

Austin Independent School District

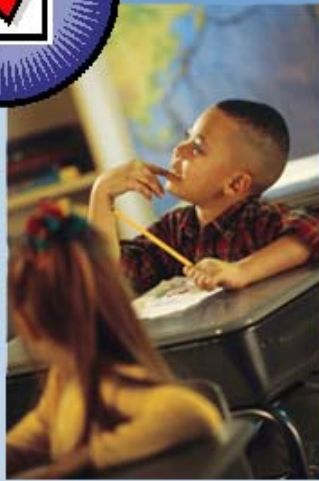
Prekindergarten



Purposeful

Intentional

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AISD Prekindergarten

Evaluation Report, 2009–2010



AUSTIN INDEPENDENT SCHOOL DISTRICT
Department of Program Evaluation

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ABOUT THE DEPARTMENT OF PROGRAM EVALUATION

The Department of Program Evaluation (DPE) was established in 1972 to support program decision making and strategic planning in the Austin Independent School District (AISD). The department is housed in the Office of Accountability and is charged with evaluating federal, state, and locally funded programs in AISD. DPE staff pride themselves on integrating best and innovative evaluation practices with educational and institutional knowledge. DPE works with program staff throughout the district to design and conduct formative and summative program evaluations. DPE's methods for evaluating programs vary depending on the research question, program design, and reporting requirements. The evaluations report objectively about program implementation and outcomes, and serve to inform program staff, decision makers, and planners in the district. DPE also responds to information needs at all levels. DPE reports may be accessed online at <http://www.austinisd.org/inside/accountability/evaluation/reports.phtml>.

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EXECUTIVE SUMMARY

In 2009–2010, Austin Independent School District (AISD) provided a full-day prekindergarten (pre-K) program to 4-year-old students who met one of these eligibility criteria: English language learner (ELL); family income at or below 185% of the federal poverty level (i.e., qualified for free or reduced-priced lunch); homeless; current or prior history of foster care; or having either an active duty military parent or a parent who was a member of the armed forces and was injured or killed while serving on active duty (Texas Education Code §29.153, [b]).

PROGRAM DESCRIPTION

The AISD pre-K program served 5,450 enrolled students at 68 elementary campuses, including the Lucy Read Demonstration School, a campus dedicated to pre-K programming. According to AISD’s 2009–2010 student and teacher records, demographic and enrollment information for pre-K students included the following:

- Ninety-six percent of students ($n = 5,216$) were from low-income families.
- Fifty-eight percent of students ($n = 3,145$) were English language learners (ELLs).
- Fifty-five percent of students ($n = 2,997$) qualified by both income and ELL status.
- Three percent of students ($n = 153$) were homeless.
- Less than one percent of students qualified as a ward of foster care or a military dependent.
- Hispanic students comprised the largest ethnic group (78%), followed by African American (12%), White (6%), and Asian (4%) students.
- Student enrollment increased by 5% from 2008–2009 to 2009–2010.
- Seventy-three percent of pre-K students were enrolled for the full year.
- Pre-K students’ attendance rates averaged 93% district wide.
- Pre-K classrooms were taught by 171 bilingual-certified teachers (53%), 77 English-speaking teachers (24%), and 75 ESL-certified teachers (23%), who collectively averaged 10 years of teaching experience.

COMMUNITY PARTNERSHIPS

The AISD pre-K program participated in many innovative partnerships to promote integration of services for pre-K students and their families. Descriptions of some of the AISD pre-K community partnerships with local nonprofit agencies and private day care providers are as follows:

- **Satellite campuses:** AISD placed three pre-K teachers in two Head Start campuses and one private child-care facility and served 54 students.

- **Head Start (Child, Inc.):** Head Start provided instructional support and comprehensive health services to low-income students across 12 AISD elementary campuses.
- **Center for Improving Readiness of Children for Learning and Education (CIRCLE):** CIRCLE is a state program that integrates professional development activities and mentors for teachers in public schools, child care centers, and Head Start. In 2009–2010, 145 AISD pre-K teachers participated in a minimum of 8,120 hours of eCIRCLE training.
- **AmeriCorps for Community Engagement (ACE):** AmeriCorps participants served AISD students at Read, Allison, Linder, and Sanchez Elementary Schools.

STUDENT ACADEMIC PERFORMANCE

The primary goal of the AISD pre-K program is to prepare students for the rigors of kindergarten. The AISD program is aimed at developing the student in all areas of physical, social, emotional, and cognitive development. The district pre-K curriculum is closely tied to the guidelines issued by the state of Texas and focuses on the content areas of language and literacy, mathematics (math), social studies, science, technology, health, visual arts, music, and physical education, to prepare students for success in kindergarten. Some indicators of pre-K students' academic performance for the 2009–2010 year included the following:

- Eighty-five percent of sampled English-speaking students scored in the average range or better on the Peabody Picture Vocabulary Test – III (PPVT) at the end of the year, representing a 17% increase from the fall.
- Seventy-nine percent of sampled Spanish-speaking students scored in the average range or better on the Test de Vocabulario en Imagenes Peabody (TVIP) at the end of the year, representing a 27% increase from the fall.
- On average, English-speaking students gained the equivalent of 14 months in ability in a 7-month period on the PPVT (twice the expected growth).
- On average, sampled Spanish-speaking students gained the equivalent of 18 months in ability (2.6 times the expected growth) and were performing at their age level or better on the TVIP.
- Ninety-one percent of Spanish-speaking ELLs sampled, compared with 47% of non-Spanish-speaking ELL students, entered pre-K with below average receptive vocabulary ability in English.
- More than 80% of pre-K students were on grade level in the content areas of pre-reading, writing, math, and social studies/science/health, as reported by their teachers on their report cards at the end of the year.

- Seventy percent of pre-K students met expectations on all 14 personal development areas evaluated by their teachers at the end of the year.

FISCAL CONSIDERATIONS

The 2009–2010 funding sources for the AISD pre-K program included the American Recovery and Reinvestment Act (ARRA) State Fiscal Stabilization Fund (SFSF) (\$12.2 million), ARRA Title I (\$1.0 million), Texas Education Agency (TEA) Prekindergarten Early Start and Texas School Ready grants (formerly the Prekindergarten Expansion Grant) (\$4.9 million), and Title I A (\$54 thousand). Ninety-seven percent of the \$18.1 million was used to pay teacher and professional personnel salaries and benefits for student instruction.

The overall cost per student enrolled for the 2009–2010 pre-K program was \$3,328. Compared with the average spent in Texas per pre-K student enrolled in 2008–2009 (\$3,790), the cost savings were \$2.5 million (based on total AISD pre-K enrollment). Compared with the national average spending on pre-K per student enrolled (\$4,711), the savings were approximately \$7.5 million.

RECOMMENDATION

AISD should continue to fund a full-day pre-K program to ensure students enter kindergarten on grade level. The pre-K program is cost-effective, compared with the state's average spending per pre-K student enrolled, which includes both half-day and full-day programs. Based on findings from AISD (Curry, 2001) and Dallas Independent School District (Martinez-Cantu, 2009) that supported both half-day and full-day programs, students participating in half-day programs performed less well on assessments than did students participating in the full-day program. Furthermore, on average, AISD pre-K students came into the district nearly a year behind in expected receptive vocabulary ability (i.e., a precursor for early literacy). Under the full-day program, on average, AISD pre-K students were able to perform near or at their age-level by the end of the year. Also, under the dual language program model, a full-day of pre-K ensures additional hours of instruction, both to build content area vocabulary in students' native language and to develop basic interpersonal communication skills in English, which are required for successful dual language program implementation.

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INTRODUCTION

The first 5 years of a child’s life are influential in his or her later school and life success (National Research Council, 2001). Decades of research indicate that early exposure to high-quality educational opportunities benefit young children by preparing them for when they enter school. This school readiness framework is the impetus for local, state, and federal support of prekindergarten (pre-K) programs.

The state of Texas began its pre-K initiatives in the 1985–1986 school year by mandating that districts with at least 15 or more eligible 4-year-old students provide a half-day program (NEIR, 2009). The state and district goal of the pre-K program is to prepare students developmentally for the rigors of kindergarten and beyond.

