



# Austin Independent School District

## Department of Program Evaluation

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### PREKINDERGARTEN EXPANSION GRANT EVALUATION REPORT, 2005-2006

Early childhood education, with an emphasis upon school readiness, has been a recent focus of state and federal legislation. At the state level, the 78<sup>th</sup> Texas Legislature passed Senate Bill 76 in May 2003, designating CIRCLE as the State Center for Early Childhood Development. This legislation represented a first step toward the integration of prekindergarten (pre-K) programs, Head Start, and childcare in the state of Texas by providing a high-quality early childhood education program that coordinates pre-K resources. CIRCLE designed an exemplary training model for the professional development of early childhood teachers. At the federal level, one of the goals of the 2001 No Child Left Behind Act (NCLB) is to have all students reading on grade level by third grade. In addition, NCLB focuses on accountability, requiring that 100% of Texas students pass the Texas Assessment of Knowledge and Skills (TAKS) in reading and mathematics by 2013-2014.

Because annual testing requirements for NCLB start at grade 3, district administrators and state policymakers have become increasingly concerned about improving early learning opportunities for children. The Austin Independent School District (AISD) provides the state *Prekindergarten Curriculum Guidelines* (1999), the state-adopted *DLM Early Childhood Express* (2003) curriculum, the district instructional planning guides (IPGs) (2005), and the teacher-developed *Prekindergarten Assessment Rubric* (2006) to pre-K teachers so that they have the tools to help prepare their students for success in school and life.

In 2005-2006, AISD offered full-day pre-K instruction to eligible four-year-olds who were limited English proficient (LEP), economically disadvantaged, or homeless. This was the fourth year for AISD to offer full-day instruction to students in all 66 elementary schools with pre-K programs. The full-day pre-K program is an important part of the district response for supporting early academic success and for meeting NCLB accountability requirements.

The state *Prekindergarten Expansion Grant* supported the AISD full-day instruction for all pre-K students who qualified for service in 2005-2006. The estimated cost of the district's pre-K program (\$13.9 million) in 2005-2006 was funded as follows: 32% (\$4,450,057) from the *Prekindergarten Expansion Grant*, 68% (\$9,471,769) from local funds, and less than 1% (\$23,045) from Title I funds. These funds do not include transportation, food services, or indirect costs.

**AISD PREKINDERGARTEN PROGRAM  
 DESCRIPTION**

**Student Information**

A total of 5,014 four-year-olds attended AISD pre-K during 2005-2006, compared with 5,097 in 2004-2005. According to AISD student records, demographic and enrollment information for pre-K children in 2005-2006 included the following:

- Gender was balanced, with 51% female and 49% male students.
- Ninety-two percent (n = 4,632) of students were from low-income families.
- Fifty-seven percent of students (n = 2,862) were LEP.
- Homeless students (n = 212) comprised 4% of all pre-K students (74 because of hurricanes Katrina and Rita).
- More than half (n = 2,570) of the pre-K students met both the LEP and low-income criteria.
- Hispanic students comprised the largest ethnic group (n = 3,753 or 75%), followed by African American (n = 760 or 15%), Anglo/other (n = 297 or 6%), and Asian (n = 204 or 4%) students.

- Of the 46 languages spoken in the homes of this year’s pre-K students, the languages reported most frequently were Spanish (n = 2,732 or 55%), English (n = 2,019 or 40%), Vietnamese (n = 55 or 1%), and Korean (n = 40 or 1%).
- The average daily attendance was 94.0% (up slightly from 93.9% in 2004-2005), compared with 95.3% for kindergarten and 96.0% for grade 1 students.
- The number of pre-K students served at each of the 66 campuses varied widely in 2005-2006 and ranged from 11 students at Casis to 200 students at Walnut Creek. The average pre-K student-teacher ratio in 2005-2006 was 17.5:1, down from 18.1:1 in 2004-2005.

Although the AISD pre-K enrollment has increased each year since 2001-2002, a 2% decrease in enrollment occurred in 2005-2006. However, the percentage of pre-K LEP students enrolled increased by 12% from 2004-2005 to 2005-2006. Table 1 summarizes various program data from 2001-2002 through 2005-2006. These data include all pre-K students served at any point in a given year.

