

Spring Independent School District

Department of Research, Accountability, and Testing

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**TO: Dr. Rodney Watson
Superintendent of Schools**

**FROM: Dr. Jennifer Cobb
Assistant Superintendent, Research, Accountability, and Testing**

DATE: August 23, 2019

**RE: ACADEMIC ACHIEVEMENT AMONG PREKINDERGARTEN STUDENTS IN
SCHOOL-BASED PROGRAMS, 2018–2019**

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ACADEMIC ACHIEVEMENT AMONG PREKINDERGARTEN STUDENTS IN SCHOOL-BASED PROGRAMS 2018–2019

Executive Summary

Program Description

In compliance with the Texas Education Code §29.153, the Spring Independent School District (SISD) provides free prekindergarten classes for eligible four-year-old students. In accordance with the growing body of literature, which suggests that early education programs are a vital resource in preparing children, especially those who come from disadvantaged backgrounds, for success in school, SISD has found ways to further expand, support, and develop prekindergarten programs within the district. In 2015, the 84th Texas State Legislature enacted HB4, which established additional state support for early education programs, including authorization for the High Quality Prekindergarten Grant, a program which assists districts by providing funding for the implementation of new, and enhancement of existing, high quality prekindergarten programs. The grant program focused on certain enhanced quality standards related to curriculum, teacher, qualification, academic performance, and family engagement. Monies were restricted for use by prekindergarten programs only, but could also be used for a range of innovations, including the procurement of supplies, materials, or educational technologies for classrooms, teacher trainings and professional development, and family outreach offers, such as the Ready Rosie program, which helps parents learn to model the skills and competencies essential for school success in their interactions with their children. HB4 also added new prekindergarten reporting requirements for participating districts, with requisite data collection beginning in 2016–2017. Monies for that program ended in December, 2017.

Currently, SISD offers both full- and half-day prekindergarten programs to all eligible students within its attendance boundaries. To be eligible for participation in a free prekindergarten program in SISD for the 2018–2019 report year, a child must (1) be four years old on or before September 1; (2) live within the SISD attendance boundary; and (3) meet at least one of the following criteria:

- (a) Be unable to speak and comprehend the English language;
- (b) Be economically disadvantaged;
- (c) Be homeless;
- (d) Be the child of an active-duty member of the U.S. military;
- (e) Be the child of a member of the armed forces who was injured or killed while serving on active duty;
- (f) Be in, or have been in the conservatorship of the Department of Family and Protective Services following an adversary hearing held as provided by Section 262.201, Family Code; or
- (g) Be the child of a person eligible for the Star of Texas Award as a peace officer (3106.002), firefighter (3106.003), or emergency medical first responder (3106.004).

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Children who meet the above criteria are determined by the Texas Legislature to be the most at risk for school failure, and therefore in need of more assistance to become school ready by the time they reach Kindergarten. Once enrolled, children are placed into a school-based program (early childhood center within a school).

The district uses the *Frog Street Pre-K (FSPK)* curriculum. The *Frog Street Pre-K* curriculum focuses on the physical, social, emotional, cognitive, and language development of preschool-age children (Schiller, n.d.). The quality of implementation of educational curriculum affects children's future academic success. Presently, SISD operates 18 campuses that provide half-day instruction for young children (either morning or afternoon) and seven campuses that provide full-day instruction for young children.

Overview

Pursuant to the requirements of the Texas Education Agency, this report describes how well SISD school-based prekindergarten programs are doing in preparing young children to be school ready. Specifically, this report compared the language, literacy, mathematics, and social-emotional mean scores and proficiency levels of prekindergarten students at beginning-of-year to their mean scores and proficiency levels at the end-of-year, during the 2018–2019 school year.

Academic proficiency was measured using scores from the CIRCLE Assessment (formerly known as C-PALLS+), a test battery developed by the Children's Learning Institute (CLI) at the University of Texas Health Science Center of Houston. CIRCLE subtests measure skills in early language acquisition, literacy, mathematics, and social and emotional skills through interactive, classroom-based activities. During the 2018–2019 school year, SISD prekindergarten students were administered a total of 16 CIRCLE language, literacy, mathematics, and social-emotional development subtests across three testing waves, the first at the beginning of the school year (BOY; Wave 1), the second at the middle of the school year (MOY; Wave 2), and the third at the end of the school year (EOY; Wave 3). This report focuses on 16 English-language and 15 Spanish-language tests of literacy, mathematics, language, and social-emotional, administered during Waves 1 (BOY) and 3 (EOY), in attempt to demonstrate the impact of SISD prekindergarten programs on student growth and progress.



Introduction

A large body of research suggests that early childhood centers promote students' school readiness, enhance students' cognitive development, and reduce the risk of students' having reading and writing difficulties as they progress through school (see Butin & Woolums, 2009). School readiness refers to children being prepared to succeed in a structured learning setting (United Nations Children's Fund [UNICEF], 2012). While school readiness is important for all children, it is especially crucial for vulnerable and disadvantaged populations, included but not limited to: girls, children with disabilities, ethnic minorities, and those living in rural areas (UNICEF, 2012). Students from disadvantaged backgrounds, compared to their non-disadvantaged peers, gain the most from early childhood programs (Brooks-Gunn, 2003; Currie, 2000; Gormley, Gayer, Phillips, & Dawson, 2005; Magnuson, Ruhm, & Waldfogel, 2007). Researchers have found that students who attend prekindergarten have higher completion rates in high school and lower dropout rates than their disadvantaged peers who did not attend a prekindergarten program (see Currie, 2000; UNICEF, 2012). A review of the literature found that the beneficial effects of an early childhood education are often larger for disadvantaged youth than they are for their non-disadvantaged peers (Currie, 2000).

