MEMORANDUM January 15, 2014

TO: Board Members

FROM: Terry B. Grier, Ed.D.
Superintendent of Schools

SUBJECT: **PREKINDERGARTEN EDUCATION PROGRAM: EFFECTS OF HISD PREKINDERGARTEN ON KINDERGARTEN PERFORMANCE, 2012–2013**

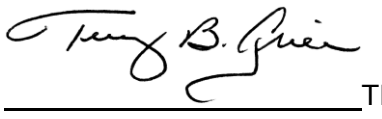
CONTACT: Carla Stevens, (713) 556-6700

Attached is the 2012–2013 evaluation report on Prekindergarten Education Programs. The purpose of this report was to examine the effects of HISD prekindergarten education programs on students' achievement as assessed by Stanford 10, Aprenda 3, TPRI and Tejas LEE.

The most notable findings of this evaluation were a) economically-disadvantaged students who attended HISD prekindergarten outperformed their economically-disadvantaged peers who did not attend HISD prekindergarten on the Stanford reading and math subtests and b) students classified as limited English proficient (LEP) and who attended HISD prekindergarten outperformed their peers classified as LEP who did not attend HISD prekindergarten on the Stanford 10 reading and math subtests.

Administrative Response: The HISD Early Childhood Department will conduct a district-wide Prekindergarten Recruitment Day to capture potentially eligible prekindergarten students for the 2014-2015 academic year. The department is collaborating with the district Reading Department to align and bridge the reading curriculum for prekindergarten and kindergarten grade levels to continue to enhance the academic gains made by students in prekindergarten. The department uses the prekindergarten assessment data in language and literacy and the kindergarten assessment data to develop teacher professional development training and curriculum resources. The HISD Early Childhood Department has requested a report on the effects to student performance gains based on students who were progress monitored between each assessment administration. The department will use the findings to make decisions on the use of progress monitoring in prekindergarten classrooms in the district.

Should you have any questions or require any further information, please contact me or Carla Stevens in the Department of Research and Accountability, at 713-556-6700.



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RESEARCH

Educational Program Report

Prekindergarten Education Program: Effects of HISD Prekindergarten on Kindergarten Performance 2012-2013

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HOUSTON INDEPENDENT SCHOOL DISTRICT

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PREKINDERGARTEN EDUCATION PROGRAM: EFFECTS OF HISD PREKINDERGARTEN ON KINDERGARTEN PERFORMANCE, 2012–2013

Executive Summary

Program Description

In compliance with the Texas Education Code § 29.153, the Houston Independent School District (HISD) has provided free prekindergarten classes for eligible Houston area four-year old students since the 1985–1986 scholastic year. The program curriculum focuses on beginning literacy, numeracy, and socio-emotional development, supporting the individual linguistic and cultural needs of the children served. The prekindergarten program curriculum forms the basis of children's future academic success. The purpose of this evaluation is to examine the extent that students' benefit from attending HISD prekindergarten. To determine the academic benefits of prekindergarten, the academic performance of students who attended HISD prekindergarten were compared to students who were not enrolled in prekindergarten the previous year after controlling for various demographic characteristics. Specific measures of student performance include:

- Stanford 10 and Aprenda 3 reading and math scores; and
- Reading comprehension levels on the TPRI Early Reading Assessment and Tejas LEE.

The current report also examined prekindergarten program enrollment trends and the proportion of kindergarten students enrolled in HISD prekindergarten from 2006–2007 to 2012–2013.

Highlights

- Consistent with previous HISD prekindergarten report findings (Corkin, 2012), economically-disadvantaged students who attended HISD prekindergarten outperformed their economically-disadvantaged peers who did not attend HISD prekindergarten on the Stanford reading and math subtests.
- Findings suggest that the academic impact of attending HISD prekindergarten on kindergarten Stanford performance is stronger for students who are economically-disadvantaged.
- It seems that attending HISD prekindergarten mitigates to some extent the negative effect of being economically-disadvantaged on kindergarten Stanford performance.
- On the Stanford reading and math subtests, students classified as limited English proficient and who attended HISD prekindergarten outperformed their peers classified as limited English proficient who did not attend HISD prekindergarten.
- On the Aprenda reading and math subtests, students who attended HISD prekindergarten outperformed their peers who did not attend HISD prekindergarten, regardless of their economic status.

Recommendations

1. There were approximately 2,980 kindergarten students who potentially met eligibility criteria for prekindergarten (based on economic status in kindergarten), but who did not attend HISD

prekindergarten programs or Head Start. The Early Childhood Department should consider expanding their recruitment strategy to capture these potentially eligible prekindergarten students.

2. Given findings suggesting that HISD prekindergarten is benefitting low-income students in kindergarten, elementary grade curricular in the district should continue to build on the prekindergarten curriculum to enhance the academic gains made by these students as they progress through elementary school.
3. Future evaluation reports should include data on prekindergarten student performance given that uniform prekindergarten assessments were implemented via Frog Street Press throughout the district in 2012–2013.
4. Future evaluation reports should expand the analysis to look at special education on early childhood students to understand the impact and benefit of prekindergarten on students with disabilities.

Administrative Response

The HISD Early Childhood Department will conduct a district-wide Prekindergarten Recruitment Day to capture potentially eligible prekindergarten students for the 2014-2015 academic year. The department is collaborating with the district Reading Department to align and bridge the reading curriculum for prekindergarten and kindergarten grade levels to continue to enhance the academic gains made by students in prekindergarten. The department uses the prekindergarten assessment data in Language and Literacy and the kindergarten assessment data to develop teacher professional development training and curriculum resources. The HISD Early Childhood Department has requested a report on the effects to student performance gains based on students who were progress monitored between each assessment administration. The department will use the findings to make decisions on the use of progress monitoring in prekindergarten classrooms in the district.

Introduction

Early childhood education researchers have found that high quality prekindergarten programs enhance students' cognitive development and increase academic achievement, particularly for students from disadvantaged backgrounds (Brooks-Gunn, 2003; Currie, 2001; Gormley, Gayer, Phillips, Dawson, 2005; Magnuson, Rhum, and Waldfogel, 2007; Shager et al., 2013). Review of findings also suggests that the beneficial effects of an early childhood intervention are typically much larger for more disadvantaged youth (see Currie, 2001; Magnuson et al., 2007). Despite the improved outcomes for economically-disadvantaged children who attend early childhood programs (i.e., Head Start), their average levels of achievement tend to be lower compared to their non-economically-disadvantaged peers (Currie & Neidell, 2007).

The extent that early childhood interventions improve the school readiness of low-income children remains an area of on-going debate (Nisbitt, 2009) due to the varying findings when it comes to the nature and size of the effects these programs have on student outcomes (see Currie, 2001). One of the reasons proposed for the variations in findings is the selection of biased comparison groups (Zhai, Brooks-Gunn, & Waldfogel, 2011). Previous studies have simply compared students who received a formal preschool education to all other students who did not receive a formal preschool education without controlling for demographic characteristics, such as economic status, that influence student performance (Gormley et al., 2005). The effects that low socioeconomic status has on students' academic outcomes are well documented (e.g., Aikens & Barbarin, 2008; Brooks-Gunn, 2003; Chatterji, 2006). Therefore, the current evaluation has taken into consideration a students' socioeconomic status when assessing the effects of HISD's prekindergarten programs on student achievement.

