

## EXECUTIVE SUMMARY

### PURPOSE

The Department of Early Childhood requested an investigation into the long-term effects of AISD half-day versus full-day prekindergarten (pre-K) participation. Austin Independent School District (AISD) currently funds a full-day pre-K program for all students who qualify. This report provides:

- Historical background of the full-day and half-day pre-K programs
- Description of the pre-K enrollment increase that resulted from the district-wide implementation of the full-day program in 2002–2003
- Reanalysis of the Peabody Picture Vocabulary Test, Third Edition (PPVT-III) and the Test de Vocabulario en Imagenes Peabody (TVIP) comparisons for half-day and full-day pre-K programs for the 2001–2002 and 2009–2010 cohorts
- Comparison of Spring 2010 7th-grade reading and mathematics (math) scores on the Texas Assessment of Knowledge and Skills (TAKS) for the 2001–2002 pre-K cohort



### FINDINGS

The major findings of this report include:

- District-wide half-day pre-K programming was implemented in AISD in 1986–1987 to increase the number of students served by the AISD pre-K program, using only state and local funds; 1,516 students were served that year. In 1987–1988, the district re-implemented full-day programming to some schools relying on Chapter 1 (Title I) funds, which were used in previous years to fund full-day pre-K.
- Enrollment growth was nearly three times greater for schools transitioning from half-day to full-day pre-K in 2002–2003 than for schools that already had access to a full-day pre-K program, suggesting full-day programming contributed to higher pre-K usage rates (i.e., enrollment) in AISD.
- English language learners (ELLs) who attended full-day pre-K in 2009–2010 had greater gains in pre-literacy skills (as measured by the PPVT-III and TVIP) than did ELLs who attended the half-day pre-K program in 2001–2002, demonstrating a possible increase in academic rigor in preliteracy areas for the full-day pre-K program over the past decade.
- Eligible pre-K students entered the district with varying pre-literacy aptitudes in their native language. Compared with other elementary schools in the district, some elementary schools served more pre-K students who entered the program with receptive vocabulary ability in their

native language that was more than 1 standard deviation below the national average (as measured by the PPVT-III and TVIP).

- If schools that have *fewer* students entering pre-K who score below the national norm in receptive vocabulary need to implement a half-day pre-K rather than full-day pre-K program, then pre-K students might not experience a significant loss in pre-literacy growth, assuming the half-day program (and its wrap-around services) are similar to the 2001–2002 half-day model.
- If schools have a *greater* number of their entering pre-K students scoring below the national norm in receptive vocabulary, then implementing a half-day pre-K program might cause students to experience less growth in pre-literacy skills than with full-day pre-K, especially if there are no wrap-around services.
- Attending full-day pre-K might have contributed more to students' higher academic achievement on 7th-grade TAKS than did students attending half-day pre-K or kindergarten only.
  - Full-day pre-K students from the 2001–2002 cohort were more likely to pass the 2010 7th-grade reading TAKS than were kindergarten students from the 2002–2003 cohort who were assumed eligible for pre-K but did not attend pre-K in 2001–2002.
  - Full-day pre-K students were moderately more likely to receive a commended score on the 2010 7th-grade math TAKS than were half-day pre-K students from the same 2001–2002 cohort.

#### RECOMMENDATIONS

Based on the findings of this report, Department of Program Evaluation (DPE) staff provides the following recommendations for consideration:

- Continue providing a full-day pre-K program in schools that have the highest concentration of students coming into the district with pre-literacy skills below the national average in their native language.
- If funding cannot be continued to provide full-day programs at all schools with a pre-K program, then phase in half-day programs at schools that have a history (a) of smaller enrollments of pre-K students and (b) of higher concentrations of students coming into the district with average or above average pre-literacy skills.
- Develop and expand partnerships with Austin-area early childhood service providers who can offer wrap-around services to supplement programs to half-day students that will equate to a full day of pre-K services, especially in the area of developing students' early math skills.
- If half-day programs are implemented, maintain an average staff-to-student ratio no greater than 1 to 29 students for the entire day (i.e., classroom sizes of 14 to 15 students for each morning or afternoon session), similar to the ratio in the half-day program in 2001–2002.
- Monitor pre-K enrollment levels at schools that have a history of a high percentage of students who also enroll in AISD for kindergarten to ensure no significant drops occur in enrollment because this drop could have a negative impact on district funds received from the state, based on average daily attendance and possible decreases in academic achievement.

## CONCLUSION

District-wide half-day pre-K was implemented in AISD in 1986–1987, and served a population only 28% of that in 2009–2010 (i.e., 1,512 versus 5,445 pre-K students). For 10 of the 15 years, the district had both full-day and half-day programs, and fewer than a third of students were served by the half-day program. In 2001–2002, the last cohort of pre-K students served by the half-day program represented 18% of total pre-K enrollment. The smaller number and percentage of students served by half-day pre-K in 2001–2002 meant that other early childhood service partners could possibly provide wrap-around services or serve as an alternative to AISD pre-K for those who did not attend. The findings of this report are only generalizable to half-day programs similar to the AISD model in 2001–2002. Variations in the half-day program components and/or its supporting environment means possible variation in the outcomes described in this report. DPE staff does not have data on the capacity limits of current community partners that serve pre-K students, given that the current AISD pre-K student population is much larger.

The findings of this report and other studies suggest that full-day pre-K increases the usage rate of eligible students attending AISD pre-K (including those likely to stay in the district for kindergarten). The first issue of this study showed that full-day pre-K ELLs from the 2005–2006 cohort had an advantage in literacy skills, compared with 2006–2007 kindergarten ELLs who were assumed eligible for pre-K but did not attend AISD pre-K (Brunner, 2010). Furthermore, full-day pre-K participation contributed to students' later academic performance, leading to a higher probability that those students would pass 7th-grade reading TAKS than that AISD students assumed eligible for pre-K who first entered the district as kindergarteners would do so. If the E3 Alliance's estimate is accurate, AISD kindergarten teachers might have 18% or more students who will enter kindergarten with age-appropriate pre-literacy skills below the average national norm.

Full-day pre-K was moderately associated with higher rates of receiving commended scores on 7th-grade math TAKS than was half-day pre-K; gains in math ability were “zeroed” out by 3rd grade. Although DPE staff cannot assess the growth of math ability from pre-K to 2nd grade, the findings suggest it is possible students who attended AISD half-day pre-K programs did not have the same foundation in math as did other similar students.

Without state funds to provide full-day pre-K district wide, AISD would have to use other funding sources (e.g., Title I, local funds) to maintain the full-day program. If these funds were insufficient, district decision makers could phase in half-day programs at schools where pre-K students enter with high native language pre-literacy ability, rather than implement a half-day program district wide, as in 1986–1987. Pre-K students who enter the district with pre-literacy skills already in the national average range may not be as adversely affected as would be students with weaker pre-literacy skills by half-day program implementation, in terms of their growth in pre-literacy skills. It is important to note that although these students at some schools had higher pre-literacy abilities than did other students in the district, their skills, on average, were still below the national average.

Furthermore, DPE staff cannot make conclusions about the lesser growth rate observed in half-day students' early math skills, compared with the growth rate for full-day students' early math skills, for students entering with levels of math ability that were high already. Half-day programs would benefit from early childhood community partners providing these campuses with additional resources

and services, especially in the area of improving students' early math abilities. The students who seem to have benefitted the most from the full-day pre-K program were those who entered school with low native language pre-literacy skills. The district could target full-day programs for those students who attend schools that have high concentrations of students with low pre-literacy ability.