

MEMORANDUM

January 20, 2017

TO: Lance Menster
Officer, Elementary Curriculum and Development

FROM: Carla Stevens
Assistant Superintendent, Research and Accountability

SUBJECT: **AVANCE-HOUSTON, INC. PREKINDERGARTEN PROGRAMS: THE
ACADEMIC ACHIEVEMENT OF THE 2011–2012 AND 2014–2015
PREKINDERGARTEN COHORTS**

This report compares the short and long terms academic outcomes of AVANCE-Houston, Inc. students who were previously enrolled in HISD-Head Start (dual) and Head Start standalone prekindergarten programs during the 2014–2015 and 2011–2012 school years, respectively.

Key findings in this report include:

- Dually-enrolled students achieved mean standard scores on the Iowa mathematics and Logramos language arts and mathematics subtests that were higher than those of their peers who attended a Head Start standalone program.
- Economically-disadvantaged AVANCE students achieved higher mean standard scores on the Logramos 3 language arts (LA) and mathematics subtests than their non-economically-disadvantaged peers.
- Economically-disadvantaged AVANCE students who were dually-enrolled obtained higher mean scale scores on the 2016 STAAR third-grade English reading and mathematics tests than their Head Start standalone peers. Conversely, economically-disadvantaged AVANCE standalone students obtained higher mean scale scores on the 2016 STAAR Spanish third-grade reading and mathematics tests than those of their dually-enrolled peers.

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

 CJS

Attachment

cc: Grenita Lathan
Rachele Vincent
Janice Dingayan



EVALUATION REPORT

BUREAU OF PROGRAM EVALUATION

January 2017

AVANCE-Houston, Inc. prekindergarten programs: The academic achievement of the 2011-2012 and 2014-2015 prekindergarten cohorts

By Sara Spikes, Ph.D.

The AVANCE-Houston, Inc. provides comprehensive services to meet the needs for families of low-income children ages three to five year olds. One of these services is to prepare young children enrolled in Head Start for “school readiness” and success as they are promoted in school. This brief compares both the short- and long-term academic achievements of AVANCE students who were either dually-enrolled in the Houston Independent School District to students attending AVANCE Head Start standalone prekindergarten programs in 2014–2015 and 2011–2012, respectively. Findings suggest that the mean scale scores of dually-enrolled students on the 2015–2016 kindergarten Iowa Assessments and Logramos 3 language arts (LA) and mathematics assessments were higher than those of their peers who attended standalone programs. Economically-disadvantaged students who attended standalone programs experienced gains on the Iowa English language arts (ELA) and mathematics subtests. Students’ long term academic achievement indicated trends that were related to the language version they were administered on the 2016 STAAR reading and mathematics assessments. Specifically, while dually-enrolled AVANCE student obtained higher mean standard scores on the STAAR English reading and mathematics assessments than their standalone peers, dually-enrolled students also obtained lower mean scale scores on the STAAR Spanish reading and mathematics tests.

Background

AVANCE

Established in 1973, AVANCE (A-vahn-ceh), meaning “advance” or “progress” in Spanish, has evolved into a national non-profit organization that focuses primarily on strengthening children and parents of at-risk, Hispanic communities. This in part is accomplished by AVANCE’s Head Start programs. Head Start is a comprehensive program designed to meet the mental, social, and emotional development needs of low-income children ages three to five years old. Services provided by the program include medical, dental, nutritional, family engagement, parent education, and psychological resources.

In 2015, Head Start provided services to approximately half (4,503 of 8,969) of the population residing in the AVANCE-Houston, Inc. service Area II (AVANCE-Houston, 2015). The Area II northwest region is bordered by Interstate 10 West, Highway 290,

and West of Highway 59 North. AVANCE-Houston, Inc.’s Head Start service area extends as far north as Cypress, Tomball, and Spring, Texas.

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 (see HISD Prekindergarten Homepage, 2016a). Home language surveys are administered to parents or guardians for completion and approval to place their

child in a linguistically-appropriate HISD prekindergarten classroom.

With the exception of HISD Montessori prekindergarten programs, the district uses the *Frog Street Pre-K (FSPK)* curriculum. *Frog Street Pre-K* focuses on the physical, social, emotional, cognitive, and language development of preschool-age children (Schiller, n.d.). Presently, the HISD operates 155 school-based and ECC campuses that provide instruction for young children (Houston Independent School District [HISD], 2016a).