Methods

Data Collection and Analysis

- Data compiled for this report included student enrollment and individual identification numbers collected 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 Espanol (Aprenda 3), the Texas Primary Reading Inventory (TPRI), and El Inventario de Lectura en Español de Tejas (Tejas LEE). SPSS 18, a statistical software program, was used to conduct statistical analyses throughout the report.
    - Stanford Achievement Test (Stanford 10). The Stanford 10 assesses students' academic achievement in various academic subjects across nine grade levels (kindergarten through grade 8). Kindergarten students take the Stanford at the end of the fall semester of the academic year. Normal curve equivalent scores (NCE; a normalized standard score) are reported in the current evaluation to assess student kindergarten performance.
    - 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 (i.e., reading and math); however, the Aprenda is not a translation of the Stanford.

- 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 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 classified as developed on the screening section are not likely 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 Screening assessment, Phonological Awareness Inventory 1 (Rhyming), Graphophonemic Knowledge Inventory 6 (Letter Name Identification), and Listening Comprehension.
- 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 and is used to determine appropriate instructional interventions. The current evaluation examined students' beginning of the year performance levels on Inventory 1 (Identificación de las letras/Letter Naming) assessing graphophonemic knowledge, Inventory 3 (Conocimiento de rimas/Rhyming) assessing phonological awareness, and Listening Comprehension.

- The current analysis focused on the performance of the 2012–2013 HISD kindergarten students enrolled in any one of the HISD prekindergarten programs in 2011–2012. **Table 1** (p. 20) provides a breakdown of the demographic characteristics of the 2012–2013 HISD kindergarteners by 2011–2012 enrollment in HISD prekindergarten. Students included in the HISD prekindergarten group were enrolled across 167 schools in one of four program designs (1) Early Childhood Centers, (2) School-based Prekindergarten, (3) HISD/Head Start Collaborative, and (4) Montessori programs (See **Appendix A,** p. 17–19 for a list of schools). The non-prekindergarten cohort[1] is the comparison group. Because studies have consistently shown that economic status has an effect on student achievement (see Aikens & Barbarin, 2008), these groups were further disaggregated by economic status.[2] For the English-language exams, groups were disaggregated further by limited English proficiency status.

Data Limitations

- The current evaluation has a few limitations that should be addressed. The first limitation is that it is not known whether students who did not attend HISD prekindergarten received some other form of early childhood intervention. However, students who were enrolled in one of the local Head Starts were identified and excluded from the comparison group given that these students had received some form of early childhood intervention. The second limitation is that comparison groups were not matched by prior performance levels because students within each of these groups are not administered the same assessments in kindergarten. Controlling

[1] Students in the non-prekindergarten cohort enrolled in one of the four local Head Start agencies the previous year were not included in the analysis.

[2] Students who are eligible for free or reduced-price meals under the National School Lunch and Child Nutrition Program were classified as economically-disadvantaged.

for performance levels at the beginning of kindergarten may help explain some of the variance in performance between groups. The final limitation is that an experimental design was not implemented to evaluate the effects of prekindergarten on student performance, therefore findings concerning the magnitude of the effect of prekindergarten on kindergarten performance may be biased.

Results

What was the HISD prekindergarten program enrollment trend in the last seven years?

- **Figure 1** (p. 6) presents the prekindergarten enrollment trend of HISD students from 2006–2007 through the 2012–2013 academic years.
- The average annual increase of students enrolled in HISD prekindergarten was 1.3 percent, with the largest increase in enrollment between 2007–2008 and 2008–2009.
- From 2006–2007 to 2012–2013, the prekindergarten enrollment increased by 7.8 percent, while district enrollment increased by 0.07 percent (see *2006–2007 HISD District and School Profiles* and *2012–2013 HISD District and School Profiles*).

What was the seven-year trend in the proportion of kindergarten students who were enrolled in HISD prekindergarten the previous year?

- **Figure 2** (p. 6) depicts the percent of kindergarteners from 2006–2007 through 2012–2013 who had been enrolled in an HISD prekindergarten program the previous year.
- The proportion of kindergarteners who attended HISD prekindergarten the previous year has increased on average by 1.0 percent annually over the last seven years with a slight drop from 2011–2012 to 2012–2013.

Figure 1. The 2006–2013 enrollment trends of students who attended prekindergarten in HISD.

