MEMORANDUM January 20, 2017

TO: Lance Menster
Officer, Elementary Curriculum & Development

FROM: Carla Stevens
Assistant Superintendent, Research and Accountability

SUBJECT: **EFFECTS OF HISD PREKINDERGARTEN PROGRAMS ON THIRD-GRADE STUDENTS' ACADEMIC ACHIEVEMENT, 2015–2016**

This report compared the academic achievement of third-grade students who were enrolled in an HISD prekindergarten program during the 2011–2012 school year to their non-HISD Pre-K peers. Academic achievement was measured on the 2016 STAAR third-grade English and Spanish reading and mathematics assessments.

Key findings include:

- Students who were previously enrolled in HISD Pre-K achieved higher mean scale scores on the STAAR third-grade English mathematics assessment and Spanish reading and mathematics assessments than those of their non-HISD Pre-K peers.
- Students who were previously enrolled in HISD Pre-K were more likely to meet the minimum benchmarks on the Level II: Satisfactory progression standards on the STAAR third-grade English and Spanish reading and mathematics assessments than both their non-HISD Pre-K peers and district rates.
- Economically-disadvantaged, HISD Pre-K students were more likely to obtain both higher mean scale scores and meet the minimum benchmarks on the Level II: Satisfactory progression standards on the STAAR third-grade English and Spanish reading and mathematics assessments than their economically-disadvantaged, non-HISD Pre-K peers.

Further distribution of this report is at your discretion. Should you have any further questions, please contact me at 713-556-6700.

Carla J. Stevens CJS

Attachment

cc: Grenita Lathan
Ashlea Graves
Rachele Vincent
Janice Dingayan

HISD | Research and Accountability
ANALYZING DATA, MEASURING PERFORMANCE.

EVALUATION REPORT

BUREAU OF PROGRAM EVALUATION

January 2017

Effects of HISD prekindergarten programs on third-grade students' academic achievement, 2015–2016

By Sara Spikes, Ph.D.

The Houston Independent School District (HISD) currently offers free, full-day prekindergarten programs to all eligible students within the district's attendance boundaries. This evaluation compares the academic achievement of third-grade students who were previously enrolled in HISD prekindergarten programs during the 2011–2012 school year to their non-HISD Pre-K peers. Findings in this study suggest that a positive relationship may exist between students' enrollment in an HISD Pre-K program and their academic achievement on the 2016 STAAR English and Spanish reading and mathematics assessments. The relationship of HISD Pre-K on students' achievement varied when demographic characteristics were taken into account. Findings also show that economically-disadvantaged students who attended HISD prekindergarten programs experienced higher academic achievement than their economically-disadvantaged peers who did not attend HISD Pre-K.

Background

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 school year. Children are enrolled into either one of four HISD prekindergarten program models: (1) an early childhood center (ECC), (2) a school-based program, (3) an HISD and Head Start collaborative program, or (4) a Montessori program. Preschool-age children with disabilities are enrolled according to HISD and prekindergarten eligibility guidelines (see Houston Independent School District [HISD] Prekindergarten Homepage, 2016a). Home language surveys are also administered to either parents or guardians of a child for completion in order to place them in a linguistically-appropriate HISD prekindergarten classroom (i.e., Transitional Bilingual, English as a Second Language, English, or Dual Language). With the exception of HISD Montessori prekindergarten programs, the district uses *the Frog Street Pre-K (FSPK)* curriculum. Frog Street Pre-K focuses on the physical, social and emotional, cognitive, and language development of preschool-age children (Schiller, n.d.). The quality of implementation of this curriculum forms the foundation of children's future academic success. Presently, the HISD operates 155 campuses that provide instruction for young children (HISD, 2016a).

Literature Review

School readiness refers to children "possessing the skills, knowledge, and attitudes necessary for success in school and later learning in life" (U.S. Department of Heal and Human Services, Administration for Children and Families, Office of Head Start [OHS], 2015). While school readiness is important for all children, it particularly essential for vulnerable and disadvantaged populations including "girls, children with disabilities, ethnic minorities, and those living in rural areas" (United Nations Children's Fund [UNICEF], 2012, p. 9). However, researchers suggest that inequities in children's school readiness and academic success are more prevalent among children of color with

disadvantaged backgrounds (National Research Council [NRC], 2009).

Results included in the *Houston Independent School District State of Texas Assessments of Academic Readiness (STAAR) Performance, Grades 3-8 Spring 2016* report, indicated that the achievement gap typically widened among African American, Hispanic, and White students in reading and mathematics across grade levels (Houston Independent School District [HISD], 2016b, p. 7). These results substantiate previous evidence found by Magnuson and Waldfogel who suggest achievement disparities in mathematics were related to "differences in mathematics learning experiences before school entry, and fewer meaningful pedagogical experiences once children of color entered school" (cited in NRC, 2009, p. 100). Public preschools that serve higher percentages of economically-disadvantaged children tend "to provide fewer learning opportunities and supports for [literacy and] mathematical development than ones serving their more affluent peers" (Clements and Sarama, 2008 as cited in NRC, 2009, p. 98). The negative indicators associated with young children with disadvantaged backgrounds (e.g., at risk, poor access to resources, low income, limited parent education) can adversely alter their cognitive, socio-emotional, and physical developmental trajectories (Evans & Kim, 2013). Without high-quality comprehensive interventions, relationships among these variables may affect children with disadvantaged backgrounds throughout their lifetime, thus perpetuating the impacts of negative indicators across generations

Early childhood education researchers have found that young children who are at greater risk for school failure are more likely to succeed in school if they attend well-planned, high-quality early childhood programs (National Association of the Education of Young Children & National Association of Early Childhood Specialists in State Departments of Education [NAEYC & NAECS/SDE], 2003; National Research Council [NRC], 2001). High-quality prekindergarten programs enhance children's cognitive development and improve their academic achievement, particularly for students from disadvantaged backgrounds (Brooks-Gunn, 2003; Currie, 2000; Gormley, Gayer, Phillips, & Dawson, 2005; Magnuson, Ruhm, & Waldfogel, 2007; Shager, Schindler, Magnuson, Duncan, Yoshikawa, & Hart, 2013). Review of the literature concurs that the beneficial effects of early childhood interventions are typically much larger for more disadvantaged youth (Currie, 2000; Magnuson et al., 2007).

Findings from previous research regarding the effectiveness of early childhood programs, however, have varied considerably from negative or no effects, to substantial short- and long-term effects on young children's school readiness and achievement outcomes (Del Grosso, Akers, Esposito, & Paulsell, 2014; Houston Independent School District [HISD], 2016c; U.S. Advisory Committee on Head Start Research and Evaluation, 2012; Zhai, Brooks-Gunn, & Waldfogel, 2011). Reasons contributing to the divergence in findings regarding early childhood programs' true impact on young children's school readiness include (a) selection bias (U.S. Advisory Committee on Head Start Research and Evaluation, 2012; Gormley et al., 2005); (b) differences in research methodologies and scope (Del Grosso et al., 2014); and (c) variations in reliability and validity of psychometric measures.