Table 1: AISD Pre-K Summary Information, 2001-2002 through 2005-2006

Pre-K Information	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006
Number of schools with pre-K	61	61	65	67	66
Number of teachers	201	243	262	281	287
Number of pre-K students	3,823	4,414	4,499	5,097	5,014
Number low income	3,153	4,060	4,184	4,798	4,632
Number LEP	1,901	2,206	2,367	2,555	2,862

Source: AISD student records, 2001-2002 to 2005-2006

Note: Students can be both low income and LEP.

## Teacher Information

There were 287 pre-K teachers in 2005-2006, with an average of 9.0 years of teaching experience (compared with 7.9 in 2004-2005). The majority (53%) of the pre-K teachers in AISD had six or more years of teaching experience. This represented a 14% increase from 2004-2005 to 2005-2006 with respect to the number of teachers with six or more years of experience. All AISD pre-K teachers met the highly qualified criteria for NCLB. To be deemed highly qualified by NCLB, teachers must have a bachelor's degree and full state certification or licensure.

## METHODOLOGY

### Evaluation Questions

The evaluation questions for the *Prekindergarten Expansion Grant* include the following:

- How did the program demonstrate evidence of gains in cognitive development, especially in pre-reading and language, and mathematics?
- How did the expanded, full-day pre-K program demonstrate the effectiveness of its activities in achieving its aims?
- How did the expanded, full-day pre-K program determine its impact, both short-term and long-term, on the participants?

### Data Collection

Department of Program Evaluation (DPE) staff collected quantitative and qualitative data to determine program effectiveness, as well as areas in need of improvement. A description of the types of data collected and the method(s) used to collect them follows.

- **Peabody Picture Vocabulary Test-III:** 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) determined the effectiveness of language and literacy learning in the pre-K program. The PPVT-III and TVIP measure knowledge of receptive vocabulary in English and in Spanish, respectively. In fall 2005 and spring 2006, the PPVT-III and TVIP were administered to a random sample of pre-K students in all AISD schools with pre-K programs. The testing sample was designed to closely match the demographic characteristics of students tested to the overall AISD pre-K population.

- **Prekindergarten Gradebook:** The *Prekindergarten Assessment Rubric* was used districtwide to report student performance in academic areas in 2005-2006. Scores were recorded on the *Prekindergarten Gradebook* form each 9 weeks and submitted to DPE for data entry and analysis. The district's Prekindergarten Assessment Task Force developed the assessment rubric, piloted it in 2004-2005, and refined the instrument during 2005-2006.
- **Teacher Surveys:** Pre-K teachers were asked to respond to an online survey to give feedback about the strengths of the program and areas for improvement. Specific topics included professional development opportunities, curriculum and materials, effectiveness of the *Prekindergarten Assessment Rubric*, district support of the pre-K program, and parental involvement.

- **2006 TAKS:** To determine the long-term impact of the pre-K program, the 2006 TAKS reading scores for a cohort of grade 3 students who had attended an AISD pre-K program in 2001-2002 were compared with those of district grade 3 students who took 2006 TAKS reading and who were LEP and/or economically disadvantaged.

## STUDENT ACADEMIC PERFORMANCE

### Cognitive Development in Language Arts

A total of 1,478 (compared with 1,639 in 2004-2005) pre-K students had valid PPVT-III/TVIP pre- and posttest scores (715 in English only and 763 in English and Spanish). This sample size represents 27% of AISD pre-K students. The national average standard score is 100 (average range of 85 to 115) for both the English PPVT-III and Spanish TVIP versions of the test. Because the tests are age normed, any gain greater than zero indicates that a student's performance improved compared with the national average. Preliminary findings from the 2005-2006 PPVT-III and TVIP testing sample include the following:

- Eighty-one percent of all Spanish-language LEP students tested on TVIP made gains from pretest to posttest, which is an increase of three percentage points from 2004-2005.
- Seventy-three percent of all English-language students tested on PPVT-III made gains, which is a decrease of two percentage points from 2004-2005.
- The average growth in receptive vocabulary on the PPVT-III for

English-language students was 1 year, 1 month in a seven-month period, which is a 1-month decrease from 2004-2005. Growth for Spanish-language students on the TVIP was 1 year, 4 months during the same period, which is an increase of 2 months' growth over 2004-2005.

