



## Comparison of AISD Prekindergarten Programs, 2001–2002 (Half-Day and Full-Day Pre-K) and 2007–2008 (Full-Day Pre-K)

### Introduction

The state *Prekindergarten Expansion Grant* has supported the full-day prekindergarten (pre-K) program in Austin Independent School District (AISD) since 1999–2000. With grant awards yet to be determined, the district may consider the implications of not receiving this grant in 2009–2010. This report presents the following information:

- Brief historical background of pre-K
- Comparison data for half-day and full-day programs, prior to 2002–2003 when the district implemented full-day pre-K districtwide
- Academic rigor/instruction time analysis for full-day and half-day programs (Spring 2002)
- Long-term impact of pre-K using 2008 TAKS reading and mathematics data for students who attended and for students who did not attend pre-K
- Attendance analysis for half-day and full-day programs (1999–2000 and 2000–2001)
- Evaluator insights – Major findings summarized by AISD pre-K evaluator

### Historical Background

The prekindergarten program began in AISD in 1978 with 100 students and five teachers. The program was funded by Title I. In 1985, prekindergarten became a state-funded program, making available a half-day program to eligible students. Some Title I campuses offered full-day programs prior to 1999–2000 when AISD first received the state *Prekindergarten Expansion Grant*. In 2002–2003, AISD implemented a districtwide full-day pre-K program. Table 1 summarizes various program comparison data from 2001–2002 (i.e., the last year for half-day pre-K) and 2007–2008. (Note: These data include all pre-K students served at any point in a given year.)

Table 1: AISD Pre-K Program Information, 2001–2002 and 2007–2008

AISD pre-K information	2001- 2002	2007- 2008	Change
# Half-day classes	**48	0	-48
# Full-day classes	177	300	+123
# Schools with pre-K	61	67	***+6
# Pre-K teachers	201	300	+99
# Pre-K students	3,823	5,132	+1,309
# Low-income students*	3,153	4,823	+1,670
# ELL students*	1,901	3,057	+1,156
\$ Pre-K Expansion Grant	\$4,715,264	\$4,484,232	-\$231,032

\*Students can be both low income and LEP. \*\*Represents 24 teachers each with two half-day classes. \*\*\*Read opened in Fall 2006 and serves pre-K students from 4 campuses.

Source. AISD student and human resources records, 2001-2002 and 2007-2008

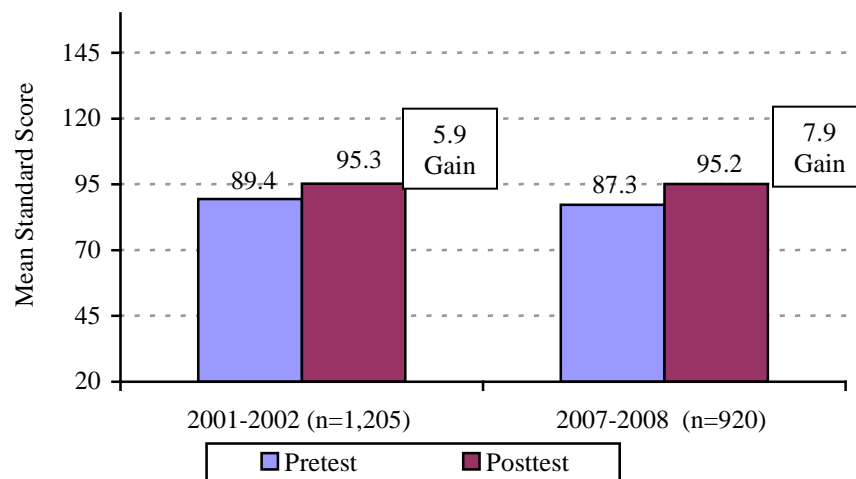
### Progress in Language Arts/Pre-Reading, 2001–2002 and 2007–2008

Student performance gains from pretest to posttest on the English-language *Peabody Picture Vocabulary Test-III* (PPVT-III) and the Spanish-language *Test de Vocabulario en Imágenes Peabody* (TVIP) have been used to determine the effectiveness of language and literacy learning in the pre-K program since 1997–1998. The PPVT-III and TVIP measure knowledge of receptive vocabulary in English and in Spanish, respectively. Standard test scores are based on national age norms, with a mean of 100 and a standard deviation of 15, for both tests. A standard score of 85 to 115 points indicates that a student is in the average range. For a student to maintain his or her standing relative to the national average, the gain score from pretest to posttest would be zero. **Any gain greater than zero indicates the student’s performance improved compared with the national average.**

