

# Pre-K 4 SA Education Centers: Year 12 (2024–25)

## Technical Report

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## Executive Summary

Pre-K 4 SA served more than 2,000 children during its twelfth year of implementation. The Year 12 (2024–25) evaluation of Pre-K 4 SA sought to address research questions regarding attendance, classroom quality, kindergarten readiness, early literacy, early numeracy, receptive vocabulary, and social-emotional competence during the pre-kindergarten (pre-K) year.

During Year 12, Pre-K 4 SA served more boys (50.2 percent) than girls (49.8 percent) and more 3-year-old children (53.2) than 4-year-old children (46.8 percent). Most Pre-K 4 SA children were Hispanic (74.5 percent), with the remaining children reported as Black (10.2 percent), White (7.6 percent), Asian (5.9 percent), and multiracial and other ethnicities (1.8 percent). The majority of children (82.6 percent) attended Pre-K 4 SA based on the income eligibility criteria. An additional 356 children who attended (17.4 percent) were tuition-paying. Notably, as context for understanding their experience and trajectory, most children who attended the education centers during Year 12 were born during the COVID-19 pandemic.

The average attendance rate for Pre-K 4 SA children was 88.2 percent. Average attendance increased compared to last year (86.4 percent); however, it still remains below pre-pandemic averages, which ranged from 91.0 to 92.5 percent. Similar post-pandemic trends have been evidenced across the nation: The nationwide average pre-K attendance rate was 90.4 percent in 2022–23, which increased to 92.3 percent in the first half of the 2024–25 school year (School Status, n.d.).

The Early Childhood Education Municipal Development Corporation contracted with Westat, a large, employee-owned global research firm, to conduct an independent evaluation of the Pre-K 4 SA program. Westat and its evaluation partners conducted classroom observations using the Classroom Assessment Scoring System, second edition (CLASS), to assess the quality of teacher–child interactions in Pre-K 4 SA classrooms. Overall, scores indicated that observed teachers displayed high levels of Emotional Support and Classroom Organization, while Instructional Support was, on average, in the midrange.

The evaluation compared kindergarten readiness outcomes for Pre-K 4 SA children from the fall to spring using the Teaching Strategies’ Growth, Observation, and Learning, or GOLD, assessment across six outcomes. The results showed significant improvement in all six outcomes. Moreover, children who attended Pre-K 4 SA as both 3-year-olds and 4-year-olds demonstrated improved kindergarten readiness compared to children who attended Pre-K 4 SA for a single year as 4-year-olds, indicating the positive benefits of multiple years with Pre-K 4 SA.

Other assessments also showed overall positive trends. Early literacy and early numeracy results suggested children gained significant understanding. However, most children were not performing at their age level and needed additional educational support. Vocabulary results demonstrated that children experienced significant improvement and gained additional vocabulary. Social-emotional results suggested children gained skills and demonstrated significant improvement in their understanding. Moreover, children who attended Pre-K 4 SA for 2 consecutive years demonstrated improved social-emotional competency compared to children who attended for 1 year.

Taken together, results from the Year 12 evaluation suggest children are benefiting from participation in Pre-K 4 SA. Limitations of the evaluation include the lack of a control group of children who are similar to Pre-K 4 SA children for comparison; use of normative samples created prior to the COVID-19 pandemic; findings based on a subsample of children; and reliance in some instances on teacher-reported measures of child outcomes.

## Introduction

The benefit of providing access to high-quality early childhood education has received, and will continue to receive, considerable attention throughout the United States (Barnett, 2011; Campbell et al., 2002; Coogle et al., 2021; Heckman et al., 2010; Hill et al., 2015; Reynolds et al., 2011; Rolnick & Grunewald, 2003). Yet many children who would benefit from high-quality education experiences do not have the ability to receive them. Previous research indicates children from racially marginalized communities, children from economically disadvantaged backgrounds, and children whose primary language is not English are more often exposed to lower quality instruction and learning environments across the United States (Bassok & Galdo, 2016; Valentino, 2018). Moreover, providing high-quality learning environments is vital to improving all children’s social-emotional, behavior, and achievement outcomes (Burchinal et al., 2010; Lippard et al., 2018; Martinsone et al., 2022; Perlman et al., 2016).

Because of limited public funding from federal and state governments, municipal governments are increasingly using funding sources in creative ways to provide more even access to high-quality early childhood education and care. Pre-K 4 SA, a municipality-funded initiative in San Antonio, Texas, serves approximately 2,000 children annually who are at risk for falling behind their peers and lacking kindergarten readiness. Four state-of-the-art early educational centers serve as model sites that use an evidenced-based curriculum, instructional supports, and content-specific learning. Together, they demonstrate the increases in education potential that young children achieve when they have access to highly skilled and well-compensated teachers. The 2024–25 school year is the third year that Pre-K 4 SA has served 3-year-old children. The Year 12 evaluation includes results from children who participated in Pre-K 4 SA’s second year of programming to 3-year-olds, and is the second evaluation report to include results from children with two consecutive years in Pre-K 4 SA.

Notably, most children who attended the education centers during Year 12 were born during the COVID-19 pandemic. There is mixed evidence regarding how the pandemic may have influenced children’s development. Some research indicates that babies born during the pandemic had lower gross and fine motor skills and less social-emotional development (Shuffrey et al., 2022). These findings suggest that there are possible differences in the neurodevelopment of babies born during the pandemic that could follow them throughout their lifespan. Other research indicates infants were resilient with respect to their social-emotional and cognitive development during the pandemic (LoBue et al., 2023). Yet other research indicates that 3- to 5-year-old children experienced instruction losses and decreases in their social-emotional development and well-being (Jung & Barnett, 2021). Other research indicates children who grew up in the pandemic experienced developmental delays compared to children born before the pandemic (Quezada-Ugalde et al., 2024). The findings presented here will add to the larger conversation on how the pandemic is influencing children’s developmental trajectory during their pre-K years.

The Early Childhood Education Municipal Development Corporation contracted with Westat, a large, employee-owned global research firm, to conduct an independent evaluation of the Pre-K 4 SA program. Over the previous 12 years, the evaluation has consistently explored the demographics of participants in Pre-K 4 SA, child attendance in the program, teacher–child instructional quality, and kindergarten readiness outcomes. This report begins with a summary of the evaluation sample and methods. Then it presents Year 12 evaluation findings for the program. The results section begins with by describing information on child attendance and classroom quality. The next three sections present outcome analysis results of (1) the Teaching Strategies’ Growth, Observation, and Learning (GOLD) assessment; (2) children’s early literacy, early numeracy, and receptive and

expressive vocabulary; and (3) children’s social-emotional development. We then summarize, synthesize, and compare all the findings across assessments and discuss limitations. The concluding section of this report outlines directions for future research.

This report is one in a series of reports documenting results of the Pre-K 4 SA initiative during the 2024–25 school year. Alongside this report, a research brief includes a high-level summary of the findings, and a supplement provides more detailed and technical information.

## Research Questions

The Year 12 (2024–25) evaluation of Pre-K 4 SA addressed the following six main research questions and subquestions:

1.
  - A. What were the reported levels of child attendance during the pre-K year?
  - B. In what ways have attendance rates changed since the COVID-19 pandemic?
2.
  - A. What was the observed teacher–child interaction quality of Pre-K 4 SA classrooms in Year 12?
  - B. Did master teachers of Pre-K 4 SA classrooms have higher observed teacher–child interaction quality in Year 12?
3.
  - A. How did Pre-K 4 SA children compare to the normative sample on GOLD outcomes?
  - B. Did Pre-K 4 SA children demonstrate significant improvement on GOLD outcomes?
  - C. What percentage of Pre-K 4 SA children demonstrated kindergarten readiness as measured by GOLD outcomes?
4.
  - A. What percentage of Pre-K 4 SA children performed at or above their age level in early literacy and early numeracy, and to what extent did the percentage change?
  - B. Did Pre-K 4 SA children demonstrate significant improvement in early literacy and early numeracy?
  - C. Did Pre-K 4 SA children experience accelerated learning to help narrow achievement gaps in early literacy and early numeracy?
5.
  - A. What were the receptive and expressive vocabulary performance levels of Pre-K 4 SA children, and to what extent did the performance levels change over the year?
  - B. Did Pre-K 4 SA children demonstrate significant growth in receptive and expressive vocabulary?
6.
  - A. What were the levels of Pre-K 4 SA children’s social-emotional competence, and to what extent did the levels change?
  - B. Did Pre-K 4 SA children demonstrate significant improvement in social-emotional competence?

## Evaluation Sample and Methods

In this section, we provide demographic characteristics for the sample (children served during the 2024–25 school year), followed by a brief discussion of the evaluative methods used.

### Pre-K 4 SA Year 12 (2024–25) Sample

Pre-K 4 SA provided data for 2,041 children in Year 12. This is the third year Pre-K 4 SA served children aged 3 and 4. Pre-K 4 SA served more 3-year-old children<sup>1</sup> (53.2 percent of the total sample) than 4-year-old children (46.8 percent). Of the 4-year-old children served, 77.4 percent were in their second consecutive year of Pre-K 4 SA.<sup>2</sup> There were more boys (50.2 percent of the total sample) than girls (49.8 percent). Most Pre-K 4 SA children were Hispanic (74.5 percent of the total sample), with the remaining children reported as Black (10.2 percent), White (7.6 percent), Asian (5.9 percent), and multiracial and other ethnicities (1.8 percent). Pre-K 4 SA served similar percentages of boys and girls based on age,<sup>3</sup> and similar percentages of children of varying race/ethnicity based on age.<sup>4</sup>

Table 1 displays the number of children who attended Pre-K 4 SA based on the six key eligibility criteria. It is important to note that there is overlap between criteria as children could qualify in more than one category. Most children attended based on the income criteria (82.6 percent of total children). Children also attended if they were an English-language learner (21.4 percent of all children in the sample), their family had military affiliation<sup>5</sup> (15.8 percent), they were in foster care (2.4 percent of all children in the sample), or they were experiencing homelessness (0.6 percent of all children in the sample). An additional 356 children who attended (17.4 percent) were tuition-paying.

Eligibility criteria	Number of children	Percentage of total children
Income	1,685	82.6%
English-language learner	436	21.4%
Military affiliation	322	15.8%
Foster care	50	2.4%
Homeless	12	0.6%
Tuition-paying	356	17.4%
Eligible total	2,041	-

**Note:** The percentage of total children exceeds 100 percent as attending children can meet several eligibility criteria. For all criteria, children attend for free or for a modest amount depending on family income.

<sup>1</sup> There were 26 children (1.3 percent of the total sample) who were included as 3-year-olds that were almost 3 on the first day of school, with ages ranging from 2.965 to 2.998 years old.

<sup>2</sup> This includes 25 children (2.6 percent of the total sample) who returned for a second year at Pre-K 4 SA and were almost 4 on the first day of school, with ages ranging from 3.964 to 3.995 years old.

<sup>3</sup> Results based on a  $\chi^2(1, N = 2,041) = 0.053, p = .817$ .

<sup>4</sup> Results based on a  $\chi^2(5, N = 2,041) = 8.760, p = .119$ .

<sup>5</sup> Children in this category had a parent or guardian who was retired from the military, in active duty, or in the reserves. This also includes grandparents who are retired from the military and caring for children.

Among all children who attended Pre-K 4 SA, we also examined their district affiliation to see where children resided across the city (see Table 2). Most children were affiliated with three districts: about one third in Northside (33.9 percent), roughly sixteen percent in Northeast (16.5 percent), and roughly fourteen percent in San Antonio (14.3 percent).<sup>6</sup> The remaining approximately one third (35.4 percent) of children resided across 12 other districts. Table 2 includes the percentage of children per represented school district.

District name	Number of children	Percentage of total children
Northside	691	33.9
Northeast	335	16.4
San Antonio	291	14.3
East Central	186	9.1
Judson	162	7.9
Southwest	84	4.1
Harlandale	68	3.3
Edgewood	54	2.6
Medina Valley	49	2.4
Southside	46	2.3
South San Antonio	36	1.8
Fort Sam	28	1.4
Other <sup>a</sup>	11	0.5
<b>Total</b>	<b>2,041</b>	<b>100</b>

**Note:** Because of rounding, decimals may not agree to the nearest tenths.

<sup>a</sup> The other category includes three districts with small numbers of children (Alamo Heights, Comal, and Boerne).

## Methods

We addressed all six research questions by analyzing existing Pre-K 4 SA databases, classroom observations results, and direct child assessments results. To address the first set of research questions about attendance, Pre-K 4 SA collected and submitted data to Westat for descriptive analysis. To address the second set of descriptive and inferential research questions pertaining to classroom quality, Westat and its partners collected data and Westat analyzed data from the Classroom Assessment Scoring System, second edition (CLASS), for Pre-K 4 SA classrooms (Teachstone, 2023). CLASS is an observational system that assesses classroom practices in preschool by measuring the interactions between children and adults. Observations in the Year 12 evaluation consisted of five 20-minute observation periods (or cycles) followed by 10-minute coding periods.

<sup>6</sup> These same three districts were also the majority representation in Years 1–11 (2013–14 school year to 2023–24 school year).

To address the third set of research questions, Westat conducted descriptive and inferential analyses of GOLD outcomes. GOLD is a teacher-reported measure that, in the fall, winter, and spring, collects information on children’s progress on 36 objectives across 6 main categories: Cognitive, Literacy, Oral Language, Mathematics, Physical, and Social-Emotional (Lambert, 2020; see Appendix A for more detailed information). It was not possible to collect data on a comparison or control group because of resource constraints. We conducted comparisons using the nationally representative normed data<sup>7</sup> for the GOLD assessment (Lambert, 2020).

