



EVALUATION BRIEF

BUREAU OF PROGRAM EVALUATION

Volume 6, Issue 1, October 2011

Prekindergarten Early Start (PKES) Grant Program: Overview of the Program's Teacher Professional Development and Student Performance, 2010–2011

By Danya Corkin

The Houston Independent School District (HISD) was awarded a Prekindergarten Early Start (PKES) grant from the Texas Education Agency. This grant helped to support the full-time prekindergarten program, and provided ongoing professional development and mentoring for teachers. The main purpose of the grant was to provide an exceptional, developmentally-appropriate, yet demanding curriculum to promote prekindergarten student achievement and to prepare students to enter kindergarten on or above grade level. The current report provides information regarding teachers' participation in professional development activities offered through the program and school-level performance of PKES grant-funded schools.

Background

The 2010–2011 school year was the second year that the PKES grant program was implemented. In 2010–2011, the PKES grant provided funding for 50 percent of 119 full-day prekindergarten participating teachers' salaries, instructional materials, and licenses for continuous monitoring of student progress. An additional 207 prekindergarten teachers received licenses for continuous monitoring of student progress. Out of the 326 teachers participating in the PKES grant, 102 received professional development training. Teachers who received funding by the PKES grant were expected to provide a classroom environment promoting interactive learning using learning workstations. Another expectation of the grant was for teachers to provide evidence of using materials received by the grant funds. A grant requirement for participating teachers was that they had to be EC-4 certified. EC-4 certification allows teachers to teach English, math, science, social studies, music, art, health and physical education at the elementary level in Early Childhood through 4th grade.

Data and Methods

Data Collection

Teacher professional development data were obtained through course sign-in sheets that provided evidence of their attendance and incentive pay forms documenting their level participation in eCIRCLE

professional development classes. Additional data compiled for this report included student enrollment and performance of HISD kindergarten students. Student enrollment and individual identification numbers were extracted from the Texas Education Agency's (TEA) Public Education Information Management System (PEIMS). Student performance data were collected from the following test assessments: the Stanford Achievement Test (Stanford 10), the Aprenda: La Prueba de Logros en Español (Aprenda 3), the Texas Primary Reading Inventory (TPRI), and the El Inventario de Lectura en Español de Tejas (Tejas LEE).

Instruments

Stanford Achievement Test (Stanford 10). The Stanford 10 assesses students' academic achievement in various academic subjects across 12 grade levels (kindergarten through grade 11). The normal curve equivalent scores (NCE; a normalized standard score) for the reading and mathematics subtests are reported in the current evaluation to assess student achievement. For kindergarten students, this test is administered in December every scholastic year.

La prueba de logros en español, Tercera edición (Aprenda 3). The Aprenda 3 is a norm-referenced, standardized achievement test in Spanish, and is used to assess the level of content mastery for students who receive instruction in Spanish. The Aprenda assesses students' academic achievement in the same content areas as the Stanford; however, the Aprenda is not a

translation of the Stanford. The current evaluation also used the Aprenda NCE scores from the reading and mathematics subtests to assess student achievement.

Texas Primary Reading Inventory (TPRI, 2010). The Texas Primary Reading Inventory (TPRI) is a teacher-administered assessment of reading skills for children. The primary purposes of the TPRI are to facilitate a teacher's capacity to identify children at-risk for reading difficulties, including dyslexia, and to determine the appropriate instructional objectives and interventions for these students. The TPRI is administered three times a year. Kindergarten students first take the TPRI screening test, which assesses their letter knowledge and phonemic awareness to determine whether they are developed (D) or are still developing (SD). Students who score developed on the screening section are not likely to be at risk of developing reading difficulties. For students who score still developing on the screening section, additional portions of the inventory are administered. The current evaluation gathered students' results on the Phonological Awareness Inventory 1 (*Rhyming*) and Graphophonemic Knowledge Inventory 6 (*Letter Name Identification*).

El Inventario de Lectura en Español de Tejas (Tejas LEE). The Tejas LEE measures reading skills important to the development of Spanish reading and

comprehension in kindergarten through 3rd grade. The Tejas LEE is administered three times a year. Similar to the TPRI, it can be used to determine appropriate instructional interventions. The levels of performance on the End-of-Year inventories include Desarrollado or Developed, and Nivel de Intervención or Needs Intervention. The current evaluation included the levels of performance on Inventory 1 (*Identificación de las letras/Letter Naming*) assessing graphophonemic knowledge and Inventory 3 (*Conocimiento de rimas/Rhyming*) assessing phonological awareness. These two inventories were selected because they are comparable to the two TPRI inventories previously discussed.