In the fall and the spring, the PPVT-III and TVIP were administered to a random sample of students in all AISD schools with pre-K. All students in the sample were tested in English (PPVT-III); Spanish LEP (limited English proficient) students were also tested in Spanish (TVIP). Figures 1 and 2 present the average pretest, posttest, and gain scores on the PPVT-III and the TVIP when students were tested in their language of instruction, 2001–2002 and 2007–2008. Findings from these two years of data include the following:

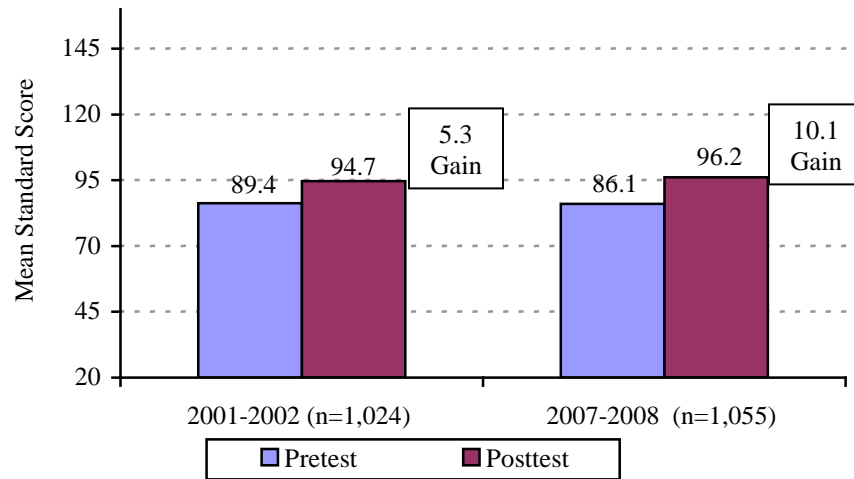
- Figure 1 shows that, while the posttest averages for PPVT-III for students tested in English only were similar, the average gain was 2 standard score points higher for pre-K students in 2007–2008 than in 2001–2002.
- Figure 2 shows that, while the pretest average for TVIP for Spanish-LEP students was lower in 2007–2008 than in 2001–2002, the average posttest and gain scores were higher for the 2007–2008 pre-K testing sample. The 2007–2008 average gain was almost twice that of the 2001–2002 testing sample.

Figure 1: Average PPVT-III Pretest, Posttest, and Gain Scores for AISD English-Language Pre-K Students, 2001–2002 and 2007–2008



Source. AISD DPE PPVT-III, 2001-2002 and 2007-2008

Figure 2: Average TVIP Pretest, Posttest, and Gain Scores for AISD Spanish LEP Pre-K Students, 2001–2002 and 2007–2008



Source. AISD DPE TVIP, 2001-2002 and 2007-2008

### Historical PPVT-III and TVIP Gains for Half-Day and Full-Day Programs

Traditionally, half-day programs showed greater gains from pretest to posttest on the PPVT-III and on the TVIP than did full-day programs. However, beginning in 1999–2000, average gains for full-day students were statistically higher than gains for half-day students on one or both tests until 2002–2003 when all pre-K classrooms were full-day programs. A summary of significant difference is listed below.

- **1997–1998** - There were **no significant differences** in gains for half-day and full-day pre-K students on the PPVT-III or TVIP.
- **1998–1999** - There were **no significant differences** in gains for half-day and full-day pre-K students on the PPVT-III or TVIP.
- **1999–2000** - The average gains on the **TVIP for full-day Spanish-speakers were significantly higher** than for half-day Spanish-speakers. In addition, the average gains on the **PPVT-III for full-day English-speakers were significantly higher** than for half-day students. (First year of Prekindergarten Expansion Grant)
- **2000–2001** - The average gains on the **TVIP for full-day Spanish-speakers were significantly higher** than for half-day Spanish-speakers. There was no significant difference in gains for half-day and full-day students on the PPVT-III.
- **2001–2002** - The average gains on the **TVIP for full-day Spanish-speakers were significantly higher** than for half-day Spanish-speakers. In addition, the average gains on the **PPVT-III for full-day English-speakers were significantly higher** than for half-day students.
- **2002–2003** - Full-day instruction begins for all pre-K classrooms in AISD.

## **Academic Rigor/Instruction Time**

In Spring 2002, AISD Department of Program Evaluation staff conducted classroom observations in pre-K classrooms at 7 elementary schools. The purpose of the observations was to see evidence of effective practices in pre-K classes that prepare students for success in kindergarten. While trying to maintain developmentally appropriate practices for pre-K students, it is necessary for teachers to insist on academic rigor for these four-year-olds who are disadvantaged by income, language, and/or homelessness. Because of the needs of these students and the high cost of the additional half day at school, the question arises, “How much additional core academic opportunities (i.e., language/literacy, mathematics, social studies, and science) actually occur in a full-day program as compared to a half-day program.”