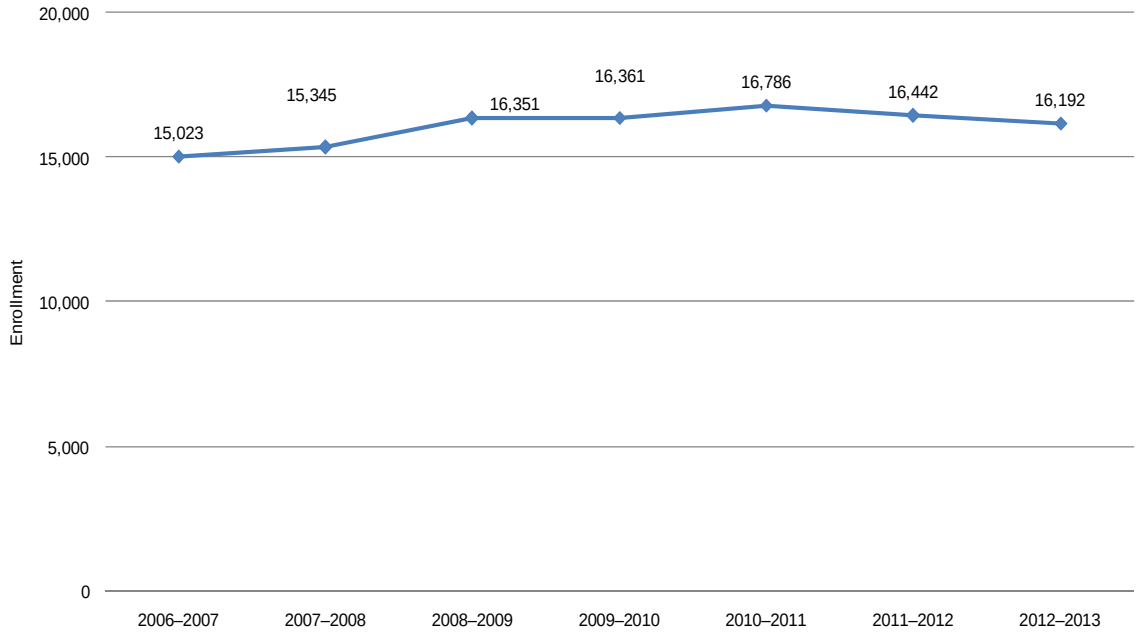
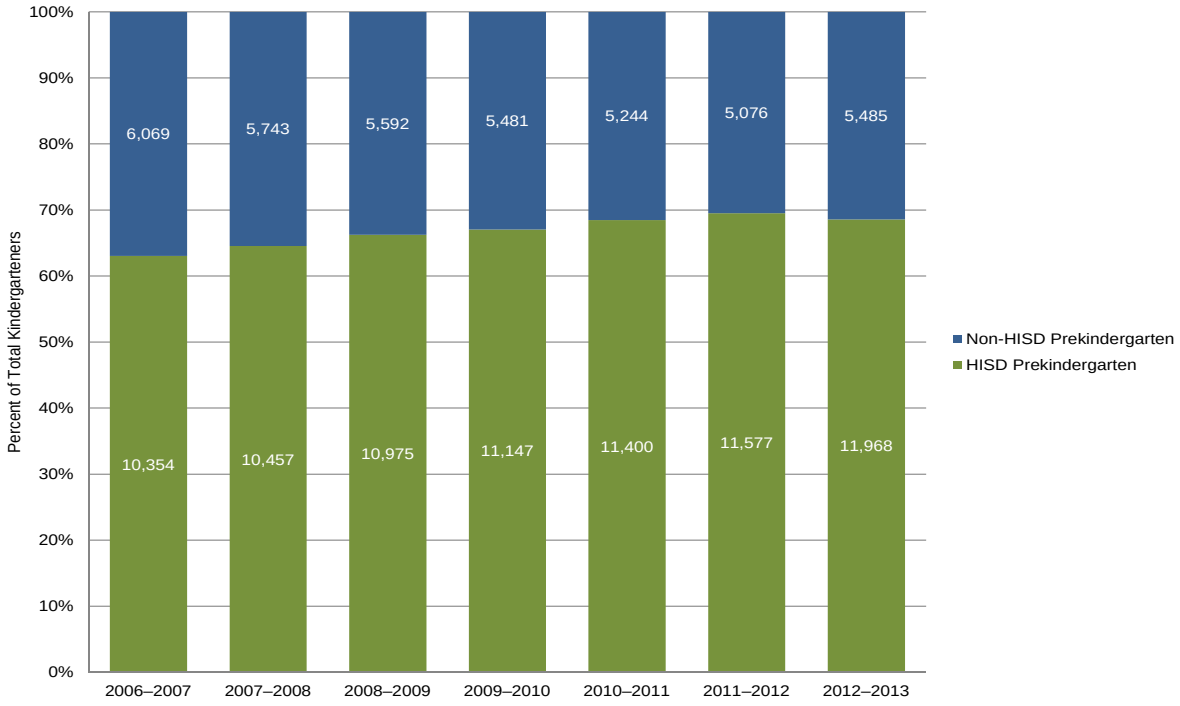


Figure 2. Seven-year trend in the percent and number of kindergarteners who attended HISD prekindergarten the previous year.[3]



[3] Data retrieved from TEA PEIMS, 2006–2007, 2007–2008, 2008-2009, 2009–2010, 2010–2011, 2011–2012, and 2012–2013. HISD prekindergarten count includes kindergarten students classified as Early Education (early childhood programs other than state-approved prekindergarten and kindergarten). HISD non-prekindergarten students may include students who had repeated kindergarten.

- In 2006–2007, approximately 63.0 percent of kindergarteners enrolled in HISD prekindergarten the previous year, and by 2012–2013, the proportion of kindergarteners who attended HISD prekindergarten was at 68.6 percent.

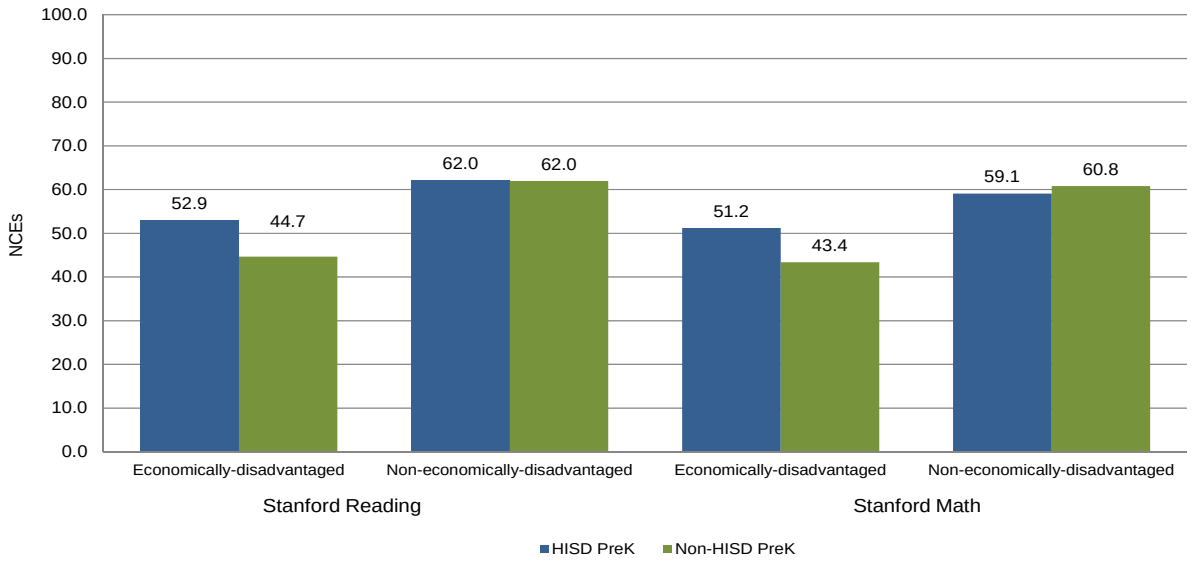
- Of the 2012–2013 kindergarteners, 77 percent who were eligible to attend prekindergarten (based on their economic status classification in kindergarten) attended prekindergarten.

What was the effect of HISD prekindergarten and economic status on students' 2012–2013 Stanford performance in kindergarten?[4]

Stanford Reading

- Stanford Reading Mean Normal Curve Equivalent (NCE) scores by HISD prekindergarten groups and by economic status are presented in **Figure 3** (See **Table 2**, p. 21, for additional descriptive statistics).
- Economically-disadvantaged students who attended HISD prekindergarten scored higher on the reading subtest compared to economically-disadvantaged students who did not attend HISD prekindergarten (8 NCEs).
- Among students who attended HISD prekindergarten, non-economically-disadvantaged students scored significantly higher than economically-disadvantaged students (9 NCEs).
- Among students who did not attend HISD prekindergarten, non-economically-disadvantaged students scored significantly higher than economically-disadvantaged students (17 NCEs).
- The effect of HISD prekindergarten on Stanford reading performance varied by students' economic status.

Figure 3. Mean Stanford scores for HISD kindergarten students who were enrolled in HISD prekindergarten the previous year and comparison group by economic status, 2012–2013.