In September 2009, the restructured Prekindergarten Early Start (PKES) Grant (formerly the Prekindergarten Expansion Grant) provided funds to eligible school districts to prepare students to enter kindergarten on or above grade level. Austin Independent School District (AISD) also received funds from the Texas School Ready (TSR) grant to certify preschool classrooms that are preparing students for kindergarten. The PKES and TSR grants provided AISD additional funding to extend the pre-K program to a full day and to expand training of pre-K teachers in the Center for Improving the Readiness of Children for Learning and Education (CIRCLE) program.

This report summarizes the AISD pre-K program during the 2009–2010 school year. Specifically, it highlights trends in program enrollment and attendance, describes ongoing initiatives and community partnerships, evaluates student achievement, and summarizes the program’s budget.

OVERVIEW OF AISD PRE-K

AISD provides a full-day pre-K program for all children who are 4-years-old on or before September 1st of the current school year and who meet one of the following eligibility criteria:

- Economically disadvantaged (qualify for free or reduced-price lunch program)
- English language learner (ELL)
- Homeless
- Child of an active-duty military member or a military member who was injured or killed in service
- Reside or has ever resided in foster care (Texas Education Code §29.153, [b])

The AISD pre-K program is designed to provide instructional activities to meet the individual needs of young children and stimulate learning in all areas of physical, social, emotional, and cognitive development.

The district pre-K curriculum is closely tied to the guidelines issued by the state of Texas and focuses on the content areas of language and literacy, mathematics (math), social studies, science, technology, health, visual arts, music, and physical education, to prepare students for success in kindergarten.

The program’s daily schedule also includes lunch, time for outside play, and time for rest. Students are provided ample opportunities for self-expression and divergent thinking through working individually as well as in large and small groups.

LUCY READ DEMONSTRATION SCHOOL

The Lucy Read Prekindergarten Demonstration School opened in 2006–2007 to help develop new curriculum and to support enhanced teaching strategies and techniques for 4-year-olds. Lucy Read serves the Cook, McBee, and Wooldridge Elementary School attendance areas.

2009–2010 PROGRAM DESCRIPTION

STUDENT DEMOGRAPHICS

A total of 5,450 students attended AISD pre-K during 2009–2010, representing a 5% increase in enrollment from 5,196 students in 2008–2009. Eligible students were served in 68 of the 78 AISD elementary schools, including the Lucy Read Prekindergarten Demonstration School. Less than 1% of students qualified as military dependents or through current or prior residency in foster care. Table 1 provides pre-K enrollment by student characteristics.

Table 1. Prekindergarten Student Characteristics, 2009–2010

	Number	Percentage
Gender		
Female	2,628	48
Male	2,822	52
Ethnicity		
African American	634	12
Asian	221	4
Hispanic	4,237	78
Native American	10	<1
White	348	6
Low-income family		
Eligible for free or reduced-priced lunch	5,216	96
Not eligible for free or reduced-priced lunch	234	4
Homeless	153	3
Primary language spoken at home:		
English	2,210	41
Korean (English language learner [ELL])	37	<1
Spanish (ELL)	2,905	53
Vietnamese (ELL)	53	1
Other (ELL)	183	3
Non-English and non-ELL	62	1
	ELL and low income family	
	Number	Percentage
Spanish	2,843	52
Other language	154	3

Source. AISD Public Education Information Management System (PEIMS) records, 2009–2010

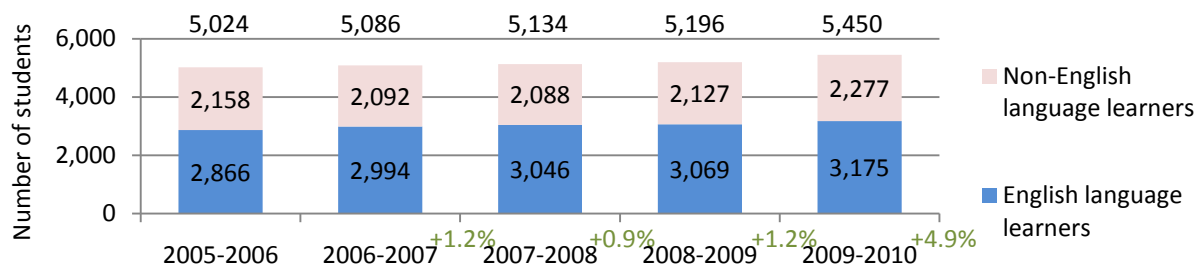
Note. Two students were excluded who were enrolled for one day and were absent on the one day enrolled.

Ninety-four percent ($n = 2997$) of ELLs also qualified for the pre-K program through family income status (i.e., eligible for free or reduced-priced lunch). Ninety-eight percent of Spanish-speaking ELLs also qualified through family income status.

ENROLLMENT

Prekindergarten enrollment had a gradual 1% increase from 2005–2006 to 2008–2009; however, the 2009–2010 pre-K program experienced a 4.9% increase in enrollment from the previous year (Figure 1). ELL enrollment increased by 3.5% from the 2008–2009 academic year. Figure 2 depicts district enrollment by school, providing a geographical reference to illustrate areas with large enrollment numbers.

Figure 1. Prekindergarten Enrollment, 2005–2006 to 2009–2010



Source. AISD Public Education Information Management System (PEIMS) records, 2006–2010

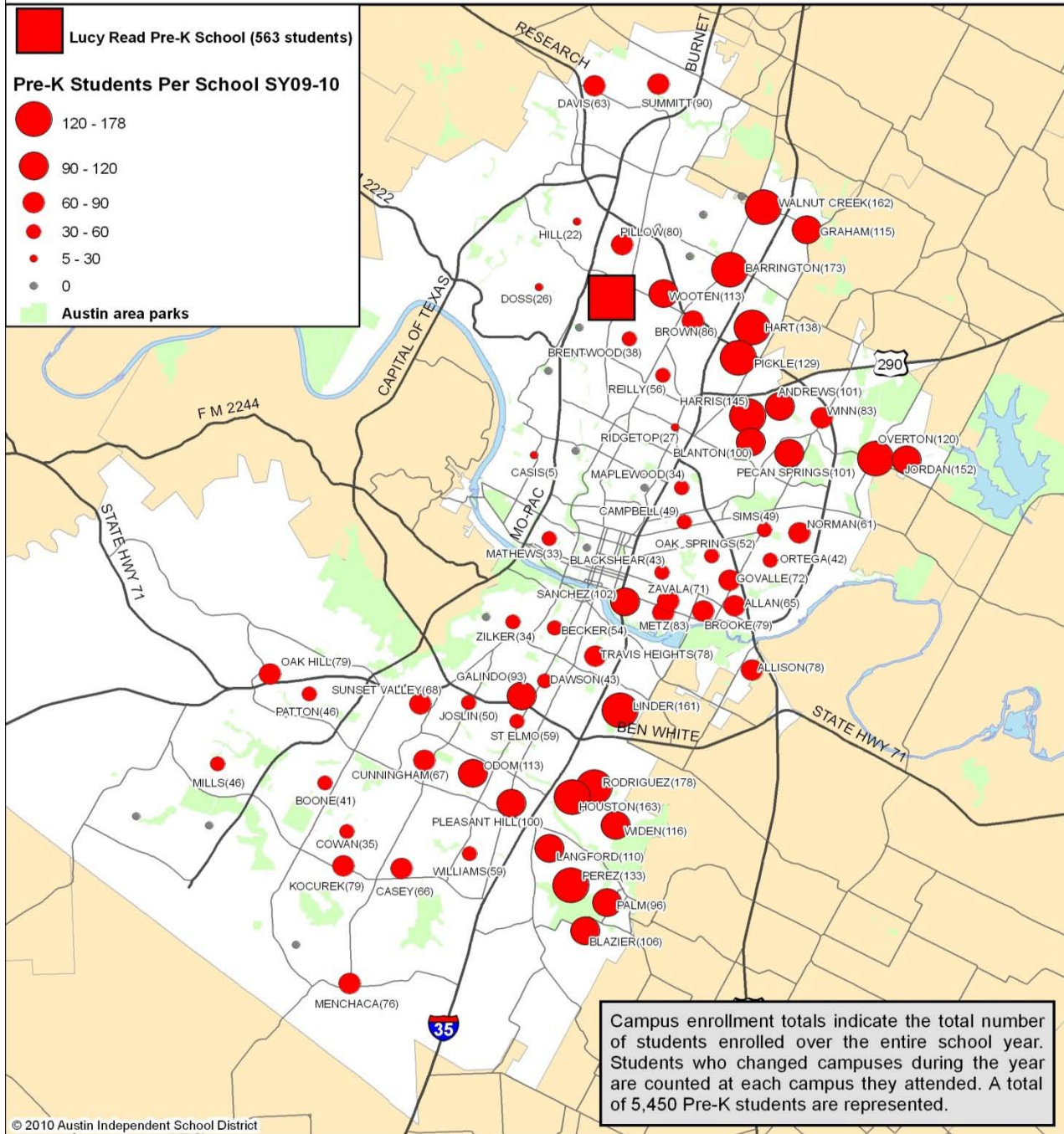
Of the 5,450 enrolled pre-K students, 73% were enrolled from the first week of school to the end of the year (Table 2). Eighteen percent of pre-K students enrolled late in the year (i.e., after the first week of school). Table 2 also presents the average number of days enrolled, by enrollment type (i.e., full year, start late, leave early, both start late, and leave early).