To address the fourth set of research questions, Pre-K 4 SA collected and submitted data to Westat for descriptive and inferential analyses. Pre-K 4 SA administered two direct assessments—early literacy (Letter-Word) and early numeracy (Applied Problems)—to a random sample<sup>8</sup> of Pre-K 4 SA children in the fall and spring. These two assessments are subtests from the Woodcock-Johnson IV Tests of Achievement (WJ IV; Schrank et al., 2014) and matching subtests from the Bateria III Spanish assessment (Muñoz-Sandoval et al., 2005; see Appendix A for more detailed information). Pre-K 4 SA chose them based on a Westat recommendation because early childhood research uses these assessments and they complement the GOLD findings by providing additional insights from a different perspective: that of a trained assessor as compared to a teacher report (Bloom & Weiland, 2014; McCormick, 2022; Puma et al., 2010; Weiland, 2016). The GOLD findings provide an overall perspective and measure multiple aspects of early literacy (e.g., phonological awareness, phonics, and word recognition) and early numeracy (e.g., number concepts and operations, spatial relationships and shapes, and knowledge of patterns). Letter-Word findings are more nuanced and measure symbolic learning and the identification of isolated letters and words, while Applied Problems measures a child’s ability to apply simple number concepts and solve math problems.

To address the fifth set of research questions, Pre-K 4 SA submitted data to Westat for descriptive and inferential analyses. Two direct assessments of vocabulary were administered to a random sample<sup>9</sup> of Pre-K 4 SA children in fall and spring : the Receptive One-Word Picture Vocabulary Test and the Expressive One-Word Picture Vocabulary Test. in English and Spanish-Bilingual editions (ROWPVT and EOWPVT; Martin, 2013a, 2013b; Martin & Brownell; 2011a, 2011b; see Appendix A for more detailed information). For the ROWPVT assessment, the assessor asks the children to select the image that matches the word said by the examiner. For the EOWPVT assessment, the assessor asks the children to name what they see in the picture presented by the assessor. As with the WJ, Pre-K 4 SA chose these assessments based on a Westat recommendation because early childhood research uses them, and they complement the GOLD findings by providing additional insights from a trained assessor as compared to a teacher report (Ingvalson et al., 2023; Vance et al., 1989). Though the GOLD findings provide an overall perspective and measure multiple aspects of early literacy and numeracy, the ROWPVT and EOWPVT findings are more nuanced and measure receptive and expressive vocabulary knowledge and understanding.

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<sup>7</sup> Pre-K 4 SA children were compared to the updated normative sample based on age bands (Lambert, 2020).

<sup>8</sup> Westat pulled a stratified random sample based on center location (North, South, East, and West), classroom language(s) of instruction (Monolingual, Bilingual, and ESL), and age category (3-year-old, new 4-year-old, and returning 4-year-old) and submitted to Pre-K 4 SA. (For more information see the Evaluation Methods in the Supplemental Appendix.)

<sup>9</sup> Westat pulled a second stratified random sample based on center location (North, South, East, and West), classroom language(s) of instruction (Monolingual, Bilingual, and ESL), and age category (3-year-old, new 4-year-old, and returning 4-year-old) and submitted to Pre-K 4 SA. (For more information see the Evaluation Methods in the Supplemental Appendix.)

To address the sixth set of research questions, Pre-K 4 SA collected and submitted data to Westat for descriptive and inferential analysis. Pre-K 4 SA administered a teacher-reported assessment of social-emotional competence, the Devereux Early Childhood Assessment, second edition (DECA), to children in the fall and spring. The DECA uses a strengths-based approach to assessment and, as such, it focuses on building children’s social-emotional strengths. It also emphasizes the importance of promoting children’s social-emotional competency because that contributes to building their resilience to overcome adversity (LeBuffe & Naglieri, 2012; see Appendix A for more detailed information).

## Evaluation Results

### Child Attendance in Pre-K 4 SA

Children began attending Pre-K 4 SA at various times. Most children (88.8 percent of the total attendees) began at the start of the school year (August 19, 2024). The last date a child began attending Pre-K 4 SA was April 14, 2025.<sup>10</sup> Because of these varied dates, some children had the opportunity to attend longer than other children. In fact, the number of membership days ranged from 1 to 177, with an average of 146.5. Results for research question 1A (What were the reported levels of child attendance during the pre-K year?) demonstrated the average attendance percentage across all children was 88.2 percent. When considering children who attended Pre-K 4 SA throughout the whole school year (i.e., who did not withdraw), the average number of membership days rose to 155.0 and the attendance percentage increased to 89.1 percent.

### Characteristics of Children Who Withdrew Early

Over the course of the year, 192 children (9.4 percent of total attendees) withdrew from Pre-K 4 SA. The earliest withdrawal occurred on August 21, 2025, and the latest on May 23, 2025. Fifty-one percent (51.0 percent;  $n = 98$ ) of the withdrawals occurred before the end of December.

We analyzed characteristics of children who did and did not withdraw from the program over the course of Year 12. We found no significant differences in terms of gender,<sup>11</sup> English-language learner status,<sup>12</sup> age,<sup>13</sup> or tuition status.<sup>14</sup> However, we did find significant differences for children who attended based on race/ethnicity,<sup>15</sup> and family military affiliation.<sup>16</sup> Specifically, children who were classified as Asian or American Indian/Alaska Native were more likely to withdraw than children of other races, and children classified as two or more races or Hispanic were less likely to withdraw than children of other races. Also, children with family military affiliation were more likely to withdraw from Pre-K SA than children with no family military affiliation.

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<sup>10</sup> Although some children did not begin attendance at Pre-K 4 SA until late spring 2025, more than 98 percent of all children were in attendance by the end of the 2024 calendar year.

<sup>11</sup> Results based on a  $\chi^2(1, N = 2,041) = 3.084, p = .079$ .

<sup>12</sup> Results based on a  $\chi^2(1, N = 2,041) = 3.412, p = .065$ .

<sup>13</sup> Age was computed based on the first day of school. Results based on a  $\chi^2(1, N = 2,041) = 0.204, p = .651$ .

<sup>14</sup> Results based on a  $\chi^2(1, N = 2,041) = 3.595, p = .058$ .

<sup>15</sup> Results based on a  $\chi^2(5, N = 2,041) = 14.635, p < .001$ .

<sup>16</sup> Results based on a  $\chi^2(1, N = 2,041) = 6.988, p < .001$ .

## Attendance Rates Over Time

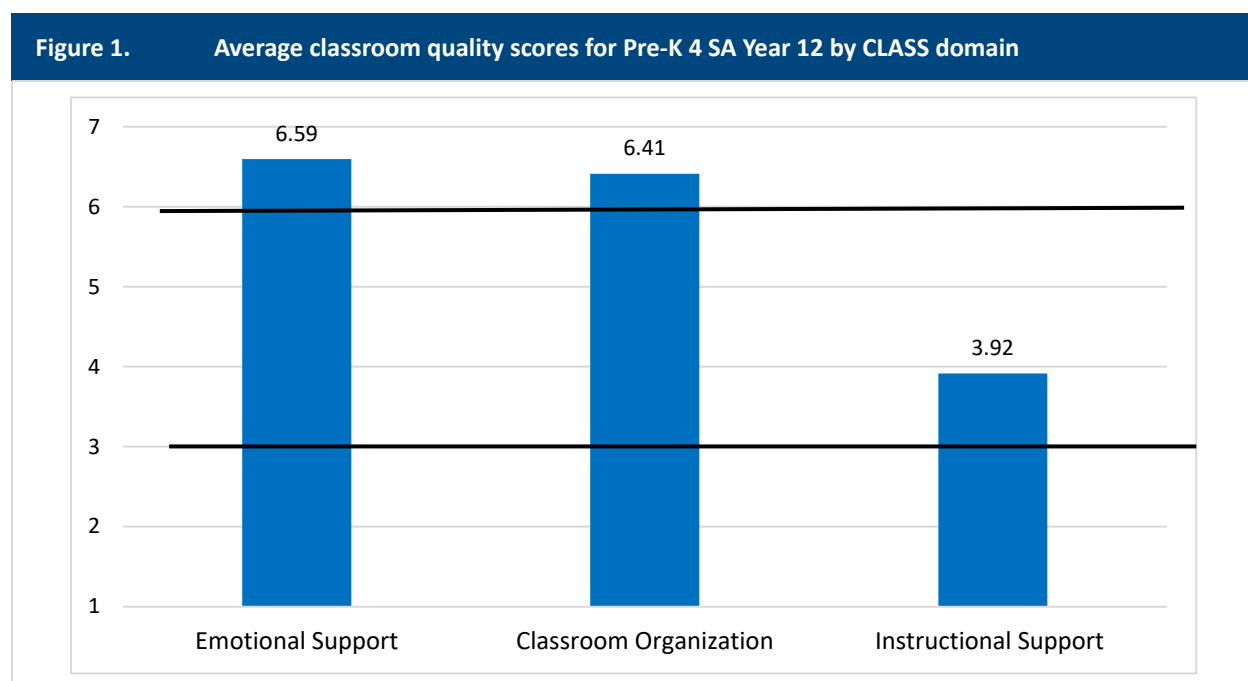
Pre-K 4 SA attendance increased in Year 12 relative to Year 11—a slight upward tick in the post-pandemic period, addressing research question 1B (In what ways have attendance rates changed since the COVID-19 pandemic?). Attendance increased by 1.8 percentage points this year (88.2 percent this year compared to 86.4 percent last year), indicating children are spending more time at Pre-K 4 SA. However, attendance rates are still below pre-pandemic levels. Prior to the pandemic, attendance rates had remained stable over the 7 years since the evaluation began and were consistently between 91 and 94 percent. Table 3 displays attendance for all children who attended the program, as well as attendance for the subgroup of children who did not withdraw from the program. In recent years, attendance has increased, which is consistent with nationwide trends. The nationwide average pre-K attendance rate was 90.4 percent in 2022–23, which increased to 92.3 percent in the first half of the 2024–25 school year (School Status, n.d.).

**Table 3. Pre-K 4 SA attendance over time (percentage)**

Enrollment status	Pre-pandemic						Pandemic			Post-pandemic		
	Year 1 2013– 14	Year 2 2014– 15	Year 3 2015– 16	Year 4 2016– 17	Year 5 2017– 18	Year 6 2018– 19	Year 7 2019– 20	Year 8 2020– 21	Year 9 2021– 22	Year 10 2022– 23	Year 11 2023– 24	Year 12 2024– 25
All enrolled children	92.3	91.3	92.5	92.4	91.0	91.5	91.0	88.2	82.6	84.5	86.4	88.2
Children who did not withdraw	93.7	92.5	93.6	93.6	92.4	92.6	92.2	90.4	85.3	85.9	87.8	89.1

## Pre-K 4 SA Teacher–Child Interaction Quality

Across the four education centers, certified observers evaluated nearly all Pre-K 4 SA classrooms ( $n = 97^{17}$ ) during Year 12 using CLASS. CLASS uses a 7-point scale to rate the quality of teacher–child interaction across three domains: Classroom Organization, Emotional Support, and Instructional Support. We provide results for research question 2A (What was the observed teacher–child interaction quality of Pre-K 4 SA classrooms in Year 12?) in Figure 1. On average, Pre-K 4 SA classrooms had high-quality Emotional Support and Classroom Organization, and midrange quality Instructional Support in 2024–25. The scores for the Emotional Support domain ranged from 5.38 to 7.00 with most scores in the high range (with an average score of 6.59), suggesting observed teacher–child interactions in this domain were high quality. Classroom Organization domain scores ranged from 5.20 to 7.00 (with an average score of 6.41), which suggests classrooms showed effective interactions regarding Classroom Organization. Finally, Instructional Support domain scores ranged from 2.40 to 5.87, with an average score in the midrange (3.92), which suggests that in some observed interactions, teachers provided support to extend children’s thinking or asked questions that encouraged children to analyze and reason.



**Note:** The black horizontal lines mark the boundaries between the three score ranges: low (below 3.00), midrange (between 3.00 and 5.99), and high (6.00 and above).

<sup>17</sup> Valid CLASS data were available on 97 of the 100 classrooms in Year 12. For one classroom, both teachers in the pair left Pre-K 4 SA and were not able to be observed. For the other two classrooms, one teacher in each pair was on leave and not able to be observed.

We also examined the distribution of domain scores in the low, mid, and high range across all classrooms. We found low variation in Emotional Support and Classroom Organization, and high variation in Instructional Support. Specifically

- Emotional Support domain scores indicated that only 4 percent of classrooms were in the middle range, while 96 percent of classrooms observed provided high levels of support.
- Classroom Organization scores indicated that only 14 percent of classrooms were in the midrange, while the remaining 86 percent scored in the high range, providing high quality organization.
- Instructional Support scores showed that 11 percent of the observed classrooms provided low levels of Instructional Support and 89 percent provided midrange levels, providing midrange instructional quality.

Each CLASS domain consists of three or four scored subdomains, called “dimensions.” We explored the CLASS dimension scores in each domain and noted wider ranges of classroom scores for some dimensions than others (see Table 4). Classroom quality displayed some variation in the Emotional Support dimensions, more variation in Classroom Organization dimensions, and the most variation in the Instructional Support dimensions.

