (equal Spanish and English instruction). It should be noted that each program feeds into a K-5 model. The English instruction and dual language programs remain fairly constant with respect to instructional time by language from program inception. However the TBE program is taught in Spanish from the preschool level through the fall of the Kindergarten year with minimal English. Thus the TBE program results in L2 remain in accordance with Cummins’ Linguistic Interdependence Hypothesis (Cummins. 1979).

The authors and trained observers regularly observed classrooms to identify what types of instruction were taking place and to ensure that classroom practice aligned with the language instruction models. In addition to fidelity to the language model, observers monitored teacher delivery of SBRR instruction in reading. Failure to support emergent literacy with evidence-based practices could negatively impact, or confound, the students’ vocabulary growth.

The Early Language and Literacy Observation Pre-K Tool (ELLCO-PK: Smith, Brady & Anastasopoulos, 2008) was used to measure how well the teachers were incorporating new literacy techniques learned during professional development into their instruction. The ELLCO-PK is a research-based tool designed to gather data that are used to strengthen the classroom environment and practice, ultimately enhancing the literacy programs. The tool requires that the observer look for indications of 5 key elements of a literate environment; however, only two of the five indicators are considered here. Pre/post scores on the Classroom Structure and Language Environment indicators are presented for each classroom in the present study.

The Classroom Structure section of the ELLCO examines four components of the preschool classroom; Organization of the Classroom, Contents of the Classroom, Classroom
Management and Personnel. Each component is assessed along a five point continuum from “inadequate” to “exemplary” and then an overall subtotal is provide along the same continuum. Similarly, The Language Environment section of the ELLCO assesses four components; Discourse Climate, Opportunities for Extended Conversations, Efforts to Build Vocabulary and Phonological Awareness.

**English with Spanish support classrooms.** There were six English classrooms providing instruction in English. These classrooms had Spanish paraprofessional support when requested. The goal of this model is to prepare students to enter the mainstream kindergarten classroom. English is the medium of instruction and native language maintenance is not considered. Table 1 shows the results from ELLCO-PK observations taken at the beginning and ending of the study.

| Classroom Structure – English Classrooms | Pre FY ’09 | Post FY ’09 | Pre FY ’10 | Post FY ’10 |
|-----------------------------------------|------------|-------------|------------|-------------|
| 1 Exemplary                             | Exemplary  | Exemplary   | Exemplary  | Exemplary   |
| 2 Strong                                | Strong     | Strong      | Strong     | Strong      |
| 3 Basic                                 | Basic      | Strong      | Strong     | Strong      |
| 4 Inadequate                            | Basic      | Basic       | Basic      | Basic       |
| 5 Basic                                 | Basic      | Inadequate  | No         |             |
| 6 Inadequate                            | Basic      | Basic       | Basic      | Basic       |

| Language Environment – English Classrooms | Pre FY ’09 | Post FY ’09 | Pre FY ’10 | Post FY ’10 |
|-------------------------------------------|------------|-------------|------------|-------------|
| 1 Basic                                   | Exemplary  | Exemplary   | Strong     |             |
| 2 Basic                                   | Strong     | Strong      | Strong     | Strong      |
| 3 Basic                                   | Strong     | Strong      | Exemplary  |             |
Traditional Bilingual Education classrooms. There were three TBE classrooms in the project. At the preschool level this model focuses on language and literacy development in L1 with the strategic and minimal introduction of English at the preschool level. The intent is to build the L1 to encourage robust early language and literacy development and facilitate the complete transfer from L1 to L2 by third grade.

The first TBE classroom provided a 5-hour student day and was taught by a certified teacher with a Bachelor’s degree and over seventeen years of experience. A native speaker of Spanish, the teacher provided consistent L1 instruction with a minimal amount of ESL support (20 minutes per day). The paraprofessional, also a native Spanish speaker, held a high school diploma and a Paraprofessional Praxis certificate.

The second and third TBE groups provided abbreviated 3-hour student sessions with one group of students meeting in the morning, and another group meeting in the afternoon. Both sessions were taught by the same teacher. The teacher, a native Spanish speaker held a Bachelor’s degree and had over 6 years of experience. She taught in Spanish but used English liberally for support. The paraprofessional, a native Spanish speaker, held a high school diploma, and a Paraprofessional Praxis certificate. Table 2 shows the ELLCO-PK results for the 3 TBE classrooms.
Table 2. ELLCO scores for TBE instruction classrooms

**Dual Language classrooms.** Two Dual Language classrooms were taught by the same teacher in 3-hour sessions in the morning and afternoon. The teacher, a native Spanish speaker held a Master’s degree with over seven years of experience. The paraprofessional held a high school diploma and a Paraprofessional Praxis certificate and was a native English speaker. This model consists of 50% ELL Spanish speakers and 50% L1 English speakers. Instruction was in English 50% of the time and Spanish 50% of the time. The goal of this model is to develop bilingualism and biculturalism in both populations. The results from ELLCO-PK observations for the 2 Dual Language classrooms are presented in Table 3.
A review of the three tables shows that all classrooms improved over time in their use of early literacy activities. A comparison across tables shows that there was little difference between the program models in their use of best practices. In other words, it appears that there was little difference in pre-literacy instruction across the models. The only difference was in the language of instruction, and the amount of cross-language support provided to the children. Note that at the preschool level the focus of pre-literacy practices in both English and Spanish are similar: phonological awareness, oral language development, vocabulary development and print awareness.