Purpose

The purpose of this report was to inform HISD and education stakeholders about third-grade students' achievement levels in reading and mathematics after enrollment in an HISD prekindergarten program during the 2011–2012 school year. This report uses a non-experimental research design to answer the following research questions:

1. How well did third-grade students who were previously enrolled in HISD Pre-K perform on the 2016 STAAR reading and mathematics assessments in comparison to their non-HISD Pre-K peers? Were there any differences among economically-disadvantaged students?

2. Were third-grade students who were previously enrolled in HISD Pre-K more likely to meet the Level II: Satisfactory progression standards on the 2016 STAAR reading and mathematics assessments than their non-HISD Pre-K peers? Were there any differences among economically-disadvantaged students?

3. What effect did HISD prekindergarten programs have on third-grade students' achievement?

Non-HISD Pre-K students included in this evaluation report may or may not have received an early childhood education or intervention in private (to include home) or another public school setting(s).

Methods

Data collection

Data collection for third-grade students who were previously enrolled in an HISD prekindergarten program during the 2011–2012 school year was conducted in two phases. The first phase of data collection consisted of identifying all prekindergarten (coded 'PK') and third-grade (coded '03') students who attended HISD during the 2011–2012 and 2015–2016 school years,

respectively. This information was retrieved from the Public Education Information Management System (PEIMS) 2011–2012 and 2015–2016 HISD student databases. With the PEIMS 2015–2016 database serving as the base file, both databases were merged together, resulting in the identification of 18,496 third-grade students. The second phase of data collection involved merging students' PEIMS data to their academic data located in the STAAR 2015–2016 HISD student database, with the latter serving as the new base file. Merging the files resulted in a decrease in the third-grade student count to 18,160.

Measures

The demographic characteristics of HISD third-grade students used for this report were collected from the PEIMS 2015–2016 HISD student database. Characteristics included gender, race and ethnicity, economically-disadvantaged status, students' eligibility to receive special education services, limited English proficient (LEP) status, and at-risk status. HISD defines at-risk students as individuals who have an increased likelihood of dropping out of school. An additional LEP variable was created to incorporate the home language category (i.e. LEP Spanish, LEP non-Spanish, non-LEP non-Spanish, and non-LEP Spanish; see **Appendix A**).

The academic achievement of HISD third-grade students was measured and collected through the State of Texas Assessments of Academic Readiness assessment system (STAAR). During spring 2016, HISD third-grade students were administered the STAAR reading and mathematics assessments. A Spanish version was also made available for third-grade students, as well as accommodations for students with disabilities (SWD) as determined by the Admission, Review, and Dismissal (ARD) Committees (HISD, 2016b). **Table 1** shows the minimum scale score benchmarks students needed to achieve in order to meet the 2016 Level II: Satisfactory progression standards on the third-grade STAAR reading and mathematics assessments (Texas Education Agency [TEA], 2016a).

Table 1. Minimum benchmarks for the 2016 Level II: Satisfactory progression standards on the STAAR third-grade reading and mathematics assessments by language version, 2015–2016

Subject	2016 Level II: Satisfactory progression scales	
	English	Spanish
Reading	1345	S-1318
Mathematics	1360	1360

Source. TEA at http://tea.texas.gov/student.assessment/staar/convtables/

Statistical analyses

The International Business Machines Corporation Statistical Package for the Social Sciences (IBM SPSS) 22.0 was used to conduct descriptive statistical analyses of study variables. Summary statistics were computed to determine third graders' academic achievement in reading and mathematics. The information presented in this report was primarily described by mean scale scores. As such, caution should be exercised when interpreting relationships between study variables. In addition to mean scale scores, frequency analyses were also conducted to determine the percent of students who met the 2016 Level II: Satisfactory progression standards on the STAAR reading and mathematics assessments.

Effect sizes were also computed to measure the magnitude of the HISD prekindergarten program on students' academic achievement using Hedges' g. Hedge's g is a standard deviation-based measure used to compute the effect size for groups with different sample sizes. Hedge's g follows similar criteria to Cohen's d for determining the strength of an intervention with an effect size of 0.2 = small effect, 0.5= moderate effect, and 0.8=large effect. Results are presented in **Appendix B, Tables 1** to **4**.

Limitations

Limitations that emerged during the evaluation process included:

- Comparison groups were not matched by prior academic achievement levels because students within each of these groups were not administered the same assessments in the previous grades. Controlling for academic achievement levels prior to the beginning of third grade would have helped to explain some of the variance in academic outcomes between the groups by the end of the year. To reduce the impact of this limitation, the researcher (a) used descriptive statistics instead of inferential statistics to analyze relationships among variables, and (b) refrained from generalizing results generated in this study beyond the target population.

- Data retrieved from PEIMS represents a 'snapshot' of students who were enrolled by the last Friday in October of each school year in HISD (Texas Education Agency [TEA], 2016). Students present for the 'snapshot' may not have been actively enrolled in an HISD prekindergarten program the entire year. In contrast, students who were not present during the 'snapshot' may have actually enrolled later into a program, but were not identified as having attended HISD prekindergarten in the 2011–2012 school year.

- Academic measures retrieved for prekindergarten students eligible for special education services may not truly reflect their 2015–2016 academic outcomes as a number of four year old students who may have also received prekindergarten instruction were coded as 'EE' during the 2011–2012 school year.

- A randomized, experimental research design was not conducted to evaluate the effects of HISD prekindergarten program intervention on students' academic achievement. As such, findings regarding the magnitude of the effect of HISD prekindergarten programs on students' short-term impact may be biased.

- The information in this report was primarily examined in the context of assessment outcomes, demographic characteristics, and prekindergarten program type. Because no components of the prekindergarten programs were included in this report, causal inferences in reference to program attributes and impact were not made.

- Another limitation was caused by STAAR testing incidents facilitated by missteps and mistakes made by the state's new testing vendor, Educational Testing Service (ETS). As described in the *Houston Independent School District State of Texas Assessments of Academic Readiness (STAAR) Performance, Grades 3-8 Spring 2016* report, the errors that were made during administrations of the 2016 STAAR assessments primarily consisted of concerns regarding "data validity and security, online testing incidents, communication, the shipping of testing materials, and other issues" (HISD, 2016b, p. 1).

Results

Academic achievement: Mean scale scores

Figure 1 to **Figure 4** show comparisons of students' academic achievement on the 2016 STAAR third-grade reading and mathematics assessments. Comparisons of mean scale scores achieved by students on the STAAR assessments were analyzed in the context of prekindergarten program enrollment status and language versions of each subject assessment. Because Spanish reading passages and items were uniquely developed to maintain authenticity of the Spanish assessment, results for students administered the Spanish reading assessment should be interpreted on a vertical scoring system separate from the English reading results (Texas Education Agency [TEA], 2013). District averages obtained from the updated June 2016 reports disseminated by TEA and ETS also served as a reference point for each respective language version and subject of the assessment administered to HISD students. Mean scale scores for students' achievement were also included in the Appendix B, Tables 1 to 4 so stakeholders could determine the levels of students' achievement with respect to program enrollment status and demographic characteristics.

Results in Figure 1 show third-grade students who were enrolled in an HISD prekindergarten program (M = 1414) achieved a mean scale score on the 2016 STAAR English reading assessment that was comparable to that of their non-HISD Pre-K peers (M = 1413). Both HISD Pre-K and non-HISD Pre-K students obtained mean scale scores that were comparable to the district's average (M = 1416) on the English reading assessment. HISD students regardless of prekindergarten program enrollment status obtained mean scale scores that exceeded the minimum benchmark for the 2016 Level II: Satisfactory progression standard on the STAAR third-grade English reading assessment at 1345 (see Table 1).

