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An IHE/LEA Research Partnership: Closing the Achievement Gap Through Differentiated Professional Development for Preschool Educators

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An IHE/LEA Research Partnership:

Closing the Achievement Gap Through

Differentiated Professional Development for Preschool Educators

Background

This paper describes preliminary results from an Early Reading First (ERF) project that is closing the achievement gap between English and Spanish speaking preschool students and supporting teachers through professional development and embedded literacy coaching related to early literacy development, curriculum, instruction, and assessment. An Institution of Higher Education (IHE) and a Local Education Agency (LEA) developed a research partnership that is transforming 15 preschool classrooms serving low-income families into sites of educational excellence. Classrooms from English, transitional bilingual, and dual language programs are represented in the study. After intensive classroom language and literacy interventions and professional development of teachers and support staff, improvements in both outcomes on English assessments of early literacy for both English and Spanish speaking children and on a Teacher Knowledge Test (TKT) for teachers and paraprofessionals were seen.

Purpose of the Study

Intent of Early Reading First

The ERF project has four main goals focused on preparing at-risk preschoolers, including English Language Learners (ELLs), from low SES backgrounds for school success regardless of a student's native language or the language of instruction of any given classroom:

1) Increase the time spent in high-quality, systematic literacy instruction in the 5 areas linked to literacy success: oral language, phonological awareness, print awareness, alphabetic

knowledge, and inventive spelling/early writing.

2) Improve the language and literacy environment at home and school.
3) Provide classroom-focused professional development experiences that enhance teachers' abilities to systematically and intentionally support and monitor children's language and literacy skills.
4) Increase the rate of growth (trajectory) of children's oral language, phonological awareness, alphabetic knowledge, print awareness, and inventive spelling/early writing to ensure their ongoing success (Chard, 2004).

To achieve these goals teachers and paraprofessionals were supported through professional development directly related to the goals of ERF to incorporate up to 3½ hours of daily evidence-based literacy instruction. In addition, they were provided in-classroom literacy coaching. Student progress was monitored through ongoing assessment using formal and informal assessments of early literacy. Teachers' declarative and procedural knowledge of early literacy was assessed with an annual pre/post administration of a Teacher Knowledge Test (TKT). Measured student and teacher progress data were used to inform instructional planning and project adjustments. Additionally, literacy coaches supported family literacy through home visits, family nights, and informational workshops provided both in the schools and in the community.

Theoretical Framework

Early Literacy and Second Language Learners

Providing professional development that allows for all the possible variations of second language acquisition and program models is paramount. Many teachers do not have the content and procedural knowledge necessary to support and maximize successful academic outcomes for

ELLs (Silliman, Wilkinson, & Brea-Spahn, 2004). To improve learning, teachers and other educational practitioners who encounter ELLs in school must be provided with meaningful and comprehensive continuing professional development (Shatz & Wilkinson, 2010). An emphasis on the Big Ideas of Early Literacy is critical for all students, including ELLs, to succeed academically. The National Literacy Panel on Language-Minority Children and Youth (2006), which focused on Spanish-speaking children learning to read in English, was established as a direct result of the work of the National Reading Panel (2000). In the concluding chapter, editor Catherine Snow noted that little systematic attention has been paid to school readiness, the course of emergent literacy skills, or the design of optimal preschool programs for English-language learners," (p. 641). Additionally she observed that:

> "Many of the instructional components known to be effective with monolingual English speakers – enhancing children's phonological awareness before or while teaching letter sound relationships, teaching letter-sound relationships systematically, integrating letter-sound instruction with the use of meaningful and engaging texts, providing extra help immediately to students who are falling behind – appear to be effective as well with English Language Learners," (p. 638-639).

Focus on the deep structure of early language and literacy acquisition targets the needs of both students and staff.

Assessment of ELLs is complex, requiring consideration of social language proficiency, academic language proficiency and academic achievement (Gottlieb, 2006). Lesaux, Koda, Siegel, and Shanahan (2006) describe the value of assessing ELL students in English as well as the importance of native language support and instruction in early literacy skills. Citing longitudinal research conducted on similar populations to those of this study, their research considered Spanish speaking children and assessment results collected in both English and Spanish. It is important to look at the literacy and linguistic development of ELLs through many different lenses focusing on progress in both the first and second language.