Purpose

Head Start services and resources are in part supported by collaborations developed among community partners. Currently, AVANCE-Houston, Inc. (AVANCE), collaborates with HISD to provide early childhood education services to children who reside in the district. The purpose of this evaluation was to provide AVANCE-Houston, Inc. and education stakeholders information on whether their partnership, formally known as the HISD and Head Start Prekindergarten Collaborative programs, made a difference in their students' short- and long-term academic achievement. Specifically, the academic achievement of two student cohorts were measured after approximately six months (2014–2015 school year) and after four years (2011–2012 school year) of previously attending either an HISD-Head Start (dual) or Head Start Standalone program. This report uses a non-experimental research design to answer the following three main research questions:

1. What differences in mean standard scores existed on the 2015–2016 Iowa Assessments and Logramos 3 (English) language arts and mathematics subtests between AVANCE students who were previously enrolled in either a dual program or Head Start standalone program during the 2014–2015 school year? What differences existed when students' economic status was taken into account?
2. What differences in mean scale scores on the 2016 STAAR reading and mathematics assessments existed between AVANCE economically-disadvantaged, third-grade students who were previously enrolled in a dual program or Head Start standalone program during the 2011–2012 school year?
3. What differences in passing rates existed between economically-disadvantaged, third-grade AVANCE students who met Level II: Satisfactory progression standards on the 2016 STAAR reading and mathematics assessments based on their previous

enrollment in either a dual program or Head Start standalone program during the 2011–2012 school year?

Literature Review

Researchers suggest that 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 National Association for the Education of Young Children [NAEYC], 2009). According to a 2009 National Research Council report, researchers indicated that inequities in school readiness and academic achievement are more prevalent among children of color with disadvantaged backgrounds. The negative indicators associated with young children with disadvantaged backgrounds (e.g., at risk, poor access to resources, low income, limited parent education) can adversely alter their cognitive, socio-emotional, and physical developmental trajectories (Evans & Kim, 2013). Without high-quality comprehensive interventions, these conditions may affect children with disadvantaged backgrounds throughout their lifetime, thus perpetuating the impacts of negative indicators across generations.

Head Start was designed to improve the overall outcomes of disadvantaged populations by providing preschool-age children from low-income families with a comprehensive program to meet their emotional, social, cognitive, health, nutritional, and psychological needs (U.S. Department of Health and Human Services, Administration for Children and Families, Office of Head Start, 2015). 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). Review of the literature concurs that high-quality prekindergarten programs enhance children's cognitive development and improve their academic achievement, particularly for students from disadvantaged backgrounds (Brooks-Gunn, 2003; Currie, 2000; Gormley, Gayer, Phillips, & Dawson, 2005; Magnuson, Ruhm, & Waldfogel, 2007; Shager, Schindler, Magnuson, Duncan, Yoshikawa, & Hart, 2013).

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). Reasons contributing to the divergence in findings regarding early childhood programs' true impact on young children's school readiness include (a) selection bias (Gormley et al., 2005; U.S. Advisory Committee on Head Start Research and Evaluation, 2012); (b) differences in research methodologies and scope (Del Grosso et al., 2014); and (c) variations in reliability and validity of psychometric measures. Additionally, a literature review conducted by the Office of Planning, Research and Evaluation (OPRE) revealed deficiencies in evidence that determine if early care and education partnerships between entities such as AVANCE Houston, Inc.-Head Start and public schools were "on track" to meet both short- and long-term outcomes of young children (Del Grosso et al., 2014).

Methods

Data collection and analyses for the 2014-2015 prekindergarten student cohort

AVANCE kindergarten students' Pre-K enrollment status and demographic characteristics information were obtained by triangulating data from the Head Start 2014–2015 student list and the Public Education and Information Management System (PEIMS) HISD 2014–2016 student databases. Students identified for this study were coded as either 'PK' or 'EE' during the 2014–2015 school year. AVANCE students' information was then matched with their academic outcome data measured on the Riverside Iowa Assessments and Logramos 3rd Edition Norm Reference Tests (NRT) during December 2015.

Summary statistics (i.e., counts, percentages, mean standard scores, scale deviations) were computed to determine kindergarteners' academic achievement in (English) language arts (ELA or LA) and mathematics subtests on the Iowa Assessments and Logramos 3 tests. The Iowa ELA is a composite score computed from students' achievement on the reading, language and vocabulary subtests (Iowa Testing Programs [ITP], 2012). The Logramos LA is a composite score computed for Spanish-speaking student's achievement on the reading and language subtests (Aparicio & Nikolov, n.d.). Academic results for AVANCE students who were either dually-enrolled or attended a Head Start standalone prekindergarten program during the 2014–2015 school year were compared to each other and the district. **Appendix A-Table 1** shows the academic achievement of AVANCE students on the Iowa Assessments and Logramos 3 tests based on demographic characteristics.

