

LUCY READ PREKINDERGARTEN DEMONSTRATION SCHOOL'S FIRST-YEAR COHORT'S 3RD-GRADE TAKS PERFORMANCE

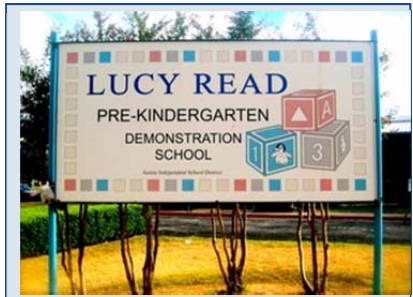
About Lucy Read. The Lucy Read Prekindergarten (pre-K) Demonstration School (Lucy Read) opened in 2006–2007 to support enhanced teaching strategies and techniques for 4-year-olds eligible for pre-K in the attendance zones of Cook, McBee, and Walnut Creek Elementary Schools.¹ To be eligible for pre-K, students must meet one of the following: qualify for free or reduced-price lunch program, be an English language learner (ELL), be homeless, be the child of an active-duty military member or a military member who was injured or killed in service, or have ever resided in foster care (Texas Education Code §29.153). In Spring 2011, Read's first cohort (i.e., 2006–2007) took the 3rd-grade level reading and mathematics (math) Texas Assessment of Knowledge and Skills (TAKS), assuming annual grade promotion.

About the methodology. To control for student mobility, the comparison groups in the analysis were based on the 2007–2008 kindergarten cohort rather than all students who took 3rd-grade TAKS. Research has shown that students who entered Austin Independent School District (AISD) later than kindergarten and were assumed to have qualified for pre-K did not perform as well on TAKS compared to those who did attend AISD in kindergarten (Brunner, 2010). The two indicators used to assume pre-K qualification were free- and reduced-priced lunch status or ELL status in 2007–2008.

Kindergarten students were categorized into 5 groups for comparison: (a) attended Lucy Read for pre-K, (b) attended kindergarten at Lucy Read's feeder campuses, but did not attend Lucy Read, (c) attended AISD pre-K at a campus other than Lucy Read, (d) ELL or economically disadvantaged AISD kindergarteners who did not attend AISD pre-K (i.e., students assumed to have qualified for pre-K but did not attend in AISD), and (e) AISD kindergarteners who were not ELL and did not qualify for free- or reduced-priced lunch (i.e., kindergarten students who were assumed not to have qualified for pre-K; see technical note [1]).

The group who attended kindergarten at Lucy Read's feeder schools included 59 students who attended pre-K in AISD and 55 students who attended kindergarten only at McBee, Cook, or Walnut Creek (regardless of pre-K qualification). This group was added to compare the effect of the feeder campuses on TAKS results.

Understanding the data. TAKS is the state-mandated assessment used to measure students' academic progress according to Texas education standards. TAKS scores were converted to normal curve equivalent (NCE) scores to combine performance regardless of test language version. Because



Key Findings

- Lucy Read pre-K students had significantly higher 3rd-grade math TAKS scores than did students who attended AISD for both pre-K and kindergarten and those who attended AISD kindergarten only, but were assumed to have qualified for pre-K.
- On average, Lucy Read pre-K students performed better than the state average on 3rd-grade math TAKS.
- A greater percentage of Lucy Read pre-K students scored commended on math TAKS than did AISD students who attended or assumed qualified for pre-K.
- Lucy Read pre-K students performed better on reading TAKS than did students who were assumed to have qualified for pre-K but did not attend.

About this report. This report was requested by the director of AISD's Department of Early Childhood as part of the 2011–2012 program evaluation.