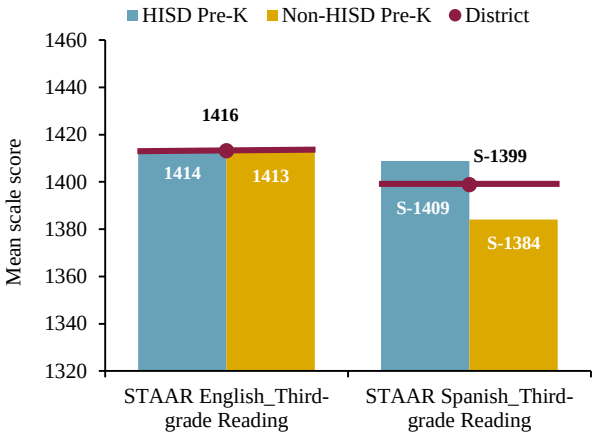

Figure 1. Mean scale scores on the 2016 STAAR third-grade English and Spanish reading assessments obtained by students who either enrolled or did not enroll in an HISD prekindergarten program during the 2011–2012 school year.

Figure 1 also shows third-grade students who were enrolled in an HISD prekindergarten program (M = S-1409) achieved a mean scale score on the 2016 STAAR Spanish reading assessment that was higher than that of their peers who did not attend HISD Pre-K (M = S-1384). HISD Pre-K students obtained a mean scale score that was higher than the district's average (M = S-1399) on the Spanish reading assessment, in contrast to their non-HISD Pre-K peers who obtained a lower mean scale score. HISD students regardless of prekindergarten program enrollment status obtained mean scale scores that exceeded the minimum bench-

mark for the 2016 Level II: Satisfactory progression standard on the STAAR third-grade Spanish reading assessment at S-1318 (see Table 1).

Results in **Figure 2** show economically-disadvantaged, third-grade students who were enrolled in HISD Pre-K (M = 1403) achieved a mean scale score on the 2016 STAAR English reading assessment that was higher than that of their economically-disadvantaged peers who did not attend an HISD prekindergarten program during the 2011–2012 school year (M = 1365). Economically-disadvantaged students who were previously enrolled in an HISD prekindergarten program obtained a mean scale score that was also higher than the district's average (M = 1386) on the STAAR English reading assessment, in contrast to their non-HISD Pre-K peers who obtained a lower mean scale score. Economically-disadvantaged students regardless of prekindergarten program enrollment status obtained mean scale scores that exceeded the minimum benchmark for the 2016 Level II: Satisfactory progression standard on the STAAR third-grade English reading assessment at 1345 (see Table 1).

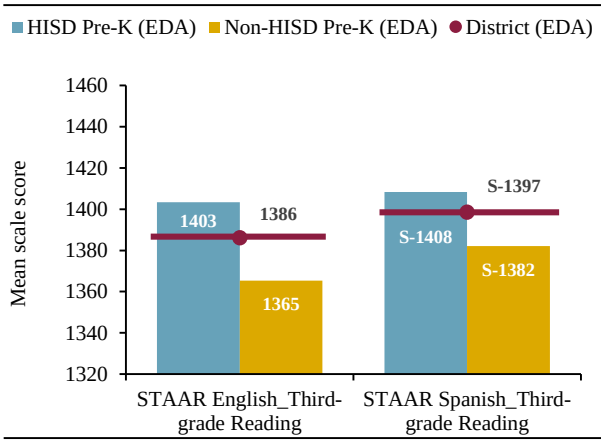

Figure 2. Mean scale scores on the 2016 STAAR third-grade English and Spanish reading assessments obtained by economically-disadvantaged students who either enrolled or did not enroll in an HISD prekindergarten program during the 2011–2012 school year.

Figure 2 also shows economically-disadvantaged, third-grade students who were enrolled in an HISD prekindergarten program (M = S-1408) achieved a mean scale score on the 2016 STAAR Spanish reading assessment that was higher than that of their economically-disadvantaged peers who did not attend an HISD prekindergarten program during the 2011–2012 school year (M = S-1382). Economically-disadvantaged students who were previously enrolled in HISD Pre-K obtained a mean scale score that was higher than the district's average (M = S-1397) on the Spanish reading assessment, in contrast to their non-HISD Pre-K peers who obtained a lower mean scale score. HISD economically-disadvantaged students regardless of prekindergarten program enrollment status obtained mean scale scores that exceeded the minimum benchmark for the 2016 Level II: Satisfactory progression standard on the STAAR third-grade Spanish reading assessments at S-1318 (see Table 1).

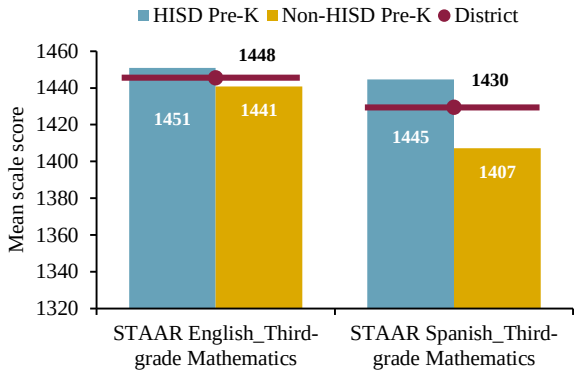

Figure 3. Mean scale scores on the 2016 STAAR third-grade English and Spanish mathematics assessments obtained by students who either enrolled or did not enroll in an HISD prekindergarten program during the 2011–2012 school year.

Results in **Figure 3** show third-grade students who were enrolled in an HISD prekindergarten program (M = 1451) achieved a mean scale score on the 2016 STAAR English mathematics assessment that was higher than that of their peers who did not attend an HISD prekindergarten program during the 2011–2012 school year (M = 1441). HISD Pre-K students obtained a mean scale score that was also higher than the district's average (M = 1448) on the English mathematics assessment, in contrast to their non-HISD Pre-K peers who obtained a lower mean scale score. HISD students regardless of prekindergarten program enrollment status obtained mean scale scores that exceeded the minimum benchmark for the 2016 Level II: Satisfactory progression standard on the STAAR third-grade English mathematics assessment at 1360 (see Table 1).

Figure 3 also shows third-grade students who were enrolled in an HISD prekindergarten program (M = 1445) achieved a mean scale score on the 2016 STAAR Spanish mathematics assessment that was higher than that of their non-HISD Pre-K peers (M = 1407). Students who previously enrolled in an HISD prekindergarten program obtained a mean scale score that was higher than the district's average (M = 1430) on the Spanish mathematics assessment, in contrast to their non-HISD Pre-K peers who obtained a lower mean scale score. HISD students regardless of prekindergarten program enrollment status obtained mean scale scores that exceed the minimum benchmark for the 2016 Level II: Satisfactory progression standard on the STAAR Spanish third-grade mathematics assessments also at 1360 (see Table 1).