The purpose of this evaluation is to meet reporting requirements, established by the Texas Education Agency, as well as to provide SISD and early education stakeholders with information about the academic achievement of SISD prekindergarten students who attended a school-based program during the 2018–2019 school year. The following research questions were addressed:

1. What were the differences in CIRCLE mean scores between SISD prekindergarten students at EOY, compared to the same prekindergarten students at BOY during the 2018–2019 school year?
2. What were the differences in CIRCLE proficiency rates between SISD prekindergarten students at EOY, compared to the same prekindergarten students at BOY during the 2018–2019 school year?

Method

Data Collection

Data collection for prekindergarten students who were enrolled in a SISD prekindergarten program during the 2018–2019 school year was conducted in two rounds. The first round of data collection identified all prekindergarten students (coded "PK") who attended SISD during the 2018–2019 school year. This information was retrieved from the Public Education Information Management System (PEIMS) 2018–2019 student database and revealed that 1,628 prekindergarten students attended SISD in 2018–2019. The second round of data collection involved merging students' PEIMS data with their academic data from SISD's 2018–2019 CIRCLE database.

Sample

The PEIMS 2018–2019 SISD database includes 1,628 prekindergarten students. After merging the PEIMS 2018–2019 SISD student database with the SISD CIRCLE 2018–2019 student database, and removing students who had either incomplete scores or who had not achieved a minimum score greater than zero on the language, literacy, mathematics, or socio-emotional subtests on the 2018 BOY and 2019 EOY tests, the size of the sample was reduced to 1,576 students at BOY and 1,433 students at EOY. A demographic breakdown of the 2018–2019 SISD prekindergarten sample is provided in **Table 1**, p. 4. Please note that because some students may have been administered certain subtests more than once, or make have been tested in both English and Spanish, these figures may represent overestimates of the actual counts of the students tested.

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Data from PEIMS represent a “snapshot” of students who were enrolled by the last Friday in October each year in SISD. Students present for the snapshot may not have been actively enrolled in a specific SISD prekindergarten program for the entire academic year. In contrast, students who were not present during the snapshot may have enrolled into a program at a later date, but were not identified as having attended a school-based program during the 2018–2019 school year. Because these students were most likely not present for each assessment wave, they were excluded from this report.

Table 1. Demographic Summary of Prekindergarten Students and Spring ISD, 2018-2019

Demographic Characteristics		Pre-K		Spring ISD	
		N	(%)	N	(%)
Enrollment	Total	1,575	(100.0%)	35,351	(100.0%)
Ethnicity	Asian	42	(2.7%)	960	(2.7%)
	Black	525	(33.3%)	14,184	(40.1%)
	Hispanic	852	(54.1%)	16,398	(46.4%)
	Other	63	(4.0%)	1,234	(3.5%)
	White	93	(5.9%)	2,575	(7.3%)
Economically Disadvantaged	No	34	(2.2%)	10,571	(29.9%)
	Yes	1,541	(97.8%)	24,780	(70.1%)
Special Education Eligible	No	1,514	(96.1%)	32,219	(91.1%)
	Yes	61	(3.9%)	3,132	(8.9%)
Limited English Proficient (LEP)	No	871	(55.3%)	8,987	(25.4%)
	Yes	704	(44.7%)	26,364	(74.6%)
At Risk	No	484	(30.7%)	14,717	(41.6%)
	Yes	1,091	(69.3%)	20,364	(57.6%)

Source: PEIMS Fall Snapshot, 2018–2019; SISD CIRCLE Student Database (BOY), 2018–2019

Measures

The academic achievement of SISD prekindergarten students was measured through the CIRCLE assessment. CIRCLE is an online assessment tool, designed to monitor the academic progress of prekindergarten students, aged three years and six months to four years and eleven months. SISD currently uses this criterion-referenced assessment to determine children’s understanding in the areas of language, literacy, mathematics, and social-emotional development. All CIRCLE assessments may be given in either English or Spanish, with the exception of the Onset-Rime subtest, which is only administered in English. The 2018–2019 BOY and EOY testing waves consisted of the following CIRCLE language and literacy subtests: Rapid Vocabulary Naming, Rapid Letter Naming, Story Retell and Comprehension, Book and Print Knowledge, Syllabication, Onset-Rime (English Only), Alliteration, Rhyming I, and Early Writing Skills. Mathematics subtests administered during both the 2018–2019 BOY and EOY testing waves included: Rote Counting, Shape Naming, Number Discrimination, Number Naming, Shape Discrimination, Counting Sets, and Operations. Finally, the social and emotional development subtests administered during the 2018–2019 BOY and EOY waves included: Positive Social Behaviors, Classroom Community and Safety, Emotion and Behavior Regulation, Self-Care, and Approaches to Learning.

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English and Spanish versions of the CIRCLE assessment were administered three times per year to SISD prekindergarten students. Assessment waves occurred at the beginning-of-year (BOY; Wave 1), middle-of-year (MOY; Wave 2), and end-of-year (EOY; Wave 3). BOY and EOY cut-point scores are provided in **Table 2**. If a student scored at or above the cut point determined for an academic domain, he or she was considered proficient (“on track”) in that area. If a student scored below the cut point, he or she was labeled either “monitor” (for students less than four years old) or “needs support” (for students four years old and older), and thus at-risk, academically (Landry et al., 2016).