Adult Learning Theory

Adult learning theory and research models are central to professional development implementation (Showers and Joyce, 1996; Chard, 2004). Additionally, research on effective professional development (Chard, 2004, Darling-Hammond, 1999; Gersten, Chard, and Baker, 2000; Joyce and Showers, 1988; Showers, Joyce, and Bennett, 1987; Sparks, 1983), has identified four components critical to success is scaffolding successful teacher learning**:** presentation of theory and research, explicit modeling of the strategy or skill, opportunity to practice during professional development, immediate constructive feedback to teachers, and embedded coaching in the classroom. Lyons and Pinnell (2001) describe *literacy coaching* as an adult learning model that uses collaborative reflection as a learning strategy that supports the teacher learning process. Teacher-coach reflection is supportive to teacher learning when it occurs before and after classroom coaches' instructional demonstrations, as well as before and after teacher implementation of new practices (Lyons & Pinnell, 2001; Sweeney, 2003; Toll, 2005; Walpole & McKenna, 2004). Lyons & Pinnell (2001) describe a framework for literacy coaching that includes of cycle of pre-instruction conference for planning and discussion, model of observation of instruction in the classroom, and a post-instruction conference and reflection. During the conference phases, the coach supports the teacher in by using questioning strategies to scaffold the teacher's independent thinking, problem-solving, and decision making. Ultimately, the teacher evaluates the quality, appropriateness, and ineffectiveness of his/her teaching in what is known as *cognitive coaching* (Costa and Garmston, 1994). Used recursively, this model would provide for flexibility and customization of the process to meet the individual needs of the teacher-coach team.

Teacher Knowledge of Early Literacy

Recent studies on teacher knowledge suggest that not all general and special educators are fluent with the content knowledge and skills considered foundational for teaching phonemic awareness and early alphabetics (Bos, Mather, Dickson, Podhajski, & Chard, 2001; Mather, Bos, & Babur, 2001; McCutchen, Abbott, Green, Beretvas, Cox, et al. 2002; Moats & Foorman, 2003; Spear-Swerling & Brucker, 2003; Spear-Swerling & Brucker, 2004; Spear-Swerling, Brucker, & Alfano, 2005; Ruby, 2007; Cheesman, McGuire, Shankweiler, & Coyne, 2008). Research also suggests that teachers are generally "poorly calibrated" with regard to their knowledge of phonemic awareness and early phonics; they don't know what they don't know (Cunningham, Perry, Stanovich, & Stanovich, 2004). Both teachers'content and pedagogical knowledge are important (Chard, 2004).

The National Reading Panel (2000) concluded that teachers who work with beginning readers should have a deep understanding of phonemic awareness if they are to support students in developing these skills. Studies have demonstrated that a student's level of phonemic awareness is highly correlated with learning to read, particularly with mastering the alphabetic code, decoding, and encoding text (Adams, 1990; Blachman, Ball, Black, & Tangel, 1994; Tangel & Blachman, 1995). It is critically important for teachers of early reading to have sufficient phonemic awareness knowledge and skills themselves to provide appropriate instruction (Moats, 1994; Scarborough, Ehri, Olson, & Fowler, 1998). Skilled adult readers become more reliant on orthographic knowledge than on phonological/phonemic knowledge in their literacy activities (Scarborough et al.,1998); however, teachers' dormant phonemic awareness can be restored through provision of explicit instruction in professional development and additionally by providing explicit evidence-based instruction to students (Foorman and

Moats, 2004). After teaching phonemic awareness skills to students, both teachers and students experience measurable gains in phonemic skills.

Research Questions

This study addressed the following questions:

1. Does robust professional development in early literacy result in higher levels of teacher knowledge and skill as measured on assessments of teacher knowledge of early literacy?
2. Do professional development and the employment of research-based early literacy teaching practices result in increases in the early literacy achievement on the Peabody Picture Vocabulary Test (PPVT) and Phonological Assessment of Literacy Skills (PALS) and reduce the performance gap between English and Spanish speakers.