Table 2. Prekindergarten Students' Enrollment and Mobility, 2009–2010 ($N = 5,450$)

	Number of students	Percent of total pre-K enrollment	Average number of days enrolled
School Enrollment			
Enrolled for full year	3,959	73	173
Enrolled after first week of school	1,006	18	141
Left district prior to last day of school	307	6	79
Both started late and left early	178	3	61
Intra-district mobility			
Attended only one regular campus	4,966	91	158
Attended more than one regular campus	484	9	158

Source. AISD Public Education Information Management System (PEIMS) records, 2009–2010

Figure 2. Prekindergarten (Pre-K) Enrollment, by Campus, 2009–2010



Data Sources:
Austin Independent School District 2010;
City of Austin;
Texas Education Agency



ACCESS
Austin Community Collaboration
to Enhance Student Success

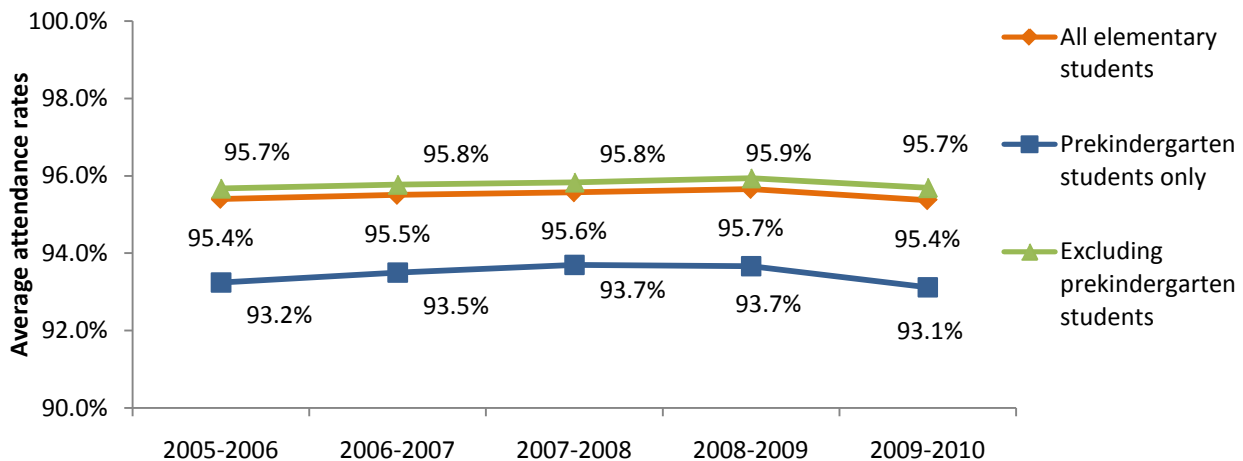
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On average, AISD pre-K students were enrolled for 158 days (90% of the full academic year). (A full academic year has 175 days.) Intra-district mobility (i.e., attending more than one regular campus during the school year) did not affect the average number of days pre-K students were enrolled.

ATTENDANCE

The district-wide average daily attendance rate for pre-K students was 93.1%, a slight decrease from the prior year (Figure 3). Translated into days, pre-K students on average missed one more day of school in 2009–2010 than in 2008–2009. On average, pre-K students' attendance rates in 2009–2010 were 2.6% lower than the rate for elementary students from other grade levels. The difference in attendance rates translated into 4.6 more days of missed school by pre-K students than by other elementary students.

Figure 3. Average Attendance Rates for Elementary Schools, 2005–2006 to 2009–2010



Source. Texas Education Agency (TEA) accountability data tables

Note. Only elementary schools that had a prekindergarten program were included.

LANGUAGE OF INSTRUCTION

Forty-three languages other than English were reported by pre-K students' parents as being primarily spoken at home. In addition to offering pre-K instruction in English, AISD offers bilingual instruction in Spanish, Vietnamese (at Summitt Elementary), and Korean (at Mathews Elementary). For ELLs not served in a bilingual program, English instruction was delivered by an English-as-a-second-language (ESL) certified teacher. Table 3 provides the numbers and percentages of pre-K ELLs who enrolled in either an ESL or bilingual education (BE) program.

Table 3: Prekindergarten English Language Learners (ELLs), by Language Program, 2009–2010

Primary language spoken at home	English as a second language (ESL) (<i>n</i> = 375)		Bilingual education (BE) (<i>n</i> = 2,770)	
	Number	Percentage	Number	Percentage
Korean	28	7	9	<1
Spanish	160	43	2,716	98
Vietnamese	8	<2	45	<2
Other language	179	48	-	-

Source. AISD Student Enrollment Records, 2009–2010

DESCRIPTION OF PREKINDERGARTEN TEACHERS

The pre-K program increased total staff by 13 teachers from the previous year to total 322 teachers. A total of 36 pre-K teachers were new to the district, including 31 teachers starting their teaching careers. The pre-K teaching staff was composed of 171 bilingual-certified teachers (53%), 77 English-speaking teachers (24%), and 75 ESL-certified teachers (24%). The number of ESL-certified teachers grew from 53 teachers last year, representing a 42% increase. District-wide, the staff-student ratio was 1:17. All pre-K teachers met the highly qualified criteria for No Child Left Behind (NCLB, 2001) by having a bachelor's degree or higher and full state certification or licensure. Sixteen percent of pre-K teachers had a graduate degree (*n* = 52).

The average number of years of teaching experience for AISD pre-K teachers was 11.1 years, an increase from 10.4 years in 2008–2009. The average number of years teaching within AISD was 9.1 years. The majority of pre-K teachers (*n* = 184, or 57%) had 6 or more years of teaching experience.

Professional Development Opportunities

With a goal of providing a quality pre-K program, 145 AISD pre-K teachers participated in an evidence-based professional development program provided through state pre-K initiative grants (i.e., the Prekindergarten Early Start Grant, the Bilingual Limited English Proficiency [LEP] program, and the TSR grant). As a part of these grants, teachers began with 2 to 3 days of training, provided by CIRCLE to pre-K teachers across the district whose schools received such funding.

CIRCLE and eCIRCLE, an online evidence-based teacher development program, were developed by the staff of the Children's Learning Institute at the University of Texas Health

Science Center in Houston, which is the State Center for Early Childhood Development. ECircle trainings were provided to teachers online using software from Teachscape.

In addition to the initial 2-to-3 day CIRCLE training, teachers attended an additional 20 two-hour eCIRCLE trainings offered throughout the year. CIRCLE teachers also were provided a mentor for 2 to 4 hours a month, \$2,500 for class materials, online tools for progress monitoring, and a \$1,000 stipend upon program completion as part of their participation. According to AISD Department of Early Childhood, a total of 145 pre-K teachers (45%) each participated in a minimum of 56 hours¹ of training specific to pre-K, for a total of at least 8,120 hours of CIRCLE/eCIRCLE training. The eCircle course offerings are listed in Appendix C.