		BOY		EOY	
		English	Spanish	English	Spanish
Language & Literacy	Rapid Vocabulary	16	12	22	16
	Rapid Letter	8	6	14	10
	Story Retell	3	3	3	3
	Book & Print	3	1	7	7
	Early Writing Skills	10	10	20	20
	Syllabication	6	5	6	5
	Onset-Rime	3	---	3	---
	Alliteration	6	5	6	5
	Rhyming I	7	5	7	5
Mathematics	Rote Counting	2	2	2	2
	Shape Naming	4	4	4	4
	Shape Discrimination	5	5	5	5
	Number Naming	3	3	3	3
	Number Discrimination	2	2	2	2
	Counting Sets	4	4	4	4
	Operations	3	3	3	3
Social & Emotional Development	Positive Social Behaviors	44	44	44	44
	Classroom Community & Safety	44	44	44	44
	Emotion & Behavior Regulation	44	44	44	44
	Self-Care	44	44	44	44
	Approaches to Learning	44	44	44	44

Source: Adapted from Children’s Learning Institute (September 2016). *CIRCLE Progress Monitoring Cut Points*. University of Texas Children’s Learning Institute: Houston, TX.

The demographic characteristics of SISD prekindergarten students were collected from the 2018–2019 PEIMS SISD student database. Characteristics include ethnicity, economically-disadvantaged status, special education eligibility status, limited English proficient (LEP) status, and at-risk status.

Statistical Analyses

Summary statistics (count, mean, standard deviation, and percent) were computed to determine whether or not prekindergarten students were proficient in language, literacy, mathematics, and social-emotional development at BOY and EOY on the SISD CIRCLE English and Spanish subtests.

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Effect sizes were also computed to measure the magnitude SISD prekindergarten programs had on students' academic achievement at EOY when compared to BOY using Cohen's *d*. Cohen's *d* is a standard-deviation based measure used to compute the effect size for similar sample sizes. Cohen's *d* uses the following criteria for determining the strength of an intervention: 0.2 = small effect, 0.5 = moderate effect, and 0.8 = large effect.

Limitations

- The information in this report was collected for SISD prekindergarten students identified as "PK" only, according to the PEIMS 2018–2019 SISD student database. The population of students identified as receiving prekindergarten instruction may be an underestimate, as SISD students coded "EE" during 2018–2019 may have also included some prekindergarten instruction.
- Likewise, academic measures retrieved for prekindergarten students eligible for special education services may not truly reflect their 2018–2019 academic outcomes, since a number of three- and four-year-old students who attended school-based programs were coded as "EE" during the 2018–2019 school year, and were therefore not included in the sample.
- The information contained in this report was primarily examined in the context of academic outcomes. Since no components of the prekindergarten programs were included in this report, their influence(s) cannot be ascertained.
- The CIRCLE assessment was not intended for use with children with disabilities (e.g., language delays, [autism] spectrum disorders, or intellectual disabilities) (Landry et al., 2016). Consequently, SISD does not currently have an inclusive assessment to monitor all children's strengths, intellectual growth, and needs upon entering and exiting prekindergarten programs (National Association for the Education of Young Children & National Association of Early Childhood Specialists in State Departments of Education [NAEYC & NAECS/SDE], 2003). As a result, caution should be exercised when interpreting results in the context of special education status.

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Results

What were the differences in CIRCLE mean scores between SISD prekindergarten students at EOY, compared to the same prekindergarten students at BOY during the 2018–2019 school year?

Table 3. Academic Achievement of SISD Prekindergarten Students on the BOY and EOY SISD CIRCLE English Assessments, by Wave and Subtest, 2018-2019

		N	BOY		EOY		Mean Diff	Effect Size
			Mean	SD	Mean	SD		
Language & Literacy	Rapid Vocabulary	855	14.97	7.29	23.34	9.04	-8.37	-1.08
	Rapid Letter	850	8.83	10.97	29.26	14.97	-20.43	-1.59
	Story Retell	825	3.56	2.02	5.20	1.38	-1.64	-0.91
	Book & Print	835	5.63	2.80	9.34	2.18	-3.71	-1.38
	Early Writing Skills	725	6.03	4.36	16.35	3.86	-10.32	-2.15
	Syllabication	844	2.31	2.27	5.53	1.99	-3.22	-1.30
	Onset-Rime	843	0.92	1.28	3.02	1.79	-2.10	-1.12
	Alliteration	843	2.99	1.84	5.19	1.72	-2.20	-0.95
	Rhyming I	844	3.89	2.35	6.68	1.98	-2.79	-0.94
Mathematics	Rote Counting	845	0.79	0.72	1.74	0.52	-0.95	-1.30
	Shape Naming	844	3.19	1.60	4.47	0.99	-1.28	-0.91
	Shape Discrimination	844	4.46	1.58	5.58	0.91	-1.12	-0.73
	Number Naming	844	1.90	1.54	3.66	1.32	-1.76	-1.28
	Number Discrimination	844	1.39	0.77	1.89	0.38	-0.50	-0.64
	Counting Sets	844	2.60	1.61	4.32	1.03	-1.72	-1.15
	Operations	843	0.97	1.11	2.27	0.96	-1.30	-1.12
Social & Emotional Development	Positive Social Behaviors	821	9.35	4.56	14.79	3.84	-5.44	-1.16
	Class. Community & Safety	828	7.32	3.09	10.14	2.59	-2.82	-0.97
	Emotion & Behavior Reg.	815	8.45	3.66	13.41	3.09	-4.96	-1.34
	Self-Care	819	3.23	0.95	3.88	0.45	-0.65	-0.71
	Approaches to Learning	812	5.92	3.06	9.67	2.63	-3.75	-1.25