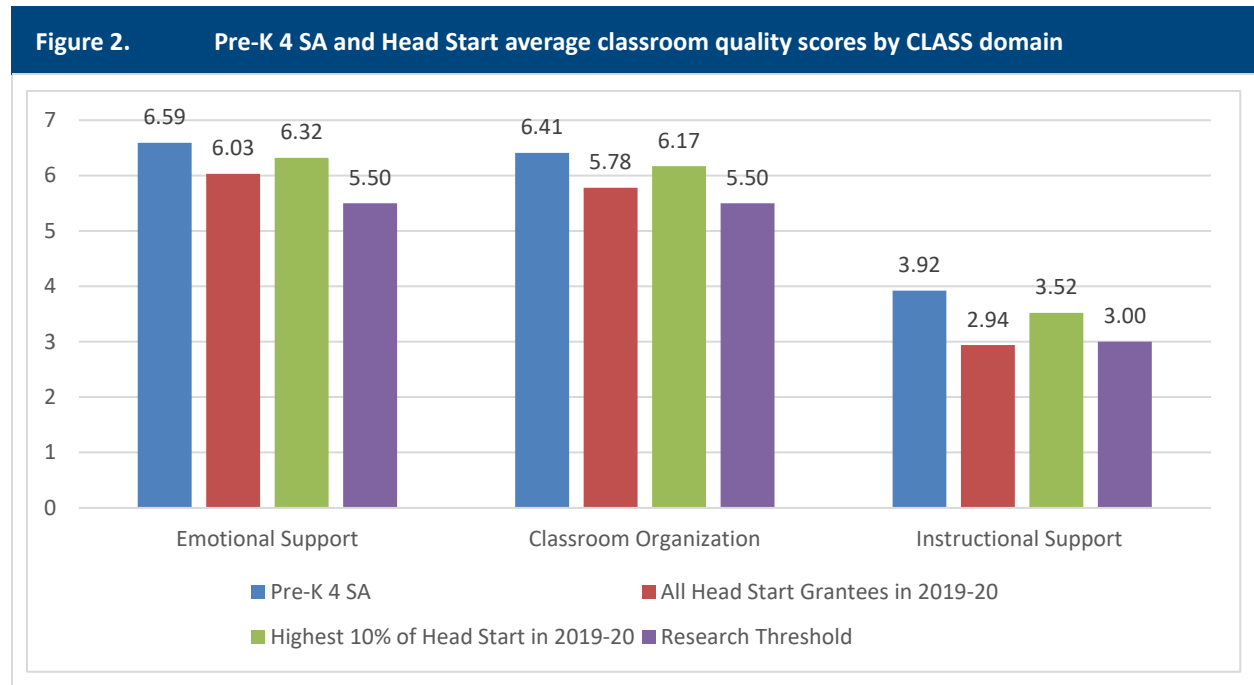
<b>CLASS outcome</b>	<b>Average</b>	<b>Total range observed</b>	<b>Standard deviation</b>
<b>Emotional Support domain</b>	6.59	5.38–7.00	0.34
Positive climate	6.63	5.40–7.00	0.38
Negative climate <sup>a</sup>	6.96	6.60–7.00	0.10
Educator sensitivity	6.29	4.00–7.00	0.68
Regard for child perspectives	6.49	4.80–7.00	0.51
<b>Classroom Organization domain</b>	6.41	5.20–7.00	0.41
Behavior management	6.47	4.20–7.00	0.58
Productivity	6.61	5.60–7.00	0.38
Instructional learning formats	6.15	4.60–7.00	0.59
<b>Instructional Support domain</b>	3.92	2.40–5.87	0.81
Concept development	3.28	1.20–5.80	1.02
Quality of feedback	4.02	2.20–6.40	1.03
Language modeling	4.44	2.60–6.00	0.81

<sup>a</sup> Negative climate is initially scored with lower values that represent no or low negative climate. These scores are then reverse-coded to reflect the same direction as the other dimensions (so higher values are positive).

The Pre-K 4 SA classroom quality patterns in Year 12 are consistent with past research using CLASS; although there is room for improvement in Instructional Support, there is some indication Pre-K 4 SA is doing better than comparable early education centers. This research has often noted the lower scores commonly seen in the Instructional Support domain because these types of interactions are found to be especially challenging for teachers of young children (Early Childhood Learning & Knowledge Center, 2020; La Paro et al., 2004; Lekhal et al., 2025; Locasale-Crouch et al., 2007; Maier et al., 2022; Mashburn et al., 2008). To place Pre-K 4 SA CLASS scores in context, the Office of Head Start found in their 2019–20 annual review<sup>18</sup> that average scores across the United States and for

<sup>18</sup> This is the most recent year of publicly available data for comparison as of August 2025.

the top 10 percent of Head Start grantees were lower than those found in the current study (see Figure 2, which relies on data drawn from Early Childhood Learning & Knowledge Center, 2020).



**Note:** This visual representation is for descriptive purposes only; we did not conduct statistical tests to compare Pre-K 4 SA and Head Start classrooms for this evaluation. Previous research established thresholds based on the relationships between classroom quality scores and child outcomes.<sup>19</sup>

**Source:** Early Childhood Learning & Knowledge Center. (2020). *A national overview of grantee CLASS scores in 2020*. <https://eclkc.ohs.acf.hhs.gov/data-ongoing-monitoring/article/national-overview-grantee-class-scores-2020>.

## Interaction Quality by Master Teacher Status

We analyzed the 3 CLASS domains and 10 dimensions to determine if there were significant differences in classroom teacher–child interactions based on whether a master teacher led the classroom. Results for research question 2B (Did master teachers of Pre-K 4 SA classrooms have higher observed teacher–child interaction quality in Year 12?) revealed no significant differences (for more detailed information, see Appendix B, Table B.2). These findings indicate classroom experiences were of similar quality across all Pre-K 4 SA teachers.

## GOLD Results

Pre-K 4 SA used the GOLD assessment to collect information on children in the fall, winter, and spring of the school year. Three-year-old children (89.8 percent;  $n = 953$ ) and new 4-year-old

<sup>19</sup> Research thresholds for this comparison were set by Burchinal et al. (2010), though the structure of the research makes direct comparisons difficult. Children in classrooms with Emotional Support scores over 5 also had higher teacher ratings of social competence and lower ratings of behavior problems, while children from classrooms with Instructional Quality ratings of 3.25 or above scored higher on measures of reading, mathematics, and expressive language (Burchinal et al., 2010). When the Burchinal study data were collected, the CLASS was broken into two rather than three domains—Emotional Support and Instructional Quality.

children (98.6 percent;  $n = 218$ ) in their first year of Pre-K 4 SA were included in analyses<sup>20</sup> if they had outcome data for all three assessment points in at least one of the following six outcomes: Cognitive, Literacy, Mathematics, Oral Language, Physical, and Social-Emotional. We will present results for returning 4-year-old children in their second year of Pre-K 4 SA separately.

We present results for research question 3A (How did Pre-K 4 SA children compare to the normative sample on GOLD outcomes?) in two separate sections as the norms vary depending on age.

### Three-Year-Old

Here, we summarize results for Pre-K 4 SA 3-year-old children relative to the normative sample across the six outcomes by comparing fall to spring.

In fall, at the start of the school year, Pre-K 4 SA 3-year-old children were on par<sup>21</sup> with the normative sample on three outcomes (Oral Language, Physical, and Social-Emotional); and significantly above the normative sample on the remaining GOLD outcomes (Cognitive, Literacy, and Mathematics; for more detailed information, see Appendix C, Tables C.1a and C.1b).

There were two notable trends when comparing fall to spring results. First, in Mathematics across all three assessment times, 3-year-old children were significantly above the normative sample. The effect sizes (Hedges'  $g$ ) for the significant results were small (0.15 for fall and 0.09 for spring).

Second, for the other five GOLD outcomes, spring results indicated 3-year-old children scored significantly below the normative sample. When comparing the Pre-K 4 SA 3-year-old children to the normative sample in fall and spring, the gap for each outcome is as follows:

- Cognitive increased 11.7 points (from scoring approximately 4.1 scale score points above the normative sample to approximately 7.6 scale score points below)
- Literacy increased 11.9 points (from scoring approximately 7.2 scale score points above the normative sample to approximately 4.7 scale score points below)
- Oral Language increased 13.7 points (from scoring approximately 1.4 scale score point above the normative sample to scoring approximately 12.3 scale score points below)
- Physical increased 14.9 points (from approximately 0.7 scale score points below the normative sample to approximately 15.6 scale score points below)
- Social-Emotional increased 7.5 points (from approximately 3.0 scale score points below the normative sample to approximately 10.5 scale score points below)

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<sup>20</sup> As children were not randomly sampled, we conducted demographic tests of differences to determine if the sample of children included in and excluded from analyses were similar. (See Appendix A, Analytic Approach, for more detailed information.)

<sup>21</sup> Throughout the report, “on par” indicates that though Pre-K 4 SA children technically scored higher or lower than the normative sample, this difference was not statistically significant.

Over the course of our series of evaluations, we found a similar finding for 4-year-olds. The Pre-K 4 SA sample has appeared to increase in initial Mathematics scores compared to the normative sample. More information is needed to understand what mechanisms might be behind the Pre-K 4 SA children scoring significantly above the normative sample across all three assessments for this outcome, and what might be contributing to this apparent continuing increase in mathematics readiness prior to the pre-K year. (For more detailed information, see Appendix C, Tables C.1a and C.1b.)

## New 4-Year-Old

We compared new Pre-K 4 SA 4-year-old children's scores from fall and spring to the normative sample across the six GOLD outcomes. In fall, at the start of the school year, the Pre-K 4 SA 4-year-old children were on par with the normative sample on five GOLD outcomes (Cognitive, Literacy, Mathematics, Oral Language, and Physical). For the last outcome, Social-Emotional, Pre-K 4 SA 4-year-old children were significantly below the normative sample. (For more detailed information, see Appendix C, Tables C.2a and C.2b.)

There were three notable trends when comparing fall to spring results. First, for Social-Emotional across all three assessment times, 4-year-old children were significantly below the normative sample. Second, for Mathematics, children remained on par with the normative sample in spring. Third, for the remaining four outcomes (Cognitive, Literacy, Oral Language, and Physical) children started the year on par with the normative sample and finished the year significantly below the normative sample. When comparing the Pre-K 4 SA 4-year-old children to the normative sample in fall and spring, the gap for each outcome is as follows:

- Cognitive increased 12.3 points (from scoring approximately 0.9 scale score point above the normative sample to approximately 11.4 scale score points below)
- Literacy increased 14.8 points (from scoring approximately 1.1 scale score point above the normative sample to approximately 13.7 scale score points below)
- Oral Language increased 17.0 points (from scoring approximately 6.2 scale score points below the normative sample to scoring approximately 23.2 scale score points below)
- Physical increased 10.6 points (from approximately 5.6 scale score points below the normative sample to approximately 16.3 scale score points below)

See Appendix C, Tables C.2a and C.2b, for more detailed information.

## Growth

Results for research question 3B (Did Pre-K 4 SA children demonstrate significant improvement on GOLD outcomes?) indicated there was significant improvement from fall to spring for both 3-year-old and 4-year-old children across all six outcomes. For 3-year-old children, the improvement ranged from approximately 41 (40.8) scale score points for the Literacy domain to approximately 58 (58.3) scale score points for the Oral Language domain. For 4-year-old children, the improvement ranged from approximately 38 (37.8) scale score points for the Literacy domain to 70 (70.0) scale score points for the Physical domain. (For more detailed information, see Appendix C, Table C.3.)

## Kindergarten Readiness

Results for research question 3C (What percentage of Pre-K 4 SA children demonstrated kindergarten readiness as measured by GOLD outcomes?) indicated over half of 4-year-old children demonstrated kindergarten readiness in the spring across all six outcomes. This readiness was demonstrated by strong GOLD results ranging from 73.8 percent for the Literacy domain to 92.1 percent for the Physical Domain. We display these results in Figure 3 in the next section and compared to children with two years of Pre-K 4 SA attendance. (For more detailed information, see Appendix C, Table C.4.)

## Children Attending as Both 3-Year-Olds and 4-Year-Olds

We conducted an analysis of children attending Pre-K 4 SA as both three-year-olds and four-year-olds for 2 consecutive years and present our findings in this section. We adapted research question 3A (How did Pre-K 4 SA children compare to the normative sample on GOLD outcomes?) to focus on this subgroup of children. Children had to have data in the fall, winter, and spring assessment points for both school years (2023–24 and 2024–25) to be included in the analysis (80.6 percent of total sample attending for 2 years,  $n = 612$ ).

## Sample Characteristics

To determine if the new 4-year-old children attending for 1 year presented in the previous section and the returning 4-year-old children attending for 2 years presented in this section were similar, we conducted tests of demographics differences. Findings revealed no significant differences in demographic characteristics<sup>22</sup> between the two groups. This implies the findings presented in this section are more likely to be associated with multiple years of Pre-K 4 SA attendance and not due to existing demographic differences between these two groups.

## Two Years of Pre-K 4 SA

We compared this subgroup of children to the normative sample across the six GOLD outcomes and six assessment points by analyzing results from fall 2023, spring 2024, fall 2025, and spring 2025. There were four patterns in the findings.

First, in Mathematics across all assessment times, 3-year-old children were significantly above the normative sample. The effect sizes (Hedges'  $g$ ) for the significant results were small (0.10 for fall 2023, 0.14 for spring 2024, 0.42 for fall 2024, and 0.16 for spring 2024). This implies children were able to maintain that significant difference across both years.