In addition to the CIRCLE/eCIRCLE training, 161 pre-K teachers (50%) attended 1,136 hours of professional development activities in 13 courses directly related to pre-K instruction or classroom management (i.e., an average of 7.1 hours of completed professional development activities).² Furthermore, 316 pre-K teachers (98%) attended 4,390 hours of professional development activities in 55 courses provided through district-wide staff development or through other content area departments (i.e., an average of 13.9 hours of completed professional development activities per teacher).

¹ The hours were based on a minimum requirement of 2 days of 6-hour initial training, a minimum of 20 two-hour courses, and a minimum of 4 hours with the teacher's assigned mentor.

² The numbers reported here likely under-represent the total participation of teachers engaged in professional development opportunities specific to pre-K. A total of 26 course titles were provided by the AISD Department of Early Childhood, as recorded by AISD's professional development record system. However, attendance was not reliably recorded into the system. Only transcripts with a value representing *attended* or *passed* were used in the analyses described here.

AISD PREKINDERGARTEN PROGRAM INITIATIVES

COMMUNITY PARTNERSHIPS

The AISD pre-K program has a strong commitment to collaborating with the Austin community. In 2009–2010, the program participated in many innovative programs and partnerships to promote the integration of services for pre-K students and their families. Community members, local nonprofit agencies, and private day care providers were actively involved in these initiatives.

Satellite Campuses

AISD placed three pre-K teachers in community preschools. Two Head Start campuses and one licensed child-care provider, Children’s Courtyard, served as satellite campuses for 54 four-year-olds who qualified for the program. The satellite teachers used the same curriculum as AISD teachers did to plan instruction and attended AISD professional development opportunities. In addition to the satellite campuses, AISD supported a preschool program for children with disabilities (PPCD) at Mt. Sinai Christian Academy.

Child, Inc. (Head Start)

Child, Inc. provided instructional aides in 24 pre-K classrooms across 12 AISD campuses during 2009–2010. The elementary campuses served by Child, Inc. were Graham, Harris, Hart, Houston, Linder, Lucy Read, Metz, Overton, Perez, Ridgetop, Widen, and Wooten. A total of 487 low-income students qualified for and received instructional support and comprehensive health services.

Texas School Ready (TSR) and Prekindergarten Early Start (PKES)

Formerly the Texas Early Education Model (TEEM), the CIRCLE program integrates professional development activities and follow-up coaching for public school, child care, and Head Start programs. The AISD pre-K program has been participating in CIRCLE since 2003, and 145 pre-K teachers participated in the training during 2009–2010. The CIRCLE program offered 20 two-hour classes to participating teachers.

AmeriCorps for Community Engagement (ACE)

AmeriCorps participants served AISD pre-K students at Read, Allison, Linder, and Sanchez Elementary Schools during 2009–2010. The training/work-study program was offered through University of Texas Charles Dana Center. At Read, 51 ACE members attended literacy training and worked directly with students in small groups in all 26 classrooms, the library, and science laboratory; collectively they provided more than 20,000 hours of service. In addition, Read ACE staff coordinated a Lucy Read Family Literacy Night that had more than 500 participants, as well as other parent workshops throughout the year.

The Parent Advocates for Literacy (PALS) program provided instruction and support to 18 classrooms across the other elementary campuses. PALS tutors served a total of 910 hours each throughout the academic year, providing literacy lessons and ongoing literacy support.

ASPIRE at Read

ASPIRE Family Literacy Program of Communities in Schools seeks to prepare children for success in school through early childhood education, parent education, adult education, and parent/child literacy activities. ASPIRE provided parents in the Read attendance area with ESL classes and parenting education. Early childhood classes for 3-year-olds, as well as parent involvement in the school classrooms, reinforced the pre-literacy and home-literacy skills and practices that prepare children for academic success in the coming years. Staff made home visits to screen ASPIRE children for developmental delays, vocabulary gains, and alphabet knowledge.

ACCESS Support at Read

The Austin Community Collaboration to Enhance Student Success (ACCESS) is a multi-year, \$8.6 million grant that integrates district and community resources in innovative ways to best serve the students of AISD. The primary ACCESS-supported resource at Read was a full-time counselor who was charged with the following: (a) providing individual and group counseling, (b) leading the implementation and training of the Incredible Years curriculum and the Devereux Early Childhood Program, and (c) collaborating with the Positive Behavior Support (PBS) external coach to implement both curricula.

WorkSource

The Greater Austin Area Workforce Board offered \$30,000 in funding for school readiness to AISD, which allowed the purchase of School Readiness kits for pre-K classes to expand the Prekindergarten Early Start Grant.

Epromotora

AISD supported the early literacy program Epromotora, delivered through Advancing America, LLC, funded through an ARRA Title I grant. The program was designed to teach Spanish-speaking mothers to be their child's first teacher. Through the 6-week program, mothers learn to help develop their child's vocabulary and early mathematics (math) skills and increase their child's awareness of the alphabet, colors, and shapes. The program targeted mothers of Spanish-speaking students who might have younger children at home who would be eligible to start pre-K in Fall 2010. The program was available across 25 East Austin elementary campuses.

ACADEMIC AND CURRICULUM RESOURCES

AISD Early Childhood Department provided pre-K teachers with academic and curriculum resources and pre-K-specific professional development opportunities to enhance classroom instruction and student learning. The 2009–2010 AISD pre-K curricula were based on the Revised Prekindergarten Curriculum Guidelines approved by the Texas Commissioner of Education on May 21, 2008. These guidelines were based on knowledge of theory and research about how young children develop and learn.

Curriculum Resources

The *Pre-K Austin ISD Instructional Planning Guide (IPG)* (AISD, 2009) is aligned with the state curriculum guidelines. The IPGs, written by early childhood educators, outline a sequence for instruction in each content area. The IPG curriculum documents were revised in 2009–2010 to reflect the revised pre-K guideline. The *First 20 Days of School* curriculum document was added to assist teachers in starting the school year on a positive note.

Furthermore, AISD pre-K classrooms used the state-adopted curriculum resource *DLM Early Childhood Express* (Lara-Alecio & Irby, 2003), an integrated curriculum in English and in Spanish. *Avenues: Vocabulary Builders*, a pre-K ESL curriculum from Hampton-Brown (2004), was used as a supplemental resource for English-language instruction in BE and ESL classrooms.

Challenging Behavior Task Force

The Challenging Behavior Task Force was formed to assist all stakeholders in developing a comprehensive plan for assisting children with challenging behaviors. AISD began a partnership with Child, Inc., our local Head Start agency, which provided a Challenging Behavior program. The program provided an extra teacher to classrooms with students who were eligible for Head Start and who exhibited challenging behaviors. The extra teacher spent time in the classroom and also visited the home on a regular basis to make the school/home connection. AISD purchased the Devereux Early Childhood Assessment, aimed at helping teachers identify underlying causes of behavior, to provide specific strategies for assisting children who exhibit challenging behaviors. AISD also purchased materials to support the social-emotional development of all children in the classroom.

STUDENT ACADEMIC PERFORMANCE

LANGUAGE ARTS/PRE-READING SKILLS

Students' early language skills lay the foundation for later reading and writing in school, and students with poorer language skills are more likely to have difficulties learning to read than are students with good language skills (Whitehurst & Lonigan, 1998). Studies have shown that students who have difficulty learning to read in the earliest years of schooling tend to continue having difficulties over time (Scarborough, 2001; Snow, Burns, & Griffin, 1998). Vocabulary recognition is a precursor to the development of reading skills.

The Peabody Picture Vocabulary Test – III (PPVT-III) and the Test de Vocabulario en Imagenes Peabody (TVIP) measure knowledge of receptive vocabulary in English and Spanish, respectively (Dunn & Dunn, 1997). Pre- and post-assessments were administered to a random sample of pre-K classes in the fall and spring of the 2009–2010 academic year. At least one class was chosen from each of the 68 campuses; 8 classrooms were chosen from Lucy Read. All students in the sample were tested in English (PPVT-III), and the Spanish BE students were tested in Spanish (TVIP), as well. A total of 971 students were tested in both semesters, representing nearly 18% of all students enrolled in the pre-K program. Of the students tested, 11% ($n = 107$) were students at Lucy Read.