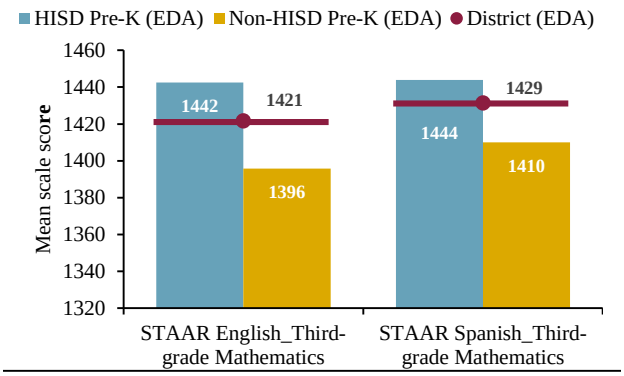

Figure 4. Mean scale scores on the 2016 STAAR third-grade English and Spanish mathematics assessments obtained by economically-disadvantaged students who either enrolled or did not enroll in an HISD prekindergarten program during the 2011–2012 school year.

Results in Figure 4 show third-grade, economically-disadvantaged students who were enrolled in an HISD prekindergarten program (M = 1442) achieved a mean scale score on the 2016 STAAR English mathematics assessment that was higher than that of their economically-disadvantaged peers who did not attend an HISD prekindergarten program during the 2011–2012 school year (M = 1396). Students who were previously enrolled in an HISD prekindergarten program obtained a mean scale score that was higher than the district's average (M = 1421) on the English mathematics assessment, in contrast to their non-HISD peers who obtained a lower mean scale score. Economically-disadvantaged students regardless of prekindergarten program enrollment status obtained mean scale scores that exceeded the minimum benchmark for the 2016 Level II: Satisfactory progression standard on the STAAR English third-grade mathematics assessments (see Table 1).

Figure 4 also shows third-grade, economically-disadvantaged students who were enrolled in an HISD prekindergarten program (M = 1444) achieved a mean scale score on the 2016 STAAR Spanish mathematics assessment that was higher than that of their economically-disadvantaged peers who did not attend an HISD prekindergarten program during the 2011–2012 school year (M = 1410). Students who previously enrolled in an HISD prekindergarten program obtained a mean scale score that was higher than the district's average (M = 1429) on the Spanish mathematics assessment, in contrast to their non-HISD Pre-K peers who obtained a lower mean scale score. HISD economically-disadvantaged students regardless of prekindergarten program enrollment status obtained mean scale scores that exceeded the minimum benchmark for the 2016 Level II: Satisfactory progression standard on the STAAR Spanish third-grade mathematics assessments (see Table 1).

Effects of HISD prekindergarten programs on students' academic achievement based on student demographic characteristics

The overall effects of HISD prekindergarten program enrollment status on students' academic achievement on the STAAR third-grade English and Spanish reading and mathematics assessments are shown in **Table 2**. Small positive effects are noted for students who were administered the Spanish mathematics assessments (0.28). The positive effects of HISD Pre-K students' academic achievement broadened when economically-disadvantaged status was taken into account to also include students who were administered the English reading and mathematics assessments (0.28 and 0.32, respectively), as shown in **Table 3**.

Table 2. The effect of HISD prekindergarten programs on students' achievement on the STAAR third-grade reading and mathematics assessments, 2015–2016

Assessment type	HISD Pre-K			Non-HISD Pre-K			Mean difference	Effect size
	Mean	SD	n	Mean	SD	n		
English reading	1413.8	141.8	6,125	1412.6	164.9	7,290	1.3	0.01
Spanish reading	1408.8	163.7	2,671	1384.1	168.1	1,829	24.7	0.15
English mathematics	1450.9	150.1	6,209	1440.8	170.4	7,176	10.1	0.06
Spanish mathematics	1444.6	128.6	2,521	1407.2	136.4	1,715	37.4	0.28

Note. Hedge's g: small effect = 2.0, moderate effect = 0.5, and large effect = 0.8.

Table 3. The effect of HISD prekindergarten programs on economically-disadvantaged students' achievement on the STAAR third-grade reading and mathematics assessments, 2015–2016

Assessment type	HISD Pre-K			Non-HISD Pre-K			Mean difference	Effect size
	Mean	SD	n	Mean	SD	n		
English reading	1403.4	136.9	5,188	1365.4	137.5	4,315	38.0	0.28
Spanish reading	1408.3	163.4	2,523	1382.1	164.6	1,487	26.2	0.16
English mathematics	1442.5	145.8	5,273	1395.8	146.7	4,272	46.7	0.32
Spanish mathematics	1443.8	128.1	2,377	1410.0	130.8	1,387	42.8	0.26

Note. Hedge's g: small effect = 2.0, moderate effect = 0.5, and large effect = 0.8.

Regarding the effects of HISD Pre-K in the context of other students' demographic characteristics, Appendix B-Tables 1 to 4 show the effects of HISD Pre-K ranged from moderate positive effects (e.g., at-risk students on the STAAR English mathematics, 0.52; see **Appendix B, Table 3**) to moderate negative effects (e.g., Non-LEP Spanish students on the STAAR Spanish reading, -0.72; see **Appendix B, Table 2**). However, caution should be exercised regarding the interpretation of HISD prekindergarten programs' effect on students' academic achievement for subpopulations with small sizes (ex.,

Black and Non-LEP Spanish students who were administered the Spanish reading assessment; see Appendix B, Table 2).

Percent of students who met the 2016 STAAR Level II: Satisfactory progression standards on the STAAR English and Spanish reading and mathematics assessments

Figure 5 to **Figure 8** show comparisons among the percent of students who met the 2016 Level II: Satisfactory progression standards on the third-grade reading and mathematics assessments for the English and Spanish language versions of the STAAR. Passing rates were measured in percentages. To serve as reference points for program type comparisons, district percentages are presented for each respective language version and subject of the assessment administered to HISD students (see **Appendix C, Tables 1** to **4**).

Results shown in Figure 5 show that third-grade students who were enrolled in an HISD prekindergarten program met the 2016 Level II: Satisfactory progression standards on both the STAAR English and Spanish reading assessments at higher rates (68% and 70%, respectively) than their peers who did not attend HISD Pre-K during the 2011–2012 school year (64% and 62%, respectively). HISD Pre-K students were also more likely to meet standards when compared to district rates on the English and Spanish reading assessment (66% and 67%, respectively), in contrast to their non-HISD Pre-K peers.

Figure 6 shows that economically-disadvantaged students who attended HISD Pre-K were also more likely to have met the 2016 Level II: Satisfactory progression standards on both the STAAR English and Spanish reading assessments at higher rates than economically-disadvantaged, non-HISD Pre-K peers and economically-disadvantaged students across the district.

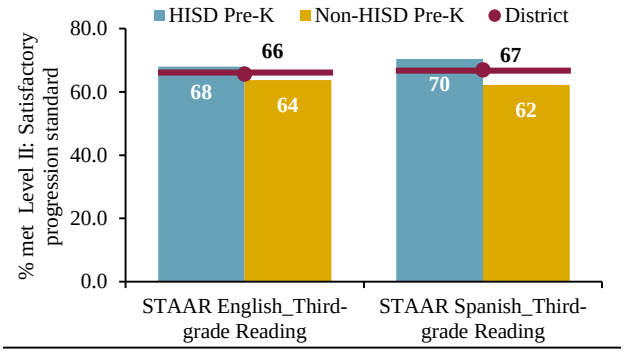

Figure 5. Estimated percent of students who met the 2016 Level II: Satisfactory progression standards on the STAAR third-grade English and Spanish reading assessments during the 2011–2012 school year.