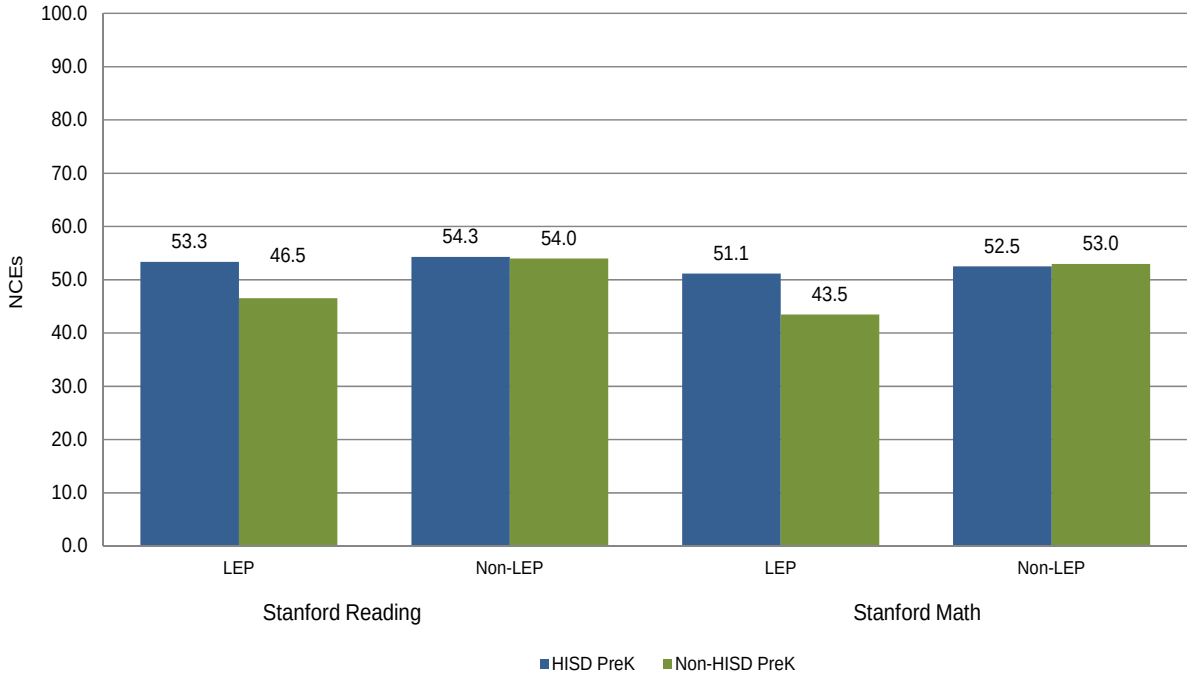
[4] Hierarchical multiple linear regressions were conducted to determine the effects of HISD prekindergarten on kindergarten performance on the Stanford after controlling for students' age, gender, economic status, limited English proficiency, and special education status. Results of these analyses may be found in **Appendix B**.

- At the same time, the extent that economic status had an influence on Stanford reading performance varied by whether the student attended HISD prekindergarten.
- The effect of economic status on Stanford reading performance appears to be stronger for the student group that did not attend HISD prekindergarten compared to the student group that did attend HISD prekindergarten.

Stanford Math

- Stanford Math mean Normal Curve Equivalent (NCE) scores by HISD prekindergarten groups and by economic status are presented in **Figure 3** (See Table 2, p. 21, for additional descriptive statistics).
- Differences in mean math NCE scores were found based on HISD prekindergarten enrollment and economic status.
- Economically-disadvantaged students who attended HISD prekindergarten the previous year scored significantly higher on the math subtest compared to economically-disadvantaged students who did not attend HISD prekindergarten in 2011–2012 (8 NCEs).
- Non-economically-disadvantaged students who did not attend HISD prekindergarten scored slightly higher on the math subtest compared to the student group who did attend HISD prekindergarten (two NCEs).
- Among students who attended HISD prekindergarten, non-economically-disadvantaged students scored higher in math compared to economically-disadvantaged students (8 NCEs).
- Among students who did not attend HISD prekindergarten, non-economically-disadvantaged students scored higher in math than economically-disadvantaged students (17 NCEs).
- The extent HISD prekindergarten had an influence on Stanford math performance varied by students' economic status.
- The extent economic status had an influence on Stanford math performance varied by whether the student attended HISD prekindergarten.
- The effect of economic status on Stanford performance appears to be stronger for the student group that did not attend HISD prekindergarten compared to the student group that did attend HISD prekindergarten.

Figure 4. Mean Stanford scores for HISD kindergarten students who were enrolled in HISD prekindergarten the previous year and comparison group by limited English proficiency (LEP) classification, 2012–2013.



What was the effect of HISD prekindergarten and limited English proficiency (LEP) status on students' 2012–2013 Stanford performance in kindergarten?

Stanford Reading

- Stanford Reading mean Normal Curve Equivalent (NCE) scores by HISD prekindergarten groups and by limited English proficiency (LEP) status are presented in **Figure 4** (See **Table 3**, p. 21, for additional descriptive statistics).
- Students classified as LEP who attended HISD prekindergarten scored higher on the reading subtest compared to students classified as LEP who did not attend HISD prekindergarten (7 NCEs).
- Among students who attended HISD prekindergarten, students classified as non-LEP scored slightly higher than students classified as LEP (1 NCE).
- Among students who did not attend HISD prekindergarten, students classified as non-LEP scored higher than students classified as LEP (8 NCEs).
- The positive effect of HISD prekindergarten on Stanford reading performance appears to be stronger among students classified as LEP compared to students classified as non-LEP.
- The effect of LEP status on Stanford reading performance appears to be stronger among students who did not attend HISD prekindergarten compared to students who did attend HISD prekindergarten.

Stanford Math

- Stanford Math mean Normal Curve Equivalent (NCE) scores by HISD prekindergarten groups and by limited English proficiency (LEP) status are presented in **Figure 4** (See **Table 3** for additional descriptive statistics).
- Students classified as LEP who attended HISD prekindergarten scored higher on the math subtest compared to students classified as LEP who did not attend HISD prekindergarten (8 NCEs).
- Among students who attended HISD prekindergarten, students classified as non-LEP scored slightly higher than students classified as LEP (1 NCE).
- Among students who did not attend HISD prekindergarten, students classified as non-LEP scored higher than students classified as LEP (10 NCEs).
- The positive effect of HISD PreK on Stanford math performance appears to be stronger among students classified as LEP compared to students classified as non-LEP.
- The effect of LEP status on Stanford math performance appears to be stronger among students who did not attend HISD prekindergarten compared to students who did attend HISD prekindergarten.
- Attending HISD prekindergarten appears to moderate the effect LEP status has on Stanford math performance.

What is the effect of 2011–2012 HISD prekindergarten on students' 2012–2013 Aprenda performance in kindergarten?