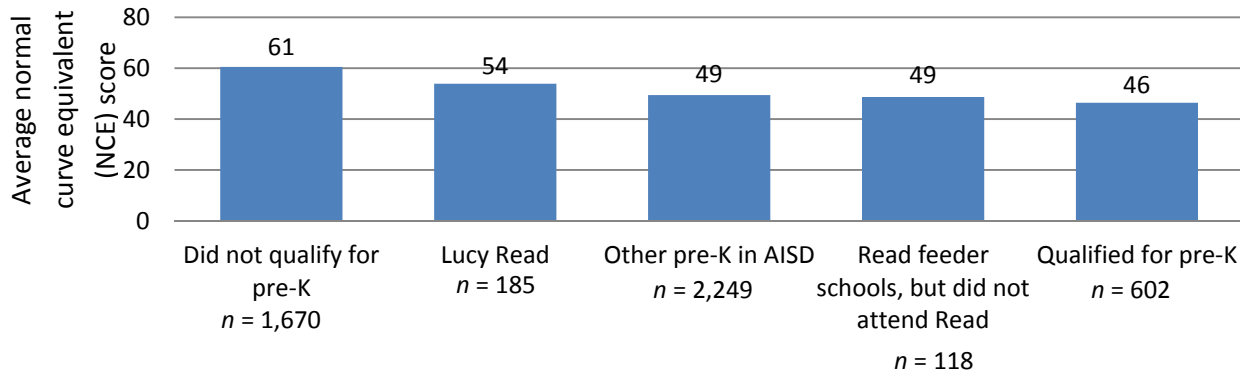
¹ In 2011–2012, Lucy Read served the Cook, McBee, and Wooldridge Elementary Schools attendance zones.

scale scores are based on the distribution of raw scores, scale scores for the English and Spanish versions of TAKS differ slightly. The NCE scale provides equal interval scores based on the normal distribution curve and has a range from 1 to 99. NCE scores have a mean of 50 and a standard deviation of 21.06 points. A complete explanation of the scale score conversion process can be found in the technical notes (2) of this report.

Performance on Math TAKS

On average, Lucy Read pre-K students had significantly higher NCEs on 3rd-grade math TAKS than did students who attended AISD for both kindergarten and pre-K or AISD kindergarten only but most likely qualified for pre-K (Figure 1). Although Lucy Read students did not perform as well as AISD kindergarten students not eligible for pre-K, they did perform better than the state average on math TAKS (i.e., 50 NCEs). AISD pre-K students (i.e., not from Lucy Read) also performed significantly better than did students who were assumed to have qualified for pre-K but attended AISD for kindergarten only.

Figure 1: 2007–2008 Kindergarten Cohort’s 3rd-Grade Math Texas Assessment of Knowledge and Skills (TAKS) Performance, Spring 2011



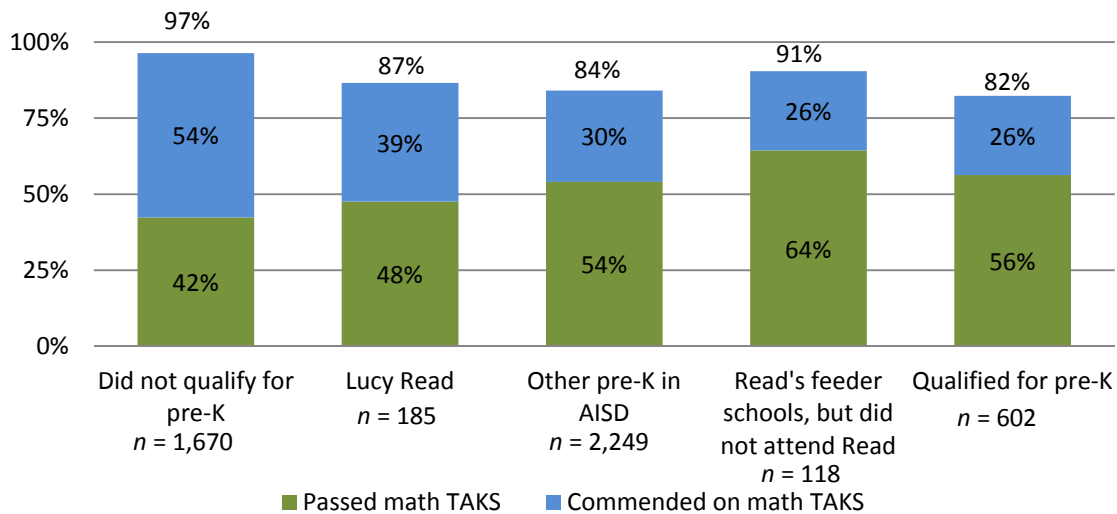
Source. AISD PEIMS tables, 2006–2007, 2007–2008, and TAKS, 2010–2011

Note. The results are for the standard version of TAKS only and include both the English and Spanish versions.