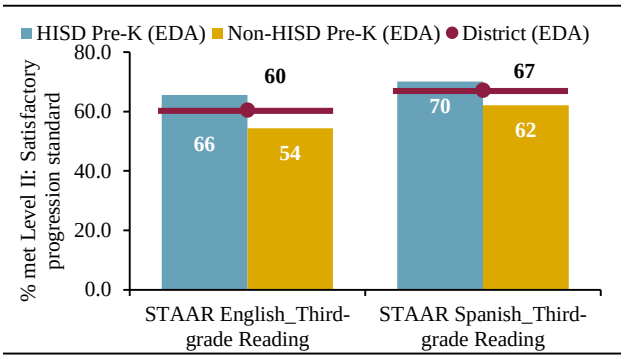

Figure 6. Estimated percent of economically-disadvantaged students who met the 2016 Level II: Satisfactory progression standards on the STAAR third-grade English and Spanish reading assessments during the 2011–2012 school year.

Results shown in **Figure 7** show that third-grade students who were enrolled in an HISD prekindergarten program met the 2016 Level II: Satisfactory progression standards on both the STAAR English and Spanish mathematics assessments at higher rates (72% and 75%, respectively) than their peers who did not attend HISD Pre-K during the 2011–2012 school year (66% and 62%, respectively). HISD Pre-K students were also more likely to meet standard when compared to district rates on the English and Spanish reading assessment (69% and 70%, respectively), in contrast to their non-HISD peers.

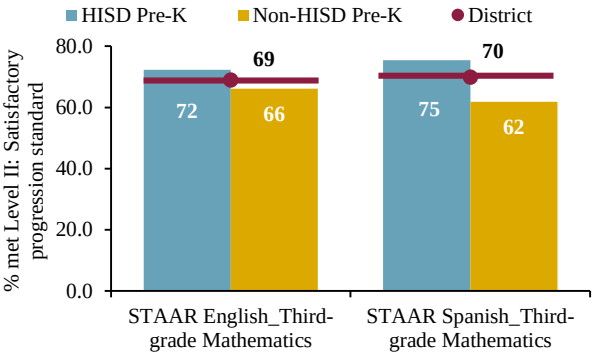

Figure 7. Estimated percent of students who met the 2016 Level II: Satisfactory progression standards on the STAAR third-grade English and Spanish mathematics assessments during the 2011–2012 school year.

Figure 8 (page 8) shows that economically-disadvantaged students who attended HISD Pre-K were also more likely to have met the 2016 Level II: Satisfactory progression standards on the STAAR English and Spanish mathematics assessments at higher rates than their economically-disadvantaged, non-HISD Pre-K peers and economically-disadvantaged students across the district.

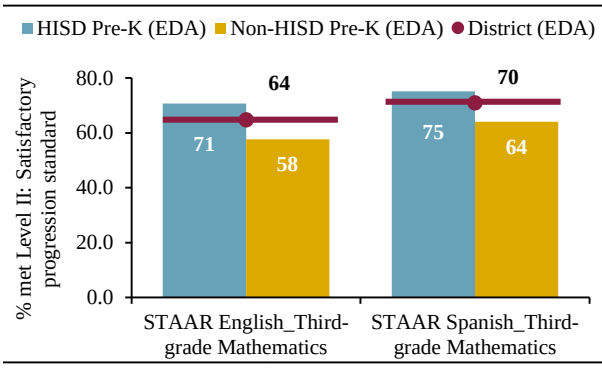

Figure 8. Estimated percent of economically-disadvantaged students who met the 2016 Level II: Satisfactory progression standards on the STAAR third-grade English and Spanish mathematics assessments during the 2011–2012 school year.

Discussion

An effective system of early childhood education [supports the] reciprocal relationship among curriculum, child assessment, and program evaluation" (NAEYC & NAECS/SDE, 2003, p. 1). The prekindergarten program is a complex subsystem of early childhood education that is situated within the walls of an elementary school, charged with making and implementing decisions to promote the equitable development, learning, and school readiness of all children. Each child-whatever her or his abilities and differences- should be respected and taken into careful consideration in order for her or him to be included in prekindergarten to the fullest extent with the highest expectations (NAEYC & NAECS/SDE, 2003). For this report, descriptive statistical analyses and effect size computations were used to examine relationships among students' academic achievement and prekindergarten program enrollment status.

Findings from this study revealed that students who were enrolled in an HISD prekindergarten program were usually identified as economically disadvantaged, LEP, and/or at risk for dropping out of school. These findings were substantiated by prior evidence presented in the *District and School Profiles 2014–2015* report that indicated the majority of students enrolled in the district qualified for free or reduced lunch (71.6 %) and were at risk (71.6%; Houston Independent School District Department of Research and Accountability [HISD/RA], p. 17, 2015). Overrepresentation of these demographic subpopulations was expected as these students are targeted to receive a free prekindergarten education in HISD.

With the exception of the STAAR English reading assessment, third-grade students who were previously enrolled in an HISD prekindergarten program achieved higher mean scale scores on the STAAR third-grade English mathematics and Spanish reading and mathematics assessments than those of their non-HISD Pre-K peers. Additionally, while the majority of both HISD Pre-K and non-HISD Pre-K third-grade students were observed to have met the minimum Level II: Satisfactory progression standard on each assessment administered, HISD Pre-K students met standards at higher passing rates than both their non-HISD peers and district rates.

Results from the STAAR third-grade assessments also show that economically-disadvantaged, HISD Pre-K students obtained both higher mean scale scores and were more likely to meet the Level II: Satisfactory progression standards on the English and Spanish reading and mathematics assessments than their economically-disadvantaged, non-HISD Pre-K peers. Effect sizes also show that economically-disadvantaged students were more likely to positively benefit from enrollment into HISD Pre-K, in contrast to the overall student population (See Tables 2 and 3). Further research will be needed to determine the nature of educational benefit(s).

These findings highlight noteworthy efforts made by the Early Childhood Department to prepare economically-disadvantaged students for school readiness. However, because this evaluation primarily used quantitative measures, the nature of the efforts made by the HISD administrators and educators remains unclear. As such, one implication from this evaluation report is that the Early Childhood Department may consider conducting an implementation fidelity study grounded in best practices in early education to determine to what degree HISD prekindergarten programs are being delivered as intended to improve school readiness and to close the achievement gap among young children subpopulations (NAEYC & NAECS/SDE, 2003). Only by understanding and measuring whether an intervention has been implemented with fidelity can education stakeholders gain a better understanding of *how* and *why* an intervention may or may not work, and the extent to which children's school readiness can be improved (Carroll, Patterson, WoodBooth, Rick, & Balain, 2007). Examining district-, school- and classroom-level variables associated with students' academic success (e.g., district policies, administrators' support, teacher quality, professional culture), will be necessary in order to determine which variables have the strongest relationship for improving (or depreciating) prekindergarten students' learning experiences and school readiness outcomes both across the district and within the context of demographic subpopulations.