Students Scoring in the Average or Above Average Range

The impetus promoting local and state funding of pre-K programs is the inequality in school performance students face due to socio-economic and language barriers. Pre-K programs are designed to prepare students for kindergarten who might otherwise not have access to early educational programs.

The goal of pre-K is to raise students' academic performance to the average range of their peers. For the PPVT and TVIP, the average range is 85 to 115 standard points. The assumption is that students who advance to the average range

PPVT-III AND TVIP INTERPRETATION

The standard scores for the PPVT and TVIP are based on age norms from samples of native speakers in English and Spanish, respectively. The tests are best interpreted in the native language of the student.

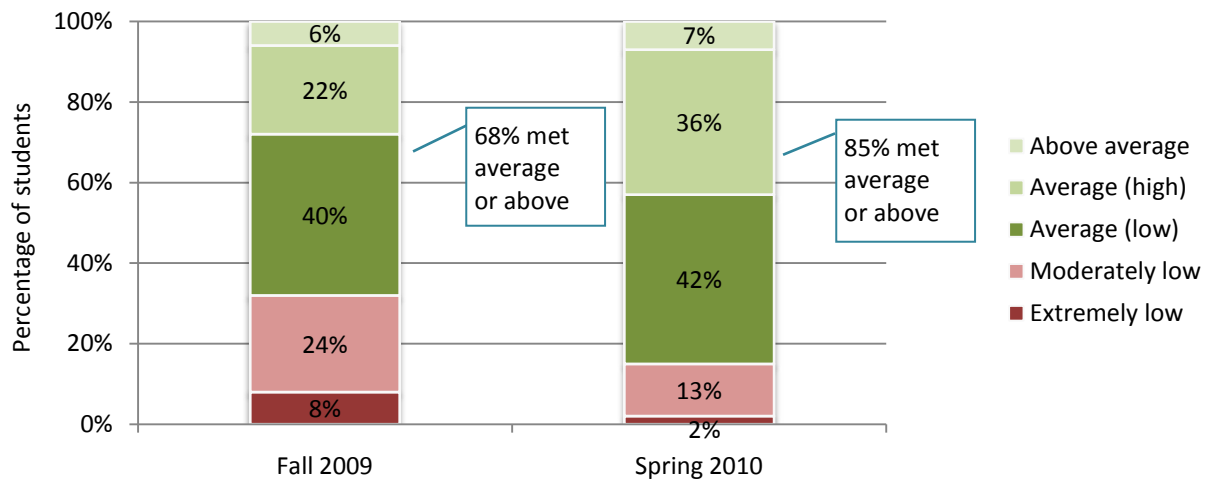
The mean student standard score is 100, with a standard deviation of 15 points. For the national samples on which the scores are based, the majority of students (68%) scored between 85 and 115. Scores less than 70 are *extremely low*, scores ranging from 70 to 84 are *moderately low*, scores ranging from 85 to 99 are *average low*, scores ranging from 100 to 115 are *average high*, and scores higher than 115 are *above average*.

Because these tests are age normed, a student must have a raw score about 8 to 10 points higher in the spring to receive the same standard score as in the fall. Generally, a gain greater than 4 points indicates a significant improvement in performance.

An age-equivalent score converts a student's raw score to an age reference group in which that raw score represents the median. The age-equivalent score accounts for the rate of receptive vocabulary growth, providing an expected growth rate with which to compare students' performance.

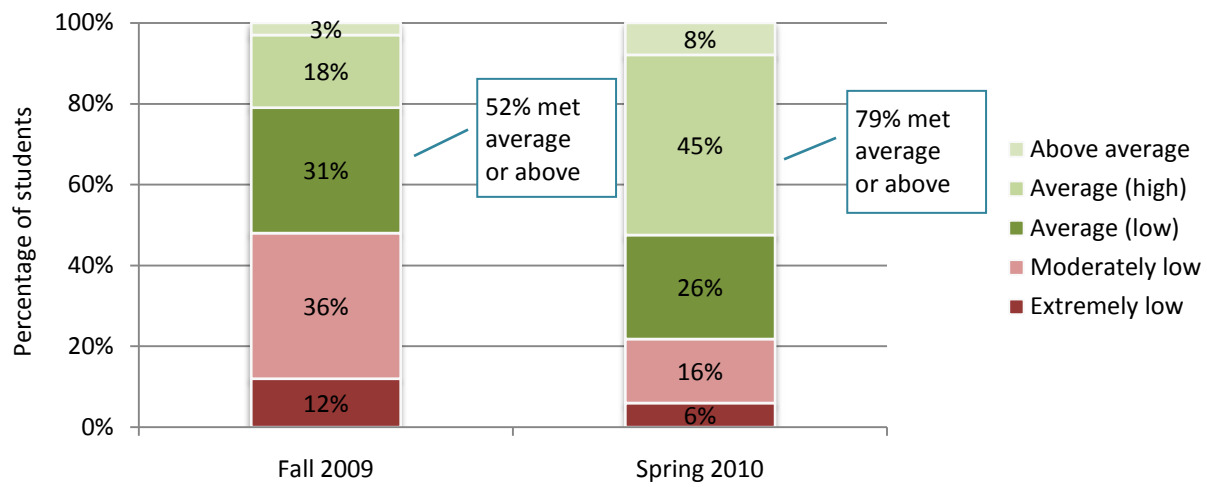
in the test of their language of instruction will be ready for future literacy learning in kindergarten. In Spring 2010, 85% of sampled English-speaking students scored in the average range or higher (Figure 4), and 79% of sampled Spanish-speaking students scored in the average range or higher (Figure 5). From pre-test to post-test, a 17 percentage point growth occurred among English-speaking students advancing to the average range or higher. A 27 percentage point growth occurred for Spanish-speaking students who advanced to the average range or higher. More than half (53%) of sampled Spanish-speaking students scored *average–high* or *above average* on the TVIP in Spring 2010.

Figure 4. English-Speaking Students' Peabody Picture Vocabulary Test (PPVT – III) Performance, by Semester, 2009–2010 (N = 338)



Source. AISD student records, Department of Program Evaluation

Figure 5. Spanish-Speaking Students' Test de Vocabulario en Imágenes Peabody (TVIP) Performance, by Semester, 2009–2010 (N = 415)



Source. AISD student records, Department of Program Evaluation

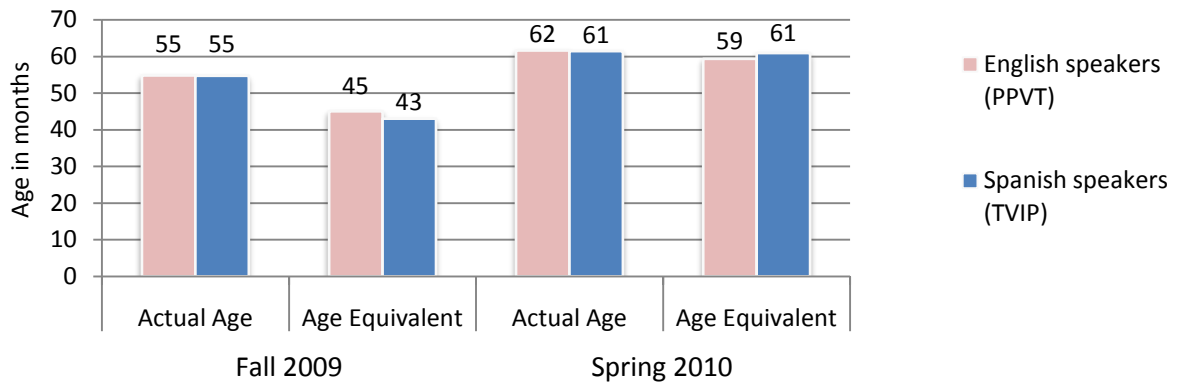
Sampled English-speaking students came into the AISD pre-K program with slightly greater ability in receptive vocabulary in their native language than did Spanish-speaking students; however, both groups of students had median age equivalency scores that were well below the median actual age during the time of testing (Figure 6). That is, half of sampled English-speaking pre-K students were 10 months or more below their expected ability level in Fall 2009, while half of sampled Spanish-speaking students were one year or more below the expected ability level in their native language.