To try to answer this question, the schedules of the observation school pre-K teachers were analyzed to determine how much core academic time was scheduled for full-day students and for half-day students. The sample schedules for half-day and full-day pre-k classes provided in the AISD prekindergarten information brochure indicate that the full-day program offers 275 minutes of scheduled instructional time. The sample schedule for morning half-day classes has 150 minutes of core academic time and for afternoon half-day classes have 165 minutes.

The average of scheduled core academic opportunities for the 16 full-day classes at the observation schools was 202 minutes per day compared to 128 minutes in the half-day classes. **This equates to the possibility of an additional 74 minutes of core academic time per day and a possibility of an additional 223 hours of core academics for full-day students during the prekindergarten year.**

Since the beginning of districtwide full-day pre-K in 2002–2003, AISD early childhood staff have worked to align curriculum, assessment tools, and IPGs to create a consistent program for disadvantaged four-year-olds, while providing pre-K specific professional development opportunities for teachers. While the schedules may vary from campus to campus, the expectations are high for pre-K students and teachers.

## **Long-Term Impact of Pre-K**

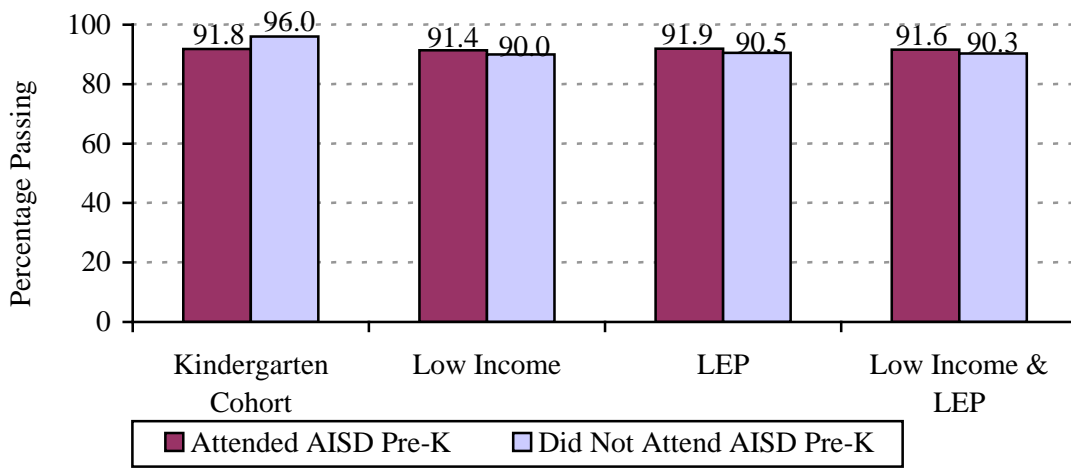
### ***2008 Grade 3 TAKS Reading (Cumulative)***

To examine the long-term effects of pre-K attendance on TAKS performance in AISD, an analysis was completed for grade 3 students during 2007–2008 who took TAKS reading and TAKS mathematics. The analysis began with a cohort of kindergarten students who entered AISD in 2004–2005. This cohort of students (n = 4,610) was composed of two groups: 1) students who attended the AISD pre-K program in 2003–2004 (n = 2,460), and 2) students who did not attend AISD pre-K (n = 2,150). These students were four-years-old in 2003–2004 and were the appropriate age to attend pre-K. The results are cumulative for the three administrations of grade 3 TAKS reading. The analyses included comparisons for all cohort students, LEP students, low-income students, and low-income LEP students on 2008 grade 3 TAKS reading.

When reviewing TAKS test data for all students in this cohort, it can be seen in Figure 3 that the percentage of students passing grade 3 TAKS reading was 4 percentage points higher for the group of students who did not attend AISD pre-K. (This includes all students in the kindergarten cohort regardless of ethnicity, low-income status, or language. There is also no knowledge of whether there was preschool experience outside of AISD for those students who did not attend AISD pre-K.)

However, when the TAKS passing rates for grade 3 low-income, LEP, and low-income LEP students were examined, the students who attended AISD pre-K had the higher passing rates in every case. (It is important to remember that students who attended pre-K in 2003–2004 were eligible for attendance due to limited English, low-income status, or homelessness.) Figure 3 shows that cumulative 2008 passing rates for low-income, LEP, and low-income LEP students were higher for grade 3 students who attended AISD pre-K than for students who did not attend pre-K.