A second implication from this report is that both the Early Childhood and Research and Accountability Departments may consider extending their research to explore the achievement gap between non-economically-disadvantaged and economically-

disadvantaged students within the district. While findings in this study indicated economically-disadvantaged, third-grade students who attended HISD Pre-K typically outperformed their economically-disadvantaged, non-HISD Pre-K peers on the STAAR assessments, further research is needed to determine if they are also more likely to close the achievement gap with their respective non-economically-disadvantaged counterparts.

Because HISD wants all students whether or not if they attend HISD Pre-K to be school ready and successful in successive years, high-quality programs will also be necessary to meet the needs of non-HISD Pre-K students once they enroll in the district.

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Appendix A

Table 1. Demographic characteristics of third-grade students by HISD prekindergarten program enrollment status in 2011–2012

		HISD Pre-K		Non-HISD Pre-K	
Demographic Characteristics		**n**	**%**	**n**	**%**
Overall Sample		8,854	100.0	8,537	100.0
Gender	Female	4,606	52.0	4,029	43.3
	Male	4,248	48.0	4,508	48.4
Race & Ethnicity	Asian	156	1.8	473	5.1
	Black	1,755	19.8	2,318	24.9
	Hispanic	6,692	75.6	4,444	47.8
	Other	54	0.6	171	1.8
	White	197	2.2	1,131	12.2
Economically disadvantaged	No	1,090	12.3	2,585	27.8
	Yes	7,764	87.7	5,952	64.0
Special Education eligible	No	8,603	97.2	7,917	85.1
	Yes	251	2.8	620	6.7
Limited English Proficient (LEP)	No	3,999	45.2	5,677	61.0
	Yes	4,855	54.8	2,860	30.7
LEP-Home language	LEP Non-Spanish	130	1.5	296	3.2
	LEP Spanish	4,725	53.4	2,564	27.6
	Non-LEP Non-Spanish	3,632	41.0	5,376	57.8
	Non-LEP Spanish	367	4.1	301	3.2
At risk	No	3,865	43.7	4,711	50.6
	Yes	4,989	56.3	3,826	41.1

Source. PEIMS 2011–2012 and 2015–2016 HISD student databases and STAAR 2016 third-grade student databases.

Note. The demographic information used in this table was based on student information from the PEIMS 2015–2016 HISD student database. The LEP-Home language variable was created by combining LEP status and Home language status characteristics with Spanish serving as the reference language.

Appendix B

Table 1. Academic achievement of HISD prekindergarten students and Non-HISD prekindergarten students on the 2016 STAAR third-grade English reading assessment based on students' prekindergarten enrollment status and demographic characteristics, 2015–2016

		HISD Pre-K			Non-HISD Pre-K				
Demographic Characteristics		**Mean**	**SD**	**n**	**Mean**	**SD**	**n**	**Mean Difference**	**Effect Size**
Overall Sample		1413.8	141.8	6,125	1412.6	164.9	7,290	1.3	0.01
Gender	Female	1423.0	143.0	3,217	1431.7	167.7	3,224	-8.7	-0.06
	Male	1403.7	139.7	2,908	1407.2	162.0	3,473	-3.5	-0.02
Race & Ethnicity	Asian	1557.1	138.3	156	1541.6	163.7	4,667	15.6	0.10
	Black	1381.5	136.5	1,729	1364.9	145.9	2,248	16.6	0.12
	Hispanic	1418.3	136.5	3,997	1389.4	145.5	2,729	28.9	0.21
	Other	1440.5	184.6	50	1523.0	163.8	157	-82.5	-0.49
	White	1488.6	170.5	193	1536.6	158.7	1,096	-48.0	-0.30
Economically disadvantaged	No	1471.6	154.0	937	1516.1	166.9	2,382	-44.4	-0.27
	Yes	1403.4	136.9	5,188	1365.4	137.5	4,315	38.0	0.28
Special Education eligible	No	1416.7	141.1	5,963	1426.4	163.4	6,275	-9.6	-0.06
	Yes	1307.7	127.3	162	1309.5	152.1	422	-1.8	-0.01
Limited English Proficient (LEP)	No	1416.9	147.9	3,914	1433.3	167.2	5,480	-16.4	-0.10
	Yes	1408.4	130.1	2,211	1354.5	138.9	1,217	53.8	0.40
LEP-Home language	LEP Non-Spanish	1455.4	125.7	118	1437.9	139.2	169	17.4	0.13
	LEP Spanish	1409.3	133.4	2,180	1357.7	133.8	981	51.6	0.39
	Non-LEP Non-Spanish	1410.5	147.9	3,562	1434.2	167.1	5,210	-23.8	-0.15
	Non-LEP Spanish	1482.2	131.7	349	1414.9	168.4	269	67.3	0.45
At risk	No	1418.9	147.3	3,789	1455.4	166.0	4,590	-36.5	-0.23
	Yes	1405.7	132.0	2,336	1339.8	132.5	2,107	65.9	0.50

Source. PEIMS 2011–2012 and 2015–2016 HISD student databases and STAAR 2016 third-grade student databases.

Note. The demographic information used in this table was based on student information from the PEIMS 2015–2016 HISD student database. The LEP-Home language variable was created by combining LEP status and Home language status characteristics with Spanish serving as the reference language.

Table 2. Academic achievement of HISD prekindergarten students and Non-HISD prekindergarten students on the 2016 STAAR third-grade Spanish reading assessment based on students' prekindergarten enrollment status and demographic characteristics, 2015–2016

Demographic Characteristics		HISD Pre-K			Non-HISD Pre-K			Mean difference	Effect size
		Mean	SD	n	Mean	SD	n		
Overall Sample		S-1408.8	163.7	2,671	S-1384.1	168.1	1,829	24.7	0.15
Gender	Female	S-1419.9	167.3	1,369	S-1405.3	163.7	749	14.6	0.09
	Male	S-1397.2	159.1	1,302	S-1371.8	170.1	916	25.4	0.16
Race & Ethnicity	Asian	–	–	0	–	–	0	–	–
	Black	S-1415.6	148.6	8	S-1473.0	110.5	5	-57.4	-0.42
	Hispanic	S-1408.7	163.8	2,656	S-1385.2	166.9	1,624	23.5	0.14
	Other	*	*	4	S-1320.2	276.2	11	*	*
	White	*	*	3	S-1501.9	147.6	25	*	*
Economically disadvantaged	No	S-1418.5	168.5	148	S-1425.9	190.1	178	-7.4	-0.04
	Yes	S-1408.3	163.4	2,523	S-1382.1	164.6	1,487	26.2	0.16
Special Education eligible	No	S-1411.2	162.8	2,626	S-1392.6	168.0	1,585	18.6	0.11
	Yes	S-1272.3	160.4	45	S-1270.2	119.7	80	2.1	0.02
Limited English Proficient (LEP)	No	S-1362.1	210.8	49	S-1483.2	216.2	73	-121.1	-0.57
	Yes	S-1409.7	162.6	2,622	S-1382.3	164.2	1,592	27.4	0.17
LEP-Home language	LEP Non-Spanish	–	–	0	S-1396.8	161.6	8	–	–
	LEP Spanish	S-1409.7	161.7	2,467	S-1382.5	165.0	1,474	27.2	0.17
	Non-LEP Non-Spanish	S-1379.0	121.7	37	S-1442.5	207.2	44	-63.6	-0.37
	Non-LEP Spanish	S-1354.9	322.3	17	S-1539.6	210.0	30	-184.7	-0.72
At risk	No	S-1364.7	216.6	45	S-1479.1	214.7	58	-114.4	-0.53
	Yes	S-1409.6	162.6	2,626	S-1383.4	165.2	1,607	26.2	0.16

Source. PEIMS 2011–2012 and 2015–2016 HISD student databases and STAAR 2016 third-grade student databases.

