MEMORANDUM   July 26, 2021

TO: Margarita Gardea
            Officer, Curriculum and Instruction

FROM: Allison E. Matney, Ed.D.
            Officer, Research and Accountability

SUBJECT: **Houston ISD and Head Start Collaborative Programs Data Report, 2020–2021**

The purpose of the HISD and Head Start Pre-K collaborative programs is to share the responsibility for closing the achievement gap between economically disadvantaged children and their more affluent peers. It is important to understand how students enrolled in a Head Start program perform academically, both as compared to students who were not enrolled in a Head Start program and as compared to different student groups. This report analyzes the academic outcomes of HISD Pre-K and kindergarten students who did and did not participate in Head Start programs by economic disadvantage, race/ethnicity, special education, English learners, and homelessness.

Key findings include:
- A total of 13,886 students were enrolled in kindergarten in the 2020–2021 school year. Of those, 8,501 (61 percent) were in an HISD Pre-K program (HISD-PK), 4,310 (31 percent) were not enrolled in an HISD or Head Start Pre-K program (NE), 961 (7 percent) were in a dual program (Dual), and 114 (less than one percent) were in a Head Start standalone program (HS-SA) in the 2019–2020 school year.
- Among all students, NE kindergarteners had the highest Iowa/Logramos mean ELA score (127.5) and mathematics score (127.8), while students who had been in an HS-SA program had the lowest mean ELA score (121.4) and mathematics score (119.8). However, when examining Iowa/Logramos scores among ED students only, mean scores between the groups are very similar, with ELA scores for ED students ranging from 121.4 to 122.6 (difference of 1.2 points), and mathematics scores for ED students ranging from 119.8 to 121.2.
- Using the CIRCLE assessment, all students and ED students showed approximately the same growth, while the English learner (EL) student group showed the most growth from BOY to MOY for both literacy and math.

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

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Attachment

cc: Marisol Castruita
     Mariana Coronado

HOUSTON INDEPENDENT SCHOOL DISTRICT

RESEARCH

Educational Program Report

HOUSTON ISD AND HEAD START COLLABORATIVE PROGRAMS DATA REPORT, 2020-2021

HISD | Research and Accountability

ANALYZING DATA, MEASURING PERFORMANCE.

Houston ISD and Head Start Collaborative Programs Data Report, 2020–2021

Executive Summary

Background

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 opportunities. The purpose of the HISD and Head Start prekindergarten (Pre-K) collaborative programs is to share the responsibility for closing the achievement gap between economically disadvantaged children and their more affluent peers. It is important to understand how students enrolled in a Head Start program perform academically, both as compared to students who were not enrolled in a Head Start program and as compared to different student groups. This report analyzes the academic outcomes of HISD Pre-K and kindergarten students who did and did not participate in Head Start programs by economic disadvantage, race/ethnicity, special education, English Learners, and homelessness.

Highlights

- A total of 13,886 students were enrolled in kindergarten in the 2020–2021 school year. Of those, 8,501 (61 percent) were in an HISD Pre-K program (HISD-PK), 4,310 (31 percent) were not enrolled in an HISD or Head Start Pre-K program (NE), 961 (7 percent) were in a HS-Dual program (HS-Dual), and 114 (less than 1 percent) were in a Head Start standalone program (HS-SA) in the 2019–2020 school year.

- The typical kindergarten student who was previously enrolled in an early childhood program (ECP) in 2019–2020 was identified as either Hispanic or African American and economically disadvantaged (ED). Few students in the four sample groups (HISD-PK, NE, HS-Dual, HS-SA) were identified as special education (SE) or homeless.

- Among all students, NE kindergarteners had the highest Iowa/Logramos mean ELA score (127.5) and mathematics score (127.8), while students who had been in an HS-SA program had the lowest mean ELA score (121.4) and mathematics score (119.8), a difference of 6.1 and 8.0 points, respectively. However, when examining Iowa/Logramos scores among economically disadvantaged students only, mean scores between the groups are very similar, with ELA scores for ED students ranging from 121.4 to 122.6 (difference of 1.2 points), and mathematics scores for ED students ranging from 119.8 to 121.2 (difference of 1.4 points).

- Using the CIRCLE assessment, all students and ED students showed approximately the same growth, while the English Learner (EL) student group showed the most growth from BOY to MOY for both literacy and math.

Introduction

Head Start was created in 1965 to combat poverty and inequities experienced by disadvantaged populations and 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 aged 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).

In compliance with the Texas Education Code §29.153, the Houston Independent School District (HISD) has provided free prekindergarten (Pre-K) classes for eligible Houston area four-year old students since the 1985–1986 school year. To be eligible for enrollment in the district's free Pre-K program (Houston Independent School District, 2020), a child must be four years of age on or before September 1 of the given school year, live within HISD boundaries, and meet one or more of the following criteria:
- child is homeless;
- child is unable to speak or understand English as determined by the Home Language Survey;
- child is economically disadvantaged;
- child of an active-duty member of the U.S. military or one who has been killed, injured, or missing in action while on active duty;
- child is or has been in the conservatorship of the Department of Family and Protective Services;
- child meets any eligibility criteria for Head Start;
- child of a person eligible for the Star of Texas Award as a peace officer, firefighter, or emergency medical first responder.

Children are enrolled into one of four HISD Pre-K program models:
- an early childhood center (ECC);
- a school-based program;
- an HISD and Head Start (combined) program;
- a Montessori program

The district uses the Frog Street Pre-K curriculum, which focuses on the physical, social, emotional, cognitive, and language development of preschool-age children (Schiller, n.d.). HISD operates 155 school-based and ECC campuses that provide Pre-K instruction.

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 opportunities. Currently, HISD collaborates with four federally-funded Head Start agencies that serve regional sectors of Harris County within the district's boundaries – AVANCE-Houston, Inc. (AVANCE), Baker Ripley, Gulf Coast Community Services Association (GCCSA), and the Harris County Department of Education (HCDE). The purpose of the HISD and Head Start Pre-K collaborative programs is to share the responsibility for closing the achievement gap between economically disadvantaged children and their more affluent peers. To support their respective HISD partner schools, Head Start agencies provided classrooms

with appropriate furniture, materials, supplies, and playground equipment, as needed. Additional resources the agencies provided included teachers or teacher aids for HS-Dual classrooms, coverage of indirect costs with in-kind funds, and comprehensive services to eligible children at the designated schools.

It is important to understand how students enrolled in a Head Start program perform academically, both as compared to students who were not enrolled in a Head Start program and as compared to different student groups. This report analyzes the academic outcomes of HISD Pre-K and kindergarten students who did and did not participate in Head Start programs by economic disadvantage, race/ethnicity, special education, English Learners, and homelessness.

Methods

2020–2021 Kindergarten students were identified as having been enrolled in 2019–2020 in an HISD Pre-K program (HISD-PK), a Head Start stand-alone program (HS-SA), dually enrolled in a Head Start HISD Pre-K program (HS-Dual), or not enrolled in an HISD or Head Start Pre-K program (NE). An HISD-PK student was defined as a Pre-K student found within HISD who was not also on the Head Start rosters. An HS-SA student was defined as a student found on the Head Start roster who was not found within HISD. A HS-Dual student was defined as an HISD Pre-K student who was also on the Head Start roster. An NE student was defined as an HISD kindergarten student in 2020–2021 who was not found on the Head Start roster, the 2019–2020 Public Education Information Management System (PEIMS) file, or any Chancery demographic file during the 2019–2020 school year. Students identified as "NE" may have been enrolled in a Pre-K program in another district, in a private school, or not enrolled in a Pre-K program at all.

Participation in a Head Start program was determined based on the 2019–2020 Head Start student enrollment roster; students appearing on this roster may have been in a HS-SA or a HS-Dual program. The PEIMS student data bases from the 2019–2020 and the 2020–2021 school years and the Chancery demographic files from each month of the 2019–2020 school year were obtained to identify HISD Pre-K and kindergarten students and for the demographic variables used for this report. To measure academic achievement of HISD students, the 2019–2020 CIRCLE assessment data (Pre-K students) and the 2020–2021 Iowa/Logramos assessment data (kindergarten students) were used.

Students on the Head Start roster were identified only by first name, middle name, last name, and date of birth. No other identifying information was available. Middle name was often incomplete or missing from the Head Start roster. In order to match the student to their HISD local ID or PEIMS ID, students were matched by name (first word of last name and first word of first name) and date of birth. Students from the 2019–2020 Head Start roster were matched to the 2019–2020 and 2020–2021 PEIMS student files and to the 2019–2020 Chancery demographic files.