Data collection and analyses for the 2011–2012 prekindergarten cohort

AVANCE third-grade students' prekindergarten program enrollment status and demographic characteristics information were obtained by matching data from an archival dataset used for the *Prekindergarten Education Program: Academic Performance Comparison of Head Start Programs, 2012–2013* report which examined the academic achievement of the 2011–2012 Pre-K cohort after promotion to kindergarten (Houston Independent School District [HISD], 2013) and the PEIMS HISD 2015–2016 student database. AVANCE students' information was then matched to their academic outcome measures by the State of Texas Assessments of Academic Readiness assessment system (STAAR) during spring of 2016. 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. 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 (Houston Independent School District [HISD], 2016b). **Table 1** shows the minimum scale score benchmarks students needed to achieve in order to meet the 2016 Level II: Satisfactory progression standards on the third-grade STAAR reading and mathematics assessments.

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

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

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

Summary statistics were computed to determine the academic achievement of HISD economically-disadvantaged, third-grade students in the areas of reading and mathematics. Academic results of AVANCE students who were either dually-enrolled or attended a standalone prekindergarten program during the 2011–2012 school year were compared to (a) each other and (b) the district. **Appendix B-Tables 1 and 2** show the academic achievement of AVANCE students on the 2016 STAAR third-grade reading and mathematics assessments based on demographic characteristics. Because the majority of HISD third-grade students who attended the dual and standalone programs were economically disadvantaged (96.4%), academic outcomes measured by the 2016 STAAR assessments focused only on the academic achievement of this subpopulation. Additionally, the information

presented in this report for both the 2011–2012 and 2014–2015 cohorts were primarily described by mean scale scores. Because standard deviations were not taken into account for results interpretations, caution should be exercised when examining relationships between study variables.

Limitations for both student cohorts

This program evaluation has limitations. One limitation was that data were not examined to determine whether or not AVANCE students who participated in either an HISD-Head Start (dual) or Head Start Standalone prekindergarten program had also attended the same program in years prior to 2014–2015 and 2011–2012, respectively. One reason the number of years was not taken into account was because while dually-enrolled students must 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. 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 in previous grades on prior academic achievement levels because the same assessments were not administered to students. 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 regarding the errors that occurred during administration of the 2016 STAAR assessments. As described in the *Houston Independent School District State of Texas Assessments of Academic Readiness (STAAR) Performance, Grades 3-8 Spring 2016* report (HISD, 2016b) the errors that were made during administrations of the STAAR assessments by the Educational Testing Service primarily consisted of concerns regarding “data validity and security, online testing incidents, communication, the shipping of testing materials, and other issues” (p. 1). These concerns may contribute to inaccuracies in sample sizes and student academic outcomes on the STAAR assessments.

Results

Academic achievement results for the 2014–2015 prekindergarten cohort

Figures 1 and 2 show comparisons of students’ academic achievement on the kindergarten Iowa

Assessments and Logramos 3 E(LA) and mathematics subtests that were administered in December 2015. Students’ mean standard scores by prekindergarten program model were analyzed for comparative purposes. District mean statistics were computed from the created dataset for each language version and subject of the assessment administered to students. Mean standard scores for AVANCE students’ overall achievement were also included in Appendix A-Table 1 so the Head Start agency could review the academic achievement of AVANCE students by their demographic characteristics.

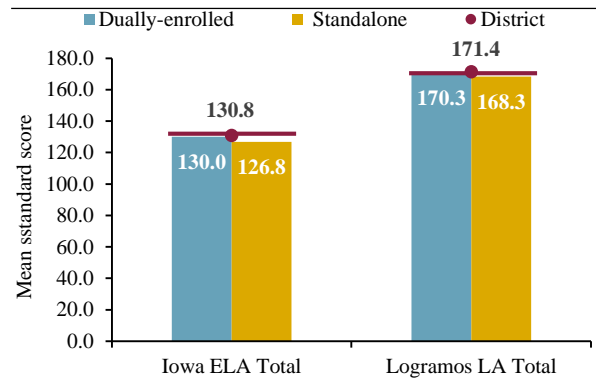


Figure 1. AVANCE students’ mean standard scores on the 2015 kindergarten Iowa Assessments and Logramos 3 (English) language arts subtests based on prekindergarten program enrollment status during the 2014–2015 school year.