Note. The demographic information used in this table was based on student information from the PEIMS 2015–2016 HISD student database. The LEP-Home language variable was created by combining LEP status and Home language status characteristics with Spanish serving as the reference language.

Note. '*' denotes fewer than five students tested.

Note. '–' denotes insufficient data available for students.

Table 3. Academic achievement of HISD prekindergarten students and Non-HISD prekindergarten students on the 2016 STAAR third-grade English mathematics assessment based on students' prekindergarten enrollment status and demographic characteristics, 2015–2016

		HISD Pre-K			Non-HISD Pre-K				
Demographic Characteristics		**Mean**	**SD**	**n**	**Mean**	**SD**	**n**	**Mean difference**	**Effect size**
Overall Sample		1450.9	150.1	6,209	1440.8	170.4	7,176	10.1	0.06
Gender	Female	1448.1	150.9	3,255	1447.8	172.0	3,188	0.2	0.00
	Male	1454.0	149.2	2,954	1446.9	169.8	3,441	7.0	0.04
Race & Ethnicity	Asian	1632.7	139.4	150	1632.9	150.0	423	-0.2	0.00
	Black	1397.1	136.1	1,724	1378.6	145.8	2,222	18.5	0.13
	Hispanic	1463.9	145.7	4,096	1425.3	153.4	2,774	38.6	0.26
	Other	1450.4	141.3	49	1550.1	187.7	153	-99.7	-0.56
	White	1514.0	174.4	190	1560.6	152.5	1,057	-46.6	-0.30
Economically disadvantaged	No	1497.9	164.9	936	1540.8	171.9	2,357	-42.9	-0.25
	Yes	1442.5	145.8	5,273	1395.8	146.7	4,272	46.7	0.32
Special Education eligible	No	1453.8	149.5	6,043	1455.1	169.2	6,204	-1.3	-0.01
	Yes	1345.5	135.2	166	1334.6	153.6	425	10.9	0.07
Limited English Proficient (LEP)	No	1439.7	152.7	3,911	1452.5	172.4	5,479	-12.8	-0.08
	Yes	1469.9	143.6	2,298	1422.8	160.9	1,150	47.0	0.31
LEP-Home language	LEP Non-Spanish	1514.6	147.8	118	1500.8	189.1	169	13.9	0.08
	LEP Spanish	1467.4	143.0	2,180	1409.4	151.6	981	58.0	0.40
	Non-LEP Non-Spanish	1431.0	150.7	3,562	1452.3	173.0	5,210	-21.3	-0.13
	Non-LEP Spanish	1528.7	145.1	349	1456.3	161.3	269	72.4	0.48
At risk	No	1441.6	152.7	3,785	1473.6	172.8	4,588	-32.1	-0.20
	Yes	1465.4	144.8	2,424	1388.3	150.4	2,041	77.1	0.52

Source. PEIMS 2011–2012 and 2015–2016 HISD student databases and STAAR 2016 third-grade student databases.

Note. The demographic information used in this table was based on student information from the PEIMS 2015–2016 HISD student database. The LEP-Home language variable was created by combining LEP status and Home language status characteristics with Spanish serving as the reference language.

Note. '*' denotes fewer than five students tested.

Note. '–' denotes insufficient data available for students.

Table 4. Academic achievement of HISD prekindergarten students and Non-HISD prekindergarten students on the 2016 STAAR third-grade Spanish mathematics assessment based on students' prekindergarten enrollment status and demographic characteristics, 2015–2016

		HISD Pre-K			Non-HISD Pre-K				
Demographic Characteristics		**Mean**	**SD**	**n**	**Mean**	**SD**	**n**	**Mean difference**	**Effect size**
Overall Sample		1444.6	128.6	2,521	1407.2	136.4	1,715	37.4	0.28
Gender	Female	1440.5	127.6	1,293	1418.9	134.1	700	21.6	0.17
	Male	1449.0	129.6	1,228	1408.5	136.2	856	40.5	0.31
Race & Ethnicity	Asian	–	–	0	–	–	0	–	–
	Black	1483.3	178.4	10	1497.7	114.1	6	-14.4	-0.09
	Hispanic	1444.3	128.4	2,504	1410.5	132.4	1,513	33.8	0.26
	Other	*	*	4	1368.6	228.3	12	*	*
	White	*	*	3	1575.3	153.6	25	*	*
Economically disadvantaged	No	1457.3	137.5	144	1438.9	165.6	169	18.4	0.12
	Yes	1443.8	128.1	2,377	1410.0	130.8	1,387	42.8	0.26
Special Education eligible	No	1446.6	127.9	2,480	1417.7	135.2	1,480	28.9	0.22
	Yes	1325.4	119.3	41	1324.9	102.3	76	0.5	0.00
Limited English Proficient (LEP)	No	1444.3	183.8	54	1520.4	172.1	74	-76.1	-0.43
	Yes	1444.6	127.2	2,467	1407.8	131.0	1,482	36.8	0.29
LEP-Home language	LEP Non-Spanish	–	–	0	1406.0	176.1	8	–	–
	LEP Spanish	1444.6	127.2	2,467	1407.8	130.8	1,474	36.8	0.29
	Non-LEP Non-Spanish	1453.2	106.1	37	1516.5	187.0	44	-63.3	-0.41
	Non-LEP Spanish	1425.0	293.2	17	1526.1	150.4	30	-101.1	-0.48
At risk	No	1450.7	188.3	50	1533.8	177.3	59	-83.0	-0.46
	Yes	1444.5	127.2	2,471	1408.4	131.2	1,497	36.1	0.28

Source. PEIMS 2011–2012 and 2015–2016 HISD student databases and STAAR 2016 third-grade student databases.

Note. The demographic information used in this table was based on student information from the PEIMS 2015–2016 HISD student database. The LEP-Home language variable was created by combining LEP status and Home language status characteristics with Spanish serving as the reference language.

Note. '*' denotes fewer than five students tested.

Note. '–' denotes insufficient data available for students.