Overall, 87% of Lucy Read’s pre-K students passed math TAKS; 39% received a commended score (Figure 2). Although Lucy Read students’ passing rate on math TAKS did not significantly differ from the passing rates of AISD students who qualified or attended AISD pre-K, their commended rate was significantly higher. DRE staff also performed logistic regression to explore how program participation at Lucy Read influenced 3rd-math TAKS passing and commended rates (see technical not [3]). Third-grade math TAKS results were as follows:

- Lucy Read students were 1.6 times more likely to receive a commended score on 3rd-grade math TAKS than did students who attended pre-K at other AISD schools ($p < .01$).
- Lucy Read students were 2 times more likely to receive a commended score on 3rd-grade math TAKS than did students who did not attend pre-K in AISD but most likely did qualify ($p < .0001$).
- Lucy Read students were 1.8 times more likely to pass 3rd-grade math TAKS than did students who did not attend pre-K in AISD, but who most likely qualified for pre-K ($p < .05$).
- AISD pre-K students were 1.2 times more likely to receive a commended score on 3rd-grade math TAKS than did students who did not attend pre-K in AISD, but who most likely qualified for pre-K ($p < .05$).

Figure 2: 2007–2008 Kindergarten Students Who Met Passing and Commended Standards on 3rd-Grade Math Texas Assessment of Knowledge and Skills (TAKS), Spring 2011

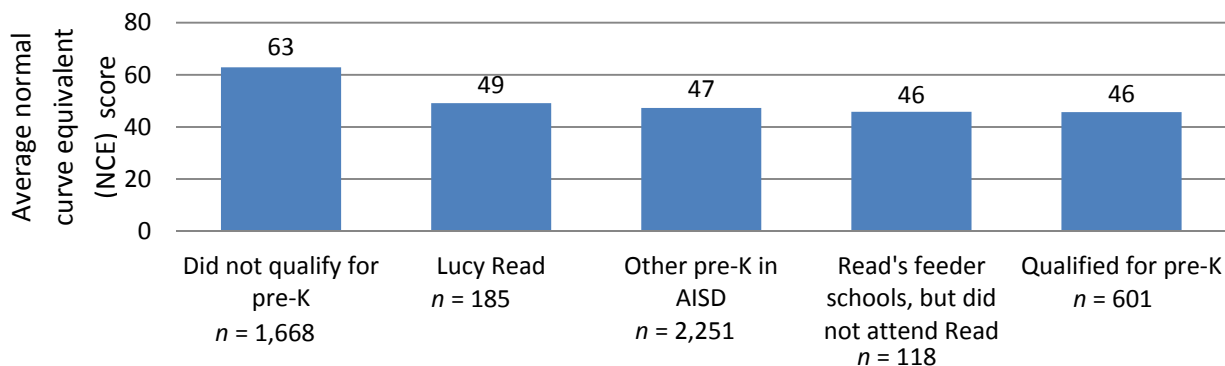


Source. AISD PEIMS tables, 2006–2007 and 2007–2008, and math TAKS summary tables, 2010–2011
 Note. The results are for the standard version of TAKS only and include both the English and Spanish versions.

Performance on Reading TAKS

On average, Lucy Read students performed significantly better on reading TAKS than did students who were assumed to have qualified for pre-K but did not attend (Figure 3). However, they performed as well as did other students who attended pre-K in AISD and students who attended kindergarten at the feeder schools to Lucy Read, according to analysis of variance tests.