Figure 1 shows that kindergarten students affiliated with AVANCE who were dually-enrolled achieved mean standards scores on the Iowa and Logramos E(LA) subtests (M = 130.0 and 170.3, respectively) that were higher than those of their peers who attended the corresponding AVANCE Head Start standalone program (M = 126.8 and 168.3, respectively). Dually-enrolled, AVANCE students were also observed to achieve higher mean standard scores on the Iowa and Logramos

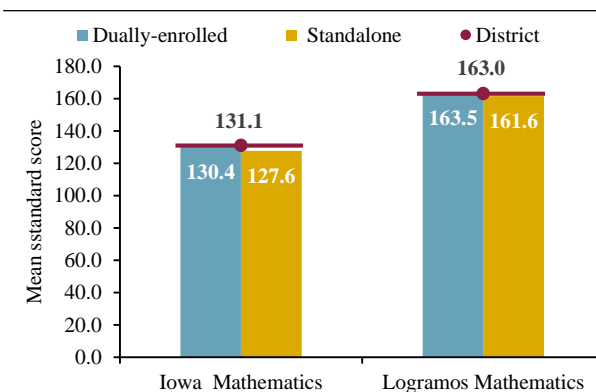


Figure 2. AVANCE students’ mean scale scores on the 2015 kindergarten Iowa Assessments and Logramos 3 mathematics subtests based on prekindergarten program enrollment status during the 2014–2015 school year.

mathematics than their standalone peers (see Figure 2).

Taking economic status into account revealed an interesting trend. Results in **Figures 3** and **4** show comparisons of students' academic achievement on the kindergarten Iowa Assessments and Logramos 3 E(LA) and mathematics, regardless of Pre-K program enrollment status. Results in Figures 3 and 4 indicate that economically-disadvantaged AVANCE students who were administered the Iowa ELA and mathematics assessments achieved mean standard scores that were lower than those of their non-economically disadvantaged peers. In contrast, economically-disadvantaged AVANCE students who were administered the Logramos LA and mathematics subtests achieved mean standard scores that were higher than those of their non-economically-disadvantaged peers. However, due to large sample size differences with respect to economic status (see Appendix A, Table 1) caution should be exercised for results interpretations.

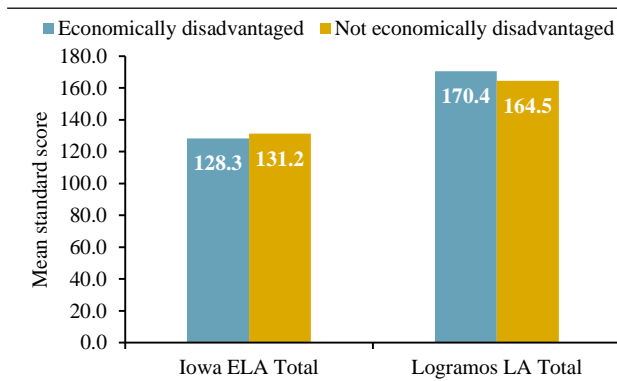


Figure 3. Economically-disadvantaged AVANCE students' mean standard scores on the 2015 kindergarten Iowa Assessments and Logramos 3 (English) language arts subtests based on prekindergarten program enrollment status during the 2014–2015 school year.

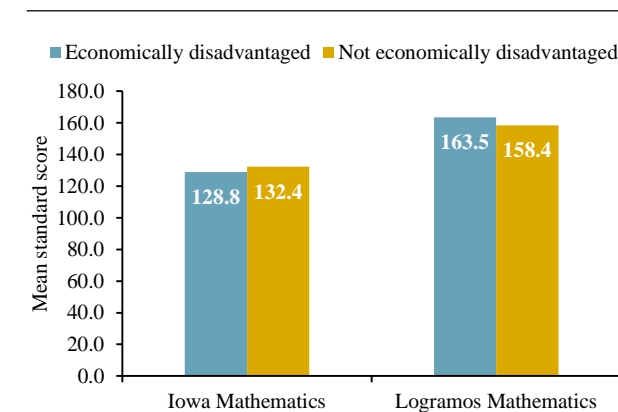


Figure 4. Economically-disadvantaged AVANCE students' mean standard scores on the 2015 kindergarten Iowa Assessments and Logramos 3 mathematics subtests based on prekindergarten program enrollment status during the 2014–2015 school year.

Academic achievement results for the 2011–2012 prekindergarten cohort

Mean scale scores

Figure 5 to **Figure 7** show comparisons of economically-disadvantaged AVANCE students' academic achievement on the 2016 STAAR third-grade reading and mathematics assessments. Students' mean scale scores by prekindergarten program model were analyzed for comparative purposes. District averages obtained from the updated June 2016 reports disseminated by TEA and ETS also served as a reference point for each respective language version and subject of the assessment administered to HISD students. Mean scale scores for AVANCE students' overall achievement were also included in **Appendix B-Tables 1** and **2** so the Head Start agency could review the academic achievement of AVANCE students by their demographic characteristics.