Methodology

The study was structured to increase the time teachers spend in high quality, systematic, evidence based literacy instruction. All teachers and assistants received intensive differentiated professional development and in-class literacy coaching to support application of evidence-based literacy instruction taught in professional development sessions and implementation of specific *daily strategies* to improve children's skills during three main activities: (1) Circle Time/Group Time, (2) Story Time/Sharing Reading, and (3) Learning Centers (See Table 1).

In the study, Spanish speaking children remained in English, transitional bilingual, or dual language (English/Spanish) program classrooms in compliance with district policy and parent request. Accordingly, teachers delivered instruction in English or Spanish adhering to the existing program design. While ELL children in the ERF project were assessed in both English

and Spanish, this study is limited to review of two English assessments, the Peabody Picture Vocabulary Test-4 (PPVT-4) and the Phonological Awareness Literacy Screening for Preschool Beginning Sounds subtest (PALS Pre-K).

Initially, the declarative and procedural knowledge in early literacy of all teachers, assistant teachers, and paraprofessionals was assessed by the administration of the TKT. The TKT developed for this study was based items associated with early literacy found on the foundations of reading examinations currently used by state certification systems (e.g. MA and CT), which examine the knowledge and skills related to the five *Big Ideas* linked to early literacy success: oral language, phonological awareness, print awareness, alphabetic knowledge, and inventive spelling/early writing (IRA, 2005; Snow et al., 1998) and a teacher knowledge assessment designed for another study of teacher knowledge of early literacy skills (Ruby, 2007). Spanish speaking staff members were given the option of taking the test in Spanish or English. Administration of the TKT at the beginning of September and end of May each year of the project allowed for measurement of growth over academic years and regression over summers during which no professional development was delivered.

Four groups, two teacher groups and two paraprofessional groups, were developed based upon both the baseline results of the TKT and each individual's preferred language of instruction (Spanish/English).This allowed for intentional, targeted and differentiated delivery of content focused on the critical ideas of early literacy. The professional development model described earlier, which included presentation of theory and research, explicit modeling of the strategy or skill, opportunity to practice during professional development, was used as a framework for large group professional development sessions. Professional development seminar topics covered the Big Ideas of Early Literacy (see Table 2).

Table 1

Daily Strategies That Support Children's Skills Within Each Main Activity			
Main Activities:	**Circle Time/ Group Time**	**Story Time/ Sharing Reading**	**Learning Centers/**
Oral Language	• Sing songs, recite poetry, play games to increase vocab., listening skills, and use of language • Participate in conversations and class discussions • Respond to open-ended questions	• Develop reading comprehension skills through shared readings • Practice and explore vocabulary and language use through group discussions	• Engage in conversation and use new vocabulary • Recount and interpret stories through dramatic play • Play computer word games • Listen to recordings of classroom books and recount stories
Phonological Awareness	• Practice phonological awareness through modeled lessons • Respond and interact with Phonological Awareness picture cards with teacher guidance (SECP) • Listen to and sing along with CDs	• Attend to sounds in books with repetitive and rhyming text • Practice phoneme isolation, segmentation, and blending through lessons focusing on words and letters from stories they are reading	• Explore beginning word sounds; match pictures to initial sounds through hands-on activities • Learn letter/sound relationships and the connection between how their names sound and how they appear in print • Identify and match words that rhyme
Print Awareness	• Create and read class charts related to the content being studied • Read and track print on poem charts	• Learn the conventions of books through daily modeled readings • Begin to develop a sight-word vocabulary through high-frequency word charts • Develop concepts of words, sentences, and punctuation by following along and tracking print	• Track print while listening to cassette recordings of classroom books • Begin to understand the connection between reading and writing and obtaining information • Develop book-handling skills in the reading corner
Alphabet Knowledge	• Learn letter sound relationships • Attend to letter sounds by sorting and playing games with picture cards	• Learn the letters of the alphabet in a planned sequence through explicit lessons • Practice writing letters and words through activities connected to books	• Learn the letters of the alphabet in a planned sequence through explicit lessons • Practice writing letters and words through activities connected to books
Early Writing/ Inventive Spelling	• Create language experience charts, create graphic organizers, script for students to record their oral language, and read class charts related to the content being studied	• Practice writing letters and words through activities connected to books	• Practice writing letters and words through activities connected to books and other print materials and environmental print

Table 2.