Second, for Physical and Social-Emotional, children were significantly below the normative sample in fall and spring during their 3-year-old year (2023–24 school year). In the fall of their 4-year-old year (2024–25), however, they surpassed the gap and were significantly above the normative sample, and in spring finished the year on par with the normative sample. This implies children were able to surpass the gap during their 4-year-old year but did not maintain that significant difference in the spring.

Third, for Literacy and Oral Language, children were on par with the normative sample at the start of their 3-year-old year (2023–24), but their performance varied in the spring of their 3-year-old year by domain. More specifically, for Literacy, children finished the 3-year-old year on par with the

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<sup>22</sup> The demographic variables analyzed include: gender, race/ethnicity, attending based on English Learner status, attending based on if their family had military affiliation, and attending based on income eligibility or paying tuition.

normative sample, and for Oral Language, children finished the 3-year-old year significantly below the normative sample. For both outcomes, they started significantly above in fall of the 4-year-old year (2024-25) and in the spring of their 4-year-old year, they scored on par with the normative sample. This implies children were able to surpass the gap during their 4-year-old year but did not maintain that significant difference in the spring.

Fourth, for Cognitive, children were on par with the normative sample in fall and spring during their 3-year-old year (2023–24 school year). During their 4-year-old year (2024–25), they were significantly above the normative sample in both the fall and the spring. This implies children were able to surpass the gap and maintain that significant difference in the spring during their 4-year-old year. (See Appendix C, Tables C.5a, C.5b, and C.5c, for assessment scores and gap analyses.)

## Two-Year Growth

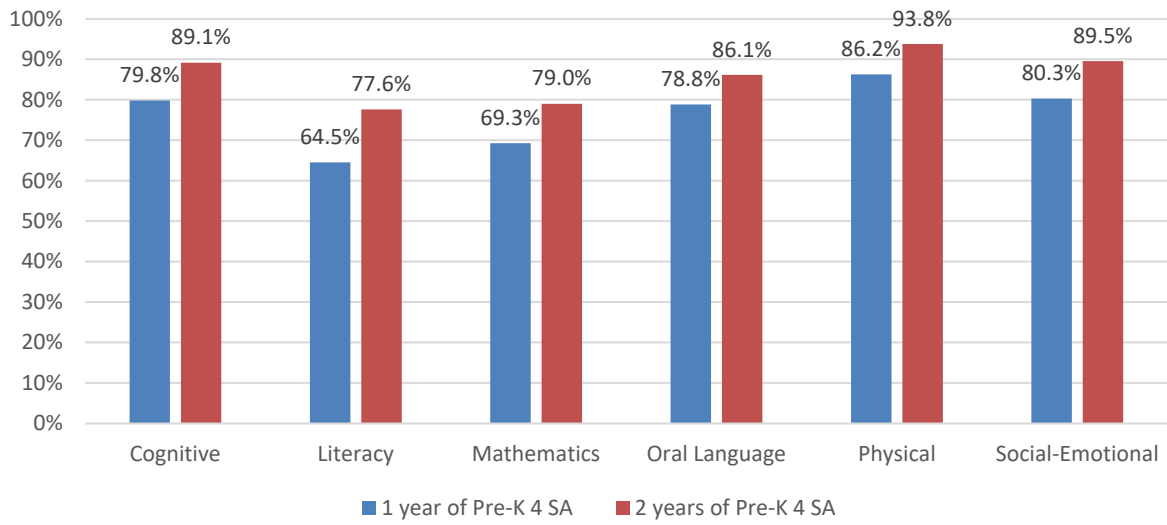
Results for research question 3B (Did Pre-K 4 SA children demonstrate significant improvement on GOLD outcomes?) for this subgroup revealed there was significant improvement across all outcomes. The improvement from fall 2023 to spring 2025 ranged from approximately 98 (97.9) scale score points for the Literacy domain to approximately 152 (151.9) scale score points for the Oral Language domain (For more detailed information, see Appendix C, Table C.6.)

## Two-Year Kindergarten Readiness

Results for research question 3C (What percentage of Pre-K 4 SA children demonstrated kindergarten readiness as measured by GOLD outcomes?) for this subgroup indicated over three-quarters of 4-year-old children who attended Pre-K 4 SA for two years demonstrated kindergarten readiness in the spring across all six outcomes. This readiness was demonstrated by strong GOLD results ranging from 77.6 percent for the Literacy domain to 93.8 percent for the Physical domain, as shown in Figure 3.

Moreover, children who attended Pre-K 4 SA as 3-year-olds and 4-year-olds demonstrated improved kindergarten readiness across all GOLD outcomes by the spring assessment period compared to children who attended Pre-K 4 SA for a single year. The differential between the two cohorts averaged 9.4 percentage points (see Figure 3; for more detailed information, see Appendix C, Table C.7.)

**Figure 3. Percentage of 4-year-old children demonstrating kindergarten readiness at the end of the year by GOLD outcome**



## Direct Child Assessments

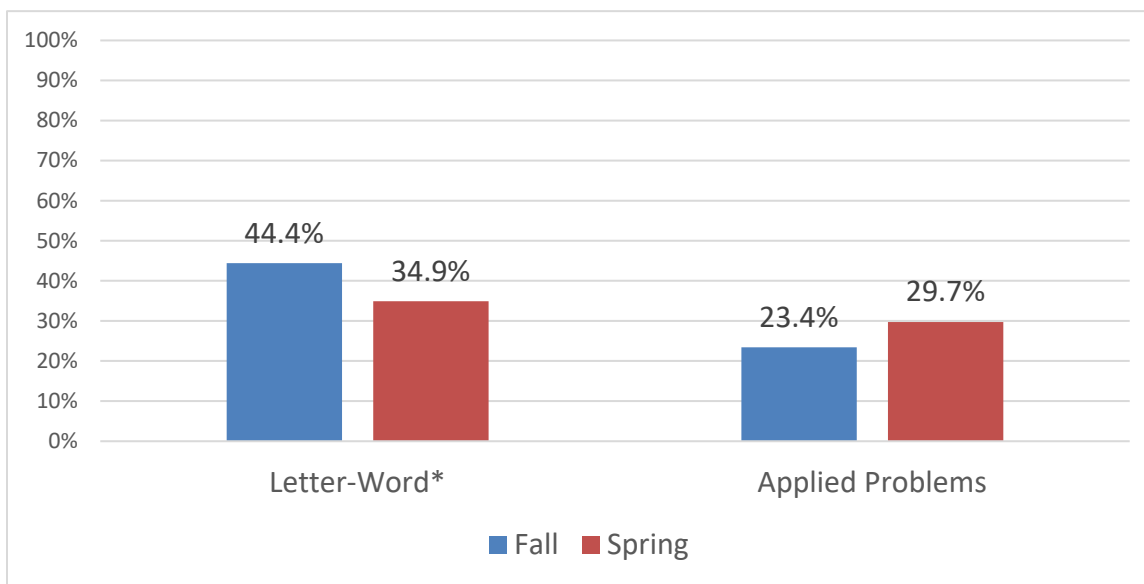
### Woodcock-Johnson and Bateria

Westat analyzed data from a random sample ( $n = 65$ ) of three-year-old and four-year-old children collected by Pre-K 4 SA on two subtests of a direct child achievement assessment: Letter-Word and Applied Problems from the WJ and Bateria (collectively called WJ hereafter). We present results for the first part of research question 4A (What percentage of Pre-K 4 SA children performed at or above their age level in early literacy and early numeracy?) in Figure 4. For early literacy, 44.4 percent of Pre-K 4 SA children were at or above their age level in the fall, and 34.9 percent of children were at or above their age level in the spring. For early numeracy, 23.4 percent of children were at or above their age level in the fall, and 29.7 percent of children were at or above their age level in the spring. Therefore, these findings imply that most children are performing below their age level in the fall and spring and are behind what would be considered ready for kindergarten from a nationally representative lens.

For early literacy, these results were similar to those from last school year (2023–24). In the current school year's findings, there was a decline from fall to spring for early literacy, which was similar to last year's results. However, in the spring of this school year, 4.6 percent less children were performing at or above their age level in early numeracy compared to last year (30.3 percent in 2023–24 and 34.9 percent in 2024–25).

When comparing these findings over time, results for the second part of research question 4A (To what extent did the percentage change?) indicated there was a significant decline in early literacy and no difference in early numeracy. Significantly fewer children (9.5 percent) performed at or above their age level in early literacy (e.g., identifying isolated letters and words) across the two assessment times. For early numeracy, a similar amount of children performed at or above their age level in early numeracy (e.g., analyzing and solving math problems by applying simple number concepts) in the spring compared to fall. More information is needed to understand why children's early literacy knowledge decreased over the year. (For more detailed information and results based on number of years in Pre-K 4 SA, see Appendix D, Table D.1.)

**Figure 4. Percentage of children meeting age equivalency by WJ subtest and assessment time**



**Note:** =Letter-Word measures early literacy skills, and Applied Problems measures early numeracy skills.

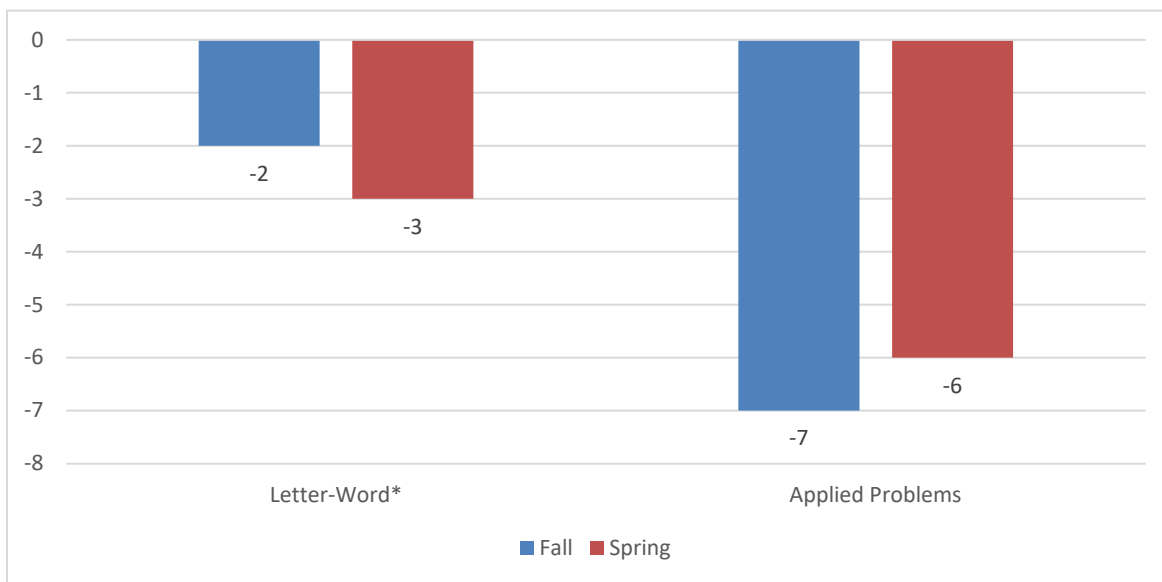
\* = statistically significant increase ( $p < 0.05$ ).

When considering growth across the year, results for research question 4B (Did Pre-K 4 SA children demonstrate significant improvement in early literacy and early numeracy?) indicated there was significant improvement for both outcomes. For early literacy, there was approximately 4 months of growth in learning in 6 calendar months of time, and for early numeracy, approximately 7 months of growth in learning in 6 calendar months of time. (For more detailed information and results based on number of years in Pre-K 4 SA, see Appendix D, Table D.2.) Therefore, these findings suggest that children gained significant knowledge of early literacy and early numeracy from fall to spring.

We show the results from the analyses that address research question 4C (Did Pre-K 4 SA children experience accelerated learning to help narrow achievement gaps in early literacy and early numeracy?) in Figure 5. For early literacy, children were, on average, 2 months below the norms in the fall and 3 months below the norms in the spring. For early numeracy, children were, on average, 7 months below the norms in the fall and 6 months below the norms in the spring. Hence, the gap between Pre-K 4 SA children and the national norm significantly increased for early literacy by 2 months and was reduced for early numeracy by 1 month, although results for early numeracy were not statistically significant.<sup>23</sup> More information is needed to understand what mechanisms might be behind this decrease in early literacy. (For more detailed information and results based on number of years in Pre-K 4 SA, see Appendix D, Table D.3.)

<sup>23</sup> Because of rounding, the gap between fall and spring is not the exact difference between fall and spring.

**Figure 5. Size of achievement gap (in months) between Pre-K 4 SA and normative sample by assessment and time**



**Note:** =Letter-Word measures early literacy skills, and Applied Problems measures early numeracy skills.

\* = statistically significant increase ( $p < 0.05$ ).