Figure 5 shows that economically-disadvantaged, third-grade students affiliated with AVANCE who were dually-enrolled achieved a mean scale score (M= 1422) on the 2016 STAAR third-grade English reading assessment that was higher than that of their economically-disadvantaged peers who attended the corresponding Head Start standalone program (M = 1370), as well as the district's average for economically-disadvantaged students (M = 1386). Economically-disadvantaged AVANCE students regardless of prekindergarten program model obtained mean scale scores that exceeded the minimum benchmark for the Level II: Satisfactory progression standard on the 2016 STAAR third-grade English reading test of 1345.

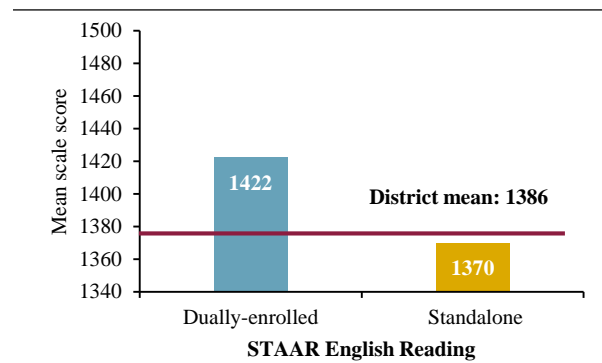


Figure 5. Economically-disadvantaged AVANCE students' mean Scale scores on the 2016 STAAR third- grade English reading assessment based on prekindergarten program enrollment status during the 2011–2012 school year.

In contrast, **Figure 6** indicates that economically-disadvantaged AVANCE students who were dually-enrolled achieved a mean scale score (M = S-1399) on the STAAR third-grade Spanish reading assessment that

was lower than that of their peers who attended the corresponding Head Start standalone program (M = S-1463). AVANCE standalone students also outperformed economically-disadvantaged students across the district (M S-1397). Economically-disadvantaged AVANCE students regardless of prekindergarten program model obtained mean scale scores that exceeded the minimum benchmark for the Level II: Satisfactory progression standard on the 2016 STAAR Spanish reading test of S-1318.

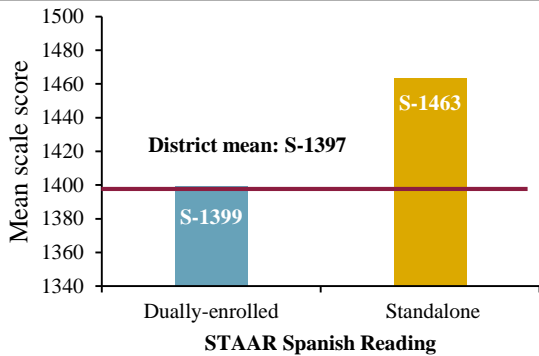


Figure 6. Economically-disadvantaged AVANCE students’ mean scale scores on the 2016 STAAR third-grade Spanish reading assessment based on prekindergarten program enrollment status during the 2011–2012 school year.

Figure 7 indicates economically-disadvantaged, dually-enrolled students affiliated with AVANCE achieved a mean scale score (M = 1437) on the STAAR third-grade English mathematics test that was higher than their standalone peers (M = 1432). In contrast, the academic achievement of economically-disadvantaged, dually-enrolled students (M = 1471) fell below their economically-disadvantaged peers who attended AVANCE standalone programs (M = 1479) on the STAAR third-grade Spanish mathematics test. Both AVANCE dually-enrolled and standalone students obtained mean scale scores on the STAAR English and Spanish mathematics assessments that exceeded the district means (M = 1421 and 1429, respectively) and the minimum benchmarks for the Level II: Satisfactory progression standard on the 2016 STAAR third-grade English and Spanish mathematics tests of 1360.

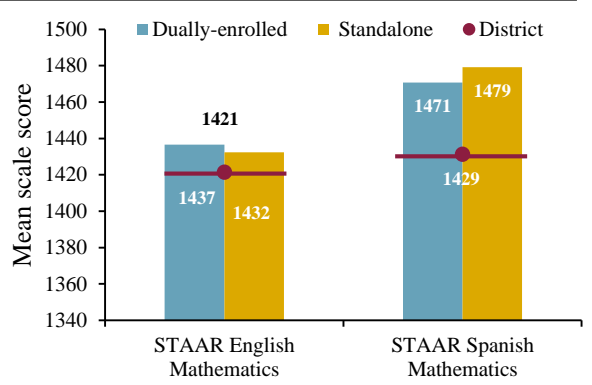


Figure 7. Economically-disadvantaged AVANCE students’ mean scale scores on the 2016 STAAR English and Spanish mathematics assessments based on prekindergarten program enrollment status during the 2011–2012 school year.