Professional Development Topics	
• Vocabulary — *Multiple Sessions*	• Making Data Based Decisions
• Implementation of Curriculum	• ELLCO: Using ELLCO for Self Reflection — *Multiple Sessions*
• Vocabulary Training — *Multiple Sessions*	• ELLCO: Looking at Preschool Writing through the lens of ELLCO — *Multiple Sessions*
• Oral Language and Supporting Challenging Conversations — *Multiple Sessions*	• Written Language: Language Experience Approach (LEA)— *Multiple Sessions*
• Phonological Awareness Review	• Data Team and Coaching Coordination
• Oral Language and Supporting Challenging Conversations — *Multiple Sessions*	• ELLCO Video Analysis — *Multiple Sessions*
• Phonological Awareness Review	• Written Language — *Multiple Sessions*
• Oral Language and Supporting Challenging Conversations — *Multiple Sessions*	• Introduction to Talkies
• Letter Recognition — *Multiple Sessions*	• Talkies: Verbal skills development and comprehension
• Optimizing Early Learning Environments	• Follow-up on Talkies
• Choosing and Using Books to Support Pre-K Literacy Skill Development — *Multiple Sessions*	• Literacy in the Early Years — *Multiple Sessions*

The co-principal investigators, a specialist in reading and assessment and a specialist in second language acquisition and teaching and learning, designed and delivered the professional development. Significantly, professional development occurred during the work day. Substitute coverage was provided, and participants were eligible for college credit or continuing education units.

Masters level literacy coaches, who provided embedded literacy coaching in classrooms for approximately 3.5 hours per week, attended the professional development sessions and provided feedback and input to the teachers during those sessions. Cognitive coaching and adult learning theory were employed during classroom coaching. Coaches and teachers engaged in a

coaching conference *before* a session of classroom modeling or observing instruction took place. This was *followed by* a reflective cognitive coaching session. The initial (Year One) focus of the coaching cycle was implementation of strategies learned in professional development sessions. In Year Two, in addition to classroom implementation of early literacy instruction and strategies, the coaching foci included facilitation of analysis of student assessment data to develop and deliver refined, data-driven differentiated instruction and intervention in alignment with the Response to Intervention (RTI) model.

Assessment of preschoolers included a range of formal and informal tools, including the PPVT-4 and the PALS. The results and analyses of these two assessments are reported in this paper. All assessments were administered by independent assessors. These assessors who administered the tests were graduate and undergraduate students at the university. Assessors received comprehensive, full day training in the assessments twice a year prior to the administration of the assessments (September and April) and worked under the supervision on the Co-PIs and the direction of the project manager. Interrater reliability exceeded 95% at each training.

Results

Teacher Knowledge Test

For all staff participating in the study and attending professional development, there were a total of 28 matched pairs who took the pre-post TKT test at the beginning and mid-point of the study. There were 13 pairs of head teachers and 15 pairs of paraprofessionals. Head teachers and paraprofessionals made statistically significant gains ($p < .01$) from pre- to post-test on their total test scores. Disaggregated results for 13 matched pairs of head teachers show they gained an

average of 3.54 points from pre- to post-test on the TKT, while the 15 matched pairs of paraprofessionals averaged a 4.87 point gain on the TKT (see Table 3).

Table 3
Pre / Post Matches Total Score

All Staff (28)

	Mean	SD	Range	t-Value	Significance
Pre Test	22.03	7.79	8 - 35	t=-7.043	p<.01
Post Test	26.28	7.42	13 - 39	df, 27	
Change Score	4.25	3.19	-1 + 11		

Head Teachers (13)

	Mean	SD	Range	t-Value	Significance
Pre Test	26.69	7.24	14 - 35	t=-3.82	p<.01
Post Test	30.23	7.32	13 - 39	df, 12	
Change Score	3.54	3.33	-1 - +11		

Paraprofessionals (15)

	Mean	SD	Range	t-Value	Significance
Pre Test	18.00	5.88	8 – 28	t=-6.19	p<.01
Post Test	22.87	5.78	13 – 35	df, 14	
Change Score	4.87	3.04	-1 - +11		

Descriptive and t-Test Results for Total Score (41 Items)

Head teachers began and finished with higher pre-test mean scores than paraprofessionals. However, results indicate that while both groups showed measurable improvement during the first half of the three year project, the knowledge gap between head teachers and paraprofessionals closed as indicated by greater gains on the part of the paraprofessionals. The goal of improving teacher knowledge is increased academic achievement for all students, measured by success in the English mainstream classroom.