**Professional Development**

Teachers participating in this study were certified, full-time employees of the host district. All teachers and paraprofessionals participated in intensive professional development focused on early language and literacy development designed and delivered by the authors. Additionally, teachers and paraprofessionals received literacy coaching from project personnel. Each classroom received equal financial support to improve the learning environment.

The professional development provided to all staff across instructional programs focused on research-based early language and literacy practices. The second author of this study took the lead in designing the professional development while the first author took responsibility for differentiating the content for Spanish speakers and paraprofessionals (Authors, 2011, 2012).
Teachers and paraprofessional assistants were trained on the topics described in Table 4. Formative evaluation procedures midway through the project led to an increased emphasis on the professional development of paraprofessionals who needed additional training to meet new employment requirements and who had requested additional instructional time. Briefly, the differentiation included the option of receiving instruction in Spanish for native speakers who expressed that preference and for more authentic, skills-based practice and readings on the topics of early literacy.

The uniform interventions provided through professional development helped control for pedagogical differences across programs, allowing determination that differences in language growth were likely due to differences in language of instruction by program model. Literacy coaches, teachers, and paraprofessionals were trained on the same content through a differentiated approach. Annual pre/post assessment of teacher knowledge was measured throughout the project and is presented elsewhere (Authors, 2011, 2012).

| Professional Development Topics for CPEL |  |
|------------------------------------------|------------------------------------------|
| Implementation of Curriculum             | ELLCO: Using ELLCO for Self Reflection — Multiple Sessions |
| Phonological Awareness – multiple sessions | ELLCO: Looking at Preschool Writing through the lens of ELLCO — Multiple Sessions |
| Oral Language and Supporting Challenging Conversations — Multiple Sessions | Making Data Based Decisions |
| Choosing and Using Books to Support Pre-K Literacy Skill Development — Multiple Sessions | Data Team and Coaching Coordination |
| Vocabulary Training — Multiple Sessions | Written Language: Language Experience Approach (LEA) — Multiple Session |
| Letter Recognition — Multiple Sessions | Data Team and Coaching Coordination ELLCO Video Analysis — Multiple Sessions |
| Optimizing Early Learning Environments | Written Language — Multiple Sessions |
| Phonological Awareness Review | Literacy in the Early Years — Multiple Sessions |

Table 4. Professional Development Topics for CPEL
Preschool Bilingual Learners’ Receptive Vocabulary

Results

Scores on the Peabody Picture Vocabulary Test-IV (Dunn & Dunn, 2007) and the Test de Vocabulario en Imágenes Peabody (Dunn, Padilla, Lugo & Dunn, 1986) were used to determine the answers to our research questions. There were 45 matched scores of participants who had been classified as Spanish L1 speakers, and who had participated in the instructional models for 2 years (2009-2010 – 3 years old; 2010-2011 – 4 years old).

The first question addressed was whether there were significant differences in the pre/post receptive vocabulary in L1 (TVIP) after two years of instruction in each program model. The results presented in Table 5 show that participants in all three programs showed no significant change in receptive vocabulary proficiency in Spanish over the 2-year period.

| Program Model | Pre-Test Mean/ SD | Post-Test Mean/SD | Effect Correlation | t-test (df) | Sig |
|---------------|-------------------|-------------------|--------------------|-------------|-----|
| English       | 84.64 (12.49)     | 88.00 (19.14)     | r=.790             | -1.04 df,13 | NS  |
| TBE           | 96.88 (13.92)     | 101.27 (13.92)    | r=.395             | -1.21 df,17 | NS  |
| Dual          | 88.30 (17.30)     | 88.38 (18.37)     | r=.641             | -0.018 df,12| NS  |

Table 5. Pre/Post TVIP scores

We also wanted to determine whether there were significant differences in the pre/post receptive vocabulary in L2 (PPVT) after two years of instruction in each program model. Results
presented in Table 6 show that participants in all three programs made significant gains in their receptive vocabulary proficiency in English over the 2-year period.

| Program Model | Pre-Test Mean/SD | Post-Test Mean/SD | Effect Correlation | t-test (df) | Sig |
|---------------|------------------|-------------------|--------------------|-------------|-----|
| English       | 79.85 (17.00)    | 91.71 (15.96)     | r=.663             | t=-3.27     | P<.01 |
| TBE           | 72.05 (11.76)    | 79.44 (10.32)     | r=.574             | t=-3.05     | P<.05 |
| Dual          | 77.61 (19.25)    | 84.46 (19.17)     | r=.816             | t=-2.11     | P<.05 |