The Head Start roster contained a field to identify the program type (HS-Dual or HS-SA). Some students appeared in the Head Start roster with a program type of HS-SA, but also appeared in the PEIMS 2019–2020 file as a Pre-K student. These students were served under a separate memorandum of understanding (MOU) with HISD. For these students, the model indicated in the Head Start roster was used to categorize the student; as such, they were considered as participating in the HS-SA program, not as participating in the HS-Dual program.

To measure school readiness among students affiliated with HISD and Head Start agency early childhood programs (ECP), the children were administered the CIRCLE Progress Monitoring System assessments (Children's Learning Institute [CLI], 2019a; Children's Learning Institute [CLI], 2019b). CIRCLE is an online assessment tool designed to monitor the academic progress of young children ages three years and six months to four years and eleven months. HISD currently uses the criterion-referenced assessment to determine children's understanding in the subject areas of Literacy and Mathematics. Scores of Below Proficient or Proficient are calculated for the subject areas at three assessment "waves" (beginning of year [BOY], middle of year [MOY], and end of year [EOY]). Because of school closures beginning in March 2020 due to the COVID-19 virus, for the 2019–2020 school year wave 3 of the CIRCLE was not administered to students. As such, for the purposes of this report, academic progress is calculated as the difference between the percentage of students within each of the early childhood programs meeting proficient status at MOY and the percentage of students meeting proficient status at BOY.

The academic achievement of HISD kindergarten students was measured using the Iowa (English) and Logramos (Spanish) Norm Reference Tests (NRT), designed to assess students' progress in skills and standards that are essential to successful learning (HISD, 2015). Academic outcomes measured for this report included mean standard scores on the language arts and mathematics subtests from each assessment.

Basic descriptive statistics were employed to analyze the data. The number of students within each group can be found in the tables that accompany figures in **Appendices A–C** (pp. 17–19). Due to rounding and missing data, some totals may not equal 100 percent.

Data Limitations
In response to the COVID-19 pandemic, the Houston Independent School District (HISD) moved to remote learning, which included distance learning, independent study, live online meetings, and completing assignments online or paper-based packets mailed to the home beginning on March 30, 2020. The last nine weeks of the 2019–2020 school year were completed remotely. Results of the EOY CIRCLE assessments were not collected for this report as HISD teachers were unable to administer assessments face-to-face with young students. HISD extended remote learning through the 2020 summer school session and through the first six-week grading cycle of the 2020–2021 school year for all students. The school year began remotely on September 8, 2020. The option for face-to-face instruction began on October 19, 2020, and parents had the option to choose remote or face-to-face instruction for the fall semester or the entire school year. HISD has continued to improve the accessibility of instructional opportunities on the digital platform; however, these processes took time to accomplish, and may have made an impact on the results presented in this report.

The CIRCLE assessment was not designed or evaluated for use for children with disabilities (Children's Learning Institute [CLI], 2019a; Children's Learning Institute [CLI], 2019b). As such, the special education demographic group was not reported separately for CIRCLE results, and CIRCLE results of this evaluation should be interpreted with caution.

The assessment data used in this report were not examined to determine if children participated in either HISD-PK, HS-SA, or HS-Dual programs in the years before 2019–2020. Findings should be interpreted as the average impact of early childhood programs compared to each other and not over time.

Results

Enrollment and Demographics

A total of 13,886 students were enrolled in kindergarten (K) in the 2020–2021 school year. Of those, 8,501 (61 percent) were in an HISD Pre-K program (HISD-PK), 4,310 (31 percent) were not enrolled in an HISD or Head Start Pre-K program (NE), 961 (7 percent) were in a HS-Dual program (HS-Dual), and 114 (less than 1 percent) were in a Head Start standalone program (HS-SA) in the 2019–2020 school year (**Figure 1**). Corresponding data can be found in **Table 1** in **Appendix A** (p. 17).

Figure 1. HISD Kindergarten Students by Prior Year Early Childhood Program Model (ECP), 2020–2021
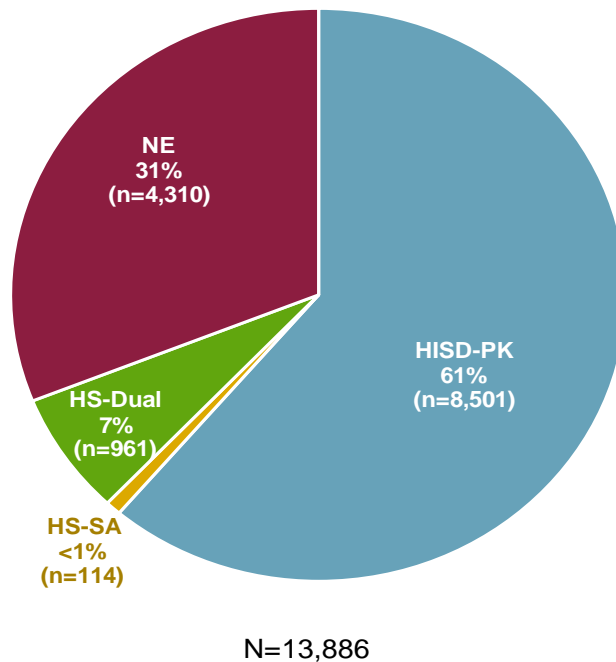
NE
31%
(n=4,310)

HS-Dual
7%
(n=961)

HS-SA
<1%
(n=114)

HISD-PK
61%
(n=8,501)

N=13,886

Sources: PEIMS data extract, 2019–2020 and 2020-2021; Chancery demographic data extracts, 2019–2020, Head Start student roster, 2019–2020
Notes: Percentages may not total 100 due to rounding.

Figure 2 (p. 6) shows the percentage of kindergarten students in 2020–2021 by gender, by race/ethnicity, and by other special populations for each of the early childhood program (ECP) models from the prior school year. Corresponding data can be found in Table 1 in Appendix A (p. 17).

- Approximately 50 percent of all kindergarten students were male. A slightly higher percentage of male students were in a HS-SA (52 percent) or NE (51 percent) and a slightly lower percentage of male students were in a HS-Dual program (48 percent) in the prior school year.

Figure 2. HISD Kindergarten Students by Prior Year ECP Model and Demographics, 2020–2021

Sources: PEIMS data extract, 2019–2020 and 2020-2021; Chancery demographic data extracts, 2019–2020, Head Start student roster, 2019–2020
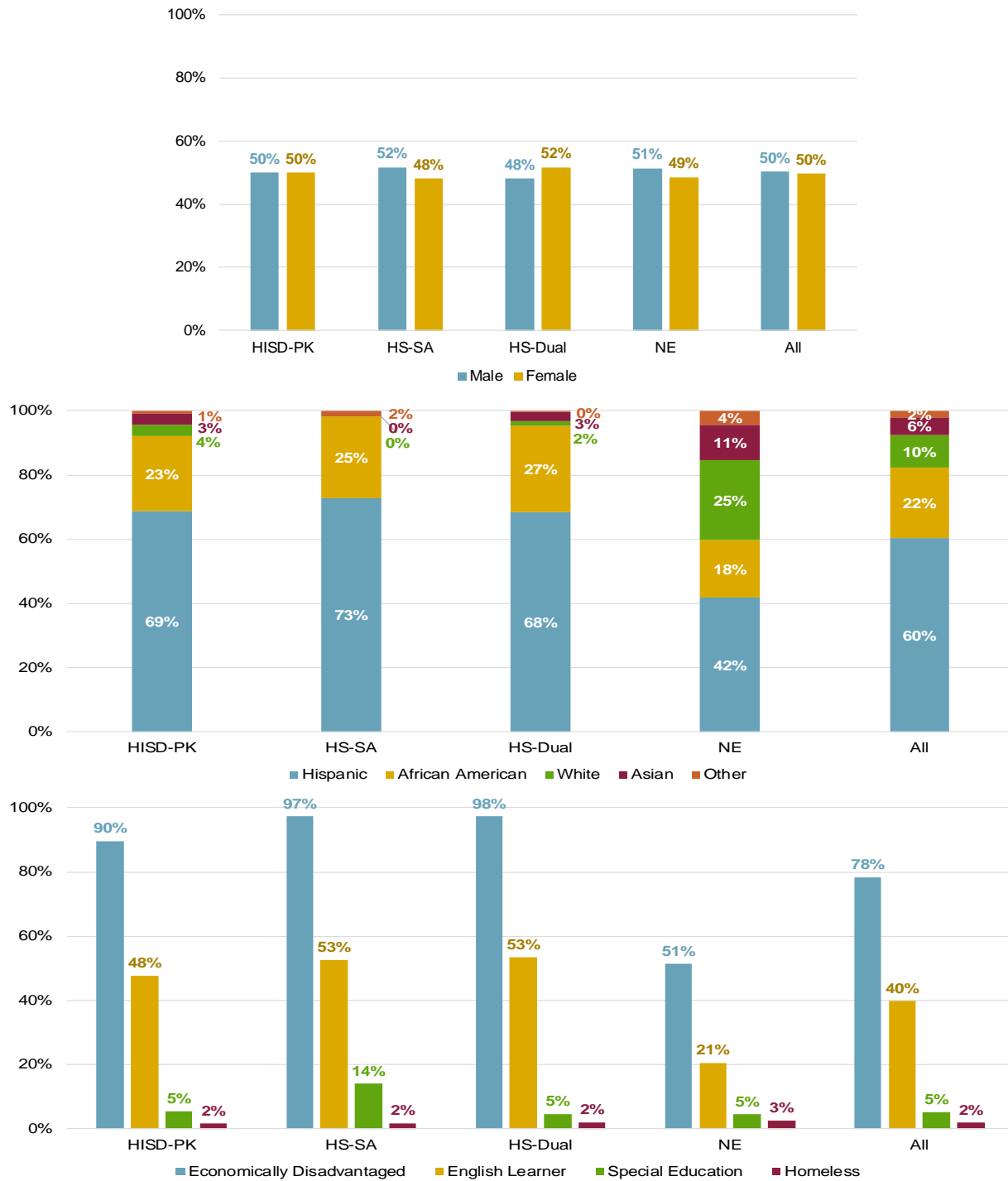
Notes: "Other" includes students identified as Pacific Islander, American Indian, Two or More Races, and no answer provided. Percentages may not total 100 due to rounding.