Figure 3: 2007–2008 Kindergarten Cohort’s 3rd-Grade Reading Texas Assessment of Knowledge and Skills (TAKS) Performance, Spring 2011



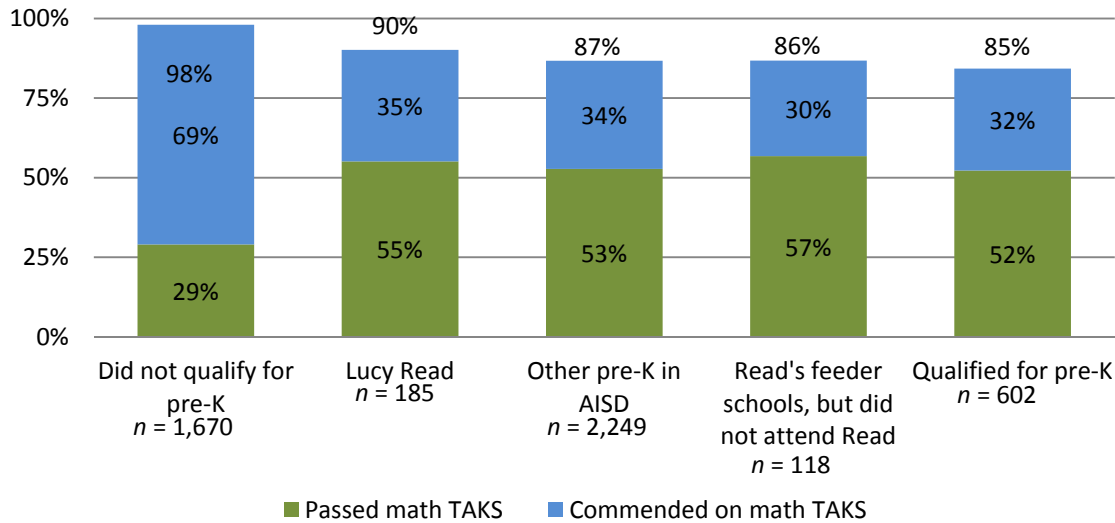
Source. AISD PEIMS tables, 2006–2007 and 2007–2008, and math TAKS summary tables, 2010–2011
 Note. The results are for the standard version of TAKS only and include both the English and Spanish versions.

Ninety percent of Lucy Read’s pre-K students passed reading TAKS; 35% received a commended score (Figure 4). A significantly greater percentage of students at Lucy Read than of students who did not attend pre-K at AISD but were assumed to have qualified passed reading TAKS. Using similar logistic regression analysis (see technical note [3]), 3r-grade reading TAKS results were as follows:

- Lucy Read students were 1.8 times more likely to pass 3rd-grade reading TAKS than were students who did not attend pre-K in AISD but who most likely qualified for pre-K ($p < .05$).

- AISD pre-K students were 1.3 times more likely to pass 3rd-reading TAKS than were students who did not attend pre-K in AISD but who most likely qualified for pre-K ($p = .0563$).

Figure 4: 2007–2008 Kindergarten Students Who Met Passing and Commended Standards on 3rd-Grade Reading Texas Assessment of Knowledge and Skills (TAKS), Spring 2011



Source. AISD PEIMS tables, 2006–2007 and 2007–2008, and reading TAKS summary tables, 2010–2011

Note. The results are for the standard version of TAKS only and include both the English and Spanish versions.

Conclusion. The achievement gap between students (i.e., ELL and/or economically disadvantaged students) who qualified for pre-K and those who did not was apparent in the 3rd-grade TAKS results. The performance gap was largest among reading TAKS commended rates; 69% of students who were in AISD kindergarten but not eligible for pre-K received commended, compared with 30% to 35% of students who qualified or attended pre-K and received commended on reading TAKS.

The average NCE score for students who did not attend pre-K but most likely did qualify was 45.8 in reading and 46.5 in math (i.e., below the state averages). The average NCE score for all pre-K students was 47.3 in reading (i.e., below the state average, but above that of students who did not attend pre-K but qualified) and 49.8 in math (i.e., at the state average).

The data suggest that Lucy Read may contribute more to students' foundation in math than do traditional district pre-K programs. On average, Lucy Read students performed better than the state average on 3rd-grade math TAKS, and they were more likely to receive a commended score than were other pre-K eligible students (i.e., ELLs or economically disadvantaged students) who had been in the district since kindergarten (regardless of whether they attended pre-K).