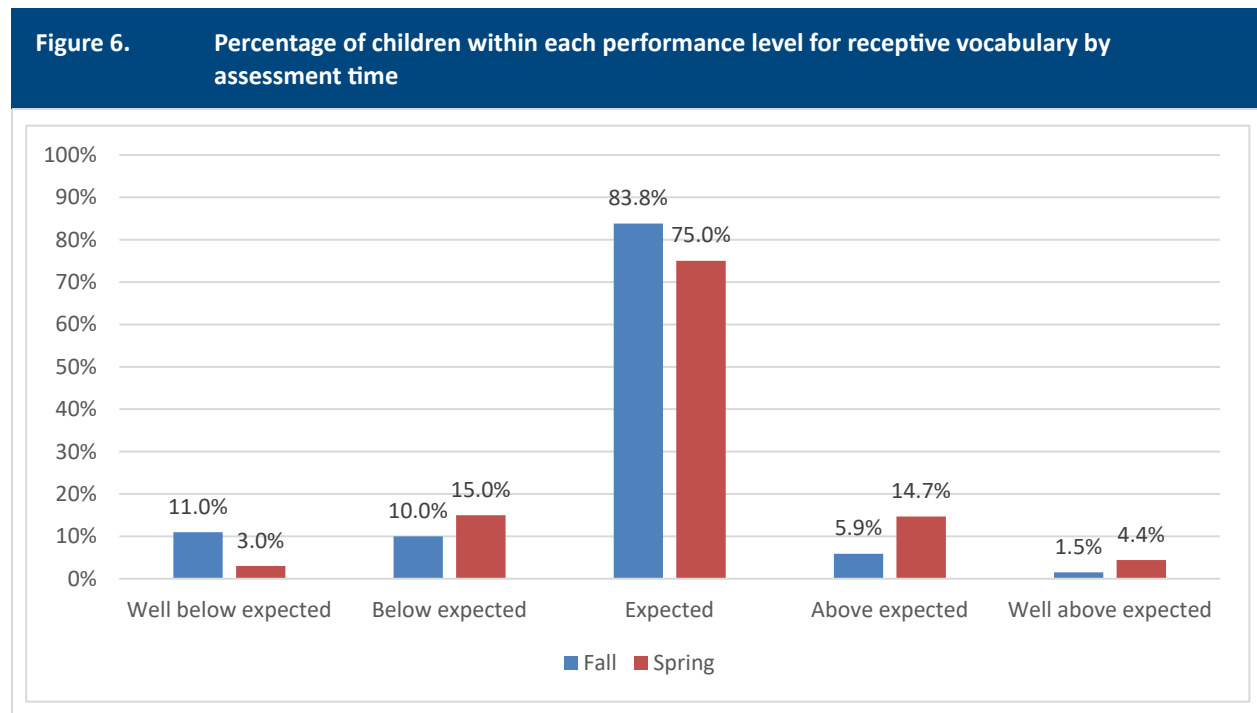
## Receptive One-Word Picture Vocabulary Test and Expressive One-Word Picture Vocabulary Test

To measure children’s receptive vocabulary, Westat analyzed data collected by Pre-K 4 SA from a random sample ( $n = 68$  for each assessment) of 3-year-old and 4-year-old children on the Receptive One-Word Picture Vocabulary Test (ROWPVT) and Expressive One-Word Picture Vocabulary Test (EOWPVT).<sup>24</sup> To evaluate children’s understanding, we converted their scores into five performance levels: (1) well below expected, (2) below expected, (3) expected, (4) above expected, and (5) well above expected. These levels are based on a normative sample and represent the developmental trajectory of children based on their age. To better understand how children were progressing throughout the year, we conducted analyses of vocabulary growth to assess changes over time and perform comparisons to a normative sample. Together, these two findings provide a holistic perspective of children’s learning across the year.

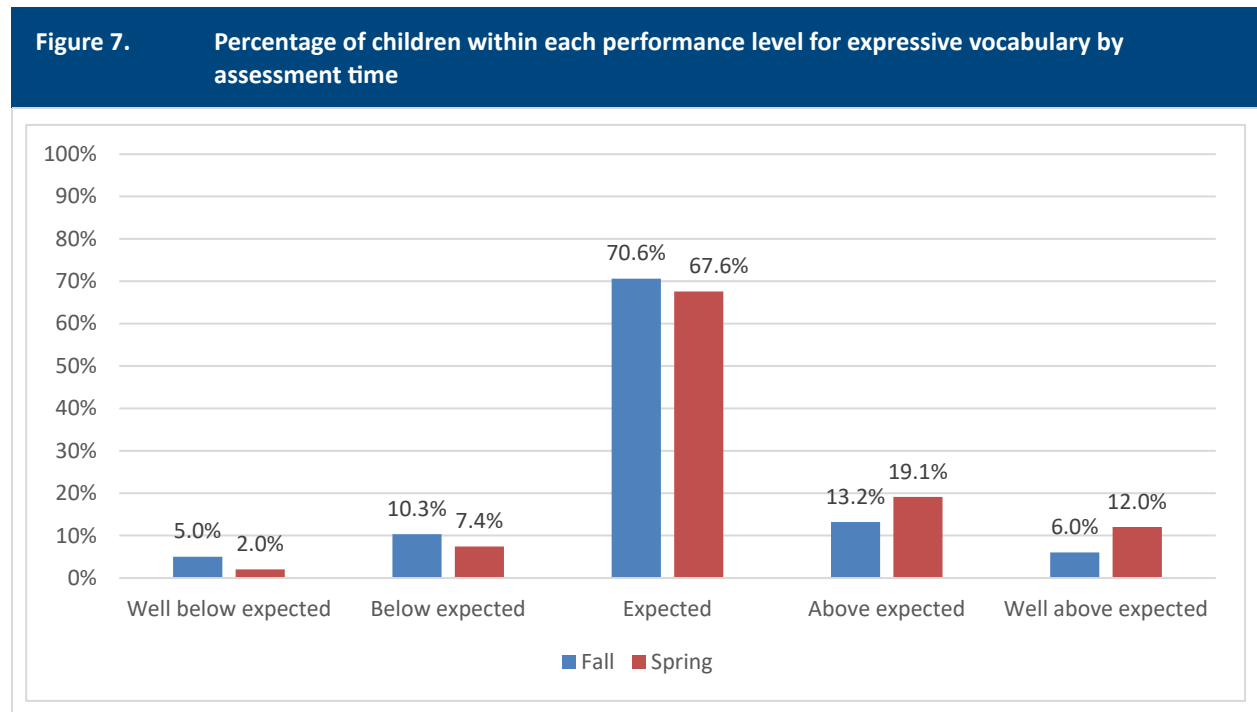
Results for the first half of research question 5A (What were the receptive and expressive vocabulary performance levels of Pre-K 4 SA children?) demonstrated children improved their understanding by moving from the lowest level (well below expected) to the highest level (well above expected) from fall to spring for both the receptive and expressive vocabulary tests. The majority of Pre-K 4 SA children performed in the expected range for both the receptive (83.8

<sup>24</sup> This marks a transition in the vocabulary assessments data collection as this is first year collecting data for these assessments in English and Spanish. We previously used the Peabody Picture Vocabulary Test (PPVT; Dunn & Dunn, 2019), which was only available in English. The Spanish version of the PPVT, Test de Vocabulario en Imagenes Peabody (Dunn et al., 1986), was discontinued by the publisher.

percent in fall and 75.0 percent in spring, see Figure 6) and expressive vocabulary tests (70.6 percent in fall and 67.6 in the spring, see Figure 7). (For more detailed information and results based on number of years in Pre-K 4 SA, see Appendix E, Table E.1).



**Note:** Some percentages are rounded to protect confidential data, and totals may be more than 100%.



**Note:** Some percentages are rounded to protect confidential data, and totals may be more than 100%.

Results for the second half of research question 5A (To what extent did the performance levels change over the year?) indicated there was significant positive movement into the higher levels for both the ROWPVT and EOWPVT tests. (For more detailed information and results based on number of years in Pre-K 4 SA, see Appendix E, Table E.1).

Results for research question 5B (Did Pre-K 4 SA children demonstrate significant improvement in receptive and expressive vocabulary?) indicated that children experienced significant improvement overall and gained additional vocabulary. There was an increase of approximately 6 (5.8) standard score points for the ROWPVT and 5 (5.0) standard score points for the EOWPVT when comparing their fall and spring scores across the year. (For more detailed information and results based on number of years in Pre-K 4 SA, see Appendix E, Table E.2.).

## Social-Emotional Assessment

### Devereux Early Childhood Assessment

To measure children’s social-emotional competencies, Westat analyzed data collected from teacher ratings on the Devereux Early Childhood Assessment (DECA). The outcomes related to social-emotional competency that DECA measured include Initiative, Self-Control, Attachment, and Behavioral Concerns. Taken together, Initiative, Self-Control, and Attachment combine to form an overall level of social-emotional competency, or the Total Protective Factors. Children were placed into one of three categories based on their scores: Needs Improvement, Typical, or Strengths.

We included children in analyses if they had outcome data for both the fall and spring assessment points (77.5 percent of total sample,  $n = 1,582$ ).<sup>25</sup> Results for research question 6A (What were the levels of Pre-K 4 SA children’s social-emotional competence, and to what extent did the levels change?) demonstrated most children tested at the Typical level. There was significant positive movement from the lowest level (Needs Instruction) to the highest level (Strengths) for all outcomes except Behavioral Concerns (see Figure 8, which displays findings for the two overall outcomes). An increasing percentage of children moving into the highest level (Strengths) by

- Initiative (a 5.5 percent difference)
- Self-Control (a 3.1 percent difference)
- Attachment (a 5.2 percent difference)
- Total Protective Factors (a 4.6 percent difference)

The results also showed a declining percentage of children scoring at the lowest level (Needs Instruction) between the fall and spring for

- Initiative (a -7.7 percent difference)
- Self-Control (a -2.5 percent difference)
- Attachment (a -5.2 percent difference)
- Total Protective Factors (a -6.1 percent difference)

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<sup>25</sup> Pre-K 4 SA pilot-tested an executive function assessment, EFgo (Reflection Sciences, n.d.), with a small subset of teachers. DECA results are based on 91 out of 100 classrooms; some teachers who participated in EFgo did not complete the DECA assessment.

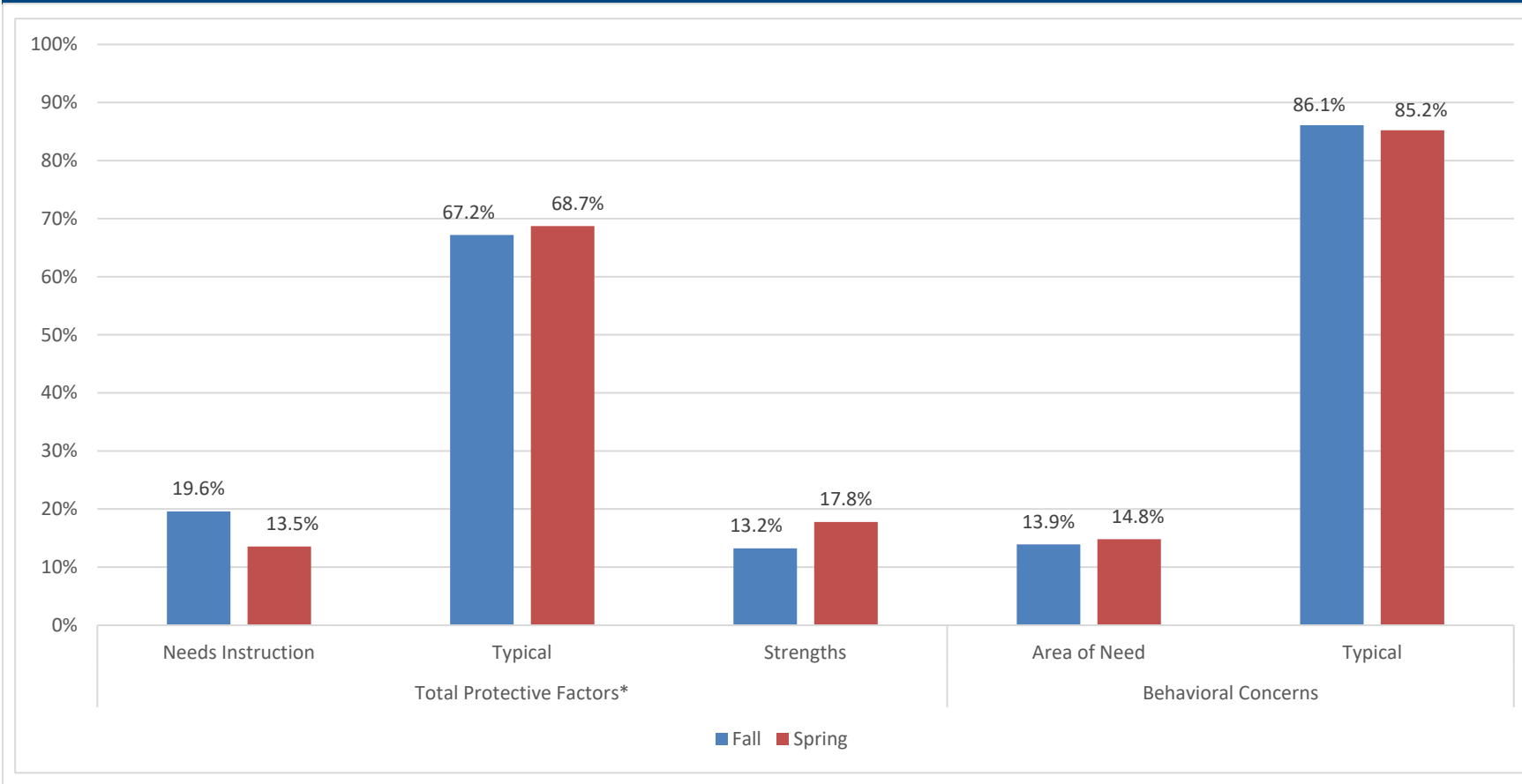
Behavioral Concerns showed no change in children demonstrating either need or typical.<sup>26</sup> (For more detailed information and results based on number of years in Pre-K 4 SA, see Appendix F, Table F.1).

Results for research question 6B (Did Pre-K 4 SA children demonstrate significant improvement in social-emotional competence?) revealed there was significant improvement across all outcomes. On average, children grew 2.9 points in Initiative, 1.5 points in Self-Control, 2.0 points in Attachment, and 2.5 points in Total Protective Factors. (For more detailed information, see Appendix F, Table F.2.)