Center for Improving the Readiness of Children for Learning and Education (CIRCLE) Assessment. The CIRCLE assessment, created by the Children's Learning Institute, runs on the Wireless Generation mCLASS software platform, which makes assessment administration more efficient by putting it on a handheld computer used by the teacher. This research-based early literacy assessment is administered three times a year to assist early childhood educators to understand each student's degree of development in letter naming, vocabulary, and phonological awareness. The current evaluation will use the End-of-Year performance data to assess student achievement.

Table 1: 2010–2011 Demographics of HISD Kindergarteners by PKES and Non-PKES Grant-Funded Schools Student Groups

	HISD PKES Grant-Funded Schools 2009–2010 (N = 4,730)		HISD Non-PKES Grant-Funded Schools 2009-2010 (N = 6,670)	
	n	%	n	%
Gender				
Female	2,361	49.9	3,288	49.3
Male	2,369	50.1	3,382	50.7
Race/Ethnicity				
African American	977	20.7	1,569	23.5
Hispanic	3,547	75.0	4,741	71.1
White	110	2.3	149	2.2
Asian	74	1.6	154	2.3
American Indian	7	0.1	14	0.2
Pacific Islander	--	--	--	--
More than 2 Races	13	0.3	34	0.5
Limited English Proficient (LEP)	2,658	56.2	3,610	54.1
Economically disadvantaged	4,358	92.1	6,141	92.1
At-Risk	3,547	75.0	4,999	74.9
Immigrant	162	3.4	175	2.6
English as a Second Language (ESL)	147	2.2	97	2.0
Bilingual	2,371	50.1	3,151	47.2
Title I	4,693	99.2	6,573	98.5
Special Education	239	3.6	205	4.3

Notes: All data retrieved from PEIMS 2010–2011. "--"denotes less than 5 students fell under this category.

Study Sample

Students included in the first part of the evaluation attended prekindergarten at PKES grant-funded schools in 2009–2010 (see **Appendix A** for the list of schools). **Table 1** provides demographic information, according to the 2010–2011 PEIMS data of the 2009–2010 prekindergarten students. The comparison group was established to assess the impact of the program on student achievement. The comparison group is students who attended prekindergarten at schools that did not receive PKES grant funding in 2009–2010. Teachers’ professional development information for teachers who received PKES grant funding and 2010–2011 prekindergarten student performance data were included in the report.

How did students enrolled in PKES grant-funded schools in 2009–2010 perform on the 2010–2011 Stanford 10 and Aprenda 3 reading and math subtests administered in December?

Two subgroups were created to examine the effects of attending a PKES grant-funded school in 2009–2010, which was the first year that the grant program was implemented. The first group consisted of students attending a school where teachers were provided with PKES professional development and/or resources. The comparison group consisted of students who attended schools that did not receive PKES grant funds. An independent-samples t-test was conducted to test the effects of the two subgroups based on Stanford reading, Stanford math, Aprenda reading, and Aprenda math NCE scores. **Table 2** presents means, standard deviations, t-statistics, and degrees of freedom on the subtests between the two groups. The average Stanford NCE scores and Aprenda reading NCE scores of students who attended a PKES grant-funded school the previous year fall within average performance range, while their Aprenda math score is considered slightly above average. Results also indicate that students who attended a PKES grant-funded school the previous year scored statistically significantly higher on both the Stanford reading (2.8 NCEs) and math subtests (3.1 NCEs) when compared

to their peers who attended prekindergarten at HISD schools that did not receive PKES grant funding. Students who attended a PKES grant-funded school the previous year also scored higher on the Aprenda reading subtest (0.2 NCEs) when compared to their peers who attended prekindergarten at other HISD schools, but scored slightly lower on the Aprenda math subtest (0.5 NCEs). The Aprenda mean differences were not statistically significant.

How did students who were enrolled in PKES grant-funded schools in 2009–2010 perform on the 2010–2011 TPRI and Tejas LEE End-of-Year Assessment?

Table 3 displays the percent of students who scored “developed” according to two TPRI Assessment inventories. On the TPRI Rhyming inventory, the PKES grant-funded school group had a higher percentage of “developed” students (92.5 percent) when compared to their peers who were enrolled in a non-PKES grant-funded school (90.0 percent). In addition, on the Letter Name Identification inventory, the PKES grant-funded school group had a slightly higher percentage of students identified as “developed” (97.5 percent) compared to the non-PKES grant-funded school group (97.2 percent).

Table 4 displays the percent of students who scored at the “desarrollado/developed” level on Inventories 1 (*Identificación de las letras/Letter Naming*) and 3 (*Conocimiento de rimas/Rhyming*) of the Tejas LEE. On both the Letter Naming inventory and the Rhyming inventory, a higher percentage of students enrolled in PKES grant-funded schools in 2009–2010 were identified as performing at the “developed” level compared to their counterparts who were enrolled in prekindergarten at non-PKES grant-funded schools. On all four inventories assessed, it appears that a slightly greater percentage of students who attended PKES grant-funded schools are classified as “developed” on inventories measuring both phonological awareness and graphophonemic knowledge.