Appendix C

Table 1. Count and percent of students who met the 2016 Level II Satisfactory progression standard on the third-grade STAAR English reading assessment by HISD program prekindergarten enrollment status, 2015–2016

		HISD Pre-K		Non-HISD Pre-K		Percent gap
Demographic Characteristics		**n**	**%**	**n**	**%**	**%**
Overall Sample		4,163	68.0	4,653	63.8	4.2
Gender	Female	2,259	70.2	2,191	68.0	2.2
	Male	1,904	65.5	2,183	62.9	2.6
Race & Ethnicity	Asian	146	93.6	400	85.7	7.9
	Black	1,024	59.2	1,213	54.0	5.2
	Hispanic	2,791	69.8	1,635	59.9	9.9
	Other	34	68.0	137	87.3	-19.3
	White	168	87.0	989	90.2	-3.2
Economically disadvantaged	No	759	81.0	2,027	85.1	-4.1
	Yes	3,404	65.6	2,347	54.4	11.2
Special Education eligible	No	4,110	68.9	4,231	67.4	1.5
	Yes	53	32.7	143	33.9	-1.2
Limited English Proficient (LEP)	No	2,659	67.9	279	68.6	-0.7
	Yes	1,504	68.0	3,761	50.4	17.6
LEP-Home language	LEP Non-Spanish	103	79.2	148	53.4	25.8
	LEP Spanish	1,401	67.3	465	49.5	17.8
	Non-LEP Non-Spanish	2,364	66.3	3,577	68.6	-2.3
	Non-LEP Spanish	295	84.5	184	68.4	16.1
At risk	No	2,602	68.7	3,421	74.5	-5.8
	Yes	1,561	66.8	953	45.2	21.6

Source. PEIMS 2011–2012 and 2015–2016 HISD student databases and STAAR 2016 third-grade student databases.

Note. The demographic information used in this table was based on student information from the PEIMS 2015–2016 HISD student database. The LEP-Home language variable was created by combining LEP status and Home language status characteristics with Spanish serving as the reference language.

Note. '*' denotes fewer than five students tested.

Note. '–' denotes insufficient data available for students.

Table 2. Count and percent of students who met the 2016 Level II Satisfactory progression standard on the third-grade STAAR Spanish reading assessment by HISD program prekindergarten enrollmennt status, 2015–2016

		HISD Pre-K		Non-HISD Pre-K		Percent gap
Demographic Characteristics		**n**	**%**	**n**	**%**	**%**
Overall Sample		1,880	70.4	1,137	62.2	8.2
Gender	Female	1,002	73.2	512	68.4	4.8
	Male	878	67.4	533	58.2	9.2
Race & Ethnicity	Asian	0	–	0	–	0.0
	Black	7	87.5	5	100.0	-12.5
	Hispanic	1,867	70.3	1,012	62.3	8.0
	Other	3	*	6	54.5	–
	White	3	*	22	88.0	–
Economically disadvantaged	No	111	75.0	121	68.0	7.0
	Yes	1,769	70.1	924	62.1	8.0
Special Education eligible	No	1,867	71.1	1,026	64.7	6.4
	Yes	13	28.9	19	23.8	5.1
Limited English proficient (LEP)	No	32	65.3	56	76.7	-11.4
	Yes	1,848	70.5	989	62.1	8.4
LEP-Home language	LEP Non-Spanish	0	–	7	77.8	–
	LEP Spanish	1,848	70.5	982	62.0	8.5
	Non-LEP Non-Spanish	20	62.5	31	73.8	-11.3
	Non-LEP Spanish	12	70.6	25	80.6	-10.0
At risk	No	30	66.7	46	79.3	-12.6
	Yes	1,850	70.4	999	62.2	8.2

Source. PEIMS 2011–2012 and 2015–2016 HISD student databases and STAAR 2016 third-grade student databases.

Note. The demographic information used in this table was based on student information from the PEIMS 2015–2016 HISD student database. The LEP-Home language variable was created by combining LEP status and Home language status characteristics with Spanish serving as the reference language.

Note. '*' denotes fewer than five students tested.

Note. '–' denotes insufficient data available for students.

Table 3. Count and percent of students who met the 2016 Level II Satisfactory progression standard on the third-grade STAAR English mathematics assessment by HISD program prekindergarten enrolment status, 2015–2016

		HISD Pre-K		Non-HISD Pre-K		Percent gap
Demographic characteristics		**n**	**%**	**n**	**%**	**%**
Overall sample		4,489	72.3	4,745	66.1	6.2
Gender	Female	2,328	71.5	2,159	67.7	3.8
	Male	2,161	73.2	2,328	67.7	5.5
Race & Ethnicity	Asian	148	98.7	410	96.9	1.8
	Black	1,015	58.9	1,173	52.8	6.1
	Hispanic	3,131	76.4	1,795	64.7	11.7
	Other	35	71.4	134	87.6	-16.2
	White	160	84.2	0		84.2
Economically disadvantaged	No	760	81.2	2,028	86.0	-4.8
	Yes	3,729	70.7	2,459	57.6	13.1
Special Education eligible	No	4,425	73.2	4,319	69.6	3.6
	Yes	64	38.6	168	39.5	-0.9
Limited English Proficient (LEP)	No	2,701	69.1	3,745	68.4	0.7
	Yes	1,788	77.8	742	64.5	13.3
LEP-Home language	LEP Non-Spanish	101	85.6	136	80.5	5.1
	LEP Spanish	1,687	77.4	606	61.8	15.6
	Non-LEP Non-Spanish	2,390	67.1	3,551	68.2	-1.1
	Non-LEP Spanish	311	89.1	194	72.1	17.0
At risk	No	2,636	69.6	3,370	73.5	-3.9
	Yes	1,853	76.4	1,117	54.7	21.7

Source. PEIMS 2011–2012 and 2015–2016 HISD student databases and STAAR 2016 third-grade student databases.

Note. The demographic information used in this table was based on student information from the PEIMS 2015–2016 HISD student database. The LEP-Home language variable was created by combining LEP status and Home language status characteristics with Spanish serving as the reference language.

Note. '*' denotes fewer than five students tested.

Note. '–' denotes insufficient data available for students.

Table 4. Count and percent of students who met the 2016 Level II Satisfactory progression standard on the third-grade STAAR Spanish mathematics assessment by HISD program prekindergarten enrollment status, 2015–2016

		HISD Pre-K		Non-HISD Pre-K		Percent gap
Demographic Characteristics		**n**	**%**	**n**	**%**	**%**
Overall Sample		1,902	75.4	1,060	61.8	13.6
Gender	Female	1,293	74.5	469	67.0	7.5
	Male	939	76.5	533	62.3	14.2
Race & Ethnicity	Asian	0	–	0	–	0.0
	Black	8	80.0	6	100.0	-20.0
	Hispanic	1,888	75.4	966	63.8	11.6
	Other	3	*	7	58.3	–
	White	3	*	23	92.0	–
Economically disadvantaged	No	117	81.3	113	66.9	14.4
	Yes	1,785	75.1	889	64.1	11.0
Special Education eligible	No	1,888	76.1	979	66.1	10.0
	Yes	14	34.1	23	30.3	3.8
Limited English Proficient (LEP)	No	44	81.5	64	86.5	-5.0
	Yes	1,858	75.3	938	63.3	12.0
LEP-Home language	LEP Non-Spanish	0	–	5	62.5	–
	LEP Spanish	1,858	75.3	933	63.3	20.5
	Non-LEP Non-Spanish	31	83.8	38	86.4	-9.9
	Non-LEP Spanish	13	76.5	26	86.7	-2.7
At risk	No	42	84.0	54	91.5	-7.5
	Yes	1,860	75.3	948	63.3	12.0

Source. PEIMS 2011–2012 and 2015–2016 HISD student databases and STAAR 2016 third-grade student databases.

Note. The demographic information used in this table was based on student information from the PEIMS 2015–2016 HISD student database. The LEP-Home language variable was created by combining LEP status and Home language status characteristics with Spanish serving as the reference language.

Note. '*' denotes fewer than five students tested.

Note. '–' denotes insufficient data available for students.