- The typical kindergarten student who was previously enrolled in an ECP in 2019–2020 was identified as either Hispanic or African American and economically disadvantaged (ED). Few students in the four sample groups (HISD-PK, HS-SA, HS-Dual, NE) were identified as special education (SE) or homeless.

- Kindergarten students who were not previously enrolled in an ECP in 2019–2020 were more likely to identify as either Hispanic (42 percent) or White (25 percent). These students were also less likely to identify as ED (51 percent) or EL (21 percent) than their peers who had attended a Pre-K program. A higher percentage of SE students were enrolled in a HS-SA program (14 percent) the prior school year than in HISD-PK or HS-Dual programs (five percent each).

Head Start Collaborating Agencies

A total of 2,923 Pre-K students in the 2019–2020 school year were affiliated with one of the four Head Start agencies with which HISD collaborates to serve regional sectors of Harris County within the district's boundaries. **Figure 3A** shows the number and percentage of all Pre-K students in 2019–2020 being served by collaborating agencies. Of the 2,923 Pre-K students, 1,075 (37 percent) returned to HISD in 2020–2021 as kindergarten students. **Figure 3B** shows the number and percentage of all returning kindergarten students in 2020–2021 who had been served by collaborating agencies in the prior school year. None of the students who had been served by Harris County Department of Education (HCDE) in 2019–2020 returned as kindergarten students in 2020–2021.

Figure 3. Head Start Collaborating Agencies, 2019–2020 Pre-Kindergarten and 2020–2021 Kindergarten Students
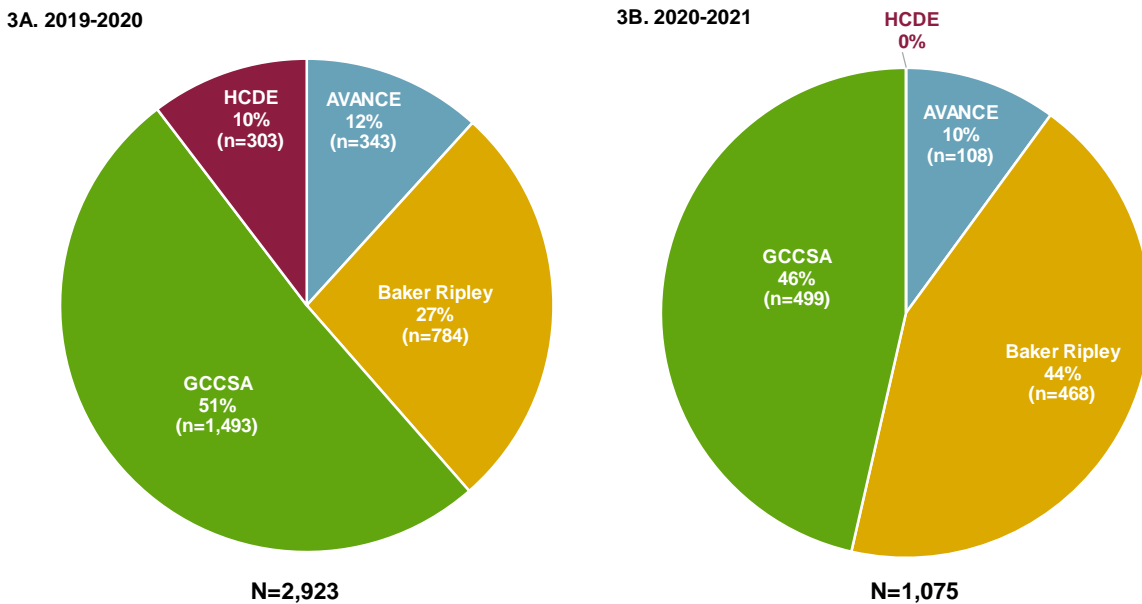
3A. 2019-2020

3B. 2020-2021

N=2,923   **N=1,075**

Sources: PEIMS data extract, 2019–2020 and 2020-2021; Chancery demographic data extracts, 2019–2020, Head Start student roster, 2019–2020
Notes: Percentages may not total 100 due to rounding.

Academic Achievement on Iowa/Logramos Assessments in Kindergarten

Figure 4 (p. 8) shows academic achievement on the Iowa (English) and Logramos (Spanish) ELA and mathematics subtests among 2020–2021 kindergarten students by ECP enrollment status during the prior school year for all students, for ED students, for EL students, and for SE students. Among all students, kindergarteners who were not enrolled in an HISD or Head Start Pre-K program in the prior school year

had the highest mean ELA score (127.5) and mathematics score (127.8), while students who had been in an HS-SA program had the lowest mean ELA score (121.4) and mathematics score (119.8), a difference of 6.1 and 8.0 points, respectively. However, when examining Iowa/Logramos scores among economically disadvantaged students only, mean scores between the groups are very similar, with ELA scores for ED students ranging from 121.4 to 122.6 (difference of 1.2 points), and mathematics scores for ED students ranging from 119.8 to 121.2 (difference of 1.4 points). For EL students, ELA scores were similar between the groups, with scores ranging from 119.7 to 121.7 (difference of 2.0 points), while mathematics scores ranged from a high of 122.5 (NE) to a low of 118.4 (HS-Dual), a difference of 4.1 points. For SE students, mean Iowa/Logramos scores for both ELA and mathematics vary. Kindergarten SE students who were not enrolled in an HISD or Head Start Pre-K program in the prior school year had the highest mean ELA score (125.3) and mathematics score (123.5), while students who had been in an HISD-PK program had the lowest mean ELA score (120.1) and mathematics score (117.2). Corresponding data can be found in **Table 2** in **Appendix B** (p. 18).