Student Data

PPVT-4

For the purposes of this study, student PPVT-4 and PALS assessment data are reported. The PPVT-4 is a picture naming test wherein students select and point to a picture in response to a verbal cue. The test is administered in English. There were 188 children who participated in the assessment at pre- and post-test administrations, yielding188 matched scores. The average increase in pre/post score for all 188 children was 6.3 (Table 4). Data from the PPVT-4 assessments were disaggregated by native language. Both English speaking and Spanish speaking groups showed improvement in pre/post scores; however, Spanish speakers demonstrated a higher percentage of students, 64%, moving from a lower score category to a higher score category than English speakers, 22% (see Table 5).

Table 4
Peabody Picture Vocabulary Test -4 (PPVT-4)
Pre-Post 2009-10 L1 English and L1 Spanish Matched Pairs

# of Matched Pairs	Pre PPVT Average	Post PPVT Average	Average Change Score
188	86.2	92.5	+6.3

Table 5
Frequency Results by Group

	L1: English		L1: Spanish	
	Pre	**Post**	**Pre**	**Post**
Extremely Lo 0-69	0%	0%	**7%**	**0%**
Moderately Lo 70-84	22%	11%	50%	36%
Lo Average 85-99	22%	44%	36%	21%
Average 100	0%	0%	0%	0%
Hi Average 101-115	33%	33%	**0%**	**36%**
Moderately Hi 116-130	22%	0%	7%	0%
Extremely Hi 131 +	**0%**	**11%**	**0%**	**7%**

L1: English 22% moved up one category
L1: Spanish 64% moved up one category

PALS Beginning Sounds

The Beginning Sounds subtest of the Phonological Awareness Literacy Screening (PALS) is the second data set examined for the purposes of this study. For this task, students must match pictures based on their initial sound (phoneme). The items on this test were selected to be at an appropriate level of difficulty for preschoolers and have a strong predictive relationship with students' later reading achievement. The entire assessment is and individual oral format, whereas the kindergarten version of PALS Beginning Sounds is a group pencil and paper format.

For the current analysis, matched scores for 41 children were selected for analysis. Students included in this analysis met the following criteria: they participated in the ERF project for 2 years, had no documented disabilities, and scored below target score (5) on the Beginning Sounds assessments. Analysis excluded students scoring above the target score on Beginning

Sounds and those with documented disabilities in an effort to examine the impact of the Early Reading First on the growth in beginning sound knowledge for students who began preschool without this competency and who were in the project for two years. (The documented disabilities of students in the project include severe cognitive, neurological, and language impairments. The progress of these children is the subject of another paper.) Beginning Sound scores were disaggregated by native language (see Table 6, 7). Of the 16 L1 English students, 62.5% scored at or above the target score for Beginning Sounds at post-test. Of the 17 L1 Spanish students, 82.4% Scored at or above the target score at post-test.

Table 6

L1 English: Total 16
Pre / Post Results on PALS Beginning Sounds

	Mean	SD	Range	Significance
Pre / Fall 2009	1.13	1.45	0 – 4	t=-6.28
Post / Spr 2010	6.13	3.46	0 – 10	(df, 15)
Change Score	5.00	3.18	0 – 10	P<.01

At post:	35.5% (6)	remained below target (0-4)
	62.5% (10)	scored at / above target (5 or higher)

Table 7

L1: Spanish: Total 17
Pre / Post Results on PALS Beginning Sounds

	Mean	SD	Range	Significance
Pre / Fall 2009	0.24	0.56	0 – 4	t=-8.13
Post / Spr 2010	6.59	3.10	1 – 10	(df, 16)
Change Score	6.35	3.22	0 – 10	P<.01