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<sup>26</sup> The Behavioral Concerns outcome has only two levels by design. It is intended to measure problematic behaviors and is reversed from the other outcomes measuring positive behaviors. Therefore, the category Area of Need comes from high scores, and all other scores fall in the Typical range.

**Figure 8. Percentage of children within each social-emotional performance level by outcome and assessment time**



**Note:** Percentages may sum to more than 100 percent due to rounding decimals to the nearest tenths or because of small sample sizes (i.e., we provide a range). The Behavioral Concerns outcome has only two levels by design. It is intended to measure problematic behaviors and is reversed from the other outcomes measuring positive behaviors. Therefore, the category Area of Need comes from high scores and all other scores fall in the Typical range.

\* = statistically significant increase ( $p < 0.05$ ).

## Children Attending as Both 3-Year-Olds and 4-Year-Olds

We conducted an analysis of social-emotional scores for children attending Pre-K 4 SA as both 3-year-olds and 4-year-olds for 2 consecutive years. We adapted research question 6A (What were the levels of Pre-K 4 SA children’s social-emotional competence, and to what extent did the levels change?) to focus on this subgroup of children. Children had to have data in the fall and spring assessment points for both years (2023–24 and 2024–25) to be included in the analysis (69.3 percent of total sample attending for 2 years,  $n = 526$ ).

### Sample Characteristics

To determine if the new 4-year-old children attending for 1 year presented in the previous section and the returning 4-year-old children attending for 2 years presented in this section were similar, we conducted tests of demographics differences. Findings revealed no significant differences in demographic characteristics<sup>27</sup> between the two groups. This implies the findings presented in this section are more likely to be associated with multiple years of Pre-K 4 SA attendance and not due to existing demographic differences between these two groups.

### Results

Results for this subgroup demonstrated most children tested at the Typical level across all outcomes and assessment points. For all outcomes there was positive movement within the subgroup that participated for two consecutive years as more children moved from the lowest level (Needs Instruction) into to the highest level (Strengths) over time. The results showed an increasing percentage of children moving into the highest level (Strengths) from fall 2023 to spring 2025. Specifically, we saw increases over these two assessment years of

- Initiative (a 22.8 percent difference)
- Self-Control (a 12.4 percent difference)
- Attachment (a 18.0 percent difference)
- Total Protective Factors (a 24.7 percent difference; see Figure 9).

Additionally, 7.6 percent of students moved into the Typical level for Behavioral Concerns, which indicates a reduction in problematic behavior.

Moreover, at the start of their second year (2024–25), 4-year-olds demonstrated improved social-emotional understanding compared to the end of the previous school year, when they were 3-year-olds (2023–24), suggesting they retained these skills over time.

Results for research question 6B (Did Pre-K 4 SA children demonstrate significant improvement in social-emotional competence?) for this subgroup revealed there was significant improvement across all outcomes. On average, children grew

- Initiative (12.0 points)
- Self-Control (7.3 points)
- Attachment (6.8 points)

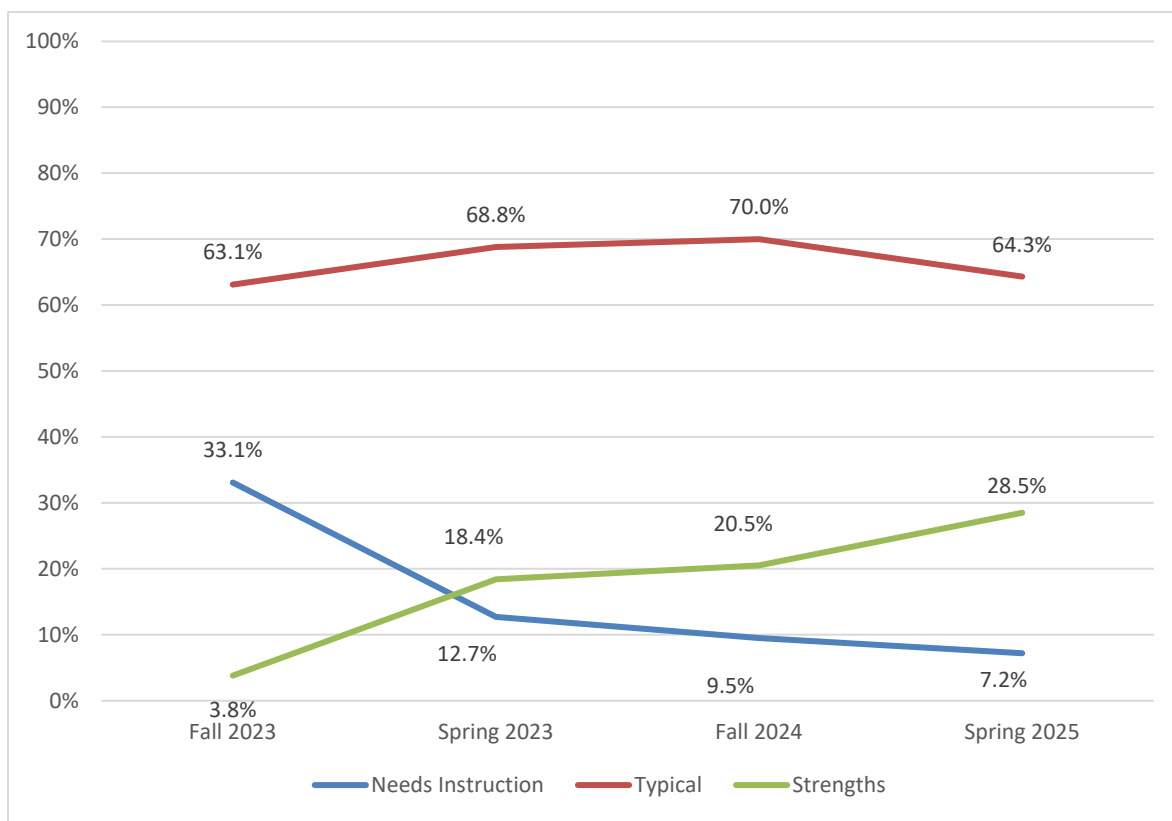
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<sup>27</sup> The demographic variables analyzed include: gender, race/ethnicity, attending based on English Learner status, attending based on if their family had military affiliation, and attending based on income eligibility or paying tuition.

- Total Protective Factors (10.0 points)

Additionally, on average, children decreased 4.1 points in Behavioral Concerns, which indicates a reduction in problematic behavior. (For more detailed information, see Appendix F, Table F.4.)

**Figure 9. Percentage of children attending as both 3-year-olds and 4-year-olds on Total Protective Factors by assessment time and performance level**



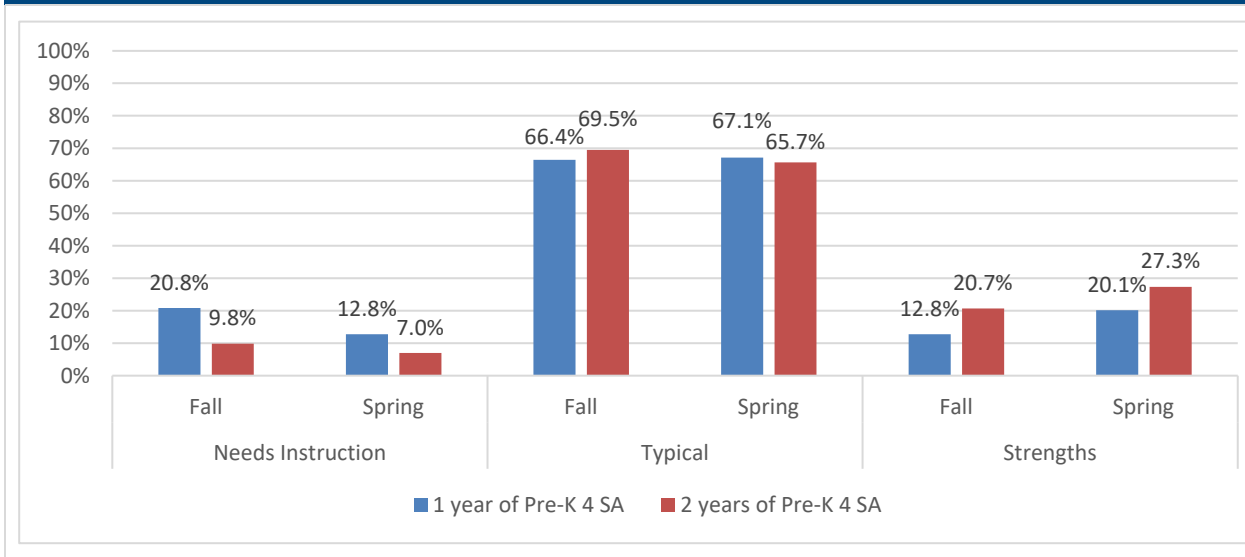
**Note:** Findings depicted are for the overall scale (Total Protective Factors) from the DECA.

### Children Attending for 1 Year and 2 Years

We also investigated social-emotional results for 4-year-old children who attended Pre-K 4 SA for a single year and for 4-year-old children who attended Pre-K 4 SA for 2 consecutive years. We included children in analyses if they had outcome data for both the fall and spring assessment points (67.4 percent of total sample attending for 1 year,  $n = 149$ ; 79.1 percent of total sample attending for 2 years,  $n = 600$ ).

Children who attended Pre-K 4 SA for both years demonstrated improved social-emotional competency for the DECA's overall scale (Total Protective Factors) compared to children who attended Pre-K 4 SA for a single year. That said, children who attended for 1 year and children who attended for 2 years both showed significant positive movement into higher levels across the three DECA categories (Needs Instruction, Typical, and Strengths) as well as into the highest level (Strengths) over time, indicating overall improvement in social-emotional competency and suggesting the positive benefits of multiple years with Pre-K 4 SA (see Figure 10; for more detailed information and results for the other social-emotional outcomes, see Appendix F, Tables F.1, F.2, F.3, and F.4.)

**Figure 10. Percentage of children within each performance level for Total Protective Factors by assessment time and years in Pre-K 4 SA**



**Note:** Findings depicted are for the overall scale (Total Protective Factors) from the DECA.

## Conclusions and Looking Ahead

### Overview of Findings

The evaluation results of the Pre-K 4 SA education centers in 2024–25 (Year 12) reflect the unique post-pandemic environment and present seven encouraging findings.

1. **Quality learning.** Pre-K 4 SA has provided quality instructional environments to more than 2,000 predominantly low-income children from across San Antonio. Classroom quality scores were high (or midrange, in the case of the CLASS Instructional Support domain), indicating strong teacher–child interaction quality.
2. **Increased attendance.** Children’s attendance in Pre-K 4 SA increased this school year compared to the 2023–24 school year. Despite that increase, however, overall attendance still remained lower when compared to previous years. The nationwide average pre-K attendance rate was 90.4 percent in 2022–23; It increased to 92.3 percent in the first half of the 2024–25 school year (SchoolStatus, n.d.). The trend observed at Pre-K 4 SA mimics that of the nation overall.
3. **Significant improvement in academic and social-emotional skills.** There was significant improvement in children’s academic and social-emotional skills. Teacher-reported kindergarten readiness at the end of the pre-K year (using GOLD) suggests significant improvement for all six outcomes: Cognitive, Literacy, Mathematics, Oral Language, Physical, and Social-Emotional. Similarly, teacher-reported social-emotional results (using DECA) suggest that children significantly gained social-emotional skills and demonstrated significant improvement in their understanding over the year. Additionally, receptive and expressive vocabulary results showed that children experienced significant improvement over the year and gained additional vocabulary. These results suggest children benefited from their educational experience. Given concerns in the broader education community about the implementation of necessary learning

support in response to the pandemic, these results provide one empirically evaluated example of an initiative that supports and achieves children’s learning.

4. **Multiple years of Pre-K 4 SA attendance are associated with improved social-emotional competency.** Teacher-reported social-emotional results (using DECA) for children attending for two consecutive years as 3-year-olds and 4-year-olds suggested children significantly gained social-emotional skills and demonstrated significant improvement. Moreover, results demonstrated that when children returned to Pre-K 4 SA as 4-year-olds for their second year (2024–25), their overall social- emotional skills had improved compared to the end of previous year (2023–24), demonstrating they retained their overall social-emotional competency over the summer between school years. These findings suggest that attending Pre-K 4 SA for multiple years is associated with improved social-emotional competency. This is important given the positive associations with social-emotional understanding and achievement (Rhoades et al., 2011; Ricciardi et al., 2021; Schaack & Le, 2025).
5. **Multiple years of Pre-K 4 SA attendance are associated with improved kindergarten readiness.** Teacher-reported kindergarten readiness results (using GOLD) for children who attended Pre-K 4 SA for two consecutive years as 3-year-olds and 4-year-olds demonstrated improved kindergarten readiness across all GOLD outcomes in spring when compared to children who attended Pre-K 4 SA for a single year, suggesting the positive benefits of multiple years with Pre-K 4 SA.
6. **Significant gains in early literacy and early numeracy, but more work is needed.** Results suggest that children gained significant understanding across the year. However, most children were not performing at their age level and were in need of additional educational support.
7. **Consistent social-emotional trends over time.** This was the third year conducting social-emotional (DECA) analyses, which allows for comparing trends over time for these outcomes and measures. The results for this year were similar to those from the last 2 years, suggesting a consistent pattern of findings for three consecutive years.