Percent met the 2016 Level II: Satisfactory progression standards

Figure 8 to Figure 10 show comparisons of the percentage of economically-disadvantaged students who met the 2016 Level II: Satisfactory progression standards on the English and Spanish versions of the STAAR reading and mathematics assessments. To serve as a reference, a district percentage was computed for each language version and subject assessment administered to HISD third graders. Comparisons of rates were analyzed in the context of prekindergarten program models. The percentages of AVANCE students who met the 2016 Level II Satisfactory progression standards on the STAAR reading and mathematics assessments were also included in the Appendix B-Table 2 so the Head Start agency could determine the overall levels of achievement of among student demographic groups.

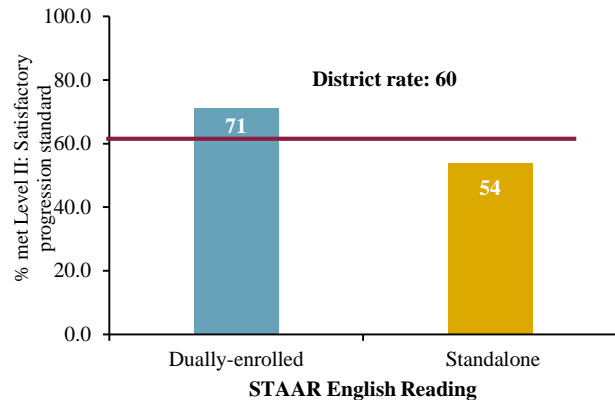


Figure 8. Percent of economically-disadvantaged AVANCE students who met the 2016 Level II: Satisfactory progression standard on the STAAR third-grade English reading assessment during the 2011–2012 school year.

Figure 8 on page 6 shows that 71% of economically-disadvantaged, dually-enrolled AVANCE students met the 2016 Level II: Satisfactory progression standard on the STAAR third-grade English reading assessment in contrast to 54% of their peers who attended the corresponding standalone programs. Dually-enrolled students also met the progression standard at a higher rate than economically-disadvantaged students across the district (60%).

Figure 9 shows that 82% of economically-disadvantaged, dually-enrolled AVANCE students met the 2016 Level II: Satisfactory progression standard on the STAAR third-grade Spanish reading assessment in contrast to 76% of their peers who attended the corresponding standalone programs. Both groups of AVANCE students met the progression standard at a higher rate than economically-disadvantaged students across the district (67%).

Figure 10 shows that 72% of economically-disadvantaged AVANCE students who were dually-enrolled met the 2016 Level II: Satisfactory progression standard on the STAAR English mathematics assessment at a higher rate than their peers who attended the corresponding standalone programs (60%) and economically-disadvantaged students across the district (64%). In contrast, economically-disadvantaged students who were dually-enrolled in AVANCE (71%) met the 2016 Level II: Satisfactory progression standard on the STAAR Spanish mathematics assessment at a lower rate than their peers who attended the corresponding standalone programs (74%).

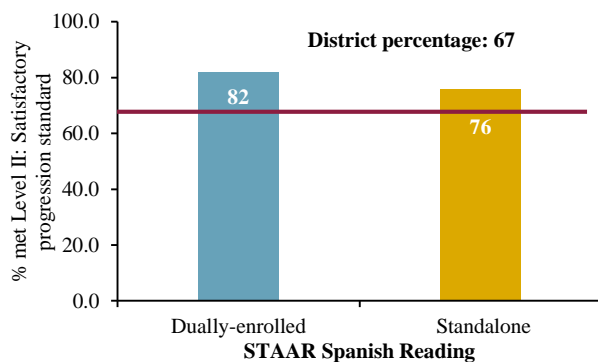


Figure 9. Percent of economically-disadvantaged AVANCE students who met the 2016 Level II: Satisfactory progression standard on the STAAR third-grade Spanish reading assessment during the 2011–2012 school year.

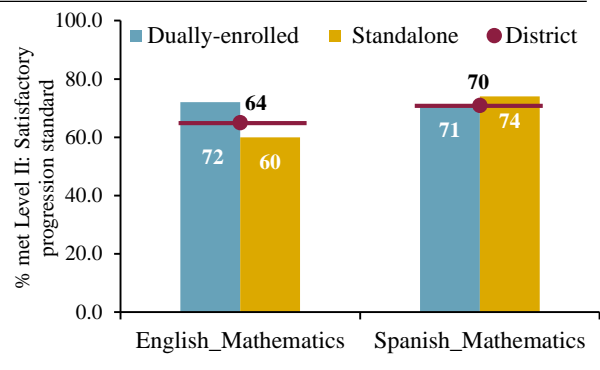


Figure 10. Percent of economically-disadvantaged AVANCE students who met the 2016 Level II: Satisfactory progression standard on the STAAR third-grade English and Spanish mathematics assessment during the 2011–2012 school year.