Table 2: Means and Standard Deviations of 2010–2011 Stanford 10 and Aprenda 3 Reading and Math Normal Curve Equivalent (NCE) Scores by 2009–2010 PKES Grant-Funded Schools and Comparison Group

	PKES Grant-Funded Schools			Non-PKES Grant-Funded Schools			t	df
	n	M	SD	n	M	SD		
<u>Stanford</u>								
Reading	2,316	55.38	19.71	3,670	52.60	19.87	5.29***	5,984
Math	2,320	52.51	20.93	3,687	49.42	21.17	5.52***	6,005
<u>Aprenda</u>								
Reading	2,295	65.21	21.40	2,813	64.98	21.92	0.37	5,106
Math	2,293	71.72	20.78	2,815	72.18	20.81	-0.79	5,106

Note. ***p < .001; **p < .01; *p < .05.

Table 3: Percent of Students Identified as Developed on the End-of-Year Inventories of the TPRI 2010 by 2009–2010 PKES Grant-Funded Schools and Comparison Group, 2010–2011

	PKES Grant-Funded Schools		Non-PKES Grant-Funded Schools	
	n	%D	n	%D
PA-1-Rhyming	1,762	92.5	2,702	90.0
GK-1-Letter Name ID	1,877	97.5	2,961	97.2

Note. D = “Developed”

Table 4: Percent of Students Identified as Developed on the End-of-Year Inventories of the Tejas LEE 2010 by 2009–2010 PKES Grant-Funded Schools and Comparison Group, 2010–2011

	PKES Grant-Funded Schools		Non-PKES Grant-Funded Schools	
	n	%D	n	%D
INV1-Letter Naming	2,106	96.0	2,524	95.6
INV3-Rhyming	2,106	86.5	2,524	85.1

Note. D = “Developed”

What were teacher participation rates in eCIRCLE Professional Development Courses?

A major requirement component of the PKES grant is for teachers to attend professional development courses covering early-childhood, research-based best practices. For the 2010–2011 academic year, twenty weeks of eCIRCLE classes were offered to teachers. **Table 5** provides the course name of the trainings attended by prekindergarten teachers, the number of teachers who enrolled in training, and the

number and percentage of teachers who attended each training. The data indicate that the weekly eCIRCLE professional development course attendance rates ranged from 64.7 to 82.8 percent. Moreover, there were 82 teachers who attended a minimum of 80% of available eCIRCLE professional development classes, making them eligible to receive end-of-year incentive pay. In 2009–2010, the number of teachers who received this end-of-year incentive pay was 94 out of 108 teachers.

Table 5: eCIRCLE Professional Development Classes: PKES Grant-Funded Teacher Participation, 2010–2011

Week	Class Name	Total Enrolled	Total Attended	% Attended
1	Science	101	75	74.3%
2	Science	100	79	79.0%
3	Math 1 & 2	102	77	75.5%
4	Math 3	102	73	71.6%
5	Math 4-6	102	66	64.7%
6	P-RTI, Sec. 1,2, & 3	102	72	70.6%
7	P-RTI, Sec. 4 & 5	102	82	80.4%
8	P-RTI, Sec. 6 & 7	102	69	67.6%
9	So, Now What? Developing Talkers	102	74	72.5%
10	Written Expression 1 & 2	103	76	73.8%
11	Written Expression 3 & 4	102	68	66.7%
12	Written Expression 5 & 6	99	67	67.7%
13	Special Needs	99	70	70.7%
14	Setting the Stage for Children's Talk, Sec. 1 & 2	99	70	70.7%
15	Setting the Stage for Children's Talk, Sec. 3 & 4	99	74	74.7%
16	Read Aloud, Sec. 1 & 2	99	77	77.8%
17	Read Aloud, Sec. 3 & 4	99	81	81.8%
18	Special Needs, Sec. 1	99	70	70.7%
19	Special Needs, Sec. 2	99	82	82.8%
20	PRTI/SRCS Teacher Survey	99	81	81.8%

Notes. The course names listed varied slightly for certain teachers. The data above reflect the participation of HISD and Head Start teachers.