## Comparing Assessment Results Across Measures

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Across all measures and outcomes, Pre-K 4 SA children demonstrated significant improvement. However, sometimes different conclusions arose when comparing early literacy, early numeracy, and social-emotional competency findings across multiple measures to the normative samples. In this section, we summarize the reasons that may lead to different conclusions across measures to set context for readers. We then give the cross-measure results for each of three categories of findings: literacy, numeracy, and social-emotional.

### Context and Caveats for Comparing Across Measures

Inconsistent findings across assessment tools are not specific to this Pre-K 4 SA evaluation. Indeed, previous research comparing GOLD and direct child assessments found children’s skills to be much more similar within a classroom when assessed using GOLD as compared to the direct assessments (Miller-Bains et al., 2017; Qiu et al., 2021; Russo et al., 2019).

We identified three pertinent reasons why these assessments could provide different conclusions.

1. **Different scoring methods for each assessment.** GOLD results are based on comparing children to a single normative average, WJ, ROWPVT, and EOWPVT have age-specific (measured in months) normative averages, and DECA measures across three levels based on score transformations using a normative sample. Therefore, it may be possible for children to show

more nuanced understanding in WJ, ROWPVT, and EOWPVT than with GOLD, leading to different conclusions.

2. **Different assessors.** The GOLD and DECA are teacher-reported assessments, and the WJ, ROWPVT, and EOWPVT are direct assessments collected by an independent assessor. Therefore, differences could be attributable to the data collector or collection method (e.g., teacher or independent assessor bias and teacher or independent assessor training) and not the content intended to be captured by the assessment.
3. **Unclear or absent cross-measure reliability.** Notably, there is limited validity research that has compared these measures to determine how much content is similar or different across them (e.g., Barghaus et al., 2022; Miller-Bains et al., 2017; Qiu et al., 2021; Russo et al., 2019). Given this, there could be various levels of content measured (e.g., literacy, vocabulary, letter recognition, and phonemic awareness). Therefore, these measures may be measuring different and distinct aspects of early literacy, early numeracy, receptive vocabulary, and social-emotional competency.

## Results From Comparing Across Measures

**Literacy.** All literacy findings indicated children demonstrated significant improvement as shown in Table 5. When comparing assessment findings, however, the results are mixed. For the GOLD assessment’s Literacy and Oral Language domains, children performed significantly below, on par, or significantly above the with the normative sample in the fall and significantly below or on par with the normed sample in spring. This did not agree with the WJ Letter-Word findings in fall, but some did agree with the Letter-Word findings in spring. For receptive vocabulary (ROWPVT) and expressive vocabulary (EOWPVT), the majority of children performed in the expected range, and there was significant positive movement into the higher levels over time.

**Table 5. Summary of early literacy findings across assessments**

Outcome	Assessment	Age	Domain	Growth	Percentage change	Gap closure	Benchmark and performance levels <sup>a</sup>		Norm comparisons <sup>b</sup>	
				Fall to Spring			Fall	Spring	Fall	Spring
Early Literacy	GOLD	3	Literacy	↑					↑	↓
			Oral Language	↑					—	↓
		4 (new)	Literacy	↑					—	↓
			Oral Language	↑					—	↓
		4 (returning)	Literacy	↑					↑	—
			Oral Language	↑					↑	—
	WJ <sup>c</sup>	3 & 4	Letter-Word	↑	↓	↓			↓	↓
	ROWPVT <sup>b</sup>	3 & 4	Receptive vocabulary	↑	↑		↑	↑		
EOWPVT <sup>b</sup>	Expressive vocabulary		↑	↑		↑	↑			

**Note:** A green arrow or triangle that points up indicates a positive significant result; a dash or yellow bar indicates a nonsignificant result; a red arrow or triangle that points down indicates a negative significant result. We conducted analyses based on the assessment scoring methods indicated in the technical manuals. Columns and rows without icons indicate we did not conduct those analyses. The 4 (new) age indicates children attending for 1 year and the 4 (returning) age indicates children attending for 2 years.

GOLD = Growth, Observation, and Learning; WJ = Woodcock-Johnson and Bateria; ROWPVT = Receptive One-Word Picture Vocabulary Test; EOWPVT = Expressive One-Word Picture Vocabulary Test.

<sup>a</sup> ROWPVT and EOWPVT findings for performance levels are based on descriptive statistics; we conducted no inferential tests.

<sup>b</sup> WJ findings for norm comparisons are based on descriptive statistics; we did not conduct inferential tests. Across all assessments, the norm comparisons were created prior to the COVID-19 pandemic and do not reflect pandemic-related disruptions to learning and well-being. Therefore, they represent a normative sample taken from environments that are most likely quite different from the environments experienced by Pre-K 4 SA children.

<sup>c</sup> We conducted assessments for a random sample of children.

**Numeracy.** All numeracy findings indicated children demonstrated significant improvement as shown in Table 6. When comparing assessment findings, however, the results are mixed. Children were either on par or significantly above the normative sample for the GOLD Mathematics findings. However, this disagrees with the WJ Applied Problems findings, which demonstrate that children were significantly below the normative sample.

**Table 6. Summary of early numeracy findings across assessments**

Outcome	Assessment	Age	Domain	Growth	Percentage change	Gap closure	Benchmark and performance levels		Norm comparisons <sup>a</sup>	
				Fall to Spring			Fall	Spring	Fall	Spring
Early Numeracy	GOLD	3	Mathematics	↑					↑	↑
		4 (new)		↑					—	—
		4 (returning)		↑					↑	↑
	WJ <sup>b</sup>	3 & 4	Applied Problems	↑	—	—			↓	↓

**Note:** A green arrow or triangle that points up indicates a positive significant result; a dash or yellow bar indicates a nonsignificant result; a red arrow or triangle that points down indicates a negative significant result. We conducted analyses based on the assessment scoring methods indicated in the technical manuals. Columns and rows without icons indicate we did not conduct those analyses. The 4 (new) age indicates children attending for 1 year and the 4 (returning) age indicates children attending for 2 years.

GOLD = Growth, Observation, and Learning; WJ = Woodcock-Johnson and Batería. The 4 (new) age indicates children attending for 1 year and the 4 (returning) age indicates children attending for 2 years.

<sup>a</sup> WJ findings for norm comparisons are based on descriptive statistics; we conducted no inferential tests. Across all assessments, the norm comparisons were created prior to the COVID-19 pandemic and do not reflect pandemic-related disruptions to learning and well-being. Therefore, they represent a normative sample taken from environments that are most likely quite different from the environments experienced by Pre-K 4 SA children.

<sup>b</sup> We conducted assessments for a random sample of children.

**Social-emotional competency.** All findings indicated that children demonstrated significant improvement as shown in Table 7. When comparing assessment findings, however, the results are mixed. Children either performed significantly below, on par, or significant above the normative sample in the fall and on par or significantly below the normed sample in the GOLD Social-Emotional domain. For DECA, findings demonstrated the majority of children were performing at the Typical level in the fall and spring.

**Table 7. Summary of social-emotional findings across assessments**

Outcome	Assessment	Age	Domain	Growth	Percentage change	Gap closure	Benchmark and performance levels <sup>3</sup>		Norm comparisons <sup>6</sup>	
					Fall to Spring		Fall	Spring	Fall	Spring
Social-Emotional	GOLD	3	Social-Emotional	↑					—	↓
		4 (new)		↑					↓	↓
		4 (returning)		↑					↑	—
	DECA	3 & 4	Initiative	↑	↑		↑	↑		
			Self-Control	↑	↑		↑	↑		
			Attachment	↑	↑		↑	↑		
			Total Protective Factors	↑	↑		↑	↑		
			Behavioral Concerns <sup>c</sup>	↑	—		↑	↑		

**Note:** A green arrow or triangle that points up indicates a positive significant result; a dash or yellow bar indicates a nonsignificant result; a red arrow or triangle that points down indicates a negative significant result. Westat conducted analyses based on the assessment scoring methods indicated in the technical manuals. Columns and rows without icons indicate we did not conduct those analyses.

GOLD = Growth, Observation, and Learning; DECA = Devereux Early Childhood Assessment

<sup>a</sup> These findings are based on descriptive statistics; we conducted no inferential tests.

<sup>b</sup> Across all assessments, researchers created the norm comparisons prior to the COVID-19 pandemic and do not reflect pandemic-related disruptions to learning and well-being. Therefore, they represent a normative sample taken from environments that are most likely quite different from the environments experienced by Pre-K-4 SA children.

<sup>c</sup> The Behavioral Concerns outcome is intended to measure problematic behaviors, which is reversed from the other outcomes measuring positive behaviors. A positive significant finding in Behavioral Concerns indicates a significant reduction in challenging behaviors.

## Limitations

The evaluation findings have four key limitations.

1. **Resource limitations constrained data collection.** Westat was not able to collect data from a comparison school with which to compare Pre-K 4 SA children because of resource constraints. Therefore, we used normative samples for comparisons. There can be more confidence in interpreting resulting differences on outcomes when a comparison or control group is formed with children who are similar to Pre-K 4 SA children and experienced learning during the pandemic. Furthermore, there can be more confidence that differences can be attributed to Pre-K 4 SA and are not a result of other factors.<sup>28</sup>
2. **Pandemic context influenced these children's trajectories.** Researchers create normative samples to be reflective of the demographic proportions similar to those found in the U.S. Census data. For all assessments, researchers collected normative data prior to the COVID-19 pandemic and therefore did not consider the pandemic-related disruption to learning and well-being that has occurred for children and families. The children in this normative data sample are most likely quite different from Pre-K 4 SA children and did not experience learning in the same context. Hence, using normative comparisons is not ideal, but these normative samples are the best research evidence currently available for comparison. Therefore, readers should interpret these results with caution. Moving forward, it will be necessary to obtain new normative sample results from test publishers in order to perform more comparable analyses. Given the amount of effort it takes to create normative samples, at a minimum it will be several years before researchers are able to conduct such analyses.
3. **GOLD and DECA findings do not represent all children.** Findings from GOLD and DECA do not represent the full population of enrolled children.<sup>29</sup> We included children with complete data across all assessment time points in analyses and excluded children who enrolled after the initial assessment window or withdrew prior to subsequent data collection. Notably, during Year 12, several classrooms participated in an assessment pilot and were not included in DECA data collection.
4. **Reliance on teacher-reported measures.** Results for two outcomes, Cognitive and Physical, are based solely on the teacher-reported GOLD findings because there are no direct assessments measured in this evaluation. Therefore, it is not possible to compare these findings to results from a direct assessment.

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<sup>28</sup> One way to form a comparison group of children similar in nature to Pre-K 4 SA children in the future would be to work with Teaching Strategies to create a matched comparison group from the normative sample of children.

<sup>29</sup> We conducted demographic tests of differences to determine if the sample of children included in and excluded from analyses were similar (see Appendix A, Analytic Approach, for more detailed information).

## Directions for Future Research

Taken together, these findings demonstrated children benefited from attending Pre-K 4 SA. We would like to draw attention to five directions for future research.

1. **Improve instructional quality.** Given the midrange CLASS score for Instructional Support, children would benefit from increased opportunities to think critically, be asked questions to prompt their thought processes and scaffold learning, and hear and use language. Therefore, Pre-K 4 SA should consider continuing to focus on and invest resources in improving instructional quality (e.g., teacher professional learning, mentoring, and coaching).
2. **Encourage accelerated learning.** The significant growth in early literacy and numeracy, and receptive and expressive vocabulary provide empirical evidence of a step in the right direction. However, many results demonstrated that children were performing below what would be expected for their grade based on national norms. The significant decline in early literacy suggests Pre-K 4 SA should consider continuing to focus on and invest targeted resources (e.g., evidence-based enrichment activities or engaging families and caregivers to support their child's education) for supporting and bringing children's academic understanding up to their age level. Additionally, Pre-K 4 SA could revise their teacher professional development program so it is informed by classroom-level research findings. Future evaluations could investigate whether new target training in literacy instruction and differentiated teaching strategies might improve child outcomes in early literacy and numeracy.
3. **Include direct assessment of cognitive and physical outcomes.** Pre-K 4 SA should consider collecting data from a direct child assessment for comparison with the GOLD Cognitive and Physical outcomes. This would provide a more holistic understanding of children's abilities for these two outcomes.
4. **Investigate Pre-K GOLD Mathematics findings.** Across all three assessment times in the 2024-25 school year, Pre-K 4 SA 3-year-old children were significant above the normative samples in Mathematics. This finding also occurred for children who attended Pre-K 4 SA for two consecutive years (2023-24 and 2024-25) across all six assessment times. Previous evaluations have demonstrated this result. Pre-K 4 SA should consider investigating what mechanisms might be behind Pre-K 4 SA children scoring significantly above the normative sample for this outcome across all assessment times.
5. **Invest in two years of Pre-K 4 SA.** This marks the second year of evaluating children who attended Pre-K 4 SA for 2 consecutive years. Findings demonstrate the positive benefit of multiple years of Pre-K 4 SA involvement. Moving forward, it will be interesting to continue exploring relationships between the findings for children who attend for 2 years compared to the findings for children who attend a single year. That research could seek to determine if consistent patterns and trends emerge based on increased program participation.