Source: SISD CIRCLE 2018–2019 student database; PEIMS 2018–2019 student database

Note: Students who scored, on average, below cut points are highlighted in yellow. Assessments for the which Cohen's d calculation exceeded the 0.5 cutoff for a moderate effect are italicized.

Table 3 presents descriptive statistics and effect size results for students' language, literacy, mathematics, and social-emotional development on the SISD Circle English assessments by wave and subtest type.

- Comparisons of cut-point scores (Table 2) and SISD CIRCLE English subtest results shown in Table 3 indicate that SISD students, on average, struggled to meet the proficiency standards on most assessments at BOY (proficiency standards not met on 13 out of 16 subtests) and, to a lesser degree, at EOY (proficiency standards not met on 7 of 16 subtests). Subtests which posed problems at both BOY and EOY included: Early Writing Skills, Syllabication, Alliteration, Rhyming I, Rote Counting, Number Discrimination, and Operations.

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- Viewed a different way, data in Table 3 show that prekindergarten students achieved higher mean scores across all subtests at EOY than they did at BOY, with moderate to large effects (Cohen's $d \geq 0.5$) shown on all English-language subtests. Therefore, while the mean scores on many of the subtests and BOY and EOY may have fallen below the proficiency cut-points, substantial growth was demonstrated from BOY to EOY.

Table 4. Academic Achievement of SISD Prekindergarten Students on the BOY and EOY SISD CIRCLE Spanish Assessments, by Wave and Subtest, 2018-2019

		N	BOY		EOY		Mean Diff	Effect Size
			Mean	SD	Mean	SD		
Language & Literacy	Rapid Vocabulary	532	5.3	5.4	18.3	7.9	-13.0	-2.0
	Rapid Letter	548	3.8	5.9	32.0	14.3	-28.2	-2.2
	Story Retell	549	2.2	2.1	5.1	1.5	-2.9	-1.5
	Book & Print	547	3.5	2.8	9.1	2.3	-5.6	-1.9
	Early Writing Skills	438	4.7	4.4	16.8	3.7	-12.1	-2.6
	Syllabication	536	1.2	1.7	5.7	2.0	-4.5	-2.0
	Onset-Rime							
	Alliteration	536	1.6	1.7	5.4	1.6	-3.8	-1.8
	Rhyming I	536	2.2	2.1	6.9	1.9	-4.7	-2.0
Mathematics	Rote Counting	550	0.4	0.6	1.7	0.6	-1.3	-1.7
	Shape Naming	549	1.7	1.5	4.3	1.1	-2.6	-1.7
	Shape Discrimination	550	3.6	1.9	5.7	0.9	-2.1	-1.1
	Number Naming	550	1.3	1.3	3.9	1.2	-2.6	-1.8
	Number Discrimination	550	1.3	0.8	1.9	0.3	-0.6	-0.8
	Counting Sets	550	2.0	1.7	4.6	0.9	-2.6	-1.6
	Operations	549	0.5	0.9	2.3	0.9	-1.8	-1.6
Social & Emotional Development	Positive Social Behavior	545	7.4	4.9	15.4	3.4	-8.0	-1.7
	Class. Community & Safety	545	6.0	3.4	10.8	2.0	-4.8	-1.5
	Emotion & Behavior Reg.	545	6.8	4.2	13.8	3.1	-7.0	-1.7
	Self-Care	545	2.6	1.3	3.8	0.5	-1.2	-1.0
	Approaches to Learning	545	4.4	3.1	9.9	2.5	-5.5	-1.7

Source: SISD CIRCLE 2018–2019 student database; PEIMS 2018–2019 student database

Note: Students who scored, on average, below cut points are highlighted in yellow. Assessments for the which Cohen's d calculation exceeded the 0.5 cutoff for a moderate effect are italicized.

Table 4 presents descriptive statistics and effect size results for students' language, literacy, mathematics, and social-emotional development on the SISD Circle Spanish assessments by wave and subtest type.

- Comparisons of cut-point scores (Table 2) and SISD CIRCLE Spanish subtest results shown in Table 4 indicate that SISD students, on average, struggled to meet the proficiency standards on most assessments at BOY (proficiency standards not met on 14 out of 15 subtests). As opposed to the mean scores seen with the CIRCLE English Results at EOY, the CIRCLE Spanish results showed that SISD prekindergarten students at EOY were proficient on the majority of subtests (proficiency standards not met on 4 of 15 subtests). Subtests which posed problems at both BOY and EOY included: Early Writing Skills, Rote Counting, Number Discrimination, and Operations.