Figure 4. Iowa/Logramos Mean Scores of HISD Kindergarten Students by Prior Year ECP Model for Special Population Subgroups, 2020–2021

Sources: PEIMS data extract, 2019–2020 and 2020-2021; Chancery demographic data extracts, 2019–2020, Head Start student roster, 2019–2020, Iowa Assessments HISD student database, 2020–2021; Logramos Assessments HISD student database, 2020–2021
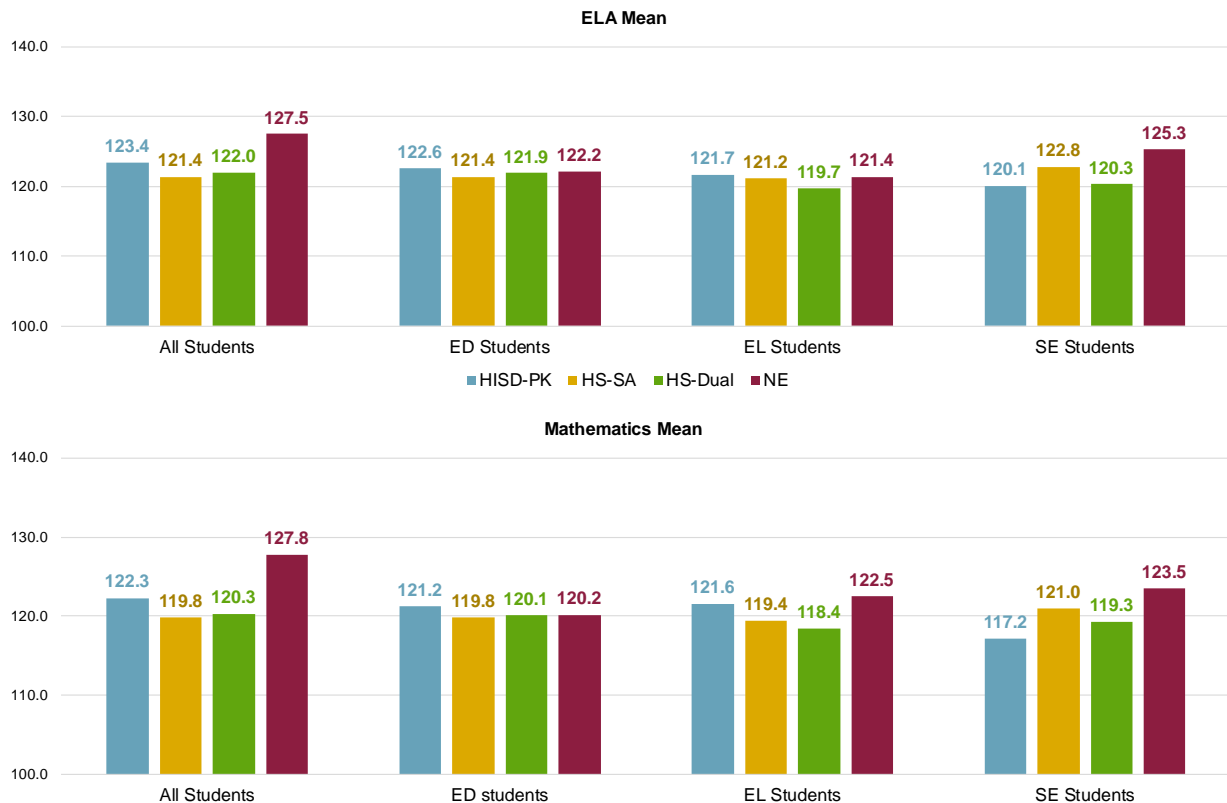
Figure 5 (p. 9) shows academic achievement on the Iowa/Logramos ELA and mathematics subtests among 2020–2021 economically disadvantaged (ED) kindergarten students by ECP enrollment status during the prior school year by race. Corresponding data can be found in Table 2 in Appendix B (p. 18).

- Among Hispanic ED students, mean scores between the groups were similar, with ELA scores ranging from 120.9 to 122.2 (difference of 1.3 points) and mathematics scores ranging from 118.6 to 120.7 (difference of 2.1 points).

- Among African American ED students, students who were enrolled in HISD-PK had the highest mean ELA (123.2) and mathematics scores (121.6) while students who had been in an HS-SA program had the lowest scores (ELA = 119.8, mathematics = 117.6).

Figure 5. Iowa/Logramos Mean Scores of Economically Disadvantaged HISD Kindergarten Students by Prior Year ECP Model by Race, 2020–2021
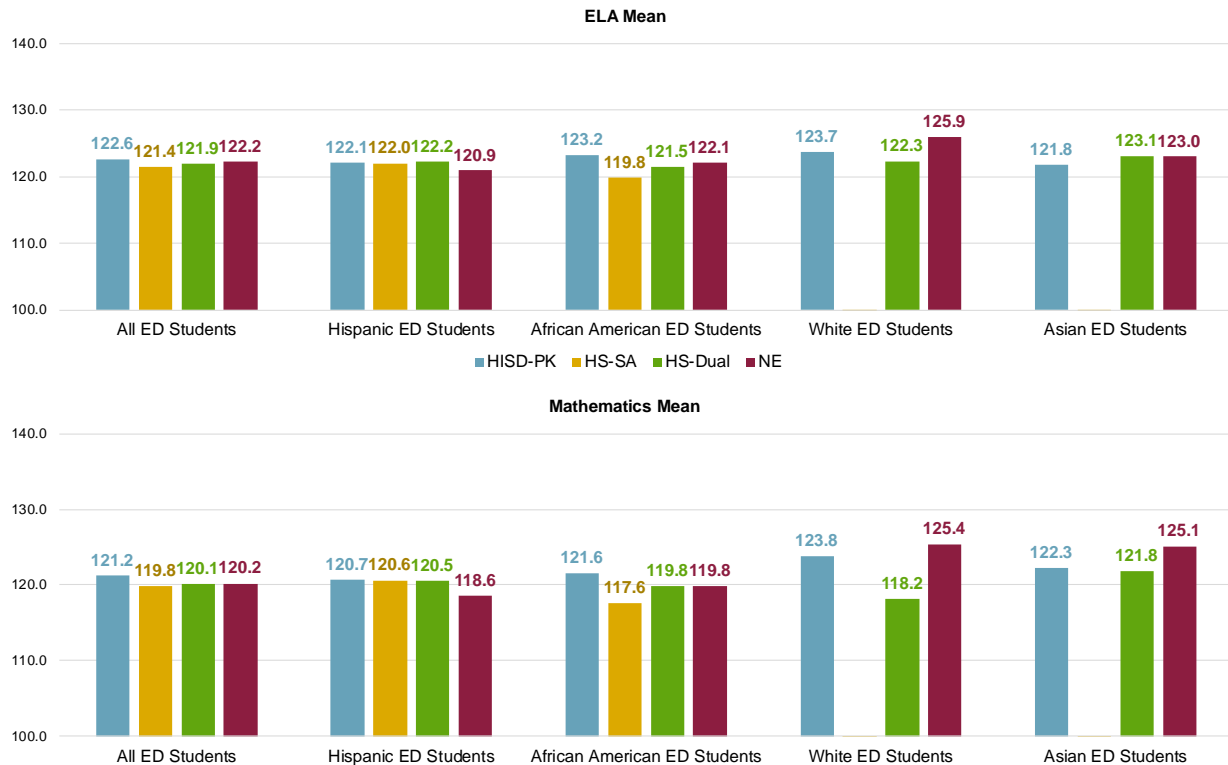

Sources: PEIMS data extract, 2019–2020 and 2020-2021; Chancery demographic data extracts, 2019–2020, Head Start student roster, 2019–2020, Iowa Assessments HISD student database, 2020–2021; Logramos Assessments HISD student database, 2020–2021

Note: No White or Asian ED kindergarten students attended an HS-SA program in the prior year.

- Among White ED students, students who were not enrolled in an HISD or Head Start Pre-K program in the prior school year had the highest mean ELA score (125.9) and mathematics score (125.4) while students who had been in a HS-Dual program had the lowest mean ELA score (122.3) and mathematics score (118.2).

- Among Asian ED students, mean scores between the groups were similar for ELA scores (range from 121.8 to 123.1, difference of 1.3). Asian ED students who were not enrolled in an HISD or Head Start Pre-K program in the prior school year had the highest mean mathematics score (125.1) while students who had been in a HS-Dual program had the lowest mathematics score (121.8).

Figure 6 shows academic achievement on the Iowa/Logramos ELA and mathematics subtests among 2020–2021 English Learner (EL) kindergarten students by ECP enrollment status during the prior school year by race. Corresponding data can be found in Table 2 in Appendix B (p. 18).

- Among Hispanic EL students, mean scores between the groups were similar, with ELA scores ranging from 119.4 to 121.2 (difference of 1.8 points) and mathematics scores ranging from 118.9 to 119.8 (difference of 0.9 points).

- Among African American EL students, students who were enrolled in an HISD-PK program the prior school year had the highest mean ELA score (122.3) and mathematics score (122.8) while students who were not enrolled in the prior school year had the lowest mean ELA score (118.8) and students who had been in a HS-Dual program had the lowest mean mathematics score (115.1).