Table 6. Pre/post PPVT-IV scores

This comparison across programs supports the findings of previous research and describes a struggling group of learners. Consistent with results reported in Winsler, Díaz, Espinosa, and Rodriguez (1999) children made gains in English and maintained Spanish proficiency. However, an examination of individual change scores presents a more sobering view, revealing that regardless of program, roughly half of the students did not show gains in either L1 or L2 (see Table 7). The only exception is that 78% of students in the TBE classrooms made gains in English.

| Program | Test     | % gain | Mean | % no gain | Mean |
|---------|----------|--------|------|-----------|------|
| English | TVIP     | 50%    | 12.85| 50%       | -6.14|
|         | PPVT_IV  | 57%    | 20.75| 43%       | 0.00 |
| TBE     | TVIP     | 50%    | 15.44| 50%       | -6.66|
|         | PPVT_IV  | 78%    | 12.07| 22%       | -9.00|
Table 7. Individual change scores by instructional program

|      | TVIP | 46% | 13.66 | 54% | 11.57 |
|------|------|-----|-------|-----|-------|
| Dual | PPVT_IV | 54% | 16.00 | 46% | -3.83 |

Discussion

In communities and school systems serving high concentrations of ELLs multiple program models may exist to offer parent choice and meet the diverse needs of second language learners. Families have different contexts with respect to L1 language usage and to English acquisition, as well as different long term goals related to bilingualism. School systems must determine what types of program options to offer, and parents of language minority children must decide what language of instruction they want for their child. A persistent problem of practice that preschool staff often struggle with is “best-fit” for young bilinguals. They often make decisions about what program model to recommend and which language to use for assessment and support without the benefit of research-based data or guidelines.

The district and university professionals involved in the current project sought to improve the language and literacy learning of all of the children served. Early on, due to the large academic achievement gap in the host district, outcomes for ELLs and their families were a particular focus. The authors observed many discussions among both staff and parents during the course of the project about the relative efficacy of the different programs, as well as feedback through anecdotal reports and unstructured observations. As the project progressed, and more data became available, preschool staff was required by the district to participate in Data Team activities. Staff and programs began to use the data for instructional purposes.
This study looked at three program models offered in one preschool center participating in an Early Reading First implementation project. It examined the impact of program model and language of instruction on results of a picture identification task in L1 & L2 as a measure of receptive language after two years of pre-school instruction. The project provided similar supports for all classrooms and ELLCO-PK results overtime indicated a narrowing of disparities in literacy activities across classrooms.

To help put our findings in context, we would also like to emphasize the following points. First, the children placed in English program classrooms were two standard deviations below the mean in both L1 and L2. Although they made significant progress in L2 over the course of the two years of instruction, this is likely not enough to close the achievement gap entering the kindergarten door.

Second, roughly half of the children in the study were in TBE classrooms. These children entered with receptive vocabulary scores at the mean in L1, while their L2 scores were 2 standard deviations below the mean. Again, these students made significant progress in L2 over the course of 2 years, but the gains were likely not enough to close the gap between them and their English speaking peers.

Finally, the ELLs placed in the Dual Language program arrived with receptive vocabulary skills in L1 that were within 1 standard deviation of the mean, while their receptive vocabulary skills in L2 were 2 standard deviations below the mean. Thus, they also made significant gains in L2 over the course of 2 years, but likely did not reach the level of their English speaking peers.

Implications/Recommendations
Given the results of this study, we see the following implications for classroom instruction.

**Commitment to data-driven decision making at the pre-school level.**

We found that closely analyzing assessment results in L1 and L2 language development yielded useful information that could guide further instruction and program development. Using both formative and standardized data on an ongoing basis may be a key to facilitating instructional design based on language acquisition, choice, and usage. It may help to identify children who are not responding to the language of instruction more quickly.

**Support native language instruction by strengthening L1 support in all models.**

Our findings also suggest that native language instruction has a place in the continuum of preschool school readiness program options. Students receiving L1 instruction made significant growth in English and maintained Spanish skills. Optimal outcomes may be ensured by expanding entering ELL profiles and using data to examine the degree of L1 and L2 competence, along with the nature of a child’s bilingualism (simultaneous vs. sequential) and a family’s goals with respect to bilingualism. This may assist parents and staff in selecting the appropriate program model for a child, and in on-going instructional and program design.

**Provide consistent, high quality, and differentiated professional development based on SBRR.**

Responding to children’s language shift may be a key to continued academic progress. If so, a focus on teacher preparation and professional development in the areas of second language acquisition and formative assessment practices may allow for greater flexibility and fluidity in placement of children in programs, leading to better outcomes. In other words, L1 instruction and support is important, and the choice of program model matters, but teacher skill sets and
timely placement in the most resonant model may prove critical for addressing the academic achievement gap.
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