Discussion

The current evaluation examined the academic achievement of the 2014–2015 and 2011–2012 AVANCE prekindergarten cohorts, respectively. Findings included in this brief represent a subset of information extracted from comprehensive short- and long-term reports that focused on the HISD and Head Start Collaborative programs for the 2015–2016 report year (see Houston Independent School District [HISD], 2016c; Houston Independent School District [HISD], 2016d).

Findings specific to short-term outcomes show that AVANCE students administered the kindergarten Logramos 3 LA and mathematics subtests had academic outcomes that were higher than those of their AVANCE Head Start standalone peers. Findings also revealed economically-disadvantaged AVANCE students administered the Logramos 3 LA and mathematics subtests, regardless of Pre-K program status during the 2014–2015 school year obtained higher mean standard scores than those of their non-economically-disadvantaged peers. However, factoring in standard deviation and sample size, caution should be exercised in regards to determining the presence or strength of these relationships.

Students who took the Logramos subtests were typically identified as economically disadvantaged, LEP, and/or at risk for dropping out of school (see Appendix A-Table 1). One explanation for the higher academic achievement experienced by dually-enrolled students, in contrast to standalone students may be due to both HISD and Head Start programs targeting these student characteristics for enrollment to receive a free prekindergarten education. Effective co-teaching among HISD and Head Start teachers may also contribute to students' academic success. Further research regarding

the co-teaching dynamic, as well as aspects of the collaborative program is needed to explain relationships.

Another related explanation for these findings may be due to differences in bilingual programs received by students of the prekindergarten programs. HISD currently offers linguistic programs which were created 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, pg.3). Bilingual program placement upon entry into an HISD prekindergarten classroom may have had a stronger positive, short-term impact on dually-enrolled AVANCE students’ achievement on the Logramos 3 subtests, in contrast to other peers who received linguistic programming at standalone sites.

Regarding long-term outcomes, results regarding students’ academic achievement on the 2016 STAAR third-grade reading and mathematics assessments revealed academic trends related to language versions of the tests. Specifically, dually-enrolled AVANCE students obtained higher mean scale scores on the STAAR English reading and mathematics tests than their Head Start standalone peers. Conversely, AVANCE standalone students obtained higher mean scale scores on the STAAR Spanish reading and mathematics tests than those of their dually-enrolled peers. Additionally, findings revealed that overtime the academic achievement of dually-enrolled students increased to exceed district achievement levels. An implication from these findings would be to explore factors that contribute to or explain data trends noted on the 2016 STAAR third-grade assessments.

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Appendix A

Table 1. Summary statistics of AVANCE students' academic achievement on the 2015–2016 kindergarten Iowa Assessments and Logramos 3 language arts and mathematics subtests

		Iowa ELA			Iowa mathematics			Logramos LA			Logramos mathematics		
Demographic characteristics		n	Mean	SD	n	Mean	SD	n	Mean	SD	n	Mean	SD
Overall Sample		138	128.7	7.1	145	129.2	7.3	107	169.5	14.1	107	162.7	12.8
Gender	Female	70	128.9	7.0	74	129.4	7.6	52	168.1	13.1	52	161.8	12.3
	Male	68	128.4	7.3	71	129.0	7.0	55	170.8	14.9	55	163.6	13.3
Race and ethnicity	Black	24	127.7	7.2	27	127.2	6.8	0	–	–	0	–	–
	Hispanic	106	128.9	7	110	129.5	7.5	104	169.5	14.2	104	162.7	12.9
	White	3	*	*	3	*	*	0	–	–	0	–	–
Economically disadvantaged	No	18	131.2	7.1	18	132.4	6.2	17	164.5	11.7	17	158.4	11.9
	Yes	120	128.3	7.1	127	128.8	7.4	90	170.4	14.3	90	163.5	12.9
Special Education	No	131	129.1	6.9	138	129.7	7.0	105	169.9	13.9	105	163.0	12.8
	Yes	7	120.6	5.5	7	120.4	8.0	2	*	*	2	*	*
Limited English proficient (LEP)	No	118	128.9	7.3	125	129.1	7.5	3	*	*	3	*	*
	Yes	20	127.6	6.0	20	130.0	6.1	104	169.6	14.2	104	162.7	12.9
At risk	No	117	128.9	7.3	124	129.1	7.5	5	170.2	9.9	5	164.8	9.1
	Yes	21	127.7	5.9	21	130.1	6.0	102	169.4	14.3	102	162.6	13.0

Source: Iowa Assessments and Logramos 3 2015–2016 HISD student databases; AVANCE-Houston, Inc. Head Start student list, 2014–2015; PEIMS 2014–2016 HISD student databases. Demographic characteristics were retrieved from Iowa and Logramos 2015–2016 HISD student databases.