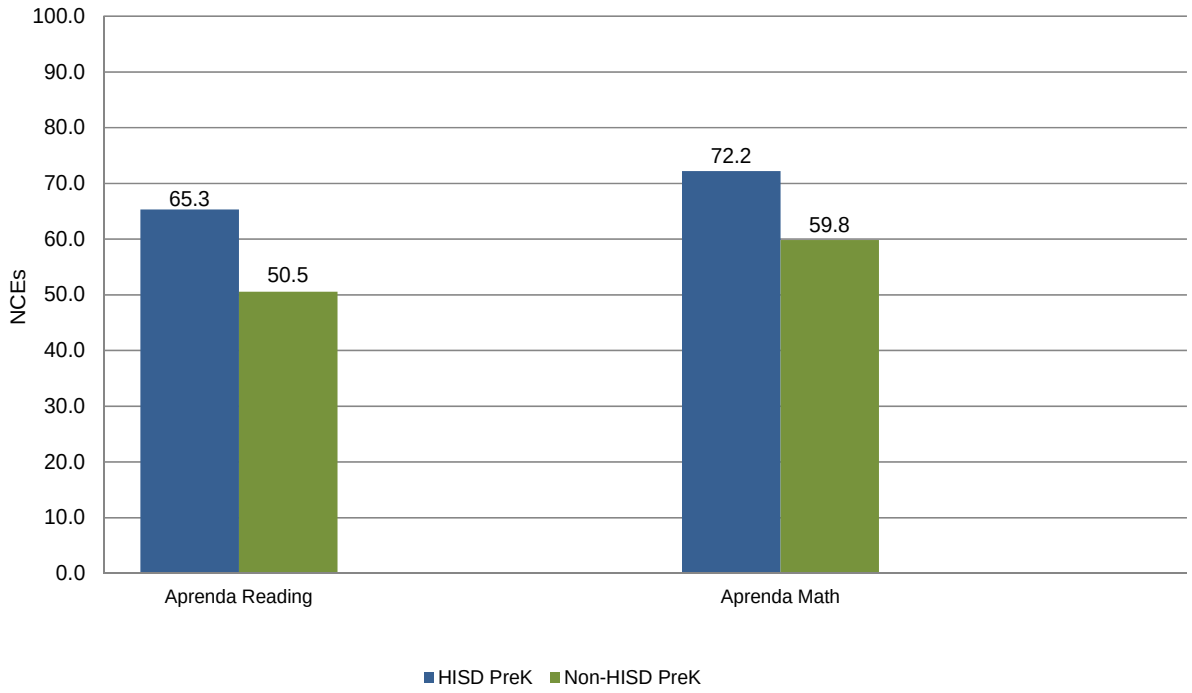
Aprenda Reading

- Aprenda Reading mean Normal Curve Equivalent (NCE) scores by HISD prekindergarten groups are displayed in **Figure 5** (p. 11) (See **Table 4**, p. 22), for additional descriptive statistics).
- Differences in mean reading NCE scores were found based on HISD prekindergarten. Economic status was not found to have a significant effect on Aprenda scores.
- Students who attended HISD prekindergarten scored higher on the reading subtest compared to students who did not attend HISD prekindergarten (15 NCEs), regardless of economic status.

Aprenda Math

- Aprenda Math Mean Normal Curve Equivalent (NCE) scores by HISD prekindergarten groups are displayed in **Figure 5** (See Table 4 for additional descriptive statistics).
- Students who attended HISD prekindergarten scored significantly higher on the math subtest compared to students who did not attend HISD prekindergarten (12 NCEs).

Figure 5. Mean Aprenda scores for HISD kindergarten students who were enrolled in HISD prekindergarten the previous year and comparison group, 2012–2013.



How did kindergarten students who attended HISD prekindergarten in 2011–2012 perform on the 2012–2013 Beginning-of-Year TPRI inventories compared to their peers who did not attend HISD prekindergarten in 2011–2012?

Inventory 1: Rhyming & Inventory 6: Letter Name Identification

- The economically-disadvantaged HISD prekindergarten student group had a greater percentage of students scoring at the "developed" level compared to the economically-disadvantaged student group who did not attend HISD prekindergarten on both the "Rhyming" and "Letter Name Identification" inventories (see **Figure 6**, p. 12, and **Table 5**, p. 22).
- The non-economically-disadvantaged HISD prekindergarten student group had a greater percentage of students scoring at the "developed" level compared to their non-economically-disadvantaged counterparts who did not attend HISD prekindergarten on the "Rhyming" and "Letter Name Identification" inventories.

Listening Comprehension

- The economically-disadvantaged HISD prekindergarten student group had a greater percentage of students scoring at the "developed" level compared to the economically-disadvantaged student group who did not attend HISD prekindergarten on the "Listening Comprehension" inventory (see **Figure 7**, p. 13, and Table 5, p. 22).
- Conversely, the non-economically-disadvantaged HISD prekindergarten group had a lower

percentage of students scoring at the "developed" level compared to their non-economically-disadvantaged counterparts who did not attend HISD prekindergarten on the "Listening Comprehension" inventory.

How did kindergarten students who attended HISD prekindergarten in 2011–2012 perform on the 2012–2013 Beginning-of-Year Tejas LEE inventories compared to their peers who did not attend HISD prekindergarten?

Tejas LEE Inventory 1: Letter Naming & Tejas LEE Inventory 3: Rhyming

- Both economically-disadvantaged and non-economically-disadvantaged HISD prekindergarten groups had a greater percentage of students scoring at the "developed" level compared to their counterparts who did not attend HISD prekindergarten on the "Letter Naming" and "Rhyming" inventories (see **Figure 8**, p. 13, and **Table 6**, p. 23).

Listening Comprehension

- Both economically-disadvantaged and non-economically-disadvantaged HISD prekindergarten groups had a greater percentage of students scoring at the "developed" level compared to their counterparts who did not attend HISD prekindergarten on the Listening Comprehension inventory (see **Figure 9**, p. 14, and Table 6, p. 23).

Figure 6. Percent of kindergarten students identified as "Developed" on the 2012–2013 Beginning-of-Year TPRI Letter Naming and Rhyming Inventories by HISD prekindergarten enrollment and economic status.