## References

- Barghaus, K., Fantuzzo, J., Buek, K., & Gullo, D. (2022). Neglected validities: A diagnostic look at the state of early childhood assessment. *Early Childhood Research Quarterly, 58*(2), 287–99.
- Barnett, W. S. (2011). Four reasons the United States should offer every child a preschool education. In E. Zigler, W. Gilliam, and W.S. Barnett (Eds.), *The pre-K debates: Current controversies and issues* (pp. 34–39). Brookes Publishing.
- Bassok, D., & Galdo, E. (2016). Inequality in preschool quality? Community-level disparities in access to high-quality learning environments. *Early Education and Development, 27*(1), 128-44.
- Bloom, H. S., & Weiland, C. (2014). *To what extent do the effects of Head Start on enrolled children vary across sites?* (working paper). MDRC.
- Burchinal, M., Vandergrift, N., Pianta, R., & Mashburn, A. (2010). Threshold analysis of association between child care quality and child outcomes for low-income children in pre-kindergarten programs. *Early Childhood Research Quarterly, 25*(2), 166–76.
- Campbell, F. A., Ramey, C. T., Pungello, E., Sparling, J., & Miller-Johnson, S. (2002). Early childhood education: Young adult outcomes from the Abecedarian Project. *Applied Developmental Science, 6*, 42–57.
- Center for Education Policy Research. (2023). *New research finds that pandemic learning loss impacted whole communities, regardless of student race or income*. Harvard University. Retrieved from <https://cepr.harvard.edu/news/new-research-finds-pandemic-learning-loss-impacted-whole-communities-regardless-student>.
- Coogle, C.G., Storie, S., & Rahn, N. L. (2021). A framework for promoting access, increasing participation, and providing support in early childhood classrooms. *Early Childhood Education Journal, 50*(5), 867–877.
- Dewey, D. C., Fahle, E., Kane, T. J., Reardon, S. F., & Staiger, D. O. (2025). *Education Recovery Scorecard: Pivoting from Pandemic recovery to long-term reform: A district-level analysis*. Center for Education Policy Research, Harvard University. <https://educationrecoveryscorecard.org/wp-content/uploads/2025/02/Pivoting-from-Pandemic-Recovery-to-Long-Term-Reform-A-District-Level-Analysis.pdf>
- Dunn, L., & Dunn, L. (2019). *Peabody Picture Vocabulary Test, fifth edition* (PPVT -V). NCS Pearson.
- Dunn, L. M., Lugo, D. E., Padilla, E. R., & Dunn, L. M. (1986). *Test de Vocabulario en Imagenes Peabody - TVIP*. American Guidance Services.
- Early Childhood Learning & Knowledge Center. (2020). *A national overview of grantee CLASS scores in 2020*. U.S. Department of Health & Human Services, Early Childhood Learning & Knowledge Center. <https://eclkc.ohs.acf.hhs.gov/data-ongoing-monitoring/article/national-overview-grantee-class-scores-2020>.
- Fahle, E. M., Kane, T. J., Patterson, T., Reardon, S. F., Staiger, D. O., & Stuart, E. A. (2023). *School district and community factors associated with learning loss during the COVID-19 pandemic*. Center for Education Policy Research, Harvard University. [https://cepr.harvard.edu/sites/hwpi.harvard.edu/files/cepr/files/explaining\\_covid\\_losses\\_5.23.pdf](https://cepr.harvard.edu/sites/hwpi.harvard.edu/files/cepr/files/explaining_covid_losses_5.23.pdf).

- Jung, K., & Barnett, W. S. (2021). *Impacts of the pandemic on young children and their parents: Initial findings from NIEER's May-June 2021 preschool learning activities survey*. National Institute for Early Education Research. <https://nieer.org/research-report/impacts-of-the-pandemic-on-young-children-and-their-parents-initial-findings-from-nieers-may-june-2021-preschool-learning-activities-survey>.
- Heckman, J. J., Moon, S. H., Pinto, R., Savelyev, P. A., & Yavitz, A. (2010). The rate of return to the High/Scope Perry Preschool Program. *Journal of Public Economics*, 94, 114–28.
- Hill, C. J., Gormley, W. T., Jr., & Adelstein, S. (2015). Do the short-term effects of a high-quality preschool program persist? *Early Childhood Research Quarterly*, 32, 60–79.
- Ingvolson, E. M., Perry, L. K., VanDam, M., & Grieco-Calub, T. M. (2023). Comparing scores on the Peabody Picture Vocabulary Test and Receptive One-Word Picture Vocabulary Test in preschoolers with and without hearing loss. *American Journal of Speech-Language Pathology*, 32(3), 1610–1619. [https://doi.org/10.1044/2023\\_AJSLP-22-00352](https://doi.org/10.1044/2023_AJSLP-22-00352)
- Lambert, R. (2020). *Technical manual for the Teaching Strategies GOLD assessment system* (2nd ed). Center for Educational Measurement and Evaluation, University of North Carolina. [https://teachingstrategies.com/wp-content/uploads/2020/10/2020-Tech-Manual\\_GOLD.pdf](https://teachingstrategies.com/wp-content/uploads/2020/10/2020-Tech-Manual_GOLD.pdf)
- La Paro, K. M., Pianta, R. C., & Shuhlman, M. (2004). Classroom Assessment Scoring System (CLASS): Findings from the pre-k year. *Elementary School Journal*, 104(5), 409–26.
- LeBuffe, P. A., & Naglieri, J. A. (2012). *Devereux Early Childhood Assessment for preschoolers, second edition (DECA-P2): User's guide and technical manual*. Kaplan Press.
- Lekhal, R., Karlsen, L., Wilhelmsen, T., Vandell, D. L., Lydersen, S., & Rydland, V. (2025). Promoting classroom quality through professional development: Results from the Oslo early education study, a randomized controlled trial. *Studies in Educational Evaluation*, 86, Article 101462. <https://doi.org/10.1016/j.stueduc.2025.101462>
- Lippard, C. N., La Paro, K. M., Rouse, H. L., & Crosby, D. A. (2018). A closer look at teacher–child relationships and classroom emotional context in preschool. *Child & Youth Care Forum*, 47, 1–21.
- LoBue, V., Pérez-Edgar, K., Kirkham, N., & Herbert, J. (2023). The impact of COVID-19 on infant development: A special issue of infancy. *Infancy*, 28(1) 4–7.
- Locasale-Crouch, J., Konold, T., Pianta, R., Howes, C., Burchinal, M., Bryant, D., Clifford, R., Early, D., & Barbarin, O. (2007). Observed classroom quality profiles in state-funded pre-kindergarten programs and associations with teacher, program, and classroom characteristics. *Early Childhood Research Quarterly*, 22(1), 3–17.
- Mashburn, A. J., Pianta, R. C., Hamre, B. K., Downer, J. T., Barbarin, O. A., Bryant, D., Burchinal, M., Early, D. M., & Howes, C. (2008). Measures of classroom quality in prekindergarten and children's development of academic, language, and social skills. *Child Development*, 79(3), 732–49.
- Martin, N. A. (2013a). *Expressive One-Word Picture Vocabulary Test Manual (Spanish-Bilingual Edition)*. Academic Therapy Publications, Inc.
- Martin, N. A. (2013b). *Receptive One-Word Picture Vocabulary Test Manual (Spanish-Bilingual Edition)*. Academic Therapy Publications, Inc.
- Martin, N. A., & Brownell, R. (2011a). *Expressive One-Word Picture Vocabulary Test Manual*. Academic Therapy Publications, Inc.

- Martin, N. A., & Brownell, R. (2011b). *Receptive One-Word Picture Vocabulary Test Manual*. Academic Therapy Publications, Inc.
- Martinsone, B., Supe, I., Stokenberga, I., Damberg, I., Cefai, C., Camilleri, L., Bartolo, P., O'Riordan, M. R., & Grazzani, I. (2022). Social emotional competence, learning outcomes, emotional and behavioral difficulties of preschool children: Parent and teacher evaluations. *Frontiers in Psychology, 12*, Article 760782. <https://doi.org/10.3389/fpsyg.2021.760782>
- Maier, M. F., McCormick, M. P., Xia, S., Hsueh, J., Weiland, C., Morales, A., Boni, M., Tonachel, M., Sachs, J., & Snow, C. (2022). Content-rich instruction and cognitive demand in prek: Using systematic observations to predict child gains. *Early Childhood Research Quarterly, 60*(3), 96–109.
- McCormick, M. (2022). *Building better evidence on pre-K by strengthening assessments of children's skills*. MDRC. <https://www.mdrc.org/publication/building-better-evidence-pre-k-strengtheningassessments-children-s-skills>.
- Miller-Bains, K. L., Russo, J. M., Williford, A. P., DeCoster, J., & Cottone, E. A. (2017). Examining the validity of a multidimensional performance-based assessment at kindergarten entry. *AERA Open, 3*(2). <https://doi.org/10.1177/2332858417706969>.
- Muñoz-Sandoval, A. F., Woodcock, R. W., McGrew, K. S., & Mather, N. (2005). *The Bateria III Woodcock-Muñoz: Pruebas de aprovechamiento*. Riverside Publishing.
- National Center for Education Statistics. (2024). *Public School Leaders Report 90 Percent Average Daily Student Attendance Rate in November 2023*. U.S. Department of Education. [https://nces.ed.gov/whatsnew/press\\_releases/07\\_06\\_2022.asp](https://nces.ed.gov/whatsnew/press_releases/07_06_2022.asp).
- Perlman, M., Falenchuk, O., Fletcher, B., McMullen, E., Beyene, J., & Shah, P. S. (2016). A systematic review and meta-analysis of a measure of staff/child interaction quality (the classroom assessment scoring system) in early childhood education and care settings and child outcomes. *PloS one, 11*(12), Article e0167660.
- Puma, M., Bell, S., Cook, R., & Heid, C. (2010). *Head Start Impact Study final report*. U.S. Department of Health and Human Services, Administration for Children & Families.
- Qiu, Y., Leite, W. L., Rodgers, M. K., & Hagler, N. (2021). Construct validation of an innovative observational child assessment system: Teaching Strategies GOLD® birth through third grade edition. *Early Childhood Research Quarterly, 56*, 41–51. <https://doi.org/10.1016/j.ecresq.2021.02.005>.
- Quezada-Ugalde, A. M., Benavides, A. A., Murata, C., Villegas, S. S., & García Hernández, A. M. (2025). Findings in child development in children who grew up during the COVID-19 pandemic in two countries. *Infancy, 30*(1), Article e12634.
- Reflection Sciences. (n.d.). *EFgo™: Executive function assessment* [Digital assessment tool]. <https://www.reflectionsciences.com/measure/>
- Reynolds, A. J., Temple, J. A., White, B., Ou, S., & Robertson, D. L. (2011). Age-26 cost benefit analysis of the Child-Parent Center Early Education Program. *Child Development, 82*, 379–404.
- Rhoades, B. L., Warren, H. K., Domitrovich, C. E., & Greenberg, M. T. (2011). Examining the link between preschool social-emotional competence and first grade academic achievement: The role of attention skills. *Early Childhood Research Quarterly, 26*(2), 182–191.
- Ricciardi, C., Manfra, L., Hartman, S., Bleiker, C., Dineheart, L., & Winsler, A. (2021). School readiness skills at age four predict academic achievement through 5th grade. *Early Childhood Research Quarterly, 57*, 110–120.

- Rolnick, A., & Grunewald, R. (2003). Early childhood development: Economic development with a high public return. *The Region*, 17(4), 6–12.
- Russo, J. M., Williford, A. P., Markowitz, A. J., Vitiello, V. E., & Bassok, D. (2019). Examining the validity of a widely-used school readiness assessment: Implications for teachers and early childhood programs. *Early Childhood Research Quarterly*, 48, 14–25.  
<https://doi.org/10.1016/j.ecresq.2019.02.003>.
- Schaack, D. D., & Le, V. N. (2025). Self-reported depressive symptoms among preschool teachers: associations with children’s social-emotional, cognitive, and executive functioning skills. *Early Education and Development*, 1–21. <https://doi.org/10.1080/10409289.2025.2449693>
- SchoolStatus. (n.d.) *2025 mid-year attendance snapshot*. [https://www.schoolstatus.com/wp-content/uploads/SchoolStatus\\_Mid-Year-Attendance-Trends\\_2024-25.pdf](https://www.schoolstatus.com/wp-content/uploads/SchoolStatus_Mid-Year-Attendance-Trends_2024-25.pdf).
- Schrank, F. A., Mather, N., & McGrew, K. S. (2014). *Woodcock-Johnson IV tests of achievement*. Riverside Publishing.
- Shuffrey, L. C., Firestein, M. R., Kyle, M. H., Fields, A., Alcántara, C., Amso, D., Austin, J., Bain, J. M., Barbosa, J., Bence, M., Bianco, C., Fernández, C. R., Goldman, S., Gyamfi-Bannerman, C., Hott, V., Hu, Y., Hussain, M., Factor-Litvak, P., Lucchini, M.,... Dumitriu, D. (2022). Association of birth during the COVID-19 pandemic with neurodevelopmental status at 6 months in infants with and without in utero exposure to maternal SARS-CoV-2 infection. *JAMA pediatrics*, 176(6), Article e215563.
- Teachstone. (2023). *Classroom Assessment Scoring System 2nd Edition: Pre-K–3rd Observation Field Guide*. Teachstone.
- Valentino, R. (2018). Will public pre-K really close achievement gaps? Gaps in prekindergarten quality between students and across states. *American Educational Research Journal*, 55(1), 79–116.
- Vance, B., West, R., & Kutsick, K. (1989). Prediction of Wechsler Preschool and Primary Scale of Intelligence IQ scores for preschool children using the Peabody Picture Vocabulary Test–R and the Expressive One Word Picture Vocabulary Test. *Journal of Clinical Psychology*, 45(4), 642–644.
- Weiland, C. (2016). Impacts of the Boston prekindergarten program on the school readiness of young children with special needs. *Developmental Psychology*, 52(11), 1763–76.