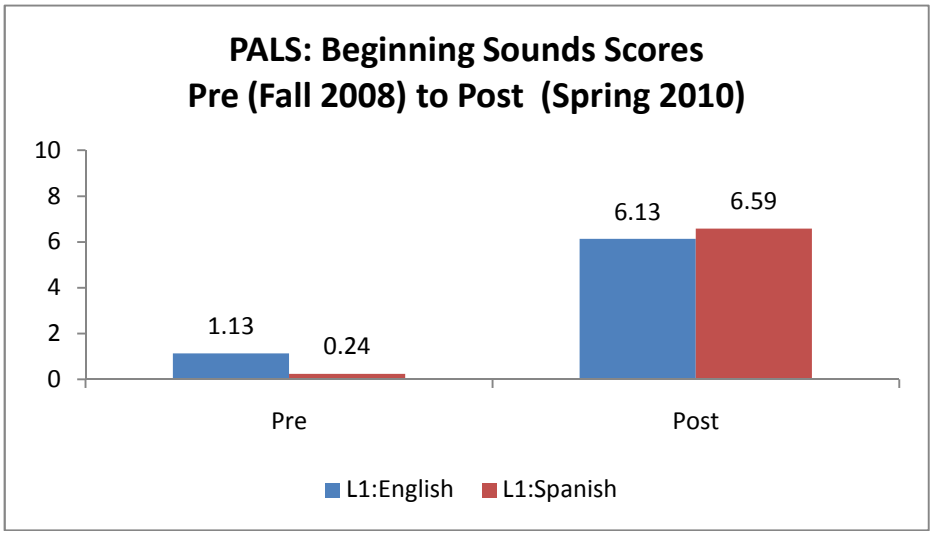
At post:	17.6% (3)	remained below target (0-4)
	82.4% (14)	scored at / above target (5 or higher)

A comparison of L1:English and L1:Spanish children's scores was conducted using an independent t-test (equal variances cannot be assumed) and results are depicted in Graph 1. The

results demonstrated that at pretest, there is a significant difference at p<.05 between the pre test means of L1:English and L1:Spanish on PALS Beginning Sound (t=2.290 df,19.16). However, at post-test no statistically significant differences between the post test means of L1: English and L1: Spanish on PALS Beginning Sound were found (t=-0.40 df,30.12).

Graph 1

Comparing L1: English and L1: Spanish



Conclusions

The authors present results from an Early Reading First funded project for preschool students' matched scores on assessments of early literacy from the 2009-2010 academic school year and for teacher results on an assessment of teacher knowledge of early literacy from the beginning of the project to the midpoint of the project. Data indicate statically significant results representing overall improvement in teacher knowledge on the TKT. Specifically, head teachers' data demonstrate an average gain of 3.54 points from pre- to post-test on the TKT, while

paraprofessionals' data reveal an average gain of 4.87 points on the TKT, significant at the $p<.01$ level. Student data on the PPVT-4, an assessment of receptive language (mean 100, s.d. 15) reveals and average increase in scores of 6.3 standard points (from 86.2 to 92.5) in an 8 month time period. Spanish speaking preschoolers (L1: Spanish) demonstrated a higher percentage of students, 64%, moving from a lower score category to a higher score category; whereas 22% of native English speakers (L1: English), moved from a lower score category to a higher score category. Examination of sores of both groups of students from pre to post-test on the PPVT-4 shows a generalized right-shift in the frequency of scores on a normalized distribution. At post-test, there were no students in the "extremely low" category (SS 0-69). At pretest there were no students in the "extremely high" category (SS 131+); whereas at post-test 11% of the L1: English and 7% of the L1: Spanish students had scored in that category. On the PALS Beginning Sounds assessment, comparison of L1:English and L1:Spanish children's scores demonstrated a significant difference at $p<.05$ between the pre test means of L1:English and L1:Spanish on PALS Beginning Sound ($t=2.290$ df,19.16). However, no statistically significant differences between the post test means of L1: English and L1: Spanish on PALS Beginning Sound were found ($t=-0.40$ df,30.12).

Outcomes on a test of teachers' knowledge of early literacy and assessments of students' early literacy achievement demonstrate statistically significant improvement. Most striking is the observed a closing of the achievement gap between English Language Learners and native English preschoolers. A discussion of these results and implications for practice follow.