- Eighty percent (n = 1,183) of all students were in the average range (standard score of 85-115 or above) at the posttest when tested in their language of instruction. Half of these students (n = 589) were at or above the national average.

Five years of PPVT-III and TVIP data are presented in Figures 1, 2, and 3. Major findings for the testing sample include the following:

- After maintaining a consistent three-year posttest average on the PPVT-III, the posttest average for the English-language testing sample students declined by about two standard score points from 95.4 in 2004-2005 to 93.5 in 2005-2006. Average pretest and posttest scores on the PPVT-III for English-language students were lower in 2005-2006 than in the previous 4 years (Figure 1).
- After maintaining a consistent three-year posttest average on the TVIP, the 2005-2006 posttest average for the Spanish-language LEP students increased slightly from 95.8 standard score points in 2004-2005 to 96.5 points in 2005-2006 (Figure 2).
- After maintaining a consistent two-year posttest average on the PPVT-III, the posttest average for Spanish-language students increased slightly in 2005-2006. This is baseline information because the PPVT-III is not normed for Spanish speakers (Figure 3).

Figure 1: Average Pretest and Posttest Scores for AISD English-Language Pre-K Students Tested on PPVT-III, 2001-2002 through 2005-2006

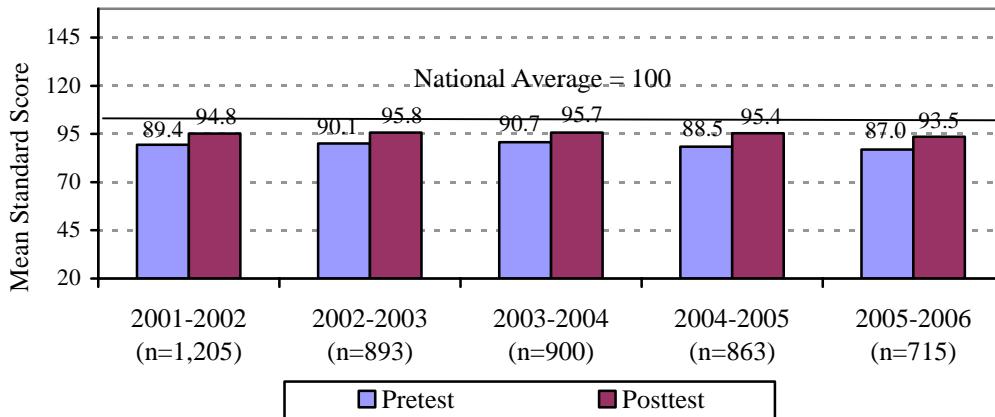


Figure 2: Average Pretest and Posttest Scores for AISD Spanish-Language LEP Pre-K Students Tested on the TVIP, 2001-2002 through 2005-2006