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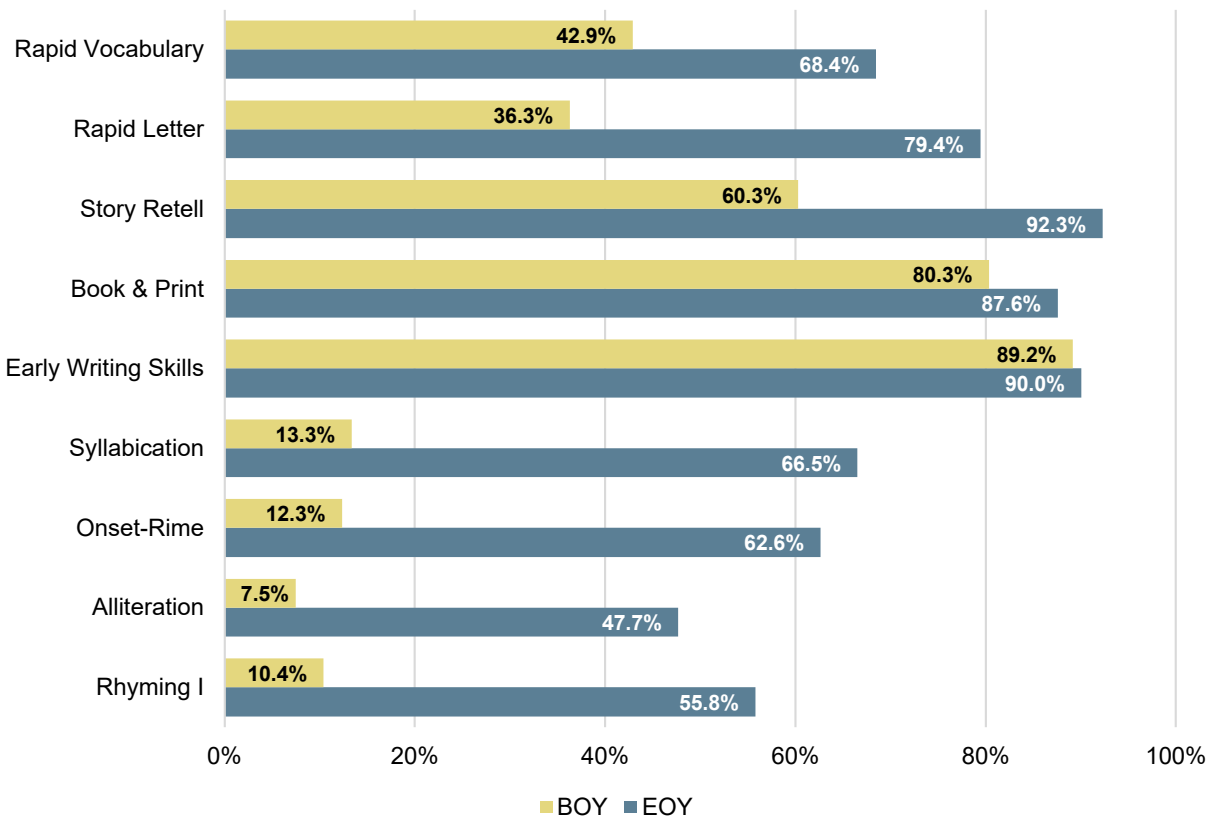
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- In terms of student progress, the data in Table 4 show that prekindergarten students achieved higher mean scores across all subtests at EOY than they did at BOY, with large effect sizes (Cohen's $d \geq 0.5$) shown on all English-language subtests. Again, while the mean scores on many of the subtests and BOY and EOY may have fallen below the proficiency cut-points, substantial growth was demonstrated from BOY to EOY.

What were the differences in CIRCLE proficiency rates between SISD prekindergarten students at EOY, compared to the same prekindergarten students at BOY during the 2018–2019 school year?

Figure 1. Percent of SISD prekindergarten students who met the proficiency benchmarks on the BOY and EOY CIRCLE English Language and Literacy Assessments by subtest and wave



- As **Figure 1** demonstrates, while as many as 89.2 percent (Early Writing Skills) and as few as 7.5 percent (Alliteration) of SISD prekindergarten students met or exceeded the proficiency benchmark at BOY, by EOY, that range decreased markedly, with the largest percentage of students meeting or exceeding the proficiency benchmark for Story Retell (92.3 percent) and the smallest percentage meeting or exceeding the proficiency benchmark for Alliteration (47.7 percent).