In general, AISD students who did not attend Lucy Read and had been in the district since kindergarten had higher passing rates (and commended ratings) on 3rd-grade reading TAKS than on the math test. For Lucy Read students, the commended rate on reading TAKS was lower than for math (i.e., 35% compared with 39%). Although Lucy Read students did not outperform other AISD pre-K students on 3rd-grade reading TAKS, they did have a higher passing rate on reading TAKS than did students who did not attend pre-K but were likely to have qualified.

Funding Sources

Funding for this report was provided by Title I, Part A.

District Strategic Plan

This report relates to several of the AISD Strategic Plan goals and outcomes. **Goal 1:** All students will perform at or above grade level. **Measurable Outcome 1:** TAKS passing rates for students who have been in the district for 3 consecutive years. **Goal 2:** Achievement gaps among all groups will be eliminated. **Measurable Outcome 3:** Achievement gaps among ethnic groups. **Measurable Outcome 4:** Achievement gaps between economic groups.

References

Brunner, J. (2010). *AISD prekindergarten program longitudinal summary report, Issue 1: Long-term benefits, 2005–2006 pre-K cohort*. (Publication No. 09.76 RB a). Austin, TX: Austin Independent School District.

Texas Education Agency. (2011). *TAKS frequency distributions 2011*. Retrieved from http://www.tea.state.tx.us/index3.aspx?id=3290&menu_id=793

Technical Notes

(1) Table T-1a. Student Sample Attrition From Kindergarten, 2007–2008 to 2010–2011

	2007–2008 (Kindergarten)	2010–2011 (3rd-grade reading TAKS)	2010–2011 (3rd-grade math TAKS)	% of cohort
(A) Lucy Read, 2006–2007	251	185	185	74
(B) Kindergarten at Lucy Read feeder school, did not attend Lucy Read	205	118	118	58
(C) Prekindergarten (pre-K) in AISD, 2006–2007	3,386	2,251	2,249	66
(D) Kindergarten in AISD, qualified for pre-K	1,263	601	602	48
(E) Kindergarten in AISD, did not qualify for pre-K	2,256	1,668	1,670	74

Table T-1b. Description of Sample Students' Characteristics

	A (n = 185)		B (n = 118)		C (n = 2,251)		D (n = 601)		E (n = 1,670)	
	n	%	n	%	n	%	n	%	n	%
Economically disadvantaged, 2007	182	98	104	88	2,152	96	573	95	NA	NA
Economically disadvantaged, 2010	180	97	106	90	2,127	94	544	91	146	9
English language learner, 2007	154	83	83	70	1,505	67	247	41	NA	NA
Special education, 2010	*	*	*	*	32	1	9	2	47	3
Immigrant status, 2007	21	11	18	15	132	6	44	7	*	*
Spanish TAKS, 2011	73	39	35	30	674	30	115	19	NA	NA

Source. AISD PEIMS tables, 2006–2007 and 2007–2008, and reading/math TAKS summary tables, 2010–2011

Note. The results are for the standard version of Texas Assessment of Knowledge and Skills (TAKS) only and include both the English and Spanish versions. Lucy Read's feeder schools in 2006–2007 were Cook, McBee, and Walnut Creek. * indicates redacted data due to cell size.

(2) TAKS scale scores were converted to NCE scores to make use of both Spanish and English versions of 3rd-grade reading and math TAKS scores in the analysis. The Texas Education Agency (TEA) only publishes scale score frequencies for the April administration of TAKS (TEA, 2011). Scale scores were first converted to percentile ranks (PR) using the following formula:

$$PR(x) = ((f / 2 + L) / N) 100$$

where

x = scale score of interest

f = frequency of the scale score of interest

L = cumulative frequency associated with the next lowest scale score

N = number of tested students.

PRs were converted to NCEs using the following EXCEL formula: $NCE = 21.06 * NORMSINV(PR/100) + 50$

(3) The Department of Research and Evaluation (DRE) staff used logistic regression to control for 2007–2008 ELL status, 2007–2008 immigrant status, TAKS language version, 2010–2011 special education, and 2010–2011 economic disadvantage when testing for the effect of Lucy Read.

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