However, by Spring 2010, both groups showed improvement. Most English-speaking students were performing near their actual age level, gaining the equivalent of 14 months in ability in a 7-month period (twice the expected growth). Approximately 70% ($n = 237$) of sampled English-speaking students improved their age equivalency score by greater than 7 months (i.e., faster than the expected growth rate in receptive vocabulary).

On average, English-speaking students gained the equivalent of **14 months** in ability in a 7-month period (twice the expected growth).

On average, sampled Spanish-speaking students gained the equivalent of **18 months** in ability (2.6 times the expected growth) and were performing at their age level or better.

Figure 6. Median Age Equivalent Scores in Months, by Native Language, 2009–2010



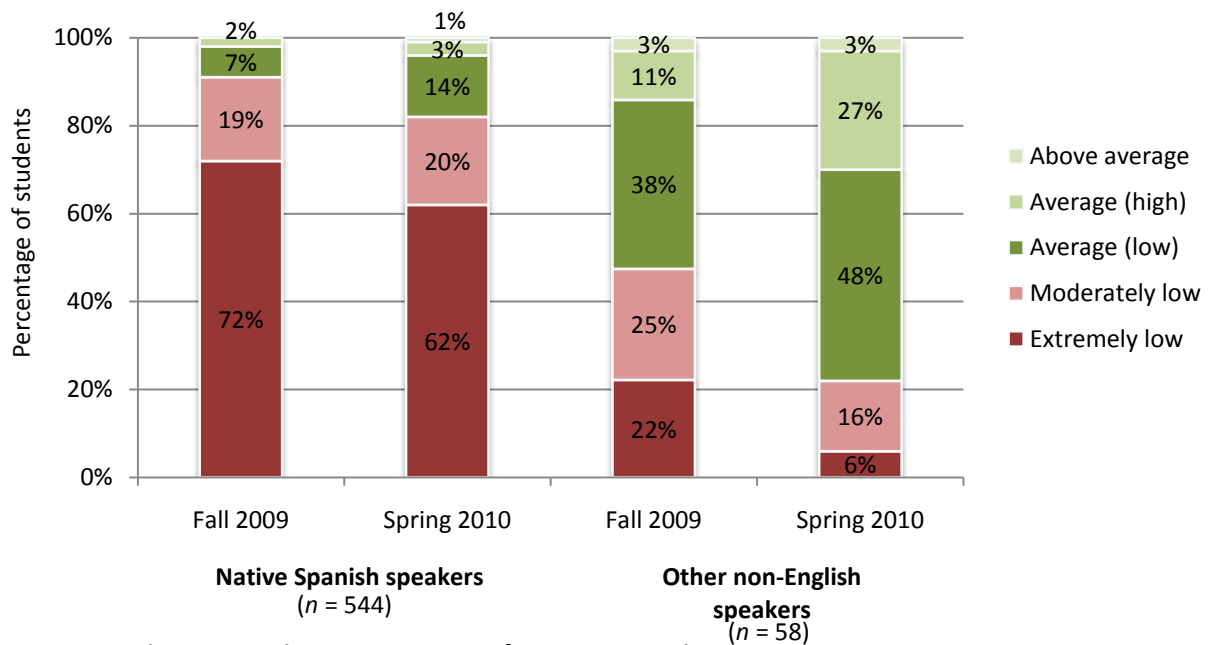
Source. AISD student records, Department of Program Evaluation

In addition, on average, Spanish-speaking students gained the equivalent of 18 months in ability level (2.6 times the expected growth) and were performing at their age level or better. Approximately 74% ($n = 306$) of sampled Spanish-speaking students improved their age equivalency score by greater than 7 months.

Ninety-one percent of Spanish-speaking ELLs sampled entered pre-K with little receptive vocabulary ability in English, compared with 47% of non-Spanish-speaking ELL students who did so (Figure 7). The difference in English receptive vocabulary ability was significant between the two groups of students despite difference in sample sizes. This finding implies that incoming Spanish-speaking ELLs have less English exposure than do ELLs from other language backgrounds.

DPE staff modeled student growth on the PPVT, using hierarchical linear modeling (HLM) to determine the factors that influenced English receptive vocabulary growth, while controlling for teacher, school, and tester bias. When controlling for the influence of gender, economic disadvantage, special education, and students' attendance rates, being enrolled in an ESL program was associated with greater growth in English receptive vocabulary, compared with the growth of all other pre-K students ($p < .001$). Also, students from predominantly Spanish-speaking households who attended schools with a greater percentage of economically disadvantaged students were more likely to experience slower growth in English receptive vocabulary than were other pre-K students ($p < .01$).

Figure 7. Non-Native English-Speaking Students' Peabody Picture Vocabulary Test (PPVT – III) Performance, by Semester, 2009–2010



Source. AISD student records, Department of Program Evaluation

Lucy Read Demonstration School

As mentioned in the section entitled PPVT-III and TVIP Interpretation, scores are best interpreted in the students' native language. Few native English speakers were tested at Lucy Read ($n = 19$). The TVIP sample included 79 native Spanish ELLs from Lucy Read Demonstration School who took the assessment in both the fall and spring. To make group comparisons and estimates of students' gains and losses, standardized scale scores were converted into normal curve equivalent (NCE) scores. Table 4 shows the averaged NCEs district wide and for the sample of ELLs on the Lucy Read campus from fall and spring, and the average gains made during the 2009–2010 school year.

Table 4. Test de Vocabulario en Imagenes Peabody Normal Curve Equivalent (NCE) Results, by English Language Learner (ELL) Status, 2009–2010

Native Spanish ELLs	Number of students tested	Average NCE (Fall 2009)	Average NCE (Spring 2009)	Average gain
District wide	443	31	46	15
District wide, excluding Lucy Read	364	32	45	13
Lucy Read Prekindergarten	79	30	49	19

Source. AISD student records, Department of Program Evaluation

When interpreting an NCE average gain (or loss), note that a zero shows that the students' growth did not differ from the national average expected growth. Deviations of ± 4 represent a significant growth (or loss), compared with national expected growth, and deviations of ± 11 represent a very high significant gain (or loss). An interpretation of NCE scores is provided in Table 5.

Table 5. Interpretation of Normal Curve Equivalent (NCE) Scores

Range of performance	NCE scores	National percentile
Very low	1 – 24	1 – 11
Low	25 – 35	12 – 25
Low average	36 – 44	26 – 39
Average	45 – 55	40 – 60
High average	56 – 64	61 – 74
High	65 – 75	75 – 88
Very high	76 – 99	89 – 99

Source. Southard, 2006

On average, native Spanish-speaking ELLs entered the pre-K program with *low* performance in receptive vocabulary. However, by the end of the year, native Spanish-speaking ELLs performed in the *average* range, improving by two performance categories. Although *t*-tests did not show a significant difference between sampled Lucy Read students and other sampled native Spanish-speaking students district wide ($p = .07$), tested Lucy Read students did have high average gains (+19) in the TVIP NCE scores from fall to spring.

COGNITIVE DEVELOPMENT

The AISD Pre-K Report Card Assessment Rubrics were designed to provide consistency in scoring students' academic progress on the Prekindergarten Report to Parents each 9-week period in listening, math, oral language, social studies/science/health, writing, pre-reading, ESL, and personal development.

Academic performance was rated with the following scale: 1 = *needs improvement*, 2 = *basic understanding*, 3 = *skilled*, and, 4 = *advanced*. A rating of 3 or 4 was defined as being *on grade level*. The skills evaluated each 9-week period became progressively more rigorous. Report card data for all reporting periods of 2009–2010 are presented in Table 6.