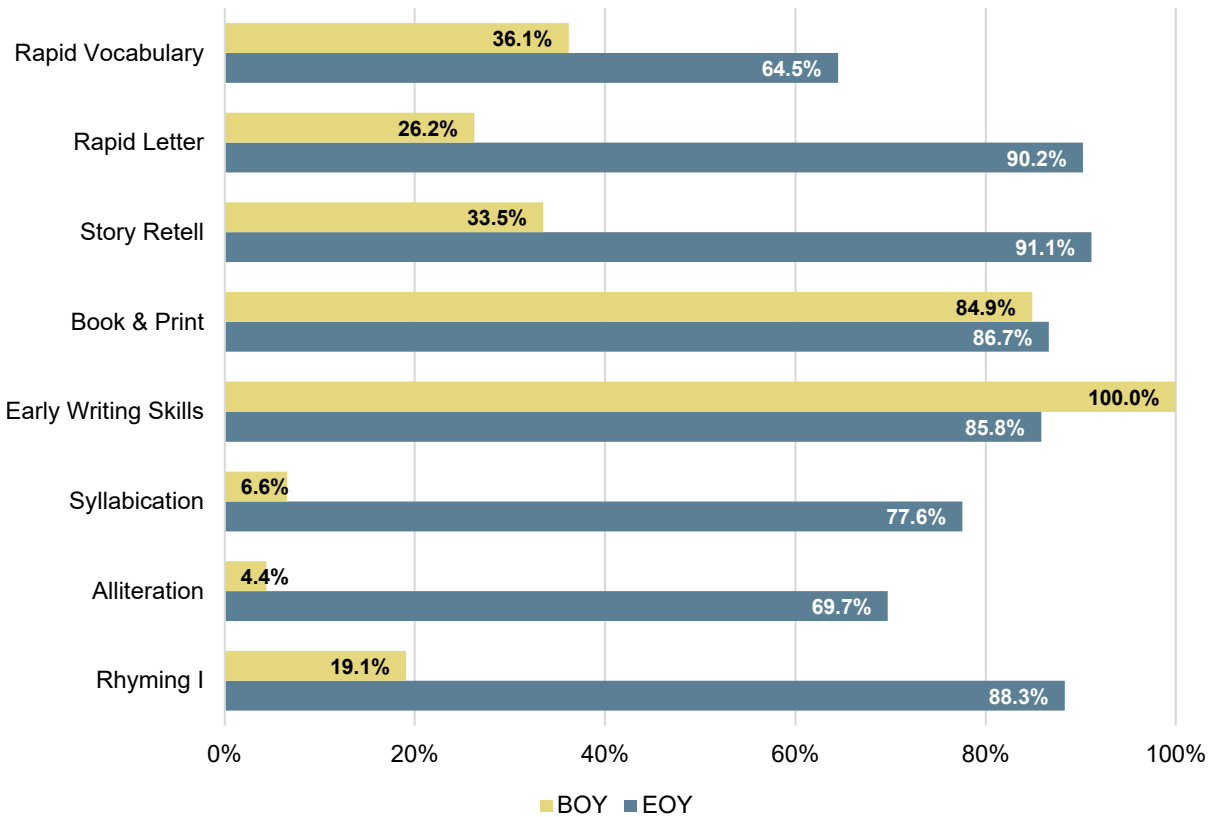
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Figure 2. Percent of SISD prekindergarten students who met the proficiency benchmarks on the BOY and EOY CIRCLE Spanish Language and Literacy Assessments by subtest and wave



- **Figure 2** shows the percentage of SISD prekindergarten students who attained proficiency on the BOY and EOY CIRCLE Spanish language and literacy assessments. As with the English language and literacy assessments, at BOY the greatest percentage of SISD prekindergarten students met or exceeded the proficiency benchmark for Early Writing Skills (100.0 percent) and the smallest percentage of prekindergarten students met or exceeded the proficiency benchmark for Alliteration (4.4 percent).
- At EOY, the largest percentage of SISD prekindergarten students met or exceeded the proficiency benchmark for Story Retell (91.1 percent) and the smallest percentage met or exceeded the proficiency benchmark for Rapid Vocabulary Naming (64.5 percent).
- As with the English literacy and language subtests, students were much more likely to meet or exceed the proficiency benchmarks at EOY, as opposed to BOY, with the exception of the CIRCLE Spanish Early Writing Skills, for which the percentage of prekindergarten students who met or exceeded the proficiency benchmark decreased from 100.0 percent at BOY to 85.8 percent at EOY.

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Figure 3. Percent of SISD prekindergarten students who met the proficiency benchmarks on the BOY and EOY CIRCLE English Mathematics Assessments by subtest and wave