Note. * indicates fewer than five students tested.

– indicates no data available

Appendix B

Table 1. Summary statistics of AVANCE economically-disadvantaged students’ academic achievement on the 2016 STAAR third-grade English and Spanish reading and mathematics assessments

Demographic characteristics		STAAR English reading			STAAR Spanish reading			STAAR English mathematics			STAAR Spanish mathematics		
		n	MD	SD	n	MD	SD	n	MD	SD	n	MD	SD
Overall sample		166	1398.1	126.4	46	S-1439.7	177.7	167	1449.0	146.4	44	1476.0	138.4
Gender	Female	85	1394.2	123.4	24	S-1452.1	186.4	84	1428.9	148.1	24	1461.7	149.8
	Male	81	1402.2	130.0	22	S-1426.1	171.0	83	1469.5	142.7	20	1493.1	126.4
Race and ethnicity	Asian	0	–	–	0	–	–	0	–	–	0	–	–
	AI	0	–	–	0	–	–	0	–	–	0	–	–
	Black	20	1377.2	81.7	0	–	–	20	1409.2	116.0	0	–	–
	Hispanic	145	1402.0	131.2	46	S-1439.7	177.7	146	1456.6	147.9	44	1476.0	138.4
	Other	0	–	–	0	–	–	0	–	–	0	–	–
	White	1	*	*	0	–	–	1	*	*	0	–	–
Student with disability	No	160	1397.4	126.9	43	S-1447.3	186.5	160	1445.3	140.6	42	1479.7	139.2
	Yes	6	1416.7	120.2	3	*	*	7	1535.1	245.5	2	*	*
Limited English proficient (LEP)	No	86	1403.2	117.8	4	*	*	85	1446.6	152.0	1	*	*
	Yes	80	1392.7	135.5	45	S-1442.7	178.5	82	1451.6	141.3	43	1479.1	138.4
At risk	No	50	1427.5	117.3	2	*	*	50	1474.0	147.1	1	*	*
	Yes	116	1385.5	128.5	45	S-1442.7	178.5	117	1438.4	145.5	43	1479.1	138.4

Source: STAAR 2015–2016 HISD student database; Archival Head Start student list, 2011–2012; PEIMS 2015–2016. Demographic characteristics were retrieved from PEIMS databases. “AI” refers to American Indian and “Other” Pacific Islander and Two or more ethnicities.

Note. ‘*’ indicates fewer than five students tested.

Note. ‘–’ indicates no data available.

Table 2. AVANCE economically-disadvantaged students who met the 2016 Level II: Satisfactory progression standard on the STAAR third-grade English and Spanish reading and mathematics assessments

Demographic characteristics	STAAR English reading			STAAR Spanish reading			STAAR English mathematics			STAAR Spanish mathematics		
	# tested	n Met Sat.	% Met Sat.	# tested	n Met Sat.	% Met Sat.	# tested	n Met Sat.	% Met Sat.	# tested	n Met Sat.	% Met Sat.
Overall	166	105	63.3	46	36	78.3	167	111	66.5	44	32	72.7
Gender												
Female	85	52	61.2	24	19	79.2	84	49	58.3	24	15	62.5
Male	81	53	65.4	22	17	77.3	83	62	74.7	20	17	85.0
Race and ethnicity												
Asian	0	–	–	0	–	–	0	–	–	0	–	–
Black	20	13	65.0	0	–	–	20	13	65.0	0	–	–
Hispanic	145	92	63.4	46	36	78.3	146	98	67.1	44	32	72.7
Other	0	–	–	0	–	–	0	–	–	0	–	–
White	1	*	*	0	–	–	1	*	*	0	–	–
Student with disability												
No	160	101	63.1	43	35	81.4	160	107	66.9	42	31	73.8
Yes	6	4	66.7	3	*	*	7	4	57.1	2	*	*
Limited English proficient (LEP)												
No	86	57	66.3	2	*	*	85	59	69.4	1	*	*
Yes	80	48	60.0	45	36	80.0	82	52	63.4	43	32	74.4
At risk												
No	80	39	78.0	2	*	*	50	36	72.0	1	*	*
Yes	116	66	56.9	45	36	80.0	117	75	64.1	43	32	74.4

Source: STAAR 2015–2016 HISD student database; Archival Head Start student list, 2011–2012; PEIMS 2015–2016. Demographic characteristics were retrieved from PEIMS databases. “AI” refers to American Indian and “Other” Pacific Islander and Two or more ethnicities.

Note. ‘*’ indicates fewer than five students tested.

Note. ‘–’ indicates no data available.