Table 6: Percent of Prekindergarten Students Performing at Satisfactory Levels on the End-of-Year CIRCLE Assessment by PKES Grant-Funded Schools and Comparison Group, 2010–2011

	PKES Grant-Funded Schools		Non-PKES Grant-Funded Schools	
	n	%S	n	%S
Letter Interpretation	6,442	91.7	710	86.8
Vocabulary Interpretation	6,449	69.0	708	47.3
Phonemic Awareness Composite	6,374	99.4	684	99.4

Note. S = "Satisfactory"

How did prekindergarten students who were enrolled in PKES grant-funded schools in 2010–2011 perform on the 2010–2011 CIRCLE Assessment?

Table 6 displays the percent of prekindergarten students who performed at satisfactory levels on three sections (letter interpretation, vocabulary interpretation, and phonemic awareness composite) of the end-of-year CIRCLE assessment. It is important to note that a much greater number of students who attended PKES grant-funded schools in 2010–2011 were tested using a wireless assessment compared to the number of students who attended non-PKES grant-funded schools. Nevertheless, results indicate that a greater percentage of students attending PKES grant-funded schools reached satisfactory levels of performance by the end of the year on the letter interpretation and vocabulary interpretation sections of the assessment. In terms of the performance of students on the phonemic awareness composite section of the assessment, nearly every student (99.4 percent), regardless of what group of schools they attended, scored at satisfactory levels.

Discussion

The purpose of the current evaluation was to report on-going progress of the PKES grant program by providing a summary of teachers' professional development activities and students' performance data. The 2010–2011 teacher professional development data provide evidence that teachers are participating in training at high rates, and the majority of participating teachers are receiving incentive pay for their involvement in the program. Student performance data also seems to suggest that students who attended PKES grant-funded schools may be benefitting academically by the resources and professional development provided by the program. The 2011–2012 PKES grant evaluation will attempt to link the level of participation of teachers in the 2010–2011 professional development training with their individual students' 2011–2012 academic performance on the Stanford, Aprenda,

TPRI, and Tejas LEE. Analyzing these data will help explain the direct effects of professional development courses provided by the PKES grant program on students' academic performance.

References

University of Texas System/Texas Education Agency. (2010). Texas primary reading inventory. Austin, TX.

For additional information contact the HISD Department of Research and Accountability at 713-556-6700 or e-mail Research@Houstonisd.org.

APPENDIX A
SCHOOLS PARTICIPATING IN PKES GRANT, 2009–2010

CAMP #	SCHOOL NAME	GR LEVEL
108	BASTIAN	EE-5
109	BERRY	EE-5
111	BONHAM	EE-5
114	BRAEBURN	EE-5
117	BRISCOE	EE-6
119	BROOKLINE	EE-5
120	BROWNING	EE-5
125	BURRUS	EE-6
133	CORNELIUS	EE-5
134	CRAWFORD	EE-6
136	CUNNINGHAM	EE-5
139	DODSON	EE-6
143	BRIARMEADOW	PK-5
149	EMERSON	EE-5
152	FIELD	EE-5
154	FOSTER	EE-5
155	FRANKLIN	EE-6
166	HARRIS, JR	EE-5
167	HARRIS, RP	EE-5
170	HELMS	EE-5
172	HENDERSON, NQ	EE-6
173	HEROD	EE-5
179	HOUSTON GARDENS	EE-6
185	KASHMERE GARDENS	EE-6
192	LANTRIP	EE-6
195	LOCKHART	EE-5
197	LOOSCAN	EE-5
203	MADING	EE-5
204	MEMORIAL	EE-6
209	NEFF	EE-5
210	NORTHLINE	EE-5
215	PARKER	EE-5
217	PECK	EE-5
220	PLEASANTVILLE	EE-5
226	RHOADS	EE-5
227	MCNAMARA	EE-5
231	ROOSEVELT	EE-5
234	THE RUSK SCHOOL	EE-8
238	SCOTT	EE-6
239	SHEARN	EE-5
240	SHERMAN	EE-5
241	SINCLAIR	EE-5
244	SOUTHMAYD	EE-5
247	YOUNG	EE-5
248	SUTTON	EE-5
249	TRAVIS	EE-5
256	WHARTON ACADEMY	EE-8
260	WINDSOR VILLAGE	EE-5
265	PETERSEN	EE-5
268	BENBROOK	EE-5
271	FOERSTER	EE-5
279	TIJERINA	EE-6
282	GREG/LINCOLN ED CTR	EE-5
287	CAGE	EE-5
292	CARRILLO	EE-5
297	DAVILA	EE-5
352	FARIAS ECC	PK
353	SCHOOL AT ST. GEORGE PLACE	EE-6
354	MISTRAL ECC	EE-PK
355	M.L. KING ECC	PK
357	LAURENZO ECC	EE-KG
358	COOK JR., FELIX	PK-5
360	BELLFORT ECC	EE-KG
372	RODRIGUEZ	EE-5
389	KETELSEN	EE-5