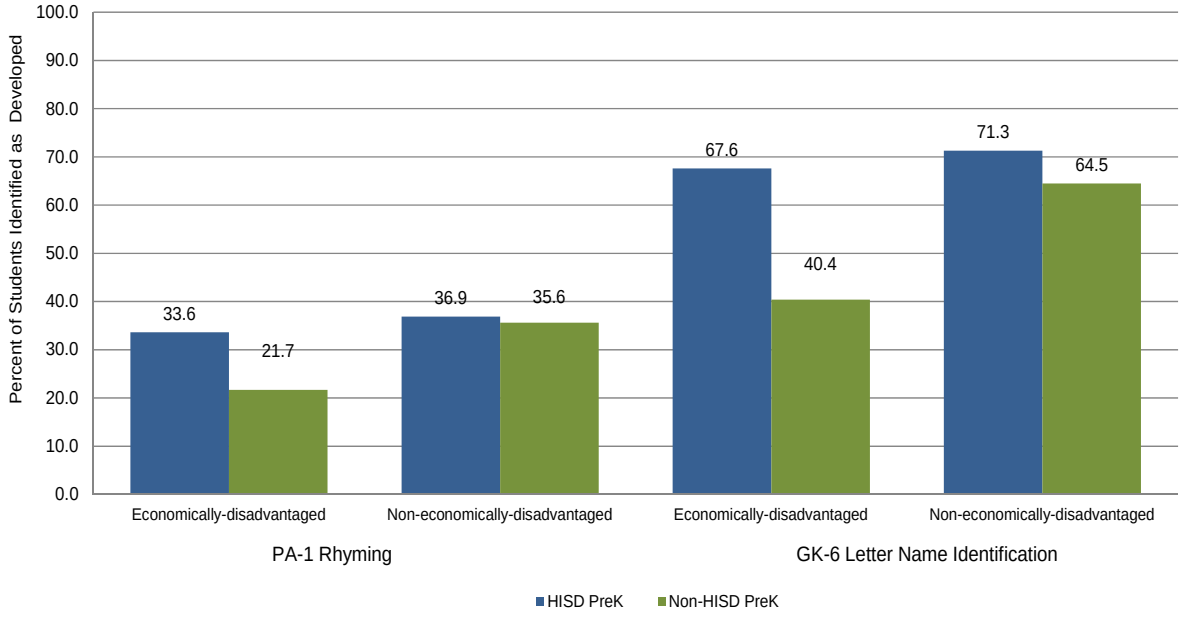


Figure 7. Percent of kindergarten students identified as "Developed" on the 2012–2013 Beginning-of-Year TPRI Listening Comprehension Inventory by HISD prekindergarten enrollment and economic status.

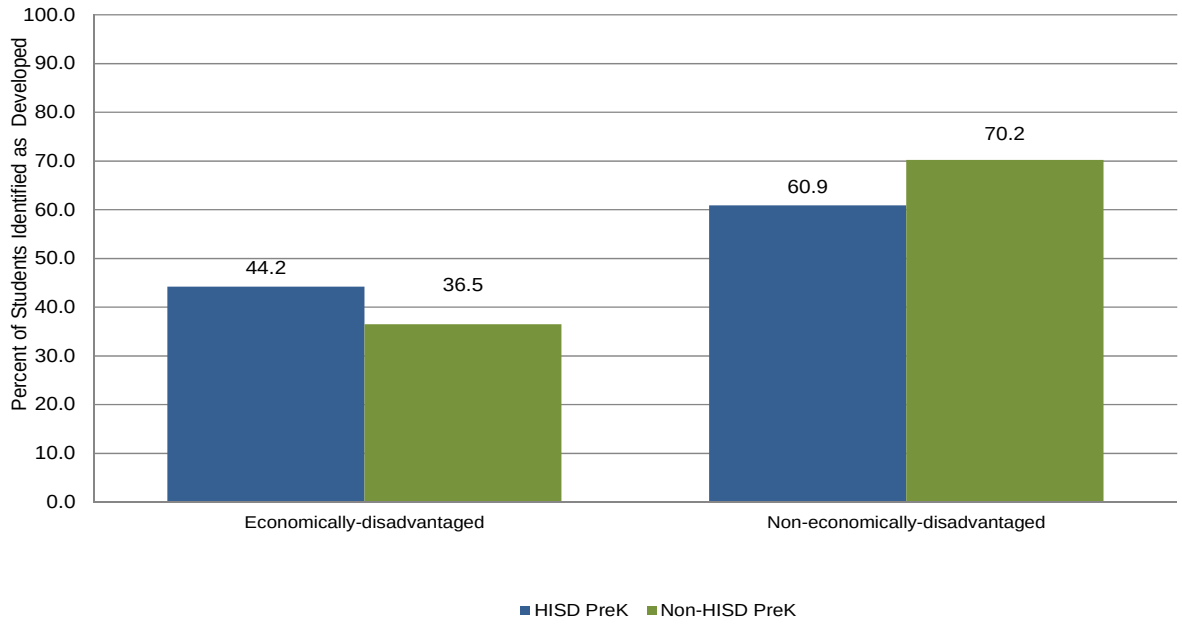


Figure 8. Percent of kindergarten students identified as "Developed" on the 2012–2013 Beginning-of-Year Tejas LEE Letter Naming and Rhyming Inventories by HISD prekindergarten enrollment and economic status.

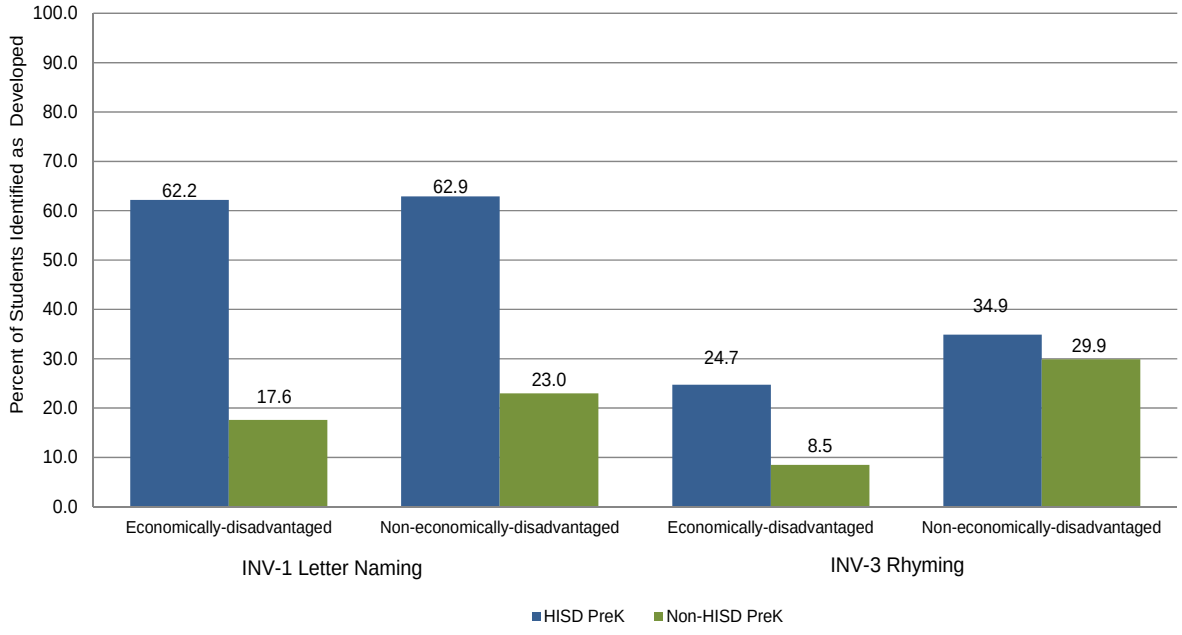
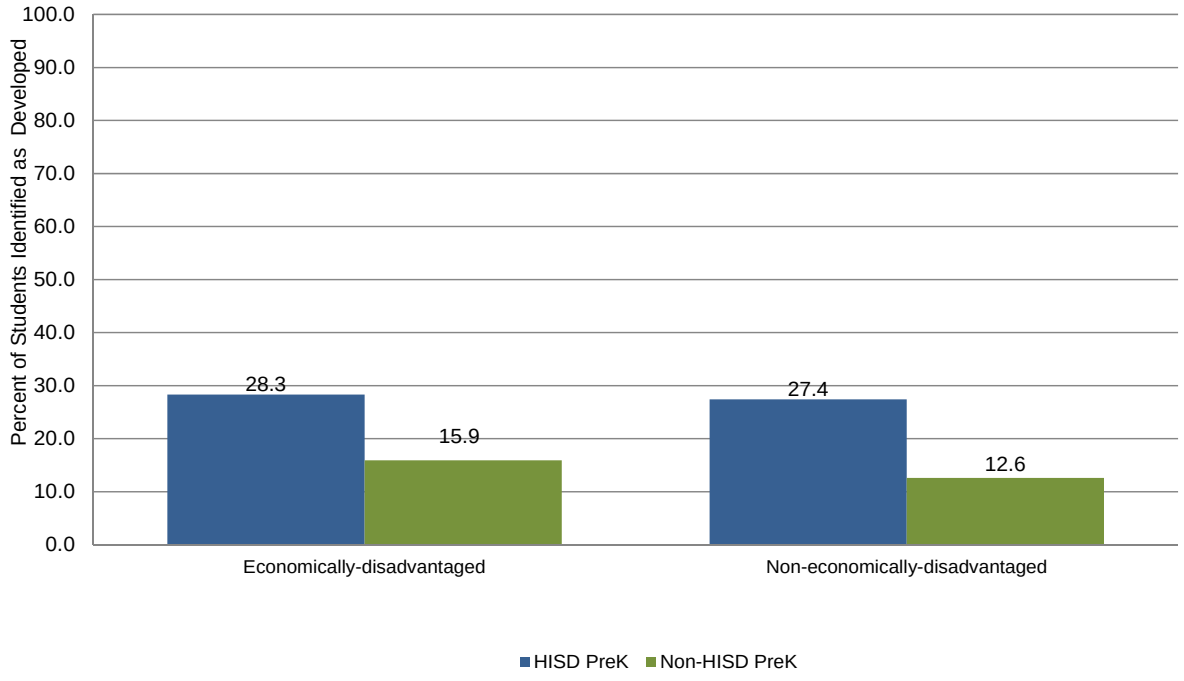