Table 6. Prekindergarten (Pre-K) Students *on Grade Level*, by Content Area and 9-Week Period, 2009–2010

Content area	Percentage of pre-K students on grade level				Change 1 st to 4 th 9 weeks
	1 st 9 weeks	2 nd 9 weeks	3 rd 9 weeks	4 th 9 weeks	
Oral language	61 (n = 4,339)	77 (n = 4,398)	73 (n = 4,728)	77 (n = 4,728)	+16
Listening	62 (n = 4,340)	67 (n = 4,397)	68 (n = 4,731)	76 (n = 4,728)	+14
Pre-reading	61 (n = 4,337)	76 (n = 4,399)	79 (n = 4,729)	83 (n = 4,726)	+22
Writing	62 (n = 4,323)	74 (n = 4,398)	77 (n = 4,730)	82 (n = 4,726)	+20
Math	57 (n = 4,339)	72 (n = 4,400)	84 (n = 4,729)	88 (n = 4,727)	+31
Social studies/science/health	51 (n = 4,339)	77 (n = 4,398)	83 (n = 4,716)	89 (n = 4,727)	+38
English as second language (ESL)	19 (n = 2,631)	32 (n = 2,695)	41 (n = 2,904)	46 (n = 2,887)	+27

Source. AISD student records

The content areas with the highest percentage of students on grade level at the end of the year were social studies/science/health (89%), math (88%), pre-reading (83%), and writing (82%). The greatest growth from the first to fourth 9-week grading period was in social studies/science/health (+38%), followed by math (+31%).

SOCIAL AND PERSONAL DEVELOPMENT

The AISD pre-K program is aimed at developing the whole student, including social and personal development skills. Teachers rate how often students exhibit a variety of traits using the following scores: 1 = *rarely*, 2 = *occasionally*, 3 = *frequently*, and, 4 = *consistently*. As with academic performance, a score of 3 or 4 indicates meeting expectations. Table 7 presents the percentage of pre-K students meeting expectations for student behavior for the 14 personal development traits evaluated by teachers.

Table 7. Prekindergarten Students who Met Expectation for Personal Development Traits, by 9-Week Period, 2009–2010

Personal development trait	Percentage of pre-K students who met expectation		Change 1 st to 4 th 9 weeks
	1 st 9 weeks (n = 4,968)	4 th 9 weeks (n = 5,117)	
Responds to questions appropriately	62	90	+28
Exhibits appropriate gross motor skills	81	97	+16
Exhibits appropriate fine motor skills	63	92	+29
Adjusts to school routines	75	94	+19
Demonstrates healthy practices	77	94	+17
Focuses on assigned tasks	67	89	+22
Works productively in large group	66	88	+22
Works productively in small group	73	92	+19
Follows directions	65	87	+22
Demonstrates self-discipline	67	86	+19
Respects the rights and property of self and others	74	90	+16
Assumes responsibility for own actions	69	88	+19
Works and plays cooperatively	76	91	+15
Solves problems appropriately	61	86	+25
Average number of traits each student met expectation	9.8	12.6	+2.8

Source. AISD student records

The personal development traits with the highest percentage of students meeting expectations at the end of the year were “exhibits appropriate gross motor skills” (97%), “adjusts to school routines” (94%), and “demonstrates healthy practices” (94%). The personal development traits with the greatest gains were “exhibits appropriate fine motor skills” (+29%), “responds to questions appropriately” (+28%), and “solves problems appropriately” (+25%). Seventy-percent of pre-K students met expectation for student behavior on all 14 personal development traits by the end of the year, compared with 33% of pre-K students during the first 9-week period.

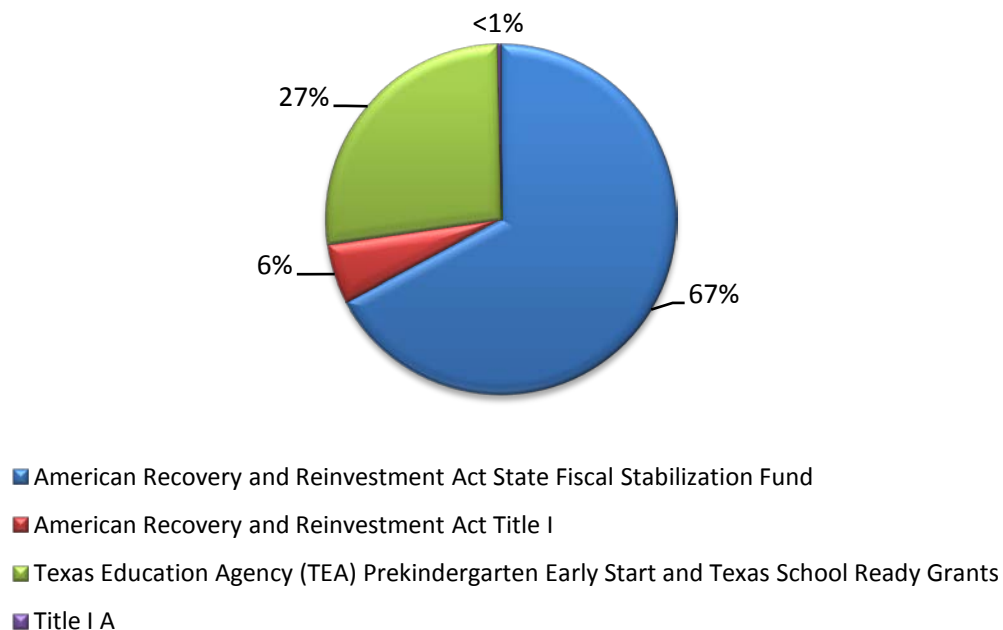
FISCAL CONSIDERATIONS

AISD offered a full-day pre-K program, supported through the use of state and federal funds. The 2009–2010 funding sources included the American Recovery and Reinvestment Act (ARRA) State Fiscal Stabilization Fund (SFSF) (\$12.2 million), ARRA Title I (\$1.0 million), Texas Education Agency (TEA) Prekindergarten Early Start and TSR grants (formerly the Prekindergarten Expansion Grant) (\$4.9 million), and Title I A (\$54K) (Figure 8).

AISD will continue to receive funds from the TEA grants for the 2010–2011 academic year; however, as of September 1, 2010, TEA has announced no plans for renewing these grants in 2011–2012 and beyond. In addition, ARRA funds expire at the end of 2010–2011. For 2009–2010, ARRA SFSF provided the financial support that was covered by local funds in previous years. Currently, local funds are only required by the state to support a half-day pre-K program. A detailed summary of funding sources and program costs is included in Table B1 in the appendix.

Ninety-seven percent of the \$18.1 million was used to pay teacher and professional personnel salaries and benefits for student instruction. A little more than 1% went to supplies and materials used for student instruction, and less than 2% was used for curriculum and instructional staff development and instructional leadership.

Figure 8. Prekindergarten Funding Sources, 2009–2010



Source. AISD fiscal records as of August 31, 2010

The overall cost per student for the 2009–2010 pre-K program was \$3,328. According to the National Institute for Early Education Research (NIEER, 2009), the average total spending per pre-K student enrolled was \$3,790 for the state of Texas in 2008–2009, which included both half-day and full-day pre-K programs. Texas ranked 25th in the nation for pre-K resources, based on all reported funding. Nationally, the average spending per student enrolled for pre-K programs from all reported sources was \$4,711. In 2008–2009, the total spending per student enrolled for kindergarten through 12th grade averaged \$11,708 in Texas and \$12,039 nationally (NIEER, 2009).

One factor that lowers the cost of the AISD pre-K program is that pre-K teachers do not have accessible, dedicated AISD support staff (i.e., teacher aides). A few community programs provide support staff to pre-K teachers on a few campuses.

CONCLUSION

Based on the 2009–2010 academic and personal development outcomes, the AISD pre-K program achieved its goal of raising the majority of pre-K students to grade-level expectations by the end of the year, preparing them for success in kindergarten. On average, the pre-K program caught students up an average of 14 months in age-equivalent ability in receptive vocabulary for English speakers and 18 months for native Spanish speakers in a 7-month period. At the end of the year, only 15% of sampled English speakers scored below average range, which is the expected percentage of students to score below average in a normal distribution. For native Spanish speakers, 22% scored below average at the end of the year, compared with 48% who scored below average at the beginning of the year. Furthermore, 53% of sampled native Spanish speakers scored *average high* or above in receptive vocabulary ability at the end of the year, which is higher than the national average.