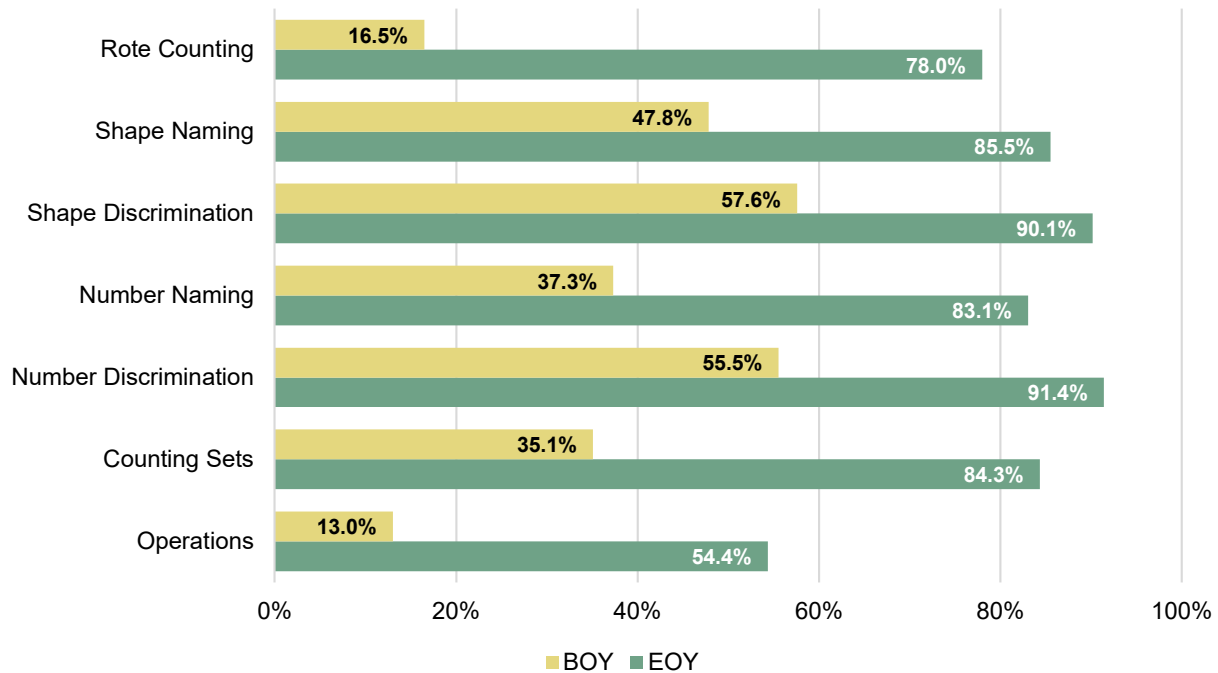
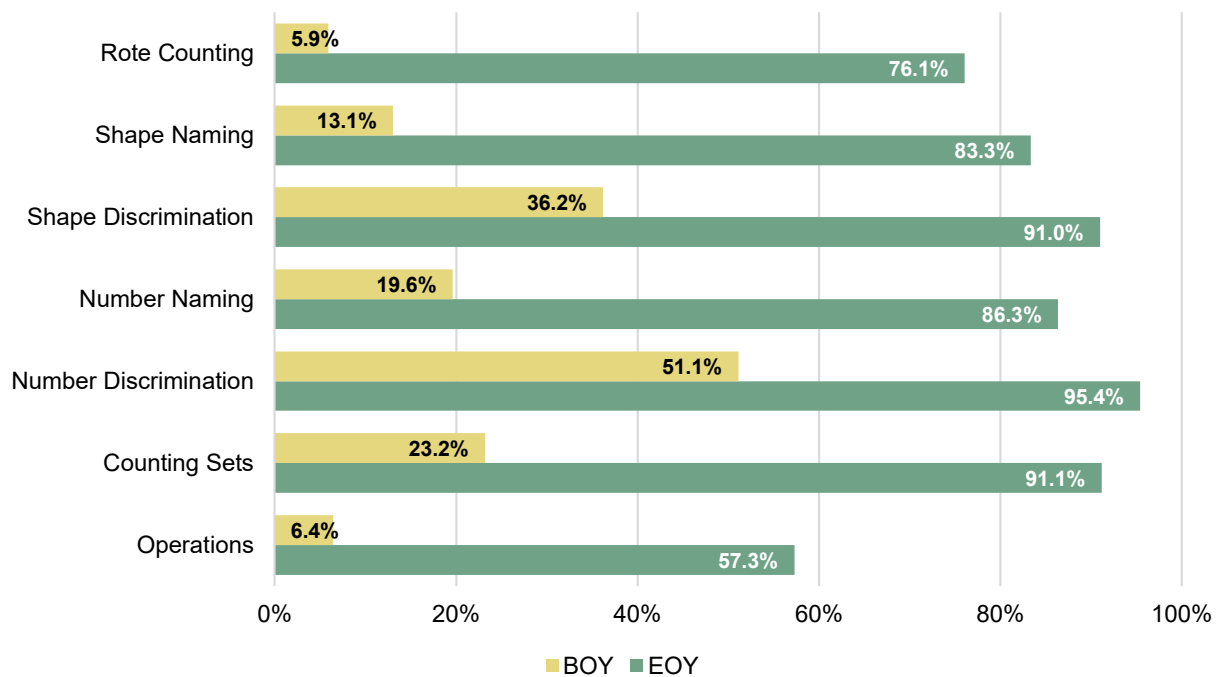


Figure 4. Percent of SISD prekindergarten students who met the proficiency benchmarks on the BOY and EOY CIRCLE Spanish Mathematics Assessments by subtest and wave



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- CIRCLE English mathematics results, illustrated in **Figure 3** (p. 11) indicate that at BOY, the largest percentage of SISD prekindergarten students met or exceeded the proficiency benchmark for Shape Discrimination (57.6 percent) and the smallest percentage met or exceeded the proficiency benchmark for Operations (13.0 percent). At EOY, the largest percentage of SISD prekindergarten students met the proficiency benchmark for Number Discrimination (91.4 percent) and the smallest percentage met or exceeded the proficiency benchmark for Operations (54.4 percent).
- **Figure 4** (p. 11) shows proficiency rates for CIRCLE Spanish mathematics subtests and reveals that at BOY, the largest percentage of SISD prekindergarten students met or exceeded The proficiency benchmark for Number Discrimination (51.1 percent) and the smallest met or exceeded the proficiency benchmark for Rote Counting (5.9 percent). At EOY on the Spanish CIRCLE mathematics subtests, the largest percentage of prekindergarten students met or exceeded proficiency benchmarks for Number Discrimination (95.4 percent) and the smallest percentage met or exceeded the proficiency benchmark for Operations (57.3 percent).

How did Kindergarten students who attended an SISD prekindergarten program perform on the 2018–2019 beginning-of-year (BOY) universal screeners, compared to students who did not attend SISD prekindergarten?