Figure 9. Percent of kindergarten students identified as "Developed" on the 2012–2013 Beginning-of-Year Tejas LEE Listening Comprehension Inventory by HISD prekindergarten enrollment and economic status.



Discussion

The overall goal of prekindergarten education is to increase the school readiness of disadvantaged students who may otherwise fall behind because of their environments and conditions. The current evaluation examined the effect of 2011–2012 HISD prekindergarten on students' performance in kindergarten during the 2012–2013 academic year. Findings from the evaluation are consistent with previous evaluations (Corkin, 2012) and suggest that the effects of HISD prekindergarten on students' kindergarten Stanford reading and math performance are stronger for students who are economically-disadvantaged. In other words, it seems that students who are economically-disadvantaged receive greater benefits from attending prekindergarten compared to their more affluent peers based on the greater gains made by economically-disadvantaged students who attended HISD prekindergarten in Stanford scores. More than likely more affluent students attended non-HISD prekindergarten programs. In addition, findings suggest that economic status has a greater effect on their Stanford performance among students who did not attend HISD prekindergarten compared to students who did attend HISD prekindergarten. This suggests that attending HISD prekindergarten moderates the negative effects of being economically-disadvantaged on kindergarten academic performance. These same trends were evaluated for students of Limited English Proficiency.

The tendency of students who attended HISD prekindergarten to perform at lower levels than their non-economically-disadvantaged peers who did not attend prekindergarten was not found in students' average performance level on the Aprenda and the Tejas LEE Spanish language tests. The data suggest that economic status was not significantly associated with HISD students' performance on Spanish language exams. In other words, students who attended HISD prekindergarten and who took the Aprenda, tended to outperform the student groups who did not attend HISD prekindergarten, regardless of economic status.

Given that the current evaluation highlighted differences in student performance associated with attending HISD prekindergarten, future evaluations should examine additional variables to understand the extent that certain aspects of prekindergarten (i.e., Frog Street progress monitoring, prekindergarten Frog Street assessment performance) affect kindergarten performance. For example, future evaluations will have the data available to determine the extent that prekindergarten performance influences the kindergarten performance of students who attended HISD prekindergarten.

References

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APPENDIX A

SCHOOLS ATTENDED BY 2012–2013 KINDERGARTEN STUDENTS IN 2011–2012

Campus Number	Campus Name	Campus Number	Campus Name
102	ALCOTT	137	DE CHAUMES
104	ALMEDA	138	DE ZAVALA
105	ANDERSON	139	DODSON
273	ASHFORD	140	DOGAN
274	ASKEW	115	DURHAM
106	ATHERTON	147	ELIOT
107	BARRICK	148	ELROD
108	BASTIAN	149	EMERSON
151	BELL	350	ENERGIZED FOR EXCELLENCE EARLY CHILDHOOD ACAD
360	BELLFORT EARLY CHILDHOOD CENTER	352	FARIAS EARLY CHILDHOOD CENTER
295	BENAVIDEZ	152	FIELD
268	BENBROOK	271	FOERSTER
109	BERRY	153	FONDREN
110	BLACKSHEAR	154	FOSTER
111	BONHAM	155	FRANKLIN
112	BONNER	156	FROST
114	BRAEBURN	291	GALLEGOS
116	BRIARGROVE	283	GARCIA
117	BRISCOE	157	GARDEN OAKS
119	BROOKLINE	158	GARDEN VILLAS
120	BROWNING	159	GOLFCREST
121	BRUCE	160	GORDON
122	BURBANK	162	GREGG
125	BURRUS	282	GREGORY-LINCOLN ED CTR (EE-5)
275	BUSH	262	GRISSOM
287	CAGE	369	GROSS
292	CARRILLO	131	HALPIN EARLY CHILDHOOD CTR
123	CODWELL	166	HARRIS, J R
130	CONDIT	167	HARRIS, R P
358	COOK	168	HARTSFIELD
132	COOP	169	HARVARD
133	CORNELIUS	170	HELMS
290	CRESPO	171	HENDERSON, J P
135	CROCKETT	172	HENDERSON, N Q
136	CUNNINGHAM	173	HEROD
396	DAILY	286	HERRERA

APPENDIX A (CONT.)

Campus Number	Campus Name	Campus Number	Campus Name
297	DAVILA	174	HIGHLAND HTS
383	DE ANDA	395	HINES-CALDWELL
175	HOBBY	215	PARKER
179	HOUSTON GARDENS	216	PATTERSON
180	ISAACS	217	PECK
181	JANOWSKI	265	PETERSEN
182	JEFFERSON	218	PILGRIM ACADEMY
378	KANDY STRIPE ACADEMY	219	PINEY POINT
185	KASHMERE GARDENS	220	PLEASANTVILLE
187	KELSO	221	POE
188	KENNEDY	222	PORT HOUSTON
389	KETELSEN	223	PUGH
355	KING EARLY CHILDHOOD CTR	224	RED
189	KOLTER	225	REYNOLDS
192	LANTRIP	229	ROBERTS
357	LAURENZO EARLY CHILDHOOD CTR	186	ROBINSON
263	LAW	372	RODRIGUEZ
195	LOCKHART	231	ROOSEVELT
196	LONGFELLOW	232	ROSS
197	LOOSCAN	233	RUCKER
198	LOVE	281	SANCHEZ
199	LOVETT	237	SCARBOROUGH
128	LYONS	353	SCHOOL AT ST GEORGE PLACE
201	MACGREGOR	269	SCROGGINS
203	MADING	373	SEGUIN
289	MARTINEZ, C	239	SHEARN
298	MARTINEZ, R	240	SHERMAN
227	MCNAMARA	241	SINCLAIR
204	MEMORIAL	242	SMITH
299	MILNE	244	SOUTHMAYD
354	MISTRAL CENTER FOR EARLY CHILDHOOD	245	STEVENS
264	MITCHELL	248	SUTTON
207	MONTGOMERY	296	T H ROGERS
359	MORENO	234	THE RUSK SCHOOL
209	NEFF	243	THOMPSON
210	NORTHLINE	279	TIJERINA

APPENDIX A (CONT.)