The AISD pre-K program cost was less than the average spent in Texas per pre-K student enrolled in 2008–2009, at a cost savings of \$2.5 million (based on total AISD pre-K enrollment). Based on the national average spending on pre-K per student enrolled, the savings were approximately \$7.5 million.

RECOMMENDATIONS

Overall, the AISD pre-K program provides cost-effective, full-day instruction for disadvantaged 4-year-old students. More than half (55%) of AISD pre-K students qualified for the pre-K program by both language and income (i.e., representing a double-barrier for the students' early education to overcome). AISD should continue to support funding of a full-day program to ensure that students continue to enter kindergarten ready to learn on grade level. Previous AISD research has shown that students benefited more from a full-day program than a half-day

program, as demonstrated through higher PPVT and TVIP scores (Curry, 2001). Research through Dallas Independent School District, which supports both half-day and full-day pre-K programs, showed that students who attended full-day programs achieved higher scores on the Developmental Indicators for the Assessment of Learning (DIAL–3) than did pre-K students who attended the half-day program (Martinez-Cantu, 2009).

Furthermore, English language development by immigrant students can take on average 5 to 7 years to approach grade-level norms on cognitive tests (Cummins, 1981). Dual language programs have been shown to close the assessment gap (in English) between native English speakers and ELLs at a faster pace (Thomas & Collier, 2002). Full-day pre-K allows for a more effective delivery of the dual language model by providing more hours of instruction to both build content area vocabulary in students' native language as well as to develop basic interpersonal communication skills in English. AISD is piloting a dual language program at 10 elementary schools in 2010–2011, and these schools will serve pre-K students.

APPENDICES

Appendix A

Table A-1. Summary of Prekindergarten (Pre-K) Programs, by Campus, 2009–2010

Campus	Total pre-K students served	Number of teachers	Staff-student ratio	Title I
Allan	65	4	1:16	X
Allison	78	5	1:16	X
Andrews	101	6	1:17	X
Barrington	173	8	1:22	X
Becker	54	2	1:27	X
Blackshear	43	3	1:14	X
Blanton	100	5	1:20	X
Blazier	106	5	1:21	
Boone	41	4	1:10	
Brentwood	38	2	1:19	
Brooke	79	4	1:20	X
Brown	86	5	1:17	X
Campbell	49	3	1:16	X
Casey	66	4	1:17	X
Casis	5	1	1:5	
Cowan	35	3	1:12	
Cunningham	67	4	1:17	
Davis	63	3	1:21	
Dawson	43	3	1:14	X
Doss	26	2	1:13	
Galindo	93	5	1:19	X
Govalle	72	5	1:14	X
Graham	115	6	1:19	X
Harris	145	8	1:18	X
Hart	138	7	1:20	X
Hill	22	1	1:22	
Houston	163	9	1:18	X
Jordan	152	8	1:19	X
Joslin	50	4	1:13	X
Kiker	32	2	1:16	
Kocurek	79	4	1:20	X
Langford	110	6	1:18	X
Linder	161	8	1:20	X
Maplewood	34	2	1:17	
Mathews	33	2	1:17	
Menchaca	76	4	1:19	
Metz	83	4	1:21	X
Mills	46	2	1:23	
Norman	61	3	1:20	X
Oak Hill	79	4	1:20	

Campus	Total pre-K students served	Number of teachers	Staff-student ratio	Title I
Oak Springs	52	3	1:17	X
Odom	113	6	1:19	X
Ortega	42	3	1:14	X
Overton	120	6	1:20	X
Palm	96	6	1:16	X
Patton	46	3	1:15	
Pecan Springs	101	5	1:20	X
Perez	133	6	1:22	X
Pickle	129	7	1:18	X
Pillow	80	4	1:20	
Pleasant Hill	100	5	1:20	X
Read	536	28	1:19	
Reilly	56	3	1:19	X
Ridgetop	27	2	1:14	X
Rodriguez	178	8	1:22	X
Sanchez	102	5	1:20	X
Sims	49	3	1:16	X
St Elmo	59	3	1:15	X
Summitt	90	6	1:17	
Sunset Valley	68	4	1:16	X
Travis Heights	78	5	1:18	X
Walnut Creek	162	9	1:16	X
Widen	116	6	1:18	X
Williams	59	3	1:19	X
Winn	83	5	1:17	X
Wooten	113	8	1:14	X
Zavala	71	4	1:18	X
Zilker	34	2	1:17	

Sources. AISD student and human resource records

Notes. Total pre-K students served is the total enrollment for the 2009–2010 year, including students who were enrolled at other campuses during the year.

Elementary schools without a pre-K program in 2009–2010 were Baranoff, Barton Hills, Bryker Woods, Clayton, Cook, Gullett, Highland Park, Lee, McBee, Pease, and Woodridge.

Read served students from Title I schools: Cook, McBee, and Woodridge attendance zones.

Appendix B

Table B-1. Prekindergarten Funding Sources Expenditures, 2009–2010

	American Recovery and Reinvestment Act (ARRA) State Fiscal Stabilization Fund (SFSF)	American Recovery and Reinvestment Act (ARRA) Title I fund	Texas Education Agency (TEA) funds	Title I A funds	Total expenditures	Percentage
Instruction						
Teacher and professional personnel	\$9,966,475.25	\$802,844.20	\$3,776,678.78	-	\$14,545,998.23	80.2
Employee benefits	\$2,076,222.11	\$212,245.02	\$767,260.65	-	\$3,055,727.78	16.8
Supplies and materials	\$76,578.64	-	\$174,141.25	-	\$250,719.89	1.4
Curriculum & instructional staff development						
Teacher and professional personnel	\$35,316.90	-	\$23,620.00	-	\$58,936.90	0.3
Support personnel	\$149.00	-	-	-	\$149.00	<.1
Employee allowances	\$13,389.40	-	-	-	\$13,389.40	0.1
Employee benefits	\$3,755.33	-	\$1,863.99	-	\$5,619.32	<.1
Supplies and materials	-	-	\$10,853.40	\$29,992.50	\$40,845.90	0.2
Leases (copier)	-	-	\$424.70	-	\$424.70	<.1
Instructional leadership						
Support personnel	-	-	\$48,614.93	\$19,062.98	\$67,677.91	0.4
Employee benefits	-	-	\$10,368.00	\$5,272.33	\$15,640.33	0.1
Miscellaneous operation expenses	-	-	\$80,917.00	-	\$80,917.00	0.4
Total	\$12,171,886.63	\$1,015,089.22	\$4,894,742.70	\$54,327.81	\$18,136,046.36	100%

Source. AISD financial records, as of August 31, 2010.

Appendix C

List of eCIRCLE Course Offerings

Building Vocabulary (3 sessions)	Year 1 of Circle Training
Classroom Management (2 sessions)	Year 1 of Circle Training
Letter Knowledge (3 sessions)	Year 1 of Circle Training
Making the Most of Web Reports Training	Year 1 of Circle Training
Math (3 sessions)	Year 2 of Circle Training
Overview, Room Arrangement, Schedule	Year 1 of Circle Training
Phonological Awareness (3 sessions)	Year 1 of Circle Training
Read Aloud (3 sessions – Year 1; 2 sessions – Year 2)	Year 1 and Year 2 of Circle Training
Response to Instruction (RTI) (3 sessions)	Year 2 of Circle Training
Science (2 sessions)	Year 2 of Circle Training
Self Report Course (SRCS) Reflection	Year 1 and Year 2 of Circle Training
Setting the Stage for Children’s Talk (3 sessions)	Year 2 of Circle Training
So, Now What?/Developing Talkers	Year 2 of Circle Training
Social/Emotional (2 sessions)	Year 1 of Circle Training
Special Needs (2 sessions)	Year 2 of Circle Training
Teaching Cycle/Gradual Release Model	Year 1 of Circle Training
Written Expression (3 sessions)	Year 2 of Circle Training

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