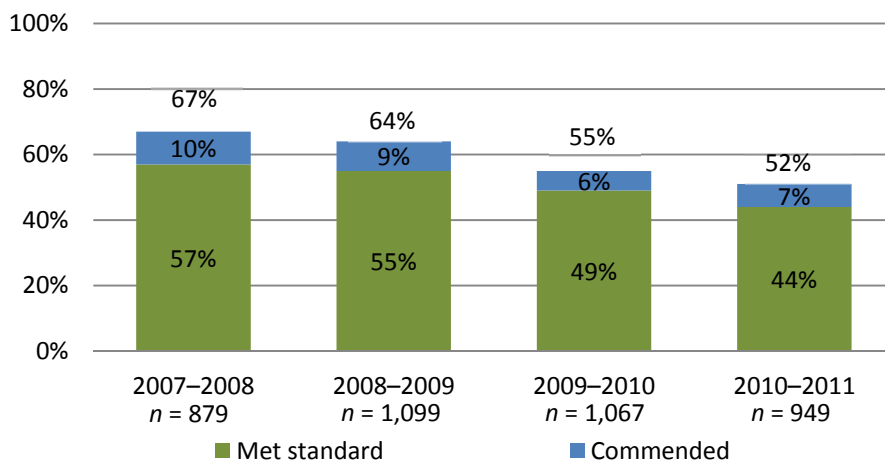


Executive Summary

Purpose. Sixth-grade Spanish English language learners' (ELLs) reading Texas Assessment of Knowledge and Skills (TAKS) performance declined by 15 percentage points from Spring 2008 to Spring 2011 (Figure 1). The director of the Department of ELLs requested research to (a) investigate how ELLs' transition to 6th grade affected their reading TAKS performance, (b) understand whether ELLs who took the English version of TAKS in 5th grade did better on 6th-grade reading TAKS than did ELLs who took the 5th-grade Spanish version, and (c) examine how English proficiency correlated with reading TAKS performance.

Figure 1. Spanish English Language Learners' 6th-grade Reading Texas Assessment of Knowledge and Skills (TAKS) Performance, 2007–2008 Through 2010–2011



Source. AISD reading TAKS summary tables, 2007–2008 through 2010–2011

Note. Results include Spanish English language learners in the district accountability subset (i.e., students who were in the district in the fall) who took standard TAKS, TAKS-M, or TAKS-Accommodated.

How does ELLs' transition to 6th grade affect reading TAKS performance?

The decline in Spanish ELLs' 6th-grade reading TAKS passing rate from 2007–2008 to 2010–2011 can be explained partially by the increased number of Spanish ELLs who exited the language programs prior to 6th grade and possibly by the increase in academic achievement standards that took place in Spring 2010.

Do Spanish ELLs who take the English version of TAKS in 5th grade do better on 6th-grade reading TAKS than do ELLs who take the 5th-grade Spanish version?

Spanish ELLs' 5th-grade reading TAKS language version did not matter for the majority of Spanish ELLs' performance on the standard version (i.e., not modified or accommodated) of 6th-grade reading TAKS.



About reading TAKS. The state-mandated TAKS test assessed students' academic progress according to Texas education standards. Reading TAKS was administered annually to students in grades 3 through 9 between Spring 2003 and Spring 2011. Until the 2009–2010 academic year, English and Spanish versions of the TAKS were available for students in grades 3 through 6. Starting in 2009–2010, the Spanish version of TAKS was available in grades 3 through 5 only. In 2011–2012, the State of Texas Assessment of Academic Readiness (STAAR) will replace TAKS for grades 3 through 8.

About TELPAS. English proficiency is measured by the Texas English Language Proficiency Assessment Scales (TELPAS). The four domains assessed by TELPAS are reading, writing, listening, and speaking. The ratings are 1 = *beginning*, 2 = *intermediate*, 3 = *advanced*, and 4 = *advanced high*.

How does English proficiency correlate with reading TAKS performance? Spanish ELLs' current year English proficiency was correlated with current year reading TAKS performance. Sixth-grade ELLs' reading TAKS scores were correlated with their 6th-grade English proficiency, as measured by the TELPAS. ELLs' 5th-grade reading TAKS language version was correlated with their 5th-grade English proficiency.

Policy Implication: To improve Spanish ELLs' 6th-grade reading TAKS performance, emphasis should be placed on growth in English language proficiency instead of on the language version in which they take TAKS in elementary school. Sixty-five percent of 6th-grade Spanish ELLs who made yearly progress on the TELPAS growth measure passed the standard version of the 6th-grade reading TAKS. In contrast, 24% of Spanish ELLs did not make yearly progress on the TