**MEMORANDUM** November 22, 2016

TO: Lance Menster
Officer, Elementary Curriculum and Development

FROM: Carla Stevens
Assistant Superintendent, Research and Accountability

SUBJECT: **COMPARISONS OF ACADEMIC ACHIEVEMENT AMONG THIRD-GRADER STUDENTS PREVIOUSLY ENROLLED IN HISD AND HEAD START PREKINDERGARTEN PROGRAMS, 2015–2016**

This report compares the academic achievement of third graders who were previously enrolled in either HISD-Head Start (dual) or Head Start Standalone prekindergarten programs during the 2011–2012 school year on the 2016 STAAR English and Spanish reading and mathematics assessments.

Key findings include:

- Dually-enrolled, economically-disadvantaged students typically achieved mean scale scores that were higher than those of their economically-disadvantaged peers across the district. The only exception occurred among GCCSA students on the STAAR Spanish reading assessment.
- Dually-enrolled students achieved mean standard scores that were higher than those of their Head Start Standalone peers on the STAAR English reading and mathematics assessments (AVANCE and GCCSA) and STAAR Spanish reading and mathematics assessments (NCI).
- Dually-enrolled, economically-disadvantaged students affiliated with HCDE obtained both higher mean standard scores and met the 2016 Level II Satisfactory progression standard at higher rates than their Head Start Standalone peers regardless of language or subject version of the STAAR assessments.

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


Attachment

cc: Grenita Lathan
Rachele Vincent
Janice Dingayan

HOUSTON INDEPENDENT SCHOOL DISTRICT

# RESEARCH

Educational Program Report

## COMPARISONS OF ACADEMIC ACHIEVEMENT AMONG THIRD-GRADE STUDENTS PREVIOUSLY ENROLLED IN HISD AND HEAD START PREKINDERGARTEN PROGRAMS, 2015-2016

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EVALUATION REPORT
BUREAU OF PROGRAM EVALUATION

November 22, 2016

# *Comparisons of academic achievement among third-grade students previously enrolled in HISD and Head Start prekindergarten programs, 2015–2016*

**By Sara Spikes, Ph.D.**

*The purpose of the Houston Independent School District (HISD) and Head Start Collaborative programs is to share the responsibility for closing the achievement gap between economically-disadvantaged children and their more affluent peers. HISD collaborates with the following four Head Start agencies: AVANCE-Houston, Inc. (AVANCE), Gulf Coast Community Services Association (GCCSA), Harris County Department of Education (HCDE), and Neighborhood Centers, Inc. (NCI). This brief compares the academic achievement among third-grade students previously enrolled in HISD-Head Start (dual) and Head Start Standalone prekindergarten programs. Findings in this study suggest a positive relationship exists between dually-enrolled, economically-disadvantaged students affiliated with AVANCE, GCCSA, and HCDE and their academic achievement on the 2016 STAAR English reading and mathematics assessments. This relationship was particularly noted among students affiliated with HCDE as dually-enrolled, economically-disadvantaged students had higher levels of achievement on both the 2016 STAAR English and Spanish versions of the reading and mathematics assessments than their peers who attended the corresponding standalone programs. Findings also show that dually-enrolled, economically-disadvantaged students regardless of Head Start agency, typically achieved both higher mean scale scores and met the 2016 Level II Satisfactory progression standard at higher rates on the STAAR assessments than their economically-disadvantaged peers in the district.*

## Background

### *HISD prekindergarten programs*

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 program, or (4) a Montessori program. Preschoolers with disabilities are enrolled according to HISD guidelines for special education and prekindergarten eligibility requirements. Home language surveys are administered to either parents or guardians for completion and approval to place their child(ren) in a linguistically-appropriate HISD prekindergarten classroom. With the exception of HISD Montessori Pre-K programs, the district uses the *Frog Street Pre-K (FSPK)* curriculum. *Frog Street Pre-K* focuses on the physical, social, emotional, cognitive, and language development of preschool-age children (Schiller, n.d.). Presently, the HISD operates 155 campuses that provide instruction for young children (HISD Prekindergarten Homepage, 2016a).

### *Head Start*

Created in 1965 to combat poverty and inequities experienced by disadvantaged populations, Head Start has evolved into one of the most significant investments in school readiness for low-income young children in the United States (U.S. Dept. of Health and Human Services Administration for Children and Families, Office of

Head Start [OHS], 2015b). School readiness refers to children "possessing the skills, knowledge, and attitudes necessary for success in school and for later learning in life" (U.S. Dept. of Health and Human Services Administration for Children and Families, Office of Head Start [OHS], 2015a). To improve school readiness, Head Start programs were designed to meet the mental, social, and emotional development needs of children ages three to five years old. Head Start provides additional services that include medical, dental, nutritional, family engagement, parent education, and psychological resources (National Head Start Association [NHSA], 2016). Overseen by the U.S. Department of Health and Human Services Administration for Children and Families, the Office of Head Start [OHS] has provided comprehensive services to over 30 million children and their families (NHSA, 2016; U.S. Department of Education, Institute of Education Sciences, What Works Clearinghouse [WWC], 2015).

*HISD and Head Start Collaborative programs*

In order to meet the needs of eligible young children and parents, state and local Head Start agencies collaborate and coordinate with other entities such as public schools to provide early childhood education (Del Grosso, Akers, Esposito, & Paulsell, 2014; National Association for the Education of Young Children [NAEYC], 2009; U.S. Department of Health and Human Services, Administration for Children and Families, Office of Head Start [OHS], 2007). Currently, HISD collaborates with the following four federally-funded Head Start agencies that serve regional sectors of Harris County within the district's boundaries: AVANCE-Houston, Inc. (AVANCE); Gulf Coast Community Services Association (GCCSA); Harris County Department of Education (HCDE); and Neighborhood Centers, Inc. (NCI). Each of these agencies have standalone programs where facilities owned by the agencies serve as the primary site for education intervention services overseen by Head Start staff.

The purpose of the Houston Independent School District (HISD) and Head Start Prekindergarten Collaborative programs is to share the responsibility for closing the achievement gap between economically-disadvantaged children and their more affluent peers. This collaborative, while adhering to Head Start performance standards, provides a program that is both supported by the HISD curriculum, *Frog Street Pre-K (FSPK)*, and aligned with standards detailed in *Developmentally Appropriate Practice in Early Childhood Programs* (NAEYC, 2009), and the updated *Early Childhood Outcomes and Prekindergarten Guidelines* established by the Education Service Center (ESC) Region 13 and the Texas Education Agency (TEA) in 2015.

The integrated partnership between HISD and Head Start agencies provides a shared responsibility for preparing students for success at school. The intent of this brief is to describe the relationships between these partnerships and students' long-term academic achievement.

## Literature Review

Researchers suggest inequities in children's school readiness and academic success increase rather than diminish over time (Aber, Burnley, Cohen, Featherman, Phillips, Raudenbush, & Rowan as cited in the NAEYC, 2009). Inequities in school readiness and academic achievement are more prevalent among children of color with disadvantaged backgrounds (National Research Council [NRC], 2009). The negative indicators associated with young children with disadvantaged backgrounds (e.g., at risk, poor access to resources, low income, limited parent education, single-parent household) can adversely alter their cognitive, socio-emotional, and physical developmental trajectories (Evans & Kim, 2013). Without high-quality comprehensive interventions, associations 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). However, findings from previous research regarding the effectiveness of early childhood programs 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; U.S. Advisory Committee on Head Start Research and Evaluation, 2012; Zhai, Brooks-Gunn, & Waldfogel, 2011). Additionally, a literature review conducted by the Office of Planning, Research and Evaluation (OPRE) revealed deficiencies in evidence to determine if early care and education partnerships between entities such as Head Start and public schools were "on track" to meet both short- and long-term outcomes of young children (Del Grosso et al., 2014).

## Purpose

The intent of this cohort longitudinal study was to provide both Head Start and HISD stakeholders information regarding the academic achievement of third-grade students who were previously enrolled in a prekindergarten program. Specifically, the academic achievement of those students was measured four years after they attended either an HISD-Head Start (dual) or Head Start Standalone prekindergarten program during the 2011–2012 school year. This study used a non-experimental research design to answer the following research main question:

1. What difference in academic achievement existed between third-grade students who were dually-enrolled compared to students who were enrolled in a Head Start Standalone prekindergarten program during the 2011–2012 school year?

Because the majority of students who attended either of the Pre-K programs were economically disadvantaged (>95.0%), results presented in this brief focus only on the academic achievement of this subpopulation. **Table 1** shows both the counts of all third-grade students and the counts of economically-disadvantaged, third-grade students who attended HISD during the 2015–2016 school year. PEIMS records indicated 18,496 third-grade students attended HISD during the 2015–2016 school year. Upon merging data to the STAAR results this number dropped to 18,156 (see Table 1).

**Table 1. Counts of HISD economically-disadvantaged, third-grade students by Head Start agency, 2015–2016**

| Head Start agency | All third graders count | Economically-disadvantaged student count | Percent of Economically-disadvantaged students |
|---|---|---|---|
| AVANCE | 223 | 215 | 96.4 |
| GCCSA | 502 | 486 | 96.8 |
| HCDE | 147 | 142 | 96.6 |
| NCI | 511 | 489 | 95.7 |
| HISD | 18,156 | 13,720 | 75.6 |

## Methods

### *Data collection*

Data collection for HISD third graders who were previously enrolled in either an HISD-Head Start (dual) or Head Start Standalone prekindergarten program during the 2011–2012 school year consisted of three phases. The first phase of data collection consisted of identifying all prekindergarten students who attended HISD during the 2011–2012 school year. This information was retrieved from an archival dataset used for the *Prekindergarten Education Program: Academic Performance Comparison of Head Start Programs, 2012–2013* report (Houston Independent School District [HISD], 2013). The second phase of data collection consisted of identifying all third-grade students in the PEIMS 2015–2016 HISD student database. The final phase of data collection consisted of identifying students who appeared in both databases in the context of the four partnering Head Start agencies: AVANCE, GCCSA, HCDE, and NCI. Information for students who were not coded in the archival dataset as attending either the dual or Head Start Standalone programs were not considered for analyses in this study with respect to Head Start agency-affiliation. These students were, however, included in the district's mean and rates generated for this brief.

### *Measures*

The academic achievement of HISD third-grade students was measured and collected through the State of Texas Assessments of Academic Readiness assessment system (STAAR). STAAR is the state of Texas criterion-referenced assessment program that replaced the Texas Assessment of Knowledge and Skills (TAKS) program in spring of 2012. During spring 2016, HISD third-grade students were administered the general 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. In the 2015–2016 school year, by commissioner's rule, the Level II Phase-in 1 Satisfactory standard was increased to the Level II Satisfactory 2016 progression standard. The increase means that students taking the STAAR grades 3–8 assessments would have to answer more items correctly to meet the satisfactory standard for the assessments than the previous year. As such, comparisons to prior performance should be made with caution.

### *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 (i.e., counts, mean scale scores, standard deviation) 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 standard on the STAAR assessments.

Additional examination of the relationships among measures within the context of student demographic characteristics provided information regarding who from their respective programs had higher or lower academic achievement in third grade. **Appendix A-Tables 6** to **10** (p. 13-17) and **Appendix B-Tables 11** to **14** (p. 18-21) show counts, percentages, mean scale scores, and standard deviations for students based on demographic characteristics and academic achievement at the prekindergarten program and Head Start agency levels, respectively.

*Limitations*

The lack of knowledge and variability in students' early childhood education experiences during the 2011–2012 school year which did not include either HISD-Head Start (dual) or Head Start Standalone programs presented a limitation for this study. Additionally, analyses conducted for this report did not take into account the number of years a child may have attended either Pre-K program in years prior to 2011–2012. One reason the number of years was not taken into account was because while dually-enrolled students must usually be at least four years of age on or before September 1 of a given school year to attend HISD, Head Start targets children to start services on their third birthday. Not including students who had attended Head Start when they were age three would have reduced the agencies' sample populations. As such, findings should be interpreted as the average impact of prekindergarten programs on students' academic achievement (Zhai et al., 2011).

A second limitation was that comparison groups were not matched by prior academic achievement levels because students within each of these groups were not administered the same assessments in 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.

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 by in the the *Houston Independent School District State of Texas Assessments of Academic Readiness (STAAR) Performance, Grades 3-8 Spring 2016* report, 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" (Houston Independent School District [HISD], 2016b, p. 1).

## Results

*Academic achievement: Mean scale scores*

**Figures 1** to **Figure 4** show comparisons of economically-disadvantaged 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 model, Head Start agency-affiliation, and language version of each subject assessment. To serve as a reference point for program type comparisons, a district mean was computed for each respective language version and subject of the assessment administered to economically-disadvantaged HISD third-grade students. Mean scale scores for students' achievement for each Head Start agency were also included in the Appendix A-Tables 6 to 10 (p. 13-17) so that each individual agency could review the levels of achievement of their students based on demographic characteristics.

Results in Figure 1 (p. 5) show that economically-disadvantaged, third-grade students who were dually-enrolled in either AVANCE (M= 1422.1), GCCSA (M = 1397.2), or HCDE (M = 1426.2) achieved mean scale scores on the 2016 STAAR English reading assessment that were higher than those of their peers who attended the corresponding Head Start Standalones (M = 1369.8, M = 1390.2, and M = 1378.5, respectively). In contrast, students who were dually-enrolled in NCI (M = 1411.2) achieved a mean scale score that was lower than that of their peers who attended the corresponding Head Start Standalone program (M = 1441.6). Students who attended NCI and AVANCE standalone programs were also noted to obtain the highest and lowest mean scale scores among comparison groups on the assessment, respectively. All dually-enrolled students and students who attended GCCSA and NCI standalone programs obtained mean scale scores that were higher than the district's mean (M = 1386) for economically-disadvantaged students on the STAAR English reading assessment.

**Figure 2** (p. 5) shows that economically-disadvantaged, third-grade students who were dually-enrolled in either an HCDE (M = 1419.0) or NCI program (M = 1408.2) achieved mean scale scores on the 2016 STAAR Spanish reading assessment that were higher than those of their peers who attended the corresponding Head Start Standalone programs (M = 1236.6 and M = 1337.5, respectively). In contrast, students who were dually-enrolled in either AVANCE

(M = 1399.2) or GCCSA (1397.0) achieved mean scale scores that were lower than those of their peers who attended the corresponding Head Start Standalone programs during the 2011–2012 school year (M = 1463.4 and M = 1410.2, respectively). Students who attended AVANCE and HCDE standalone programs were also noted to have obtained the highest and lowest mean scale scores on the assessment among comparison groups, respectively. Most of the dually-enrolled students' mean scores (AVANCE, HCDE, and NCI) were higher than the district's mean (M = 1398) for the STAAR Spanish reading assessment. Students who also attended AVANCE and GCCSA standalone programs obtained mean scale scores higher than economically-disadvantaged third-grade students across the district.

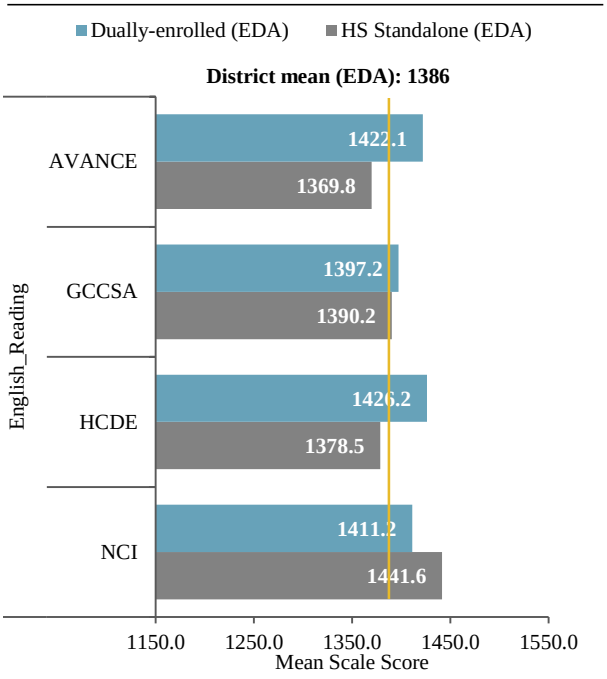


**Figure 1.** Mean scale scores on the 2016 third-grade STAAR English reading assessment for economically-disadvantaged students based on prekindergarten program type and Head Start agency affiliation during the 2011–2012 school year. Note. "EDA" refers to economically-disadvantaged students.

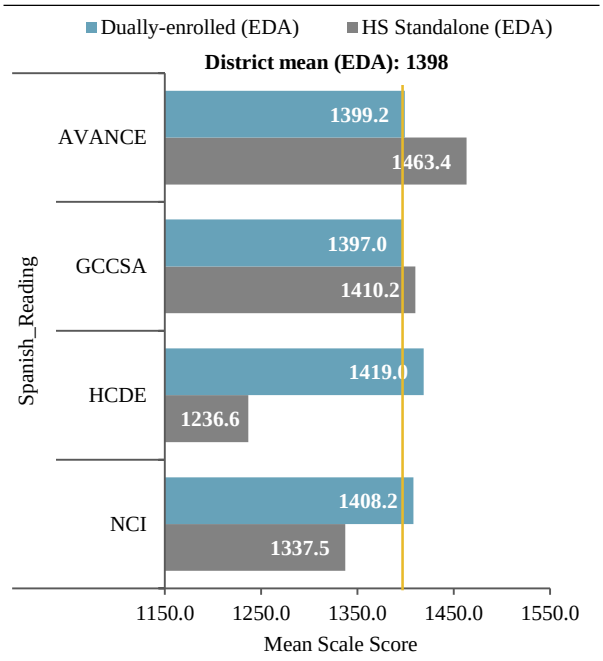


**Figure 2.** Mean scale scores on the 2016 third-grade STAAR Spanish reading assessment for economically-disadvantaged students based on prekindergarten program type and Head Start agency affiliation during the 2011–2012 school year. Note. "EDA" refers to economically-disadvantaged students.

Results in **Figure 3** (p. 6) show that economically-disadvantaged, third-grade students who were dually-enrolled in either AVANCE (M = 1463.6), GCCSA (M = 1429.3), or HCDE (M = 1446.4) achieved mean scale scores on the 2016 STAAR English mathematics assessment that were higher than those of their peers who attended the corresponding Head Start Standalone programs (M = 1432.4; M = 1400.5; and M = 1409.9, respectively). In contrast, students who were dually-enrolled in NCI (M = 1461.0) achieved a mean standard score that was lower than that of their peers who attended the corresponding Head Start Standalone (M = 1471.4). Students who attended NCI and GCCSA standalone programs were also noted to obtain the highest and lowest mean scale scores on the assessment among comparison groups, respectively. All dually-enrolled students and students who attended AVANCE and NCI standalone programs obtained mean scale scores that were higher than the district's mean (M = 1420) on the STAAR English mathematics assessment.

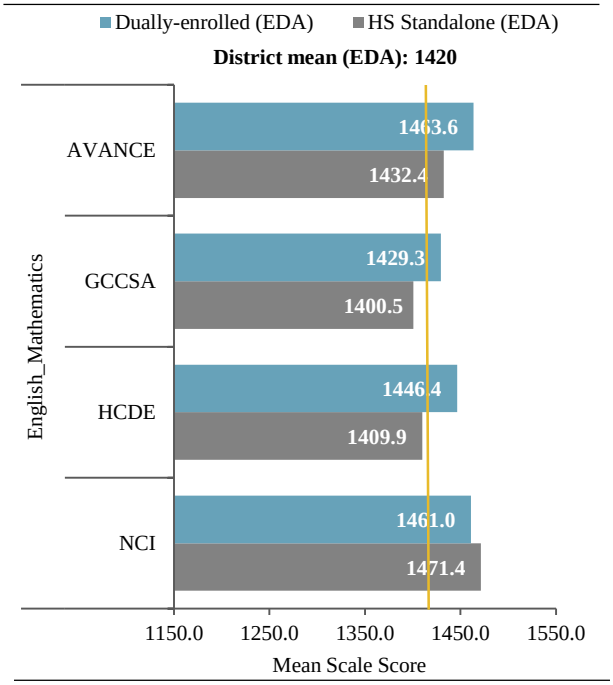


**Figure 3.** Mean scale scores on the 2016 third-grade STAAR English mathematics assessment for economically-disadvantaged students based on prekindergarten program type and Head Start agency affiliation during the 2011–2012 school year. Note. "EDA" refers to economically-disadvantaged students.

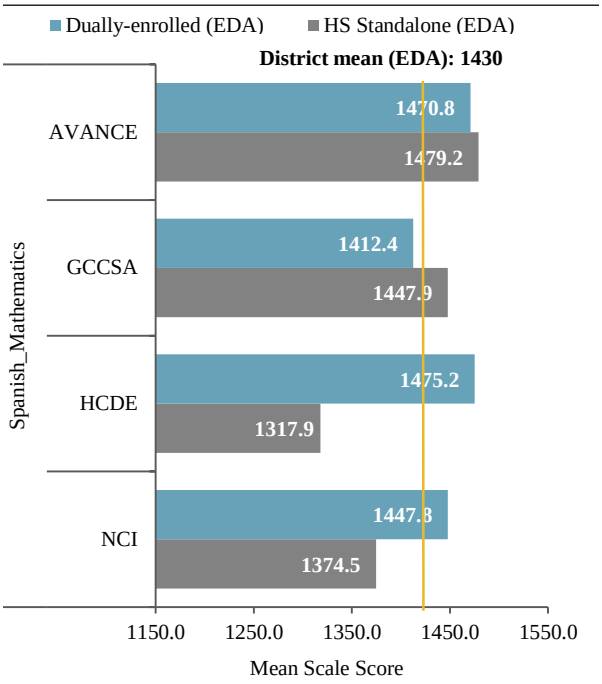


**Figure 4.** Mean scale scores on the 2016 third-grade STAAR Spanish mathematics assessment for economically-disadvantaged students based on prekindergarten program type and Head Start agency affiliation during the 2011–2012 school year. Note. "EDA" refers to economically-disadvantaged students.

Figure 4 show third-grade students who were dually-enrolled in either HCDE (M = 1475.2) or NCI (M = 1447.8) achieved mean scale scores on the 2016 STAAR Spanish mathematics assessment that were higher than those of their peers who attended the corresponding Head Start Standalone programs (M = 1317.9 and M = 1374.5, respectively). In contrast, students who were dually-enrolled in either AVANCE (M = 1470.8) or GCCSA (M = 1412.4) achieved mean scale scores that were lower than those of their peers who attended the corresponding Head Start Standalone programs (M = 1479.2 and M = 1447.9, respectively). Students who were in HCDE dually-enrolled and standalone programs obtained the highest and lowest mean scale scores on the assessment among comparison groups, respectively. With the exception of GCCSA, dually-enrolled students obtained mean scale scores that were higher than the district's mean (M = 1430) on the 2016 STAAR Spanish mathematics assessment. Students who also attended AVANCE and GCCSA standalone programs obtained mean scale scores higher than economically-disadvantaged students across the district.

*Percent met 2016 STAAR Level II Satisfactory progression standard*

**Figures 5** to **Figure 8** show comparisons of the passing rates of students who met the 2016 STAAR Level II Satisfactory progression standard on the reading and mathematics assessments for the English and Spanish language versions of the STAAR. Passing rates were measured in percentages. To serve as a reference point for program type comparisons, a district rate was computed for each respective language version and subject of the assessment administered to economically-disadvantaged HISD students. The rates of students who met the 2016 Level II Satisfactory progression standards for each Head Start agency were also included in Appendix B-Tables 11 to 14 (p. 18-21) so that each individual agency could review the levels of achievement of their students based on demographic characteristics. **Tables 2** to **Table 5** present the gap analyses that were conducted to determine percentage point differences between the prekindergarten program models, with comparisons made relative to HISD-Head Start (dual) programs.

Results in Figure 5 show that economically-disadvantaged, third-grade students who were dually-enrolled in either AVANCE (71%) or HCDE (64%) met the 2016 Level II Satisfactory progression standard on the STAAR English reading assessment at a higher rate

than their peers who attended the corresponding Head Start Standalone programs (54% and 55%, respectively). In contrast, students who were dually-enrolled in GCCSA (63%) or NCI (68%) met the Level II Satisfactory progression standard at a lower rate than their peers who attended the corresponding Head Start Standalone programs (67% and 83%, respectively). Higher percentages of GCCSA standalone students meeting the progression standard indicates that their scale scores were more dispersed about the mean than

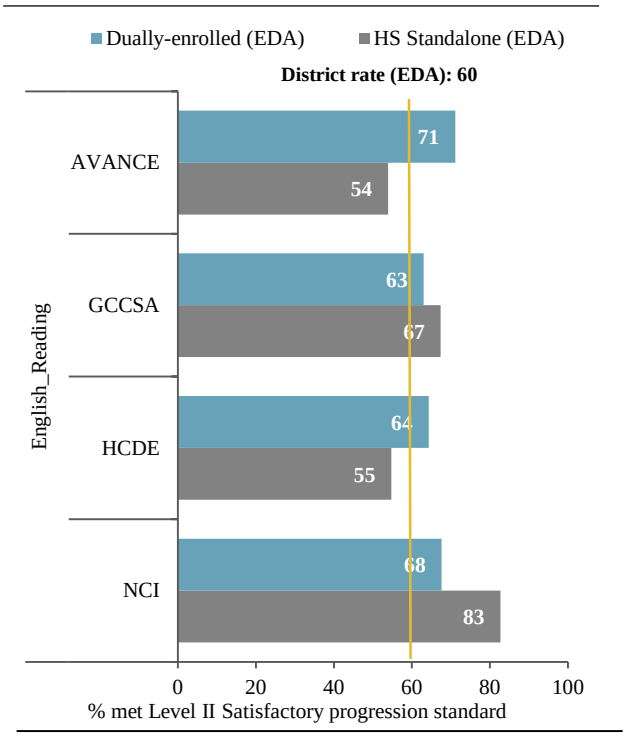


**Figure 5.** Percentages of economically-disadvantaged students who met the 2016 Level II Satisfactory progression standard on the third-grade STAAR English reading based on prekindergarten program type and Head Start agency affiliation during the 2011–2012 school year.
Note. "EDA" refers to economically-disadvantaged students.

their dually-enrolled peers, resulting in inverse academic achievement trends (refer to Figure 1). Students who were in NCI and AVANCE standalone programs met the progression standard at the highest and lowest rates among comparison groups, respectively. Overall, dually-enrolled students met the Level II Satisfactory progression standard at higher rates than economically-disadvantaged students across the district (60%) on the STAAR English reading assessment. Students who also attended GCCSA and NCI standalone programs met progression standards at higher rates than the district.

Results Table 2 show that the widest achievement gap for the 2016 Level II Satisfactory progression standard on the STAAR English reading assessment was in favor of dually-enrolled students who attended an AVANCE program (+17%). The opposite was true for dually-enrolled students who attended an NCI program (-15%).

**Table 2. HISD 2016 STAAR English reading assessment gap analysis of economically-disadvantaged, third-grade students based on prekindergarten program type and Head Start agency affiliation, 2015–2016**

| Head Start agency | 2016 STAAR English Reading % met Level II Satisfactory progression std. | | |
|---|---|---|---|
| | Dually-enrolled | Head Start Standalone | Percentage Point Gap |
| AVANCE | 71 | 54 | +17 |
| GCCSA | 63 | 67 | -4 |
| HCDE | 64 | 55 | +9 |
| NCI | 68 | 83 | -15 |

Results in **Figure 6** (p. 8) show that economically-disadvantaged, third-grade students who were dually-enrolled in either AVANCE (82%), HCDE (78%), or NCI (72%) met the 2016 Level II Satisfactory progression standard on the STAAR Spanish reading assessment at a higher rate than their peers who attended the corresponding Head Start Standalone programs (76%, 20%, and 37%, respectively). Higher percentages of AVANCE dually-enrolled students meeting the progression standard indicates that their scale scores were more dispersed about the mean than their standalone peers, resulting in inverse academic achievement trends (refer to Figure 2).

Students who were dually-enrolled in GCCSA (69%) met the Level II Satisfactory progression standard at a rate that was lower than their peers who attended the corresponding Head Start Standalone program (78%). Students who were in AVANCE dual and HCDE standalone programs met the progression standard at the highest and lowest rates among comparison groups, respectively. Overall, dually-enrolled students regardless of Head Start affiliation, and students who attended AVANCE and GCCSA standalone programs met the 2016 Level II Satisfactory progression at higher rates than economically-disadvantaged students across the district (67%) on the 2016 STAAR English reading assessment.

Results in **Table 3** (p. 8) show that the widest achievement gap for the 2016 Level II Satisfactory progression standard on the STAAR Spanish reading assessment was in favor of dually-enrolled students who attended an HCDE program (+58%). The opposite was true for dually-enrolled students who attended a GCCSA program (-9%).

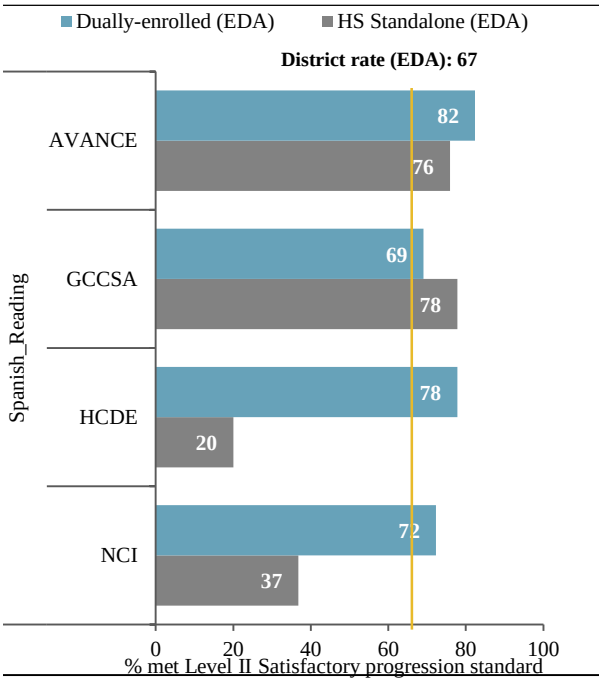


**Figure 6.** Percentages of economically-disadvantaged students who met the 2016 Level II Satisfactory progression standard on the third-grade STAAR Spanish reading assessment based on prekindergarten program type and Head Start agency affiliation during the 2011–2012 school year.
Note. "EDA" refers to economically-disadvantaged students.

**Table 3. HISD 2016 STAAR Spanish reading assessment gap analysis of economically disadvantaged, third-grade students based on prekindergarten program type and Head Start agency affiliation, 2015–2016**

| Head Start agency | 2016 STAAR Spanish Reading % met Level II Satisfactory progression std. | | |
|---|---|---|---|
| | Dually-enrolled | Head Start Standalone | Percentage Point Gap |
| AVANCE | 82 | 76 | -6% |
| GCCSA | 69 | 78 | -9% |
| HCDE | 78 | 20 | +58% |
| NCI | 72 | 37 | +35% |

Note. * indicates fewer than five economically-disadvantaged students met the Level II Satisfactory progression standard for this subgroup.
– indicated no data available.

Results in **Figure 7** show that economically-disadvantaged, third-grade students who were dually-enrolled in either AVANCE (72%), GCCSA (69%), or HCDE (60%) met the 2016 Level II Satisfactory progression standard on the STAAR English mathematics assessment at a higher rate than peers who attended the corresponding Head Start Standalone programs (60%, 61%, and 55%, respectively). Conversely, students who were dually-enrolled in NCI (72%) met the progression standard at a lower rate than peers who attended the corresponding Head Start Standalone program (84%). Students who were in NCI and HCDE standalone programs met the progression standard at the highest and lowest rates among comparison groups, respectively. With the exception of HCDE students, dually-enrolled students and students who attended an NCI standalone program met Level II Satisfactory progression standard at rates higher than economically-disadvantaged students across the district (64%) on the 2016 STAAR English mathematics assessment.

Results shown in **Table 4** reveal the widest achievement gap for the 2016 Level II Satisfactory progression standard on the STAAR English mathematics assessment was in favor of dually-enrolled students who attended an AVANCE or GCCSA program (+8% each). The opposite was true for dually-enrolled students who attended an NCI program (-12%).

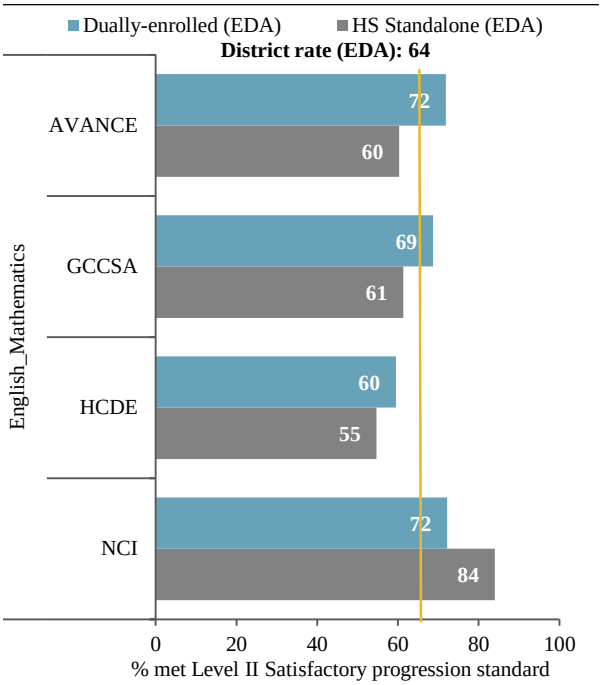


**Figure 7.** Percentages of economically-disadvantaged students who met the 2016 Level II Satisfactory progression standard on the third-grade STAAR English mathematics assessment based on prekindergarten program type and Head Start agency affiliation during the 2011–2012 school year.
Note. "EDA" refers to economically-disadvantaged students.

**Table 4. HISD 2016 STAAR English mathematics assessment gap analysis of economically disadvantaged, third-grade students by Head Start agency and prekindergarten program model**

| Head Start agency | 2016 STAAR English Mathematics % met Level II Satisfactory progression std. | | |
|---|---|---|---|
| | Dually-enrolled | Head Start Standalone | Percentage Point Gap |
| AVANCE | 72 | 60 | +8 |
| GCCSA | 69 | 61 | +8 |
| HCDE | 60 | 55 | +5 |
| NCI | 72 | 84 | -12 |

Figure 8 shows that economically-disadvantaged, third-grade students who were dually-enrolled in either HCDE (78%) or NCI (80%) met the 2016 Level II Satisfactory progression standard on the STAAR Spanish mathematics assessment at higher rates than their peers who attended the corresponding Head Start Standalone program (40% and 47%, respectively). Conversely, results from dually-enrolled students in either GCCSA (68%) or AVANCE (71%) who met Level II Satisfactory progression standard were lower than their economically-disadvantaged peers who attended the corresponding Head Start Standalone program (74% for each agency). Students who were in NCI dual and HCDE standalone programs met the progression standard at the highest and lowest rates among comparison groups, respectively. AVANCE, HCDE and NCI dually-enrolled students met Level II: Satisfactory Standard at rates higher than their economically-disadvantaged peers across the district (70%) on the 2016 STAAR Spanish mathematics assessment. Students who attended AVANCE and GCCSA standalone programs also met the progression standard at higher rates than the district.

Results shown in Table 5 reveal the widest achievement gap for the 2016 Level II Satisfactory progression standard on the STAAR Spanish mathematics assessment was in favor of dually-enrolled students who attended an HCDE program (+38%). The opposite was true for dually-enrolled students who attended a GCCSA program (-6%).

**Table 5. HISD 2016 STAAR Spanish mathematics assessment gap analysis of economically disadvantaged, third-grade students by Head Start agency and prekindergarten program model**

| Head Start agency | 2016 STAAR Spanish Mathematics % met Level II Satisfactory progression std. | | |
|---|---|---|---|
| | Dually-enrolled | Head Start Standalone | Percentage Point Gap |
| AVANCE | 71 | 74 | -3 |
| GCCSA | 68 | 74 | -6 |
| HCDE | 78 | 40 | +38 |
| NCI | 80 | 47 | +33 |

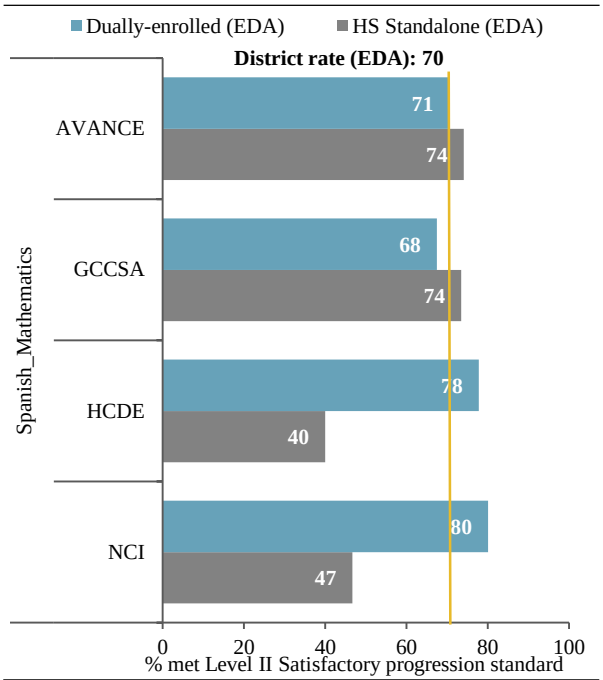


**Figure 8.** Percentages of economically-disadvantaged students who met the 2016 Level II Satisfactory progression standard on the third-grade STAAR Spanish mathematics assessment based on prekindergarten program type and Head Start agency affiliation during the 2011–2012 school year. Note. "EDA" refers to economically disadvantaged students.

*Summary of results*

With respect to HISD-Head Start (dually-enrolled) program, overall results revealed:

- Dually-enrolled, economically-disadvantage students typically achieved mean scale scores that were higher than those of their economically-disadvantaged peers across the district, regardless of Head Start agency-affiliation. A few exceptions were for dually-enrolled GCCSA students who achieved mean scale scores on the STAAR Spanish reading and mathematics assessments that were lower than district's mean scale scores (see Figures 2 and 4).

- Dually-enrolled, economically-disadvantage students-affiliated with either AVANCE or GCCSA who took the 2016 STAAR English reading and mathematics assessments obtained mean scale scores that were higher than those of their peers who attended the corresponding Head Start Standalone programs. The converse was true when comparing dually-enrolled students' achievement levels to those of their peers attending a Head Start Standalone on the STAAR Spanish reading and mathematics assessments. Similar academic relationships were also observed between the rates of AVANCE and GCCSA dually-

enrolled students who met the progression standard on the STAAR English and Spanish mathematics assessments.

- Dually-enrolled, economically-disadvantage students who attended NCI and took the 2016 STAAR Spanish reading and mathematics assessments obtained mean scale scores that were higher than those of their peers who attended the corresponding Head Start Standalone program. These findings were consistent when examining relationships between the rates of students who met the Level II Satisfactory progression standard on these specific assessments. The converse was true when comparing dually-enrolled, NCI students' achievement levels to those of their standalone peers attending a Head Start Standalone on the STAAR English reading and mathematics assessments

- Dually-enrolled, economically-disadvantage students who attended HCDE obtained mean scale scores that were higher than those of their peers who attended the corresponding Head Start Standalone program, regardless of STAAR language version or subject matter assessment. These findings were consistent when examining relationships between dual-enrollment status and the rates of students who met Level II Satisfactory progression standard on the 2016 STAAR English reading and mathematics and the STAAR Spanish mathematics.

## Discussion

The purpose of the Houston Independent School District (HISD) and Head Start Collaborative programs is to share the responsibility for closing the achievement gap between economically-disadvantaged children and their more affluent peers. This cohort longitudinal study includes results generated by descriptive statistical analyses that were compared to determine the nature of the relationships that existed among variables selected for this brief. Specifically, the academic achievement levels of economically-disadvantaged, dually-enrolled students on the 2016 STAAR third-grade reading and mathematics assessments were compared to those of their economically-disadvantaged peers who previously attended Head Start Standalone prekindergarten programs. By including dual-enrollment status as a variable for this brief, alignment of this study's purpose with the previous short-term study about the 2011–2012 prekindergarten student cohort is improved. Also, because analyses conducted for this brief distinguished the achievement levels of students based on dual-enrollment status, result outcomes and discussions for each Head Start agency will differ from previous report years examining third-grade students' academic achievement.

Findings in this brief highlighted relationships among variables that suggest economically-disadvantaged students benefit from enrollment in the HISD-Head Start Collaborative programs. This was particularly noted when comparisons were made between mean scale scores achieved by dually-enrolled students and the district. However, as inferential statistics were not used during the analytic process, the strength of these relationships and effects of covariance are not known. Although initial review of these findings suggest the HISD and Head Start collaboration are in general "on track" to improving the academic achievement of economically-disadvantaged students, further analyses will be necessary to determine if the partnerships are actually closing the achievement gap between economically-disadvantaged and non-economically-disadvantaged peers.

In addition, observation of the data revealed that not all dually-enrolled students of Head Start agencies benefited to the same degree from the collaborative programs. Dually-enrolled HCDE students appear to obtain higher achievement levels when compared to their standalone peers regardless of language or subject version of the STAAR assessment. However, mixed results for students affiliated with AVANCE, GCCSA and NCI suggest their students may be (a) more responsive to the curriculum implementation at the Head Start Standalone sites, and (b) additional approaches may be necessary to evaluate the nature of each Head Start agency's partnership with HISD. The Early Childhood, Research and Accountability, and Head Start agency partners may consider collaborating to extend evaluation methods to include qualitative variables to further stakeholders' understanding, and improve students' outcomes and partnership relations.

Stemming from the previous finding, this study also indicated differences in students' outcomes based on language version of the assessments. One explanation for this phenomenon may be due to differences in bilingual programs received by students of the prekindergarten programs. In 2011–2012 school year, HISD offered "four bilingual programs and two English as a Second Language (ESL) programs for English language learners (ELL), to provide students with a carefully structured sequence of basic skills in their native language, as well as gradual skill development in English through ESL methodology" (Houston Independent School District [HISD], 2012, p.3). Bilingual program placement upon entry into an HISD prekindergarten classroom may have had a stronger impact on dually-enrolled NCI students' achievement, in contrast to other peers as indicated in STAAR reading and mathematics outcomes, as they have the largest proportion of LEP students out of all the Head Start

agencies (see Appendix A-Table 6). Additionally, because the student populations of both HISD-Head Start (dual) and Head Start Standalones were primarily identified as Black and Hispanic, the lower achievement levels on the 2016 STAAR third-grade reading and mathematics assessments that were observed in this study substantiated evidence regarding inequities in meaningful pedagogical experiences and achievement experienced by minority students once they enter school (Magnuson & Waldfogel as cited in NRC, 2009).

One implication for this report is that while Head Start programs provide a wide spectrum of services to low-income children, the agencies may need additional supports to meet the education needs of their target population. These supports may include (a) increasing collaborations within the dually-enrolled program; (b) assistance in the development and implementation of strategic recruitment and retention plans for excellent early childhood teachers and certified professionals, and (c) professional development opportunities for teachers and administrators. Because there were successes also experienced by the Head Start Standalone programs, both HISD and Head Start partners may consider sharing best implementation and service practices with each other so that all students may benefit, regardless of which program they are enrolled in.

Another implication from this study is that the Early Childhood Department and Head Start agencies may consider examining factors within their programs that impinge on the quality of classroom instruction. At the class level, "improvement in students' achievement are solidly linked to teacher excellence, the hallmarks of which are thorough knowledge of content and the qualities of teachers' understanding of content areas, solid pedagogical skills, motivational abilities, and career-long opportunities for continuing education. Excellent teachers inspire young children to develop analytical and problem-solving skills, the ability to interpret information and communicate what they learn and ultimately master conceptual understanding" [for successful transfer to interdisciplinary, real-world situations] (National Academy of Sciences, National Academy of Engineering, & Institute of Medicine [NAS/NAE/IOM], 2007, p. 113). Teacher mobility is another measure that is worth exploring, as teachers' turnover is extensively noted to adversely impact students' academic achievement (NAS/NAE/IOM, 2007).

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## Appendix A

**Table 6. Demographic characteristics of economically-disadvantaged, third grade students by Head Start agency, 2015–2016**

| | | AVANCE | | GCCSA | | HCDE | | NCI | |
|---|---|---|---|---|---|---|---|---|---|
| **Demographic characteristics** | | n | % | n | % | n | % | n | % |
| **Overall sample** | | **215** | **100.0** | **486** | **100.0** | **142** | **100.0** | **489** | **100.0** |
| Gender | Female | 109 | 50.7 | 287 | 59.1 | 67 | 47.2 | 254 | 51.9 |
| | Male | 106 | 49.3 | 199 | 40.9 | 75 | 52.8 | 235 | 48.1 |
| Race and ethnicity | Asian | – | – | – | – | – | – | 7 | 1.4 |
| | Black | 20 | 9.3 | 117 | 24.1 | 27 | 19.0 | 89 | 18.2 |
| | Hispanic | 194 | 90.2 | 367 | 75.5 | 115 | 81.0 | 386 | 78.9 |
| | Other | – | – | – | – | – | – | 2 | 0.4 |
| | White | 1 | 0.5 | 2 | 0.4 | – | – | 5 | 1.0 |
| Student with disability (SWD) | Yes | 10 | 4.7 | 21 | 4.3 | 5 | 3.5 | 17 | 3.5 |
| Limited English proficient (LEP) | Yes | 127 | 59.1 | 278 | 57.2 | 61 | 43.0 | 347 | 71.0 |
| At risk | Yes | 164 | 76.3 | 364 | 71.2 | 88 | 62.0 | 394 | 80.6 |

Source: STAAR 2015–2016 HISD student database; Archival Head Start student list, 2011–2012; PEIMS 2015–2016 HISD student database.

Note. Demographic characteristics were retrieved from the PEIMS 2015–2016 HISD student database. 'SWD' refers to students who were determined eligible for special education services by HISD.

Note. – indicates no data available.

**Table 7. Summary statistics of HISD students' academic achievement on the 2016 third-grade STAAR English reading assessment by Head Start program affiliation, 2015–2016**

| Demographic characteristics | | AVANCE | | | GCCSA | | | HCDE | | | NCI | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | n | Mean | SD | n | Mean | SD | n | Mean | SD | n | Mean | SD |
| **Overall sample** | | **166** | **1398.1** | **126.4** | **292** | **1395.0** | **127.2** | **106** | **1396.8** | **166.6** | **313** | **1418.5** | **133.9** |
| Gender | Female | 85 | 1394.2 | 123.4 | 182 | 1405.5 | 131.1 | 52 | 1416.8 | 142.8 | 156 | 1426.2 | 142.5 |
| | Male | 81 | 1402.2 | 130.0 | 110 | 1377.6 | 118.9 | 54 | 1377.6 | 186.1 | 157 | 1410.9 | 124.8 |
| Race and ethnicity | Asian | – | – | – | – | – | – | – | – | – | 7 | 1486.9 | 85.7 |
| | AI | – | – | – | – | – | – | – | – | – | 1 | * | * |
| | Black | 20 | 1377.2 | 81.7 | 115 | 1397.9 | 124.4 | 26 | 1365.8 | 189.9 | 89 | 1390.3 | 149.6 |
| | Hispanic | 145 | 1402 | 131.2 | 175 | 1405.3 | 128.9 | 80 | 1406.9 | 158.4 | 210 | 1427.3 | 127.3 |
| | Other | – | – | – | – | – | – | – | – | – | 1 | * | * |
| | White | 1 | * | * | 2 | * | * | – | – | – | 5 | 1457.8 | 86.6 |
| Student with disability (SWD) | No | 160 | 1397.4 | 126.9 | 283 | 1397.0 | 127.2 | 102 | 1404.9 | 156.6 | 301 | 1421.4 | 132.7 |
| | Yes | 6 | 1416.7 | 120.2 | 9 | 1331.3 | 113.2 | 4 | * | * | 12 | 1345.2 | 150.0 |
| Limited English proficient(LEP) | No | 86 | 1403.2 | 117.8 | 202 | 1387.9 | 127.5 | 76 | 1380.5 | 165.6 | 140 | 1404.7 | 135.4 |
| | Yes | 80 | 1392.7 | 135.5 | 90 | 1410.9 | 125.7 | 30 | 1438.2 | 164.7 | 173 | 1429.7 | 132.0 |
| At risk | No | 50 | 1427.5 | 117.3 | 137 | 1414.4 | 131.1 | 50 | 1377.4 | 168.9 | 95 | 1413.1 | 164.2 |
| | Yes | 116 | 1385.5 | 128.5 | 155 | 1377.8 | 121.4 | 56 | 1414.1 | 164.2 | 218 | 1420.9 | 141.6 |

Source: STAAR 2015–2016 HISD student database; Archival Head Start student list, 2011–2012; PEIMS 2015–2016 HISD student database.

Note. Demographic characteristics were retrieved from the PEIMS 2015–2016 HISD student database. 'SWD' refers to students who were determined eligible for special education services by HISD.

Note. * indicates fewer than five students tested.

Note. – indicates no data available.

**Table 8. Summary statistics of HISD students' academic achievement on the 2016 third-grade STAAR Spanish reading assessment by Head Start program affiliation, 2015–2016**

| Demographic Characteristics | | AVANCE | | | GCCSA | | | HCDE | | | NCI | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | n | Mean | SD | n | Mean | SD | n | Mean | SD | n | Mean | SD |
| **Overall sample** | | **46** | **1439.7** | **177.7** | **188** | **1399.5** | **159.7** | **33** | **1336.1** | **158.3** | **174** | **1400.4** | **153.1** |
| Gender | Female | 24 | 1452.1 | 186.4 | 105 | 1416.8 | 163.9 | 14 | 1359.0 | 171.4 | 97 | 1420.0 | 153.4 |
| | Male | 22 | 1426.1 | 171.0 | 83 | 1377.7 | 152.4 | 19 | 1319.2 | 150.4 | 77 | 1375.8 | 150.2 |
| Race and ethnicity | Asian | – | – | – | – | – | – | – | – | – | – | – | – |
| | Black | – | – | – | – | – | – | – | – | – | – | – | – |
| | Hispanic | 46 | 1439.7 | 177.7 | 187 | 1399.8 | 160.1 | 33 | 1336.1 | 158.3 | 174 | 1400.4 | 153.1 |
| | Other | – | – | – | – | – | – | – | – | – | – | – | – |
| | White | – | – | – | – | – | – | – | – | – | – | – | – |
| Student with disability (SWD) | No | 43 | 1447.3 | 186.5 | 178 | 1404.5 | 159.8 | 32 | 1341.4 | 157.8 | 169 | 1403.4 | 153.6 |
| | Yes | 3 | * | * | 10 | 1312.0 | 135.5 | 1 | * | * | 5 | 1301.8 | 103.6 |
| Limited English proficient (LEP) | No | – | – | – | – | – | – | – | – | – | – | – | – |
| | Yes | 45 | 1442.7 | 178.5 | 186 | 1400.0 | 160.5 | 29 | 1346.8 | 160.3 | 173 | 1399.7 | 153.2 |
| At risk | No | 1 | * | * | 2 | * | * | 4 | * | * | – | – | – |
| | Yes | 45 | 1442.7 | 178.5 | 186 | 1400.0 | 160.5 | 29 | 1346.8 | 160.3 | 174 | 1400.4 | 153.1 |

Source: STAAR 2015–2016 HISD student database; Archival Head Start student list, 2011–2012; PEIMS 2015–2016 HISD student database.

Note. Demographic characteristics were retrieved from the PEIMS 2015–2016 HISD student database. 'SWD' refers to students who were determined eligible for special education services by HISD.

Note. * indicates fewer than five students tested.

Note. – indicates no data available.

**Table 9. Summary statistics of HISD students' academic achievement on the 2016 third-grade STAAR English mathematics assessment by Head Start program affiliation, 2015–2016**

| Demographic characteristics | | AVANCE | | | GCCSA | | | HCDE | | | NCI | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | n | Mean | SD | n | Mean | SD | n | Mean | SD | n | Mean | SD |
| **Overall sample** | | **167** | **1449.0** | **146.4** | **29** | **1420.2** | **131.9** | **106** | **1424.4** | **163.4** | **327** | **1463.4** | **147.6** |
| Gender | Female | 84 | 1428.9 | 148.1 | 184 | 1415.6 | 129.0 | 52 | 1438.1 | 161.7 | 166 | 1446.5 | 146.5 |
| | Male | 83 | 1469.5 | 142.7 | 110 | 1427.9 | 136.8 | 54 | 1411.1 | 165.5 | 161 | 1480.9 | 147.1 |
| Race and ethnicity | Asian | – | – | – | – | – | – | – | – | – | 5 | 1553.0 | 112.4 |
| | AI | – | – | – | – | – | – | – | – | – | 1 | * | * |
| | Black | 20 | 1409.2 | 116.0 | 115 | 1392.1 | 126.4 | 26 | 1394.1 | 135.8 | 87 | 1413.0 | 144.4 |
| | Hispanic | 146 | 1456.6 | 147.9 | 177 | 1438.6 | 132.8 | 80 | 1434.2 | 171.0 | 229 | 1481.0 | |
| | Other | – | – | – | – | – | – | – | – | – | 1 | * | * |
| | White | 1 | * | * | 2 | * | * | – | – | – | 4 | * | * |
| Student with disability (SWD) | No | 160 | 1445.3 | 140.6 | 285 | 1422.7 | 131.8 | 102 | 1426.3 | 165.8 | 315 | 1465.7 | 146.4 |
| | Yes | 7 | 1535.1 | 245.5 | 9 | 1341.0 | 115.5 | 4 | * | * | 12 | 1402.8 | 172.4 |
| Limited English proficient (LEP) | No | 85 | 1446.6 | 152.0 | 204 | 1404.8 | 131.0 | 76 | 1408.4 | 158.9 | 139 | 1429.2 | 136.5 |
| | Yes | 82 | 1451.6 | 141.3 | 90 | 1455.0 | 127.9 | 30 | 1464.8 | 170.5 | 188 | 1488.8 | 150.6 |
| At risk | No | 50 | 1474.0 | 147.1 | 139 | 1430.8 | 133.6 | 50 | 1408.8 | 160.3 | 95 | 1441.7 | 144.0 |
| | Yes | 117 | 1438.4 | 145.5 | 155 | 1410.7 | 130.1 | 56 | 1438.3 | 166.4 | 232 | 1472.3 | 148.4 |

Source: STAAR 2015–2016 HISD student database; Archival Head Start student list, 2011–2012; PEIMS 2015–2016 HISD student database.

Note. Demographic characteristics were retrieved from the PEIMS 2015–2016 HISD student database. 'SWD' refers to students who were determined eligible for special education services by HISD.

Note. * indicates fewer than five students tested.

Note. – indicates no data available.

**Table 10. Summary statistics of HISD students' academic achievement on the 2016 third-grade STAAR Spanish mathematics assessment by Head Start program affiliation, 2015–2016**

| | | AVANCE | | | GCCSA | | | HCDE | | | NCI | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Demographic characteristics** | | **n** | **Mean** | **SD** | **n** | **Mean** | **SD** | **n** | **Mean** | **SD** | **n** | **Mean** | **SD** |
| **Overall sample** | | **44** | **1476.0** | **138.4** | **185** | **1419.0** | **129.9** | **33** | **1403.7** | **148.7** | **151** | **1440.5** | **123.5** |
| Gender | Female | 24 | 1461.7 | 148.8 | 102 | 1414.7 | 116.9 | 14 | 1413.1 | 147.1 | 83 | 1445.5 | 121.4 |
| | Male | 20 | 1493.1 | 126.4 | 83 | 1424.2 | 144.9 | 19 | 1396.8 | 153.4 | 68 | 1434.4 | 126.6 |
| Race and ethnicity | Asian | – | – | – | – | – | – | – | – | – | – | – | – |
| | Black | – | – | – | 1 | * | * | – | – | – | – | – | – |
| | Hispanic | 44 | 1476.0 | 138.4 | 184 | 1418.8 | 130.3 | 33 | 1403.7 | 148.6 | 151 | 1440.5 | 123.5 |
| | Other | – | – | – | – | – | – | – | – | – | – | – | – |
| | White | – | – | – | – | – | – | – | – | – | – | – | – |
| Student with disability (SWD) | No | 42 | 1479.7 | 139.2 | 175 | 1422.2 | 129.9 | 32 | 1402.5 | 150.8 | 146 | 1440.2 | 125.2 |
| | Yes | 2 | * | * | 10 | 1361.7 | 123.2 | 1 | * | * | 5 | 1451.0 | 60.5 |
| Limited English proficient (LEP) | No | 1 | * | * | 1 | * | * | 4 | * | * | 1 | * | * |
| | Yes | 43 | 1479.1 | 138.4 | 184 | 1418.8 | 130.3 | 29 | 1419.0 | 147.8 | 150 | 1440.8 | 123.8 |
| At risk | No | 1 | * | * | 1 | * | * | 4 | * | * | – | – | – |
| | Yes | 43 | 1479.1 | 138.4 | 184 | 1418.8 | 130.3 | 29 | 1419.0 | 147.8 | 151 | 1440.5 | 123.5 |

Source: STAAR 2015–2016 HISD student database; Archival Head Start student list, 2011–2012; PEIMS 2015–2016 HISD student database.

Note. Demographic characteristics were retrieved from the PEIMS 2015–2016 HISD student database. 'SWD' refers to students who were determined eligible for special education services by HISD.

Note. * indicates fewer than five students tested.

Note. – indicates no data available.

## Appendix B

**Table 11. Percent of HISD students who met the 2016 Level II Satisfactory progression standard on the third-grade STAAR English reading assessment by Head Start program affiliation, 2015–2016**

| | | AVANCE | | GCCSA | | HCDE | | NCI | |
|---|---|---|---|---|---|---|---|---|---|
| **Demographic characteristics** | | **n** | **%** | **n** | **%** | **n** | **%** | **n** | **%** |
| **Overall sample** | | **105** | **63.3** | **188** | **64.4** | **62** | **58.5** | **223** | **71.2** |
| Gender | Female | 52 | 61.2 | 120 | 65.9 | 36 | 69.2 | 115 | 73.7 |
| | Male | 53 | 65.4 | 68 | 61.8 | 26 | 48.1 | 108 | 68.8 |
| Race and ethnicity | Asian | – | – | – | – | – | – | 6 | 85.7 |
| | Black | 13 | 65.0 | 68 | 59.1 | 16 | 61.5 | 56 | 62.9 |
| | Hispanic | 92 | 63.4 | 119 | 68.0 | 46 | 57.5 | 156 | 74.3 |
| | Other | – | – | – | – | – | – | 1 | * |
| | White | – | – | 1 | * | – | – | 4 | * |
| Student with disability (SWD) | No | 101 | 63.1 | 183 | 64.7 | 61 | 59.8 | 217 | 72.1 |
| | Yes | 4 | * | 5 | 55.6 | 1 | * | 6 | 50.0 |
| Limited English proficient (LEP) | No | 57 | 66.3 | 121 | 59.9 | 43 | 56.6 | 95 | 67.9 |
| | Yes | 48 | 60.0 | 67 | 74.4 | 19 | 63.3 | 128 | 74.0 |
| At risk | No | 39 | 78.0 | 96 | 70.1 | 29 | 58.0 | 69 | 72.6 |
| | Yes | 66 | 56.9 | 92 | 59.4 | 33 | 58.9 | 154 | 70.6 |

Source: STAAR 2015–2016 HISD student database; Archival Head Start student list, 2011–2012; PEIMS 2015–2016 HISD student database.

Note. Demographic characteristics were retrieved from the PEIMS 2015–2016 HISD student database. 'SWD' refers to students who were determined eligible for special education services by HISD.

Note. * indicates fewer than five students tested.

Note. – indicates no data available.

**Table 12. Percent of HISD students who met the 2016 Level II Satisfactory progression standard on the third-grade STAAR Spanish reading assessment by Head Start program affiliation, 2015–2016**

| Demographic characteristics | | AVANCE | | GCCSA | | HCDE | | NCI | |
|---|---|---|---|---|---|---|---|---|---|
| | | n | % | n | % | n | % | n | % |
| **Overall sample** | | **36** | **78.3** | **133** | **70.7** | **17** | **51.5** | **119** | **68.4** |
| Gender | Female | 19 | 79.2 | 82 | 78.1 | 7 | 50.0 | 71 | 73.2 |
| | Male | 17 | 77.3 | 51 | 61.4 | 10 | 52.6 | 48 | 62.3 |
| Race and ethnicity | Asian | – | – | – | – | – | – | – | – |
| | Black | – | – | 1 | * | – | – | – | – |
| | Hispanic | 36 | 78.3 | 132 | 70.6 | 17 | 51.5 | 119 | 68.4 |
| | Other | – | – | – | – | – | – | – | – |
| | White | – | – | – | – | – | – | – | – |
| Student with disability (SWD) | No | 35 | 81.4 | 128 | 71.9 | 17 | 53.1 | 116 | 68.6 |
| | Yes | 1 | * | 5 | 50.0 | – | – | 3 | * |
| Limited English proficient (LEP) | No | 1 | * | – | – | – | – | – | – |
| | Yes | 36 | 80.0 | 131 | 70.4 | 16 | 55.2 | 118 | 68.2 |
| At risk | No | 1 | * | 2 | * | 1 | * | – | – |
| | Yes | 36 | 80.0 | 131 | 70.4 | 16 | 55.2 | 119 | 68.4 |

Source: STAAR 2015–2016 HISD student database; Archival Head Start student list, 2011–2012; PEIMS 2015–2016 HISD student database.

Note. Demographic characteristics were retrieved from the PEIMS 2015–2016 HISD student database. 'SWD' refers to students who were determined eligible for special education services by HISD.

Note. * indicates fewer than five students tested.

Note. – indicates no data available.

**Table 13. Percent of HISD students who met the 2016 Level II Satisfactory progression standard on the third-grade STAAR English mathematics assessment by Head Start program affiliation, 2015–2016**

| Demographic Characteristics | | AVANCE | | GCCSA | | HCDE | | NCI | |
|---|---|---|---|---|---|---|---|---|---|
| | | n | % | n | % | n | % | n | % |
| **Overall** | | **111** | **66.5** | **195** | **66.3** | **60** | **56.6** | **245** | **74.9** |
| Gender | Female | 49 | 58.3 | 122 | 66.3 | 34 | 65.4 | 118 | 71.1 |
| | Male | 62 | 74.7 | 73 | 66.4 | 26 | 48.1 | 127 | 78.9 |
| Race and ethnicity | Asian | – | – | – | – | – | – | 5 | 100.0 |
| | Black | 13 | 65.0 | 69 | 60.0 | 14 | 53.8 | 58 | 66.7 |
| | Hispanic | 98 | 67.1 | 127 | 70.6 | 46 | 57.5 | 178 | 77.7 |
| | Other | – | – | – | – | – | – | 2 | * |
| | White | – | – | 1 | * | – | – | 1 | * |
| Student with disability (SWD) | No | 107 | 66.9 | 191 | 67 | 58 | 56.9 | 240 | 76.2 |
| | Yes | 4 | * | 4 | * | 2 | * | 5 | 41.7 |
| Limited English proficient (LEP) | No | 59 | 69.4 | 127 | 62.3 | 41 | 53.9 | 97 | 69.8 |
| | Yes | 52 | 63.4 | 68 | 75.6 | 19 | 63.3 | 148 | 78.7 |
| At risk | No | 36 | 72.0 | 99 | 71.2 | 27 | 54.0 | 70 | 73.7 |
| | Yes | 75 | 64.1 | 96 | 61.9 | 33 | 58.9 | 175 | 75.4 |

Source: STAAR 2015–2016 HISD student database; Archival Head Start student list, 2011–2012; PEIMS 2015–2016 HISD student database.

Note. Demographic characteristics were retrieved from the PEIMS 2015–2016 HISD student database. 'SWD' refers to students who were determined eligible for special education services by HISD.

Note. * indicates fewer than five students tested.

Note. – indicates no data available.

**Table 14. Percent of HISD students who met the 2016 Level II Satisfactory progression standard on the third-grade STAAR Spanish mathematics assessment by Head Start program affiliation, 2015–2016**

| Demographic characteristics | | AVANCE | | GCCSA | | HCDE | | NCI | |
|---|---|---|---|---|---|---|---|---|---|
| | | n | % | n | % | n | % | n | % |
| **Overall sample** | | **32** | **72.7** | **127** | **68.6** | **20** | **60.6** | **116** | **76.8** |
| Gender | Female | 15 | 62.5 | 69 | 67.6 | 9 | 64.3 | 65 | 78.3 |
| | Male | 17 | 85.0 | 58 | 69.9 | 11 | 57.9 | 51 | 75.0 |
| Race and ethnicity | Asian | – | – | – | – | – | – | – | – |
| | Black | – | – | 1 | * | – | – | – | – |
| | Hispanic | 32 | 72.7 | 126 | 68.5 | 20 | 60.6 | 116 | 76.8 |
| | Other | – | – | – | – | – | – | – | – |
| | White | – | – | – | – | – | – | – | – |
| Student with disability (SWD) | No | 31 | 73.8 | 122 | 69.7 | 19 | 59.4 | 111 | 76 |
| | Yes | 1 | * | 5 | 50.0 | 1 | * | 5 | 100.0 |
| Limited English proficient (LEP) | No | – | – | – | – | 1 | * | 1 | * |
| | Yes | 32 | 74.4 | 126 | 68.5 | 19 | 65.5 | 115 | 76.7 |
| At risk | No | – | – | 1 | * | 1 | * | – | – |
| | Yes | 32 | 74.4 | 1236 | 68.5 | 19 | 65.5 | 116 | 76.8 |

Source: STAAR 2015–2016 HISD student database; Archival Head Start student list, 2011–2012; PEIMS 2015–2016 HISD student database.

Note. Demographic characteristics were retrieved from the PEIMS 2015–2016 HISD student database. 'SWD' refers to students who were determined eligible for special education services by HISD.

Note. * indicates fewer than five students tested.

Note. – indicates no data available.