Figure 3: Percentage Passing 2008 Grade 3 TAKS **Reading** for Cohort, Low-Income, LEP, and Low-Income LEP Students, by Pre-K Attendance (**Cumulative**)



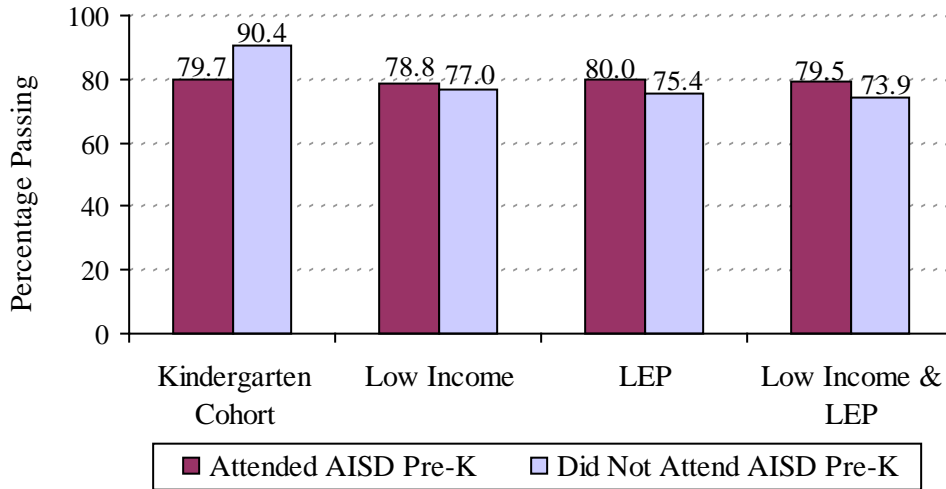
Source. AISD SASI student records and 2008 TAKS reading data

**2008 Grade 3 TAKS Reading (1<sup>st</sup> Administration)**

The first administration of TAKS reading was in March 2008. While students had two more opportunities to pass TAKS (i.e., in April and June), the first administration presents a snapshot of grade 3 students who were on grade level without remediation. As was the case for the cumulative TAKS results, the 1st administration TAKS reading passing rates for the cohort students (n = 4,561), regardless of language or income, was 10 percentage points higher for students who did not attend pre-K than for students who attended pre-K.

However, as seen in Figure 4, 1st administration passing rates for low-income and LEP students were from 2 to 6 percentage points higher for grade 3 students who attended pre-K than for those who did not attend pre-K. The largest effect was for students who met both criteria.

Figure 4: Percentage Passing 2008 Grade 3 TAKS **Reading** for Cohort, Low-Income, LEP, and Low-Income LEP Students, by Pre-K Attendance (**1st Administration**)



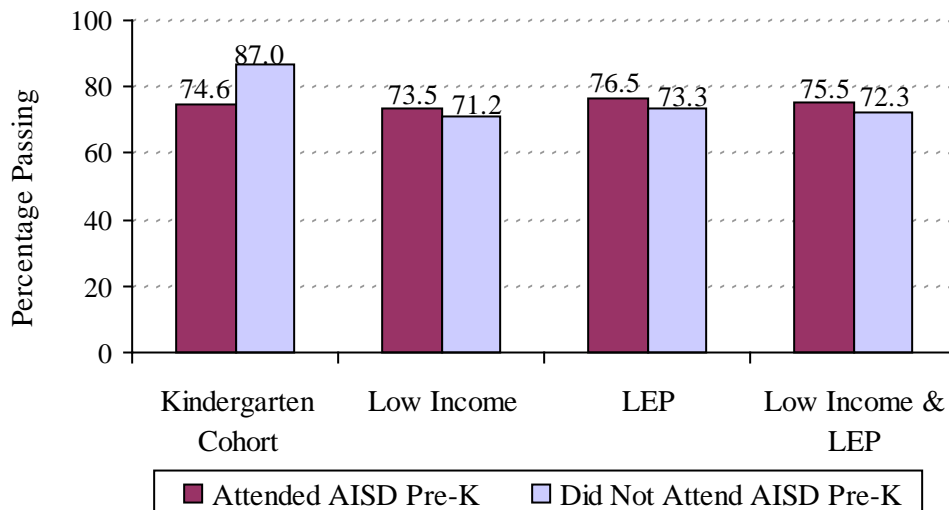
Source. AISD SASI student records and 2008 TAKS reading data

**2008 Grade 3 TAKS Mathematics (April Administration)**

Grade 3 students had one opportunity in April to pass TAKS mathematics. When reviewing TAKS test data for all cohort students (n = 4,579), regardless of language or income, it can be seen in Figure 5 that the percentage of students passing TAKS mathematics was 12 percentage points higher for students who did not attend AISD pre-K than for those who did attend pre-K.