Campus Number	Campus Name	Campus Number	Campus Name
211	OAK FOREST	249	TRAVIS
212	OATES	328	TSU CHARTER LAB SCH
213	OSBORNE	251	TWAIN
113	PAIGE	285	VALLEY WEST
214	PARK PLACE	252	WAINWRIGHT
253	WALNUT BEND	259	WILSON MONTESSORI
254	WESLEY	260	WINDSOR VILLAGE
255	WEST UNIVERSITY	127	WOODSON SCHOOL
256	WHARTON K-8 DUAL LANGUAGE ACADEMY	247	YOUNG
257	WHIDBY	392	YOUNG LEARNERS
267	WHITE	371	YOUNG SCHOLARS ACADEMY FOR EXCELLENCE

APPENDIX B

Table 1: 2012–2013 Demographic Characteristics of HISD Kindergarteners by 2011–2012 Prekindergarten and Non-Prekindergarten Student Groups

	HISD Prekindergarten (N = 11,867)		HISD Non-Prekindergarten (N = 5,120)	
Age	**N**	%	**N**	%
Five	4,574	38.5	2,081	40.6
Six	7,293	61.5		
Seven	--	--	31	0.6
Gender				
Female	6,015	50.7	2,458	48.0
Male	5,852	49.3	2,662	52.0
Race/Ethnicity				
African American	2,512	21.2	1,195	23.3
Hispanic	8,714	73.4	2,337	45.6
White	303	2.6	1,064	20.8
Asian	259	2.2	396	7.7
American Indian	13	0.1	8	0.2
Pacific Islander	10	0.1	5	0.1
More than 2 Races	56	0.5	115	2.2
Limited English Proficient (LEP)	6,537	55.1	1,199	23.4
Economically-disadvantaged	10,859	91.5	2,980	58.2
Special Education	437	3.7	99	1.9

Note. All data retrieved from PEIMS 2012–2013. There were 17,453 total students enrolled in 2012–2013 kindergarten programs; however, 145 students were also enrolled in kindergarten in 2011–2012, 101 students were classified as "EE" in 2011–2012, and 220 students were identified as affiliated with a Head Start but were not in the 2011–2012 PEIMS file. These students were excluded from further analysis**.**

Table 2: Means and Standard Deviations of 2012–2013 Stanford 10 Reading and Math Normal Curve Equivalent (NCE) Scores by Economic Status and HISD 2011–2012 Prekindergarten Enrollment Status Groups

	Prekindergarten Enrollment Status Groups			
	HISD PreK		Non-HISD PreK	
Stanford Reading	**n**	**M**	**n**	**M**
Economically-disadvantaged	5,375	52.87 (19.16)	1,929	44.66 (18.93)
Non-economically-disadvantaged	828	62.02 (20.72)	1,976	61.98 (22.16)
Stanford Math				
Economically-disadvantaged	5,375	51.18 (20.43)	1,929	43.35 (21.30)
Non-economically-disadvantaged	828	59.06 (19.28)	1,976	60.78 (20.27)

Note. Standard deviations appear in parentheses below means.

Table 3: Means and Standard Deviations of 2012–2013 Stanford 10 Reading and Math Normal Curve Equivalent (NCE) Scores by LEP Status and HISD 2011–2012 Prekindergarten Enrollment Status Groups

	Prekindergarten Enrollment Status Groups			
	HISD PreK		Non-HISD PreK	
Stanford Reading	**n**	**M**	**n**	**M**
Limited English Proficiency (LEP)	1,169	53.34 (20.22)	320	46.52 (21.21)
Non- Limited English Proficiency (LEP)	5,034	54.27 (19.48)	3,585	54.04 (22.37)
Stanford Math				
Limited English Proficiency (LEP)	1,169	51.13 (20.88)	320	43.46 (22.53)
Non- Limited English Proficiency (LEP)	5,034	52.49 (20.35)	3,585	52.95 (22.37)

Note. Standard deviations appear in parentheses below means.

Table 4: Means and Standard Deviations of 2012–2013 Aprenda 3 Reading and Math Normal Curve Equivalent (NCE) Scores by HISD 2011–2012 Prekindergarten Enrollment Status Groups

	Prekindergarten Enrollment Status Groups			
	HISD PreK		Non-HISD PreK	
Aprenda	**n**	**M**	**n**	**M**
Reading	5,287	65.34 (22.47)	867	50.54 (21.97)
Math	5,287	72.23 (21.28)	867	59.83 (24.05)

Note. Standard deviations appear in parentheses below means.

Table 5: Percent of Students Identified as Developed on the 2012–2013 Beginning-of-Year TPRI Inventories by Economic Status and HISD Prekindergarten Enrollment Status Groups

	Prekindergarten Enrollment Status Groups			
	HISD PreK		Non-HISD PreK	
PA-1 Rhyming	**n**	**%D**	**n**	**%D**
Economically-disadvantaged	1,932	33.6	1,154	21.7
Non-economically-disadvantaged	157	36.9	461	35.6
GK-1 Letter Name Identification				
Economically-disadvantaged	1,931	67.6	1,151	40.4
Non-economically-disadvantaged	157	71.3	459	64.5
Listening Comprehension				
Economically-disadvantaged	4,731	44.2	1,784	36.5
Non-economically-disadvantaged	758	60.9	1,822	70.2

Note. D = “Developed.”

Table 6: Percent of Students Identified as Developed on the 2012–2013 Beginning-of-Year Tejas LEE Inventories by Economic Status and HISD Prekindergarten Enrollment Status Groups

	Prekindergarten Enrollment Status Groups			
	HISD PreK		Non-HISD PreK	
INV-1 Letter Naming	**n**	**%D**	**n**	**%D**
Economically-disadvantaged	5,142	62.2	828	17.6
Non-economically-disadvantaged	186	62.9	87	23.0
INV-3 Rhyming				
Economically-disadvantaged	5,142	24.7	828	8.5
Non-economically-disadvantaged	186	34.9	87	29.9
Listening Comprehension				
Economically-disadvantaged	5,142	28.3	828	15.9
Non-economically-disadvantaged	186	27.4	87	12.6

Note. D = "Developed."