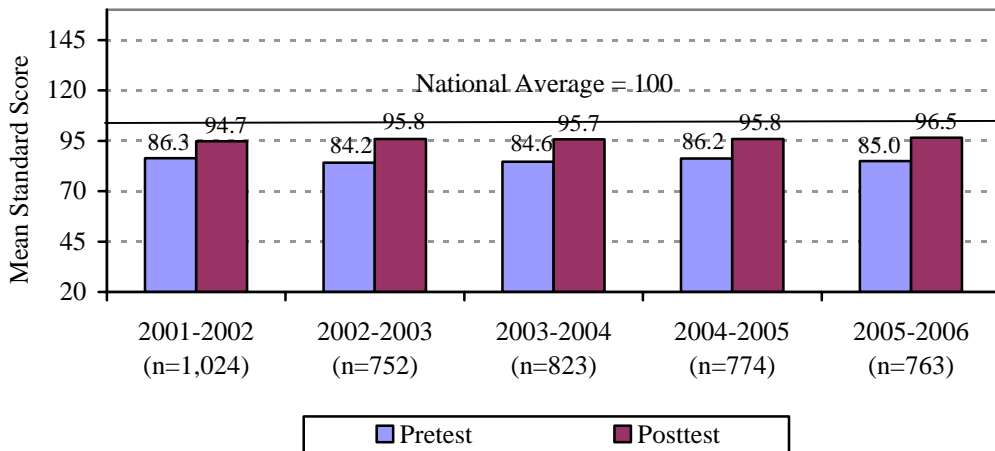
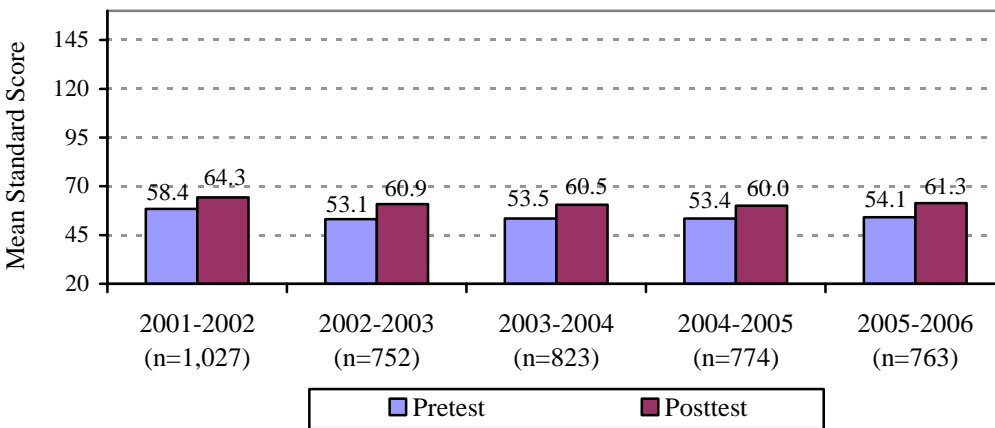


Figure 3: Average Pretest and Posttest Scores for AISD Spanish-Language LEP Pre-K Students Tested on PPVT-III, 2001-2002 through 2005-2006

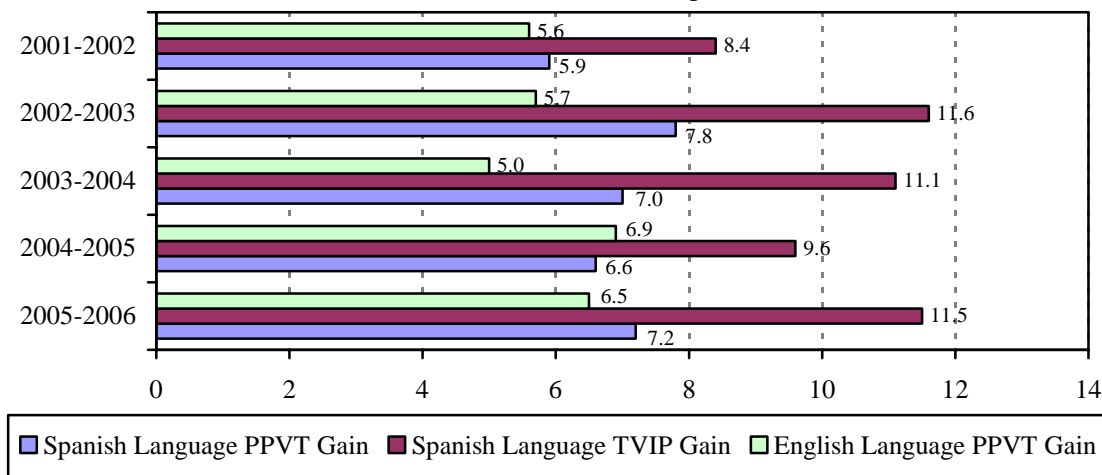


Source: AISD program evaluation PPVT-III/TVIP records, 2001-2002 through 2005-2006  
 Note: This is baseline information because the PPVT-III is not normed for Spanish speakers.