Discussion

As described by the U.S. Department of Education, the ERF initiative is “based on the understanding that literacy is a learned skill, not a biological awakening.” (http://www2.ed.gov/programs/earlyreading/index.html) As such, ERF promotes “coherent, skill-based instruction” in the preschool years. Coherent skill-based instruction is not intended to compete with or invalidate the developmentally appropriate practices that guide and inform high-quality preschool programs, including those employing play-based curricula. Rather, evidence-based “academic” literacy-focused learning should be embedded in all learning opportunities, transitions, and classroom routines. Unfortunately, there is a perceived clash that pits coherent skill instruction in pre-k programs versus play-based curricula involving some educators, researchers, parents, and early childhood advocates. In a recent article on the subject, Guernsey (2010a) states:

> It doesn't have to be this way. Timothy Shanahan, a literacy researcher at the University of Illinois at Chicago who has co-authored reports on the need for explicit instruction on basic skills, recently argued on his blog that "good teaching includes both didactic lessons and opportunities to practice and play." Child-development experts who plead for more child-centered classrooms are not at all averse to putting early-literacy skills front and center *within* the games and playtime that are essential to early childhood. Educators shouldn't have to choose between teaching literacy or encouraging play, says Patricia Cooper, an assistant professor of education at New York University. To her mind, it's a "false dichotomy."

Furthermore, in a presentation made at the 2010 National Association for the Education of Young Children's annual conference, Guernsey (2010b) remarked on how “an emphasis on professional development for teachers and principals, combined with the collection and responsible use of data on children's educational experiences and outcomes, could help to better connect pre-k settings with the early grades of elementary school and improve children's chances for success as a result.”

The study described in this paper was explicitly designed to implement evidence-based early literacy practices, and specifically addressed coherent skilled-based preschool literacy instruction described by U.S. Department of Education in programs serving L1:English and L1:Spanish preschoolers. In doing so, the principal investigators integrated research-based teacher professional development with the collection and responsible use of data from both teachers and students to improve student outcomes.

In professional development presentations and activities, although the surface characteristics and features of English and Spanish were discussed, the principal investigators focused the instruction on the deep structure of early language and literacy acquisition. The study provided the same information and opportunity through professional development to all staff. This approach ensured that teachers and paraprofessionals shared a common language. In- depth knowledge of the main activities (oral language, phonological awareness, print awareness, alphabet knowledge and early writing) and the opportunity to practice and reflect on the enhancement of instruction were critical to increasing staff knowledge and efficacy and required comprehensive task analysis of the Big Ideas of Early Literacy: 1) alphabet knowledge, 2) phonological awareness, 3) rapid automatic naming of numbers and letters, 4) rapid naming of colors and sequences of picture objects, 5) writing or writing one's name, and 6) phonological memory for spoken information (NELP, 2008). While cognizant of unique needs of ELLs for native language and second language acquisition support, the principal investigators' focus remained on the underlying linguistic and early literacy proficiencies required for the successful development of early literacy. In doing so concerns about the language of instruction, home language support and societal factors were minimized. The objective was to develop teachers'

meta-skills for meeting the language development needs of all students through informed instruction.

Implications

The study indicates that it is possible to begin closing the academic achievement gap between ELLs and native English speakers as early as preschool, while allowing for parent choice in program. In this study, targeting teachers' and paraprofessionals' declarative and procedural knowledge of early literacy through professional development resulted in increased scores on a teacher knowledge test and was associated with closing the gap between the two groups of preschool students (L:1English and L1:Spanish). Direct instruction of young children can be done in developmentally appropriate ways that lead to demonstrable improvements on formal and informal progress monitoring and outcome assessments of early language and literacy. It is possible and appropriate to use assessments, including standardized tests such as the PPVT-4, with young children and to use the data to both inform instruction and focus staff development.

Limitations

This study inherently has several limitations. As an ERF grantee, the study benefitted from financial support not readily available to preschool programs ($3.9 million dollars over the three year grant period). The financial resources allowed for is the high level of support offered to classroom staff including substitutes, embedded classroom coaching, college-credit bearing professional development, and classroom materials including books, curricula, and items to enhance the literacy environment. Teachers and coaches were supported by two university faculty members serving as principal investigators, a project manager, and a project director.

These conditions would be difficult for most programs to replicate without contingent funding. An additional limitation was the absence of active administrator participation in the professional development activities. Close involvement of leadership may increase the outcomes in classrooms.

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