- Kindergarten students' 2018–2019 performance on the BOY reading and math subtests of the Northwest Evaluation Association's Measures of Academic Performance (NWEA MAP) and Renaissance Star 360 early literacy were compared for students who attended a half-day Pre-K program in SISD, students who attended a full-day Pre-K program in SISD, and students who did not attend any SISD Pre-K program in 2017–2018. The results of this analysis are presented in **Table 5** (p. 13).
- 2018–2019 Kindergarten students who attended either half- or full-day Pre-K programs in SISD in 2017–2018 had significantly higher scale scores than Kindergarten students who did not attend an SISD Pre-K program across all four subtests examined.
- Specifically, 2018–2019 Kindergarten students' performance on the beginning-of-year MAP Growth reading assessment varied significantly with 2017–2018 SISD Pre-K attendance. As Table 5 illustrates, the highest average RIT scores for reading were seen among 2017–2018 half-day Pre-K students (*average* = 137.87), followed closely by full-day Pre-K students (*average* = 137.86), and finally by students who did not attend an SISD Pre-K program (*average* = 136.17).
- Similarly, 2018–2019 BOY performance on the MAP Growth mathematics assessment varied significantly with 2017–2018 SISD Pre-K enrollment. As with MAP reading, the highest average RIT scores were seen among 2017–2018 half- and full-day SISD Pre-K students (*average* = 133.79 and 133.73, respectively) compared to students who did not attend SISD Pre-K (*average* = 132.22).
- Bilingual and limited English proficient Kindergarten students' performance on the 2018–2019 BOY Star 360 early literacy assessment (English) significantly varied by whether or not the student participated in an SISD Pre-K program in 2017–2018. For this group of students, the highest average scale scores were among full-day SISD Pre-K students (*average* = 461.33), followed by half-day SISD Pre-K students (*average* = 444.56), and finally students who did not participate in SISD Pre-K programs (*average* = 435.28). The results were similar for the Spanish early literacy assessment, where full-day students had the highest Universal scale scores (*average* = 703.10), followed by half-day Pre-K students (*average* = 691.42), and students who did not attend SISD Pre-K (*average* = 673.91).

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Table 5. 2018-2019 Kindergarten BOY Universal Screener Performance by 2017-2018 Spring ISD Pre-K Enrollment											
	No Pre-K			Half Day			Full Day			df	F
	N	Mean	SD	N	Mean	SD	N	Mean	SD		
MAP Reading	864	136.17	8.81	158	137.87	8.79	535	137.86	8.93	2, 1554	7.01*
MAP Math	866	132.22	11.35	156	133.79	11.13	536	133.73	10.73	2, 1555	3.62*
Star360 Early Lit. (Eng)	193	435.28	91.49	125	444.56	84.57	292	461.33	83.88	2, 607	5.54*
Star360 Early Lit. (Spn)	192	673.91	71.55	122	691.42	66.01	296	703.10	64.49	2, 607	11.02*

Source: NWEA MAP Comprehensive File, October 2018; CIRCLE BOY 2018

Table 6. 2018-2019 Kindergarten EOY Universal Screener Performance by 2017-2018 Spring ISD Pre-K Enrollment (Controlling for BOY Performance)											
	No Pre-K			Half Day			Full Day			df	F
	N	Mean	SD	N	Mean	SD	N	Mean	SD		
MAP Reading	781	154.83	12.33	147	153.16	12.26	501	156.40	13.78	2, 1425	4.87*
MAP Math	777	153.82	14.49	145	153.54	13.32	500	155.92	13.97	2, 1418	2.77
Star360 Early Lit. (Eng)	176	592.61	129.48	118	608.93	113.32	272	575.89	113.57	2, 562	10.54*
Star360 Early Lit. (Spn)	176	811.27	89.92	117	833.44	94.57	281	821.03	74.83	2, 570	2.12

Source: NWEA MAP Comprehensive File, October 2018, May 2019; CIRCLE BOY 2018, CIRCLE EOY 2019

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- An analysis of covariance revealed that, after controlling for BOY performance on the universal screeners, the relationship between Pre-K participation and students' performance on the EOY universal screeners was less straightforward. This finding suggests that Pre-K participation may help students when they enter Kindergarten, but over the course of the year the students who did not participate in SISD Pre-K may catch up (see **Table 6**, p. 13).

Discussion

The prekindergarten program is a complex subsystem of early childhood education that is situated within elementary schools and is charged with making and implementing decisions to promote the equitable development, learning, and school readiness of children. Each child should be respected and taken into careful consideration in order for him or her to be included in prekindergarten to the fullest extent and with the highest expectations (NAEYC, NAESC/SDE, 2003). For this report, descriptive statistics and effect size computations were used to examine proficiency rates among SISD prekindergarten students on the 2018–2019 BOY and EOY CIRCLE assessments for language, literacy, mathematics, and social-emotional outcomes.

Administrative Response

As a result of the Spring Independent School District Prekindergarten Evaluation for 2018-2019, the Prekindergarten department will work to ensure all components of Rider 78 are addressed and fulfilled yearly. We will also actively work to ensure we reach the prekindergarten goals set forth in the district improvement plan and in the initiative Every Child 2020. Specifically, the key imperatives we will focus on are *Reach Every Student* and *Excellence in Every School*. Key Performance Indicators for prekindergarten have been established and goals set for each initiative. As a department, the prekindergarten team will monitor compliance regarding high-quality teacher qualifications and provide early childhood specific professional development and coaching to help teachers obtain the 150 early childhood specific hours (75 PD/75 coaching) within the five-year time frame as outlined in Rider 78. As a result of the early childhood specific professional development and coaching as well as the monitoring of compliance and instruction, we expect to see an increase in the number of students being kindergarten ready by the end of the school year.



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