The average gains from pretest to posttest for pre-K students varied over the past five years. In every comparison of PPVT-III and TVIP results during that time, average gains were consistently 5 or more points. The average TVIP gains for Spanish-language students (11.5 points) surpassed PPVT-III

gains for English-language students (6.5) in 2005-2006, as in previous years. In 2005-2006, Spanish-language students made their greatest gains in Spanish (11.5) and in English (7.2) since 2002-2003 (11.6 and 7.8 respectively) (Figure 4).

Figure 4: Average Standard Score Gains on PPVT-III and TVIP for Pre-K Students, 2001-2002 through 2005-2006



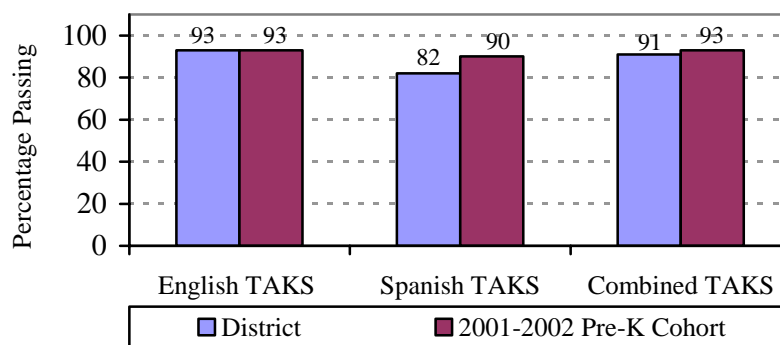
Source: AISD program evaluation PPVT-III/TVIP records, 2001-2002 through 2005-2006

### Long-Term Impact on Reading

A longitudinal study was conducted using PPVT-III/TVIP scores for students who attended AISD pre-K in 2001-2002 and who took the 2006 grade 3 TAKS reading test while at AISD. Of the 1,335 former pre-K students in the cohort, 93% (n = 903)

passed the English TAKS for reading and 90% (n = 332) passed the Spanish TAKS for reading. The cohort of students achieved a passing rate the same as that of the district on the English TAKS for reading, and they surpassed the district's Spanish TAKS for reading by 8 percentage points (Figure 5).

Figure 5: Percentage of Students Passing 2006 Grade 3 TAKS Reading for the 2001-2002 Cohort of Pre-K Students (n = 1,335) and for All AISD Grade 3 Students (n = 5,702)



Source: AISD 2001-2002 PPVT-III/TVIP testing sample and 2006 TAKS reading data

The TAKS results for the 2001-2002 pre-K cohort are even more impressive because the pre-K cohort included more low-income and LEP students than did the district totals. Low-income students comprised 88% of the pre-K cohort and 63% of the AISD grade 3 student group that took TAKS reading; LEP students comprised 59% of the pre-K cohort and 34% of the AISD grade 3 student group. Although it is not possible to attribute these differences entirely to the attendance of pre-K for these students because other grades and teachers could have influenced their achievement, these results indicate that pre-K attendance in AISD may be positively associated with subsequent student achievement in reading, especially for Spanish-language students.

**Cognitive Development in Other Areas**

In 2005-2006, pre-K teachers district-wide implemented the *Prekindergarten Assessment Rubric*. The assessment rubric was based on the state *Prekindergarten Curriculum Guidelines*, the district IPGs,

and the district-aligned PK-12 Matrix of Essential Knowledge and Skills. The rubric, developed by pre-K teachers and piloted in 2004-2005, was designed to provide consistency in scoring academic progress on the *Prekindergarten Report to Parents* each 9-week period in oral language, pre-reading/concepts of print, listening, writing, math, science, social studies, English as a second language (ESL), and personal development. The performance scale used for rating academic progress was as follows: 1 = needs improvement, 2 = basic understanding, 3 = skilled, and 4 = advanced. Being “on grade level” is defined by a score of 3 or more. The skills evaluated get progressively more difficult each 9 weeks.

In 2005-2006, the academic areas with the highest percentage of students on grade level at the end of the year were listening and math; the lowest area, with the exception of ESL, was science. Table 2 shows that the highest percentages of students on grade level in each subject area occurred in the fourth 9-week period.

Table 2: Percentage of Pre-K Students on Grade Level in Each Content Area by 9-Week Period, 2005-2006

Content Areas	Percentage of Pre-K Students on Grade Level			
	First 9 weeks (n = 4,104)	Second 9 weeks (n = 4,101)	Third 9 weeks (n = 3,934)	Fourth 9 weeks (n = 3,805)
Oral language	81	83	81	85
Listening	67	75	86	91
Concepts of print	67	79	82	89
Writing	60	74	84	88
Math	74	79	88	90
Science	51	70	78	78
Social studies	50	68	80	85
ESL	28	36	49	58

Source: DPE data, as reported by pre-K teachers, 2005-2006

In response to feedback from teachers, the Assessment Task Force added more academic rigor to the assessment rubric by increasing the requirements for student outcome scores of 3 (skilled) and 4 (advanced) in language arts and mathematics. In addition, a measure of phonemic awareness was added. The revised *Prekindergarten Assessment Rubric* will be used to evaluate student progress in 2006-2007.

### **PROGRAM EFFECTIVENESS**

In April 2006, pre-K teachers gave input about the effectiveness of the pre-K program on the online *Prekindergarten Teacher Survey*. Specific topics included professional development opportunities, curriculum and materials, effectiveness of the *Prekindergarten Assessment Rubric*, district support of the pre-K program, and parental involvement.

Of all the topics addressed in the survey, teachers were concerned most about pre-K being a developmentally appropriate program. Seventy-five percent of teachers agreed or strongly agreed with the statement “The principal and staff at my campus are supportive of a developmentally appropriate pre-K program.”

### **Professional Development Opportunities**

Availability of pre-K-specific training is important to pre-K teachers. In 2005-2006, 205 (72%) pre-K teachers attended 3,022 hours of professional development activities directly related to pre-K instruction or classroom management (i.e., an average of 15 hours of completed professional development activities). The professional development opportunities reported by teachers as most beneficial include the following:

- Pre-K Mathematics TEXTEAMS (n = 112)
- Preschool Early Language and Literacy (n = 102)
- Transforming Aggression into Healthy Self-Esteem (n = 74)
- Pre-K Team Leader Curriculum Updates (n = 59)
- Pre-K DLM Textbook System (n = 59)

Teachers most often requested additional training opportunities in math and science, behavior and class management, and bilingual and ESL education.

### **Parental Involvement**

Teachers indicated that parents participated in the pre-K program when possible. According to teacher responses, the four activities with the most parental support were field trips (n = 190), parent-teacher conferences (n = 180), assistance with learning at home (n = 165), and school parties/special events (n = 157). Teachers said that more opportunities are needed to teach parents how to help their children learn at home and to learn to speak and read English.

### **Strengths of the Program**

According to the program manager, the major strengths of the 2005-2006 pre-K program included the following: (a) all identified students were served; (b) curriculum was articulated, aligned, and taught; and (c) teachers were directly involved in developing and implementing the assessment rubric. The major program strengths reported by pre-K teachers included the following:

- **Assessment Rubric.** Pre-K teachers agreed overwhelmingly that the new *Prekindergarten Assessment Rubric* is a major strength of the 2005-2006 pre-K program. According to teachers, the rubric is a great tool that provides a unified system to evaluate students for



report card grades; clarifies expectations for parents, teachers, and administrators; and is aligned with the district's curriculum matrix.

- **Program Structure.** Structure and organization were also reported to be strengths of the pre-K program, especially the full day of pre-K instruction. One pre-K teacher said teachers are "able to share information and experiences with other teachers and get new ideas because they are using the same curriculum and assessment tool districtwide."
- **Curriculum.** The *DLM Early Childhood Express* curriculum, available in English and Spanish, is a program strength, according to teachers. The integrated curriculum includes pictures, books, Big Books, a math resource book and CD ROM, and questions to initiate discussion.
- **Support for the Program.** Teachers praised the program managers for their leadership, expertise, and dedication to "what is best for children." Teachers also described a spirit of collegiality among pre-K teachers.

### Areas for Improvement

An improvement to the program is the fall 2006 opening of the district's first pre-K center, the Lucy Read Prekindergarten Demonstration School. According to the pre-K program director, the center will develop a new curriculum, support enhanced teaching strategies and techniques, and focus on science. In addition, AISD is implementing an integrated school readiness program in 2006-2007 to coordinate the district pre-K program with area daycare and

Head Start centers. Teachers from eight AISD schools will participate in the Texas Early Education Model (TEEM) Demonstration Project; about 40 pre-K teachers have participated thus far.

According to pre-K teachers, the following areas were most in need of improvement:

- **Curriculum.** Although teachers said the integrated DLM curriculum is a strength of the program, they asked for improvements to the curriculum. Many teachers stated that the DLM curriculum is weak in math and science and needs supplementing.
- **Materials.** Teachers requested additional resources, including more Spanish materials, math manipulatives, and science materials. According to some teachers, the district did not provide many of the resources called for in the curriculum, requiring teachers to spend their own money to purchase materials.
- **Class Size.** Many teachers commented that the class size is too large to serve this population of four-year-olds. If classes have to be large (i.e., more than 15 students per teacher), some teachers said a teacher assistant is needed in those classrooms.

### SUMMARY

AISD is dedicated to improving early learning for disadvantaged four-year-olds. The full-day program provides a highly qualified teacher for each pre-K classroom. In addition to state guidelines and curriculum resources, AISD pre-K teachers have IPGs and the *Prekindergarten Assessment Rubric* as tools to help prepare their students for kindergarten. Prekindergarten-specific professional development opportunities are available to all pre-K teachers.

Despite the national debate about what is developmentally appropriate for four-year-olds, it is agreed that students who come to school with a deficiency in experiences or language need to accelerate their learning during pre-K to be ready for kindergarten. The student gains on the PPVT-III and TVIP in 2005-2006 reflect the acceleration occurring in students' receptive vocabulary during pre-K. The gains for English-language students on the PPVT-III and for Spanish-language students on the TVIP indicate that students showed growth about two times that expected for four-year-olds in a 7-month period of instruction. In addition, 80% of the pre-K students tested were in the average range at the posttest when tested in their language of instruction.

Spanish-language pre-K students made greater gains on the TVIP (11.5 standard score points) and the PPVT-III (7.2 points) than did the English-language students on the PPVT-III (6.5 points). Compared to prior years' data, the posttest average of Spanish-language students on the English PPVT-III increased slightly in 2005-2006. Progress was made toward an earlier program recommendation (i.e., from the 2004-2005 *Prekindergarten Expansion Grant Evaluation*) that English language acquisition be accelerated for Spanish-language students.

An analysis of 2006 TAKS reading data from a cohort of students who attended pre-K in 2001-2002 indicates that those students who attended pre-K, especially Spanish LEP students, had TAKS reading passing rates at or above district passing rates. This also was true for the 2005 TAKS reading results for the 2000-2001 pre-K cohort.

In its first year of districtwide implementation, the *Prekindergarten*

*Assessment Rubric* has been a helpful tool for teachers to evaluate the academic progress of pre-K students. The percentages of students on grade level in each subject area increased each 9-week period to their highest level during the final 9 weeks. The content areas of listening and math showed the highest percentages of students on grade level at the end of the year (91% and 90%, respectively). A refined assessment rubric will be used during 2006-2007.

### **RECOMMENDATIONS**

As state and national expectations become more rigorous, the educators of young children face many challenges. The district should continue to implement developmentally appropriate practices for pre-K while supporting the academic rigor required for these four-year-olds to read on grade level by grade 3 and thereafter. The following recommendations are offered to AISD decision makers:

- Expand vocabulary development in English and Spanish instruction to prepare for further success in reading.
- Investigate effects of class size and teacher experience on growth in vocabulary development for pre-K students.
- Provide the necessary resources to support the efforts of the Lucy Read Pre-K Demonstration School to develop best practices and innovative strategies that can be replicated at other district campuses with pre-K programs.
- Continue to provide high-quality staff development opportunities to all pre-K teachers to help them accelerate instruction for their students.
- Conduct a longitudinal study of the pre-K program, following students through the primary grades to better understand how they are successful in later years. Plans for this have begun already.

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