However, the TAKS mathematics passing rates for grade 3 low-income, LEP, and low-income LEP students were from 2 to 3 percentage points higher for students who attended pre-K than for those who did not attend pre-K. The largest effect was for students who met both criteria (Figure 5).

Figure 5: Percentage Passing 2008 Grade 3 TAKS **Mathematics** for Cohort, Low-Income, LEP, and Low-Income LEP Students, by Pre-K Attendance



Source. AISD SASI student records and 2008 TAKS mathematics data

Because there have been four years of instruction since these grade 3 students were in prekindergarten, it is not possible to say that pre-K enrollment was responsible for the higher passing rates for those students who attended pre-K. However, it seems that pre-K enrollment has made an impact on achievement for this group of low income and LEP grade 3 students.

### **Attendance Data for Half-day and Full-day Pre-K**

Attendance for half-day pre-K students was below that of full-day students in 1999–2000 and 2000–2001. In 1999–2000, full-day pre-K students were absent an average of 9.9 days and half-day students were absent an average of 11.2 days. In 2000–2001, full day pre-K students were absent an average of 10.1 days and half-day students were absent an average of 11.3 days. The half-day absentee rate is higher possibly because of the difficulty parents have with scheduling the other half of the day for their children.

Average daily attendance historically has been lower for AISD pre-K than for other elementary grades. Average daily attendance for pre-K students in 2007–2008 was 94.3%, compared with 95.4% for kindergarten and 96.0% for grade 1 students.

### **Evaluator Insights**

- Because four-year-olds must meet one of the eligibility criteria (e.g., income, language, foster child, child of military family) to enroll in public pre-K, the AISD full-day pre-K program provides additional academic and social development opportunities for some of our most disadvantaged students.
- With state and national attention directed toward school readiness, AISD would have difficulty meeting the goal of having all students school ready when they enter kindergarten if class time is reduced by half.
- Between 1999–2000 and 2002–2003, average gains on the PPVT-III for English-language students and on the TVIP for Spanish-language students have been statistically higher for full-day students than gains for half-day students on one or both tests.
- Grade 3 TAKS reading and mathematics data for students who attended AISD pre-K provides support for the idea of a long-term impact of the pre-K program on reading and mathematics achievement. The effect is especially noticeable for students who meet both the economic disadvantaged and limited English proficiency criteria.
- In 2007–2008, average growth in receptive vocabulary on the PPVT-III for English-language pre-K students and the TVIP for Spanish-language pre-K students showed growth two times that expected for 4-year-olds in a 7-month period.
- At the posttest in 2007–2008, 81% (n = 1,596) of all students tested were in the average range (85-115 standard score points) on tests in their language of

instruction. The presumption is that these students will be ready to accelerate future literacy learning in kindergarten.

- The 2002–2003 pre-K enrollment (i.e., the first year of districtwide full-day pre-K) increased by 15% from the prior year. There has been a 34% increase in pre-K enrollment since the district implemented the districtwide full-day pre-K program (i.e., 2001–2002 to 2007–2008). Growth in AISD enrollment increased by 5% in this same period of time (per PEIMS 110). It is reasonable to believe that pre-K enrollment would drop if the district offered only the half-day program because it would pose a hardship on parents for transportation and childcare.
- In 2001–2002, a review of half-day and full-day class daily schedules indicated that core academic opportunities for the full-day classes at the observation schools was 202 minutes per day compared to 128 minutes in the half-day classes. This equates to the possibility of an additional 74 minutes of core academic time per day and an additional 223 hours of core academics for full-day students during the pre-K year.
- In the past, higher absenteeism has been recorded for half-day students than for full-day students, which would impact the overall district attendance rate.
- Teachers have stated in the past that it is impossible to cover all of the academic areas that are addressed in the state Prekindergarten Curriculum Guidelines in a half day of instruction. In addition, academic rigor has increased for pre-K students through the district Pre-K Assessment Rubrics and IPGs since 2002–2003.
- Teachers of half-day classes would have twice as many students to instruct and twice as many parents with whom to communicate creating an increased workload.
- During 2007–2008, English language acquisition for Spanish ELL students as determined by the PPVT-III has declined to its' lowest point since records have been available. While the AISD Bilingual program is working to improve English-language acquisition for these Prekindergarten students, reducing the amount of instructional time would not benefit these students. (Note: This is baseline information because the PPVT-III is not normed for Spanish speakers.)