Figure 6. Iowa/Logramos Mean Scores of English Learner HISD Kindergarten Students by Prior Year ECP Model by Race, 2020–2021

Sources: PEIMS data extract, 2019–2020 and 2020-2021; Chancery demographic data extracts, 2019–2020, Head Start student roster, 2019–2020, Iowa Assessments HISD student database, 2020–2021; Logramos Assessments HISD student database, 2020–2021
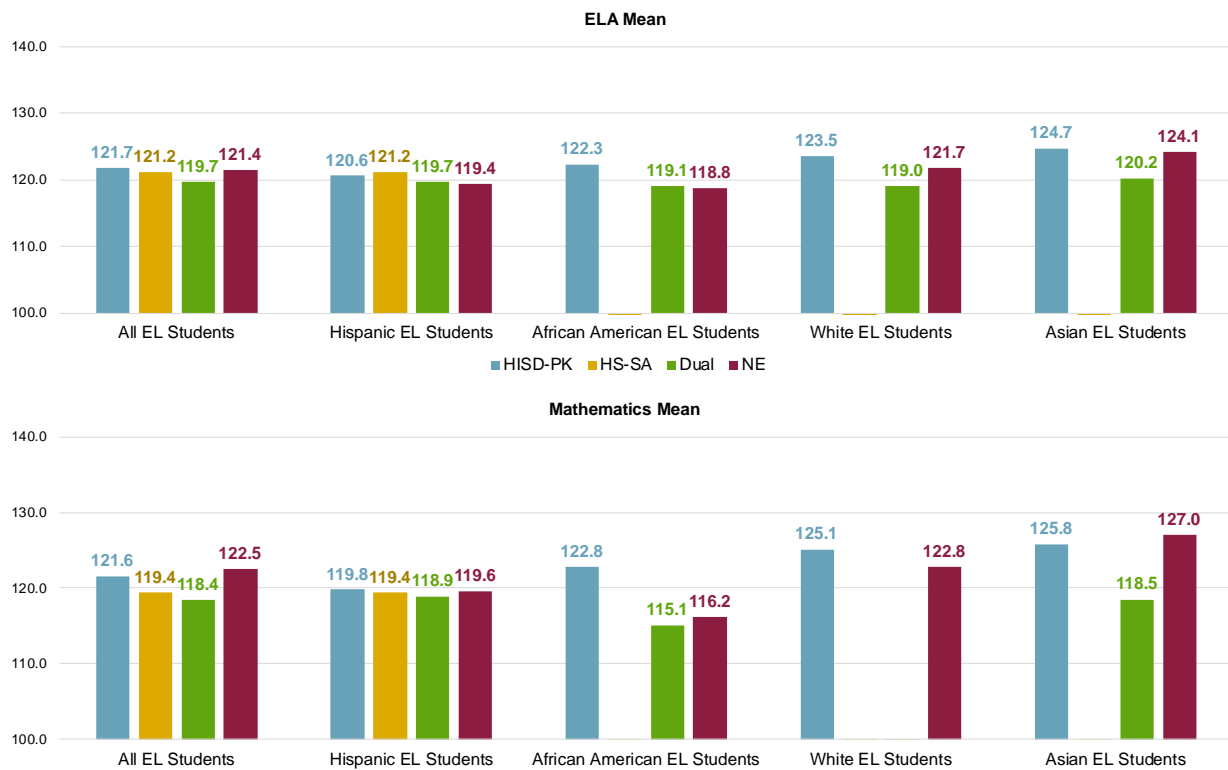
Note: No African American, White, or Asian EL kindergarten students attended an HS-SA program in the prior year. There were fewer than five White EL kindergarten students who had attended a HS-Dual program in Pre-K and had kindergarten mathematics Iowa/Logramos scores.

- Among White EL students, students who were enrolled in an HISD-PK program the prior school year had the highest mean ELA score (123.5) and mathematics score (125.1) while students who had been in a HS-Dual program had the lowest mean ELA score (119.0), and students who were not enrolled in an HISD or Head Start Pre-K the prior school year had the lowest mathematics score (122.8).

- Among Asian EL students, students who were enrolled in an HISD-PK program the prior school year had the highest mean ELA score (124.7) and students who were not enrolled in the prior school year had the highest mathematics score (127.0) while students who had been in a HS-Dual program had the lowest mean ELA score (120.2) and mathematics score (118.5).

Figure 7 shows academic achievement on the Iowa/Logramos ELA and mathematics subtests among 2020–2021 SE kindergarten students by ECP enrollment status during the prior school year by race. Mean scores are calculated and reported for groups of five or more students only. There was a total of 718 kindergarten SE students; when disaggregated by prior year program type and race/ethnicity, many groups have fewer than five students. Those groups are not reported. Corresponding data can be found in Table 2 in Appendix B (p. 18).

Figure 7. Iowa/Logramos Mean Scores of Special Education HISD Kindergarten Students by Prior Year ECP Model by Race, 2020–2021

Sources: PEIMS data extract, 2019–2020 and 2020-2021; Chancery demographic data extracts, 2019–2020, Head Start student roster, 2019–2020, Iowa Assessments HISD student database, 2020–2021; Logramos Assessments HISD student database, 2020–2021
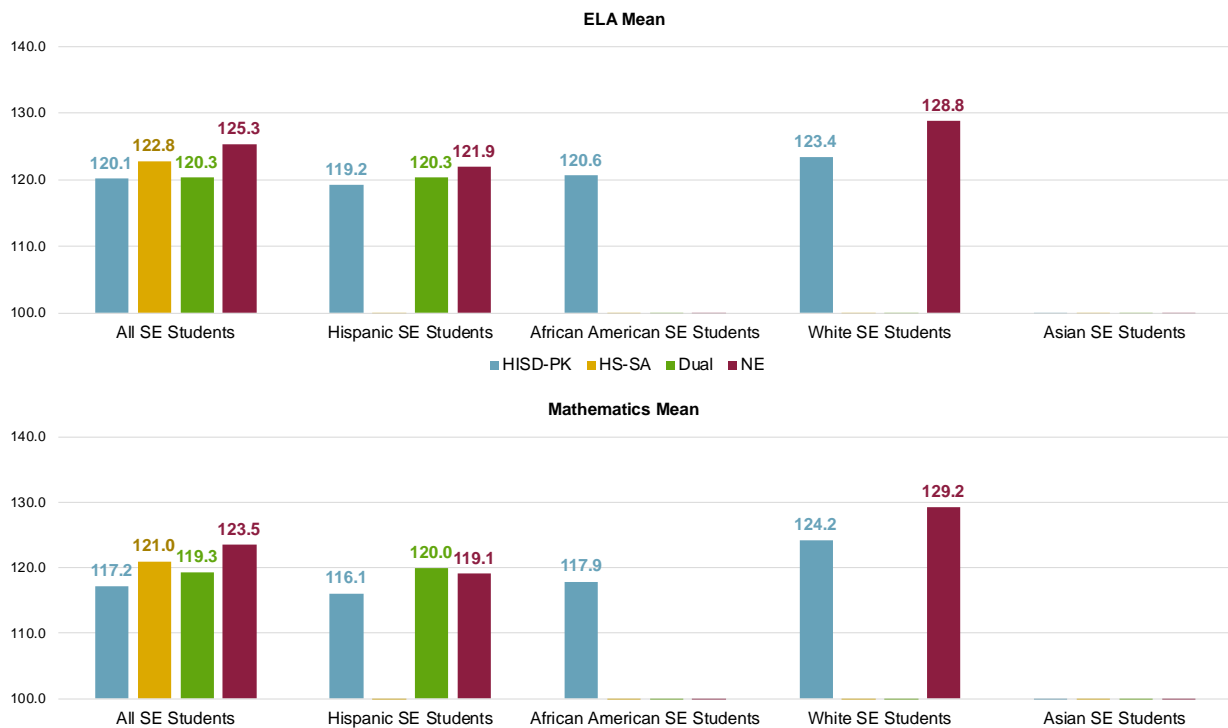
Notes: There were not enough SE students with Iowa/Logramos assessment data who had attended an HS-SA to report for any subgroup, and not enough African American, White, or Asian SE students who attended a HS-Dual program in the prior school year to present mean scores for these groups.

- Among Hispanic students, SE students who were not enrolled in the prior school year had the highest mean ELA score (121.9) and students who had been in a HS-Dual program had the highest mean mathematics score (120.0). Hispanic SE students who had been in an HISD-PK had the lowest mean ELA score (119.2) and mathematics score (116.1). Hispanic SE students enrolled in an HS-SA program in the prior year had fewer than five students and were excluded from reporting.

- White SE students who were enrolled in an HISD-PK program the prior school year had the highest mean ELA score (128.8), while students who were not enrolled in the prior school year had the highest mathematics score (129.2). White SE students enrolled in an HS-SA or a HS-Dual program in the prior year had fewer than five students and were excluded from reporting.

Academic Growth on CIRCLE Assessments in Pre-K

Figure 8 shows the academic growth of students on the CIRCLE assessment literacy and math subject areas among 2019–2020 Pre-K students by ECP enrollment status for all students, for ED students, and for EL students. Academic growth was determined by calculating the difference in the percentage of students who obtained proficiency between Wave 1 (BOY) and Wave 2 (MOY) of test administration. All Pre-K student groups showed growth from BOY to MOY for both literacy and math, with students enrolled in a HS-Dual program showing the highest percentage increase. All students and ED students showed approximately the same growth, while the English Learner (EL) student group showed the most growth from BOY to MOY for both literacy and math. Because the CIRCLE assessment is not designed or evaluated for use for children with disabilities, results were not disaggregated by the SE student group. Corresponding data can be found in **Table 3** in **Appendix C** (p. 19).

Figure 8. CIRCLE Percentage Growth in Proficiency of Pre-K Students by ECP Model for Special Population Subgroups, 2019–2020
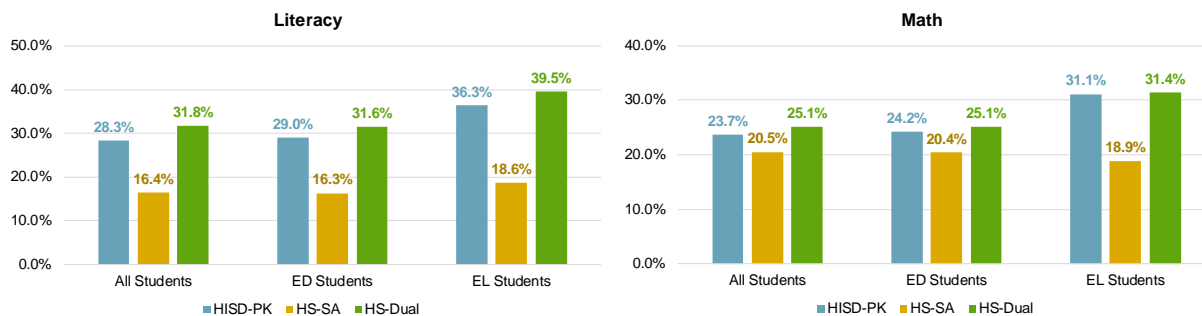
Sources: PEIMS data extract, 2019–2020; Chancery demographic data extracts, 2019–2020, Head Start student roster, 2019–2020, CIRCLE Assessments HISD student database, 2019–2020

Figure 9 (p. 13) shows academic growth among 2019–2020 economically disadvantaged (ED) Pre-K students by ECP enrollment status by race. Corresponding data can be found in Table 3 in Appendix C (p. 19).

- For both literacy and math, ED students of all race/ethnicity groups who were attending HISD-PK or HS-Dual programs showed the most growth from BOY to MOY.

- Asian students in a HS-Dual program showed the highest increase in percentage of students who had moved from Below Proficient to Proficient in literacy; however, the total number of Asian students enrolled in the HS-Dual program was also much smaller. A total of 30 Asian ED students were assessed for literacy using the BOY and the MOY; at BOY, ten students were proficient (33.3 percent), and at MOY, 25 students were proficient (83.3 percent), an increase of 15 students, or 50 percent. Alternatively, a total of 850 Hispanic ED students were assessed for literacy using the BOY, and 835 were assessed at MOY; at BOY, 512 students were proficient (60.2 percent), and at MOY, 786 students were proficient (94.1 percent), an increase of 274 students, or 33.9 percent. Small numbers of disaggregated students can produce misleading results, which should be viewed with caution.

Figure 9. CIRCLE Percentage Growth in Proficiency of Economically Disadvantaged Pre-K Students by ECP Model by Race, 2019–2020
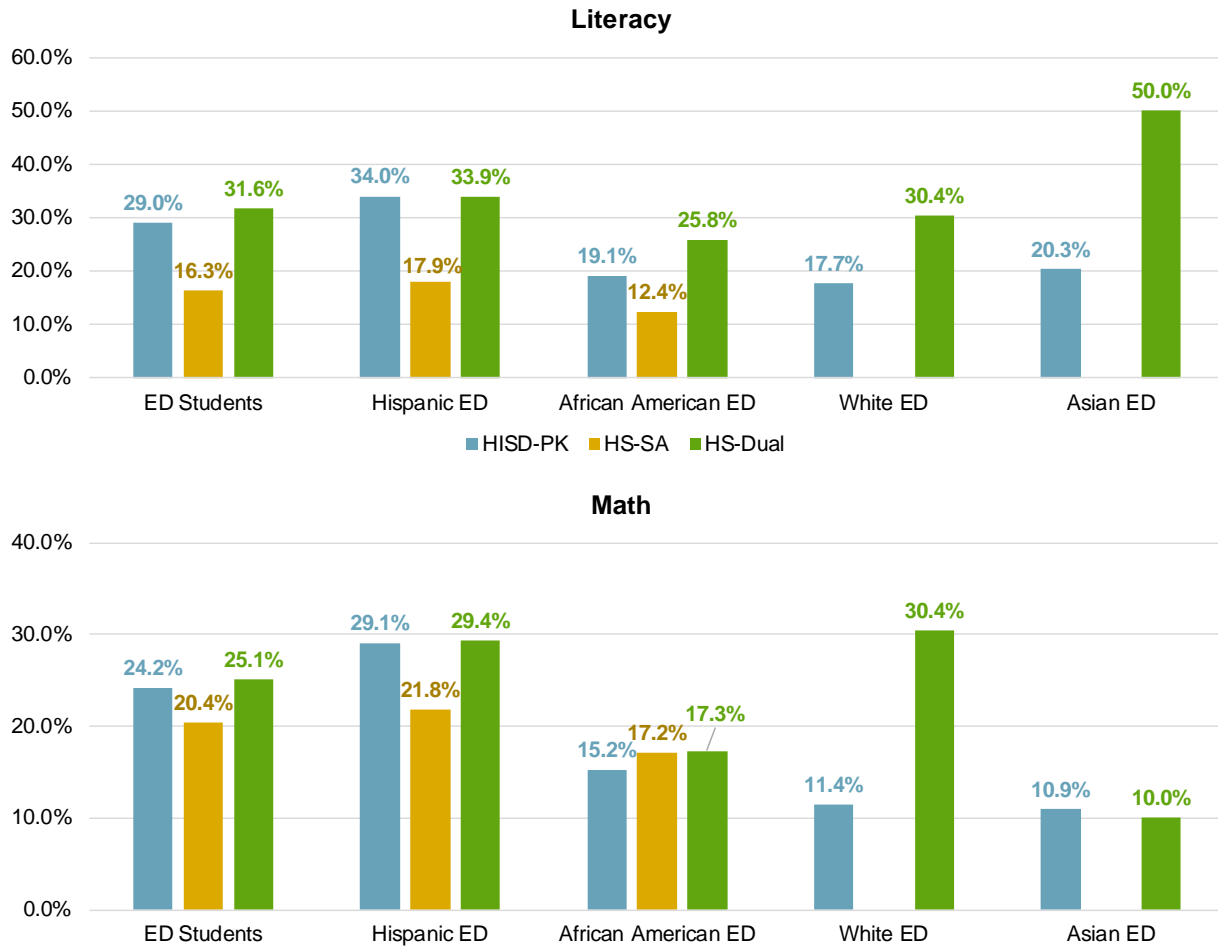

Sources: PEIMS data extract, 2019–2020; Chancery demographic data extracts, 2019–2020, Head Start student roster, 2019–2020, CIRCLE Assessments HISD student database, 2019–2020

Note: No White or Asian ED kindergarten students attended an HS-SA program in the prior year.

Figure 10 shows academic growth among 2019–2020 English Learner (EL) Pre-K students by ECP enrollment status by race. Corresponding data can be found in Table 3 in Appendix C (p. 19).

Figure 10. CIRCLE Percentage Growth in Proficiency of English Learner Pre-K Students by ECP Model by Race, 2019–2020

Literacy

	HISD-PK	HS-SA	HS-Dual
EL Students	36.3%	18.6%	39.5%
Hispanic EL	38.2%	18.8%	38.8%
African American EL	15.3%		50.0%
White EL	22.7%		38.9%
Asian EL	18.3%		54.2%

Math

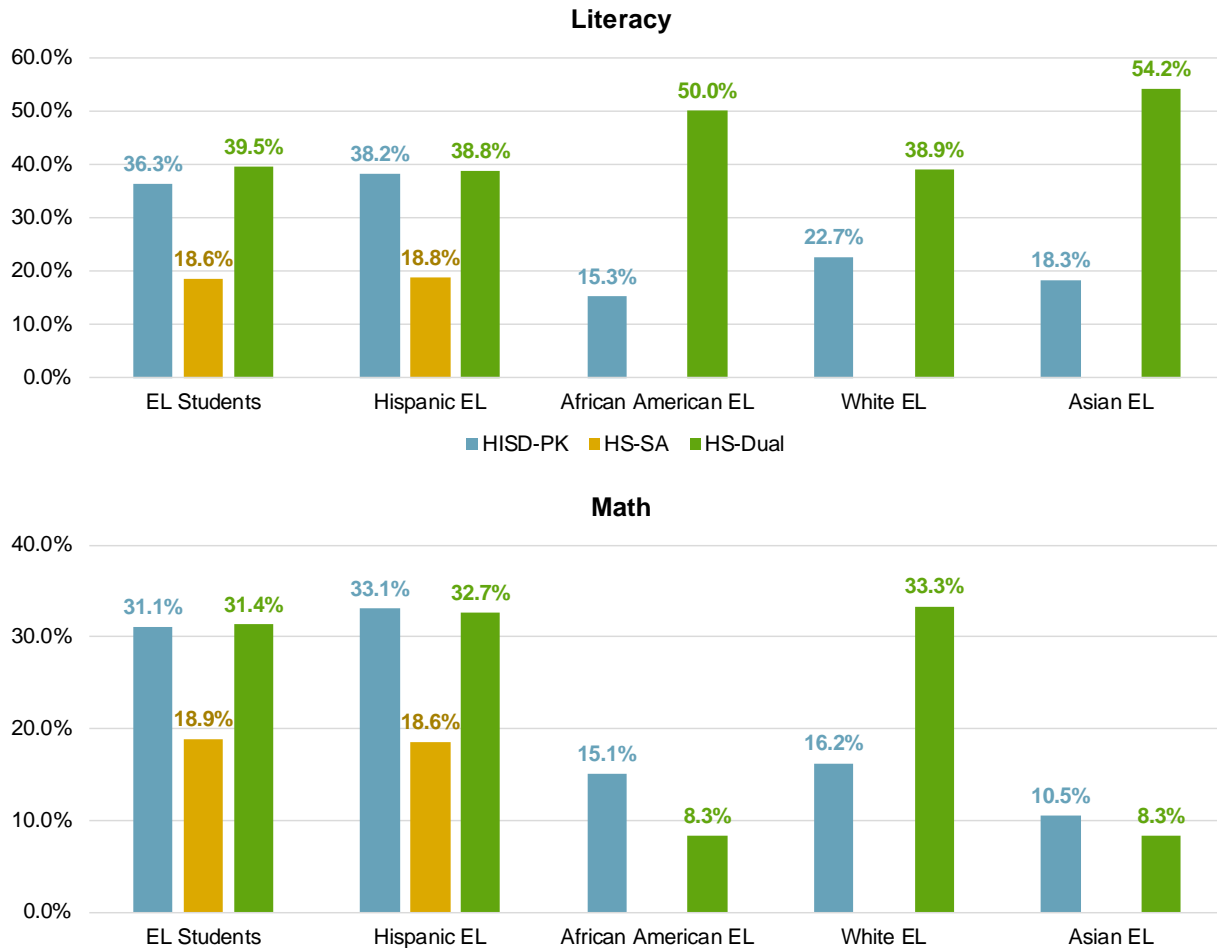|	HISD-PK	HS-SA	HS-Dual
EL Students	31.1%	18.9%	31.4%
Hispanic EL	33.1%	18.6%	32.7%
African American EL	15.1%		8.3%
White EL	16.2%		33.3%
Asian EL	10.5%		8.3%

Sources: PEIMS data extract, 2019–2020; Chancery demographic data extracts, 2019–2020, Head Start student roster, 2019–2020, CIRCLE Assessments HISD student database, 2019–2020
Note: No African American, White, or Asian EL students attended an HS-SA program.

- For both literacy and math, EL students of all race/ethnicity groups who were attending HISD-PK or HS-Dual programs showed the most growth from BOY to MOY.

- African American and Asian students in a HS-Dual program showed the highest increase in percentage of students who had moved from Below Proficient to Proficient for literacy; however, the total number of African American and Asian students enrolled in the HS-Dual program were also much smaller. Small numbers of disaggregated students can produce misleading results, which should be viewed with caution.

- No African American, White, or Asian EL students attended an HS-SA program.

Conclusion

Since its inception in 1965, Head Start has grown from two-month pilot program to a comprehensive preschool program offering full-day and full-year services to 3- and 4-year-old children of low-income families in an effort to meet their emotional, social, health, nutritional, and educational needs. The purpose of the HISD and Head Start Pre-K collaborative programs is to share the responsibility for closing the achievement gap between economically disadvantaged children and their more affluent peers.

In recent years, the HISD Collaborative Head Start program has been evaluated by analyzing the academic outcomes of HISD Pre-K and kindergarten students who did and did not participate in Head Start programs by economic disadvantage, race/ethnicity, special education, English Learner status, and homelessness. Whether examining CIRCLE assessment data (Pre-K) or Iowa/Logramos assessment data (kindergarten), it is clear that HISD Pre-K programs, whether accompanied by Head Start programs or not, have a positive impact on students' preparedness for school, especially when economically disadvantaged or English Learner status are combined with race/ethnicity. Economically-disadvantaged Hispanic and African American kindergarteners who attended an HISD Pre-K program or a HS-Dual program had higher mean Iowa/Logramos scores than those who attended a Head Start standalone program or did not attend Pre-K at all. Pre-K students attending an HISD Pre-K program or a HS-Dual program showed more academic growth on both the CIRCLE literacy and the CIRCLE math subject assessments than those who attended a Head Start standalone program.

These analyses suggest that HISD students from economically disadvantaged backgrounds are benefitting academically in kindergarten by attending HISD Pre-K programs, whether accompanied by Head Start programs or not. However, the limited focus of academic performance in Pre-K and kindergarten addresses only a small subset of the intended outcomes and impacts of Head Start. Future analyses might include research to further the understanding of the role Head Start plays in the well-being of children and families, using quantitative data from wraparound services, health and medical services, or qualitative data from participating families.

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Appendix A

HISD Kindergarten Students by Prior Year ECP Model and Demographics, 2020–2021

Table 1. HISD Kindergarten Students by Prior Year Early Childhood Program Model and Demographics, 2020-2021										
2019-2020 Pre-Kindergarten Program										
	HISD Pre-K		**Head Start**		**HS-Dual**		**NE**		**Total**	
2020-2021 Kindergarten	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Sex										
Male	4,253	50%	59	52%	464	48%	2,217	51%	6,993	50%
Female	4,248	50%	55	48%	497	52%	2,093	49%	6,893	50%
Race										
Hispanic	5,841	69%	83	73%	657	68%	1,801	42%	8,382	60%
African American	1,987	23%	29	25%	258	27%	774	18%	3,048	22%
White	306	4%	0	0%	16	2%	1,073	25%	1,395	10%
Asian	284	3%	0	0%	27	3%	470	11%	781	6%
Other	83	1%	2	2%	3	0%	192	4%	280	2%
Other Special Populations										
Economically Disadvantaged	7,616	90%	111	97%	937	98%	2,216	51%	10,880	78%
English Learner	4,056	48%	60	53%	513	53%	885	21%	5,514	40%
Special Education	463	5%	16	14%	44	5%	195	5%	718	5%
Homeless	136	2%	2	2%	19	2%	110	3%	267	2%
Total	**8,501**	**61%**	**114**	**<1%**	**961**	**7%**	**4,310**	**31%**	**13,886**	

Sources: PEIMS data extract, 2019–2020 and 2020–2021; Chancery demographic data extracts, 2019–2020, Head Start student roster, 2019–2020
Notes: "Other" includes students identified as Pacific Islander, American Indian, Two or More Races, and no answer provided. Percentages may not total 100 due to rounding.

Appendix B

Iowa/Logramos Mean Scores of HISD Kindergarten Students by Prior Year ECP Model for Special Population Subgroups by Race, 2020–2021

Table 2. Iowa/Logramos Mean Scores of HISD Kindergarten Students by Prior Year ECP Model for Special Population Subgroups by Race, 2020-2021		HISD-PK		HS-SA		HS-Dual		NE	
		Mean Score	N	Mean Score	N	Mean Score	N	Mean Score	N
ELA Mean	All Students	123.4	2,906	121.4	39	122.0	258	127.5	2,027
	All ED Students	**122.6**	**2,449**	**121.4**	**39**	**121.9**	**248**	**122.2**	**741**
	Hispanic ED Students	122.1	1,352	122.0	25	122.2	106	120.9	290
	African American ED Students	123.2	929	119.8	12	121.5	120	122.1	312
	White ED Students	123.7	75	--	0	122.3	6	125.9	85
	Asian ED Students	121.8	66	--	0	123.1	15	123.0	37
	All EL Students	**121.7**	**600**	**121.2**	**10**	**119.7**	**52**	**121.4**	**155**
	Hispanic EL Students	120.6	391	121.2	10	119.7	29	119.4	58
	African American EL Students	122.3	46	--	0	119.1	7	118.8	13
	White EL Students	123.5	49	--	0	119.0	5	121.7	32
	Asian EL Students	124.7	110	--	0	120.2	11	124.1	52
	All SE Students	**120.1**	**108**	**122.8**	**5**	**120.3**	**10**	**125.3**	**50**
	Hispanic SE Students	119.2	64	*	4	120.3	8	121.9	22
	African American SE Students	120.6	31	*	1	*	2	*	4
	White SE Students	123.4	10	--	0	--	0	128.8	22
	Asian SE Students	*	1	--	0	--	0	*	2
Mathematics Mean	All Students	122.3	3,080	119.8	44	120.3	267	127.8	2,088
	All ED Students	**121.2**	**2,618**	**119.8**	**44**	**120.1**	**258**	**120.2**	**785**
	Hispanic ED Students	120.7	1,419	120.6	28	120.5	111	118.6	310
	African American ED Students	121.6	1,019	117.6	14	119.8	124	119.8	335
	White ED Students	123.8	80	--	0	118.2	6	125.4	85
	Asian ED Students	122.3	71	--	0	121.8	16	125.1	39
	All EL Students	**121.6**	**626**	**119.4**	**11**	**118.4**	**53**	**122.5**	**157**
	Hispanic EL Students	119.8	403	119.4	11	118.9	30	119.6	58
	African American EL Students	122.8	51	--	0	115.1	7	116.2	13
	White EL Students	125.1	51	--	0	*	4	122.8	33
	Asian EL Students	125.8	116	--	0	118.5	12	127.0	53
	All SE Students	**117.2**	**116**	**121.0**	**5**	**119.3**	**12**	**123.5**	**50**
	Hispanic SE Students	116.1	68	*	4	120.0	10	119.1	22
	African American SE Students	117.9	33	*	1	*	2	*	4
	White SE Students	124.2	10	--	0	--	0	129.2	22
	Asian SE Students	*	2	--	0	--	0	*	2

Sources: PEIMS data extract, 2019–2020 and 2020-2021; Chancery demographic data extracts, 2019–2020, Head Start student roster, 2019–2020, Iowa Assessments HISD student database, 2020–2021; Logramos Assessments HISD student database, 2020–2021

Note: * Group size is 1-4 students; no mean scores are reported. -- Group size is 0; there is no mean score.

Appendix C

CIRCLE Percentage Growth in Proficiency of Pre-K Students by ECP Model for Special Population Subgroups by Race, 2019–2020

Table 3. CIRCLE Percentage Growth in Proficiency of Pre-K Students by ECP Model for Special Population Subgroups by Race, 2019-2020

		HISD-PK						HS-SA						HS-Dual					
		BOY			MOY			BOY			MOY			BOY			MOY		
		N Met	Total N	% Met	N Met	Total N	% Met	% Growth	N Met	Total N	% Met	N Met	Total N	% Met	% Growth	N Met	Total N	% Met	N Met	Total N	% Met	% Growth
Literacy	All Students	7,730	13,430	57.6%	11,461	13,347	85.9%	28.3%	292	465	62.8%	381	481	79.2%	16.4%	805	1,349	59.7%	1,210	1,323	91.5%	31.8%
	All ED Students	7,391	12,928	57.2%	11,001	12,766	86.2%	29.0%	289	456	63.4%	373	468	79.7%	16.3%	801	1,336	60.0%	1,195	1,305	91.6%	31.6%
	Hispanic ED Students	4,520	8,607	52.5%	7,382	8,530	86.5%	34.0%	206	334	61.7%	273	343	79.6%	17.9%	512	850	60.2%	786	835	94.1%	33.9%
	African American ED Students	2,324	3,543	65.6%	2,950	3,485	84.6%	19.1%	79	118	66.9%	96	121	79.3%	12.4%	259	422	61.4%	355	407	87.2%	25.8%
	White ED Students	203	288	70.5%	247	280	88.2%	17.7%	*	1	*	*	1	*	*	13	23	56.5%	20	23	87.0%	30.4%
	Asian ED Students	273	382	71.5%	336	366	91.8%	20.3%	*	1	*	*	1	*	*	10	30	33.3%	25	30	83.3%	50.0%
	All EL Students	3,136	5,798	54.1%	5,207	5,758	90.4%	36.3%	134	205	65.4%	173	206	84.0%	18.6%	365	661	55.2%	633	668	94.8%	39.5%
	Hispanic EL Students	2,737	5,229	52.3%	4,708	5,199	90.6%	38.2%	132	203	65.0%	171	204	83.8%	18.8%	346	607	57.0%	588	614	95.8%	38.8%
	African American EL Students	86	118	72.9%	104	118	88.1%	15.3%	*	2	*	*	2	*	*	4	12	33.3%	10	12	83.3%	50.0%
	White EL Students	85	134	63.4%	112	130	86.2%	22.7%	--	--	--	--	--	--	--	9	18	50.0%	16	18	88.9%	38.9%
	Asian EL Students	219	302	72.5%	268	295	90.8%	18.3%	--	--	--	--	--	--	--	6	24	25.0%	19	24	79.2%	54.2%
Math	All Students	9,100	13,334	68.2%	12,229	13,303	91.9%	23.7%	312	459	68.0%	421	476	88.4%	20.5%	925	1,342	68.9%	1,239	1,318	94.0%	25.1%
	All ED Students	8,756	12,854	68.1%	11,754	12,726	92.4%	24.2%	310	452	68.6%	413	464	89.0%	20.4%	919	1,330	69.1%	1,224	1,300	94.2%	25.1%
	Hispanic ED Students	5,440	8,561	63.5%	7,882	8,508	92.6%	29.1%	218	330	66.1%	298	339	87.9%	21.8%	559	846	66.1%	794	832	95.4%	29.4%
	African American ED Students	2,685	3,524	76.2%	3,173	3,470	91.4%	15.2%	88	118	74.6%	111	121	91.7%	17.2%	317	421	75.3%	376	406	92.6%	17.3%
	White ED Students	231	285	81.1%	258	279	92.5%	11.4%	*	1	*	*	1	*	*	15	23	65.2%	22	23	95.7%	30.4%
	Asian ED Students	317	378	83.9%	345	364	94.8%	10.9%	*	1	*	*	1	*	*	21	30	70.0%	24	30	80.0%	10.0%
	All EL Students	3,618	5,792	62.5%	5,382	5,752	93.6%	31.1%	142	202	70.3%	181	203	89.2%	18.9%	422	661	63.8%	636	668	95.2%	31.4%
	Hispanic EL Students	3,154	5,222	60.4%	4,853	5,192	93.5%	33.1%	141	200	70.5%	179	201	89.1%	18.6%	384	607	63.3%	589	614	95.9%	32.7%
	African American EL Students	95	119	79.8%	113	119	95.0%	15.1%	*	2	*	*	2	*	*	10	12	83.3%	11	12	91.7%	8.3%
	White EL Students	104	134	77.6%	122	130	93.8%	16.2%	--	--	--	--	--	--	--	12	18	66.7%	18	18	100.0%	33.3%
	Asian EL Students	253	302	83.8%	278	295	94.2%	10.5%	--	--	--	--	--	--	--	16	24	66.7%	18	24	75.0%	8.3%

Sources: PEIMS data extract, 2019–2020; Chancery demographic data extracts, 2019–2020, Head Start student roster, 2019–2020, CIRCLE Assessments HISD student database, 2019–2020

Note: * Group size is 1-4 students; no percentages are reported. -- Group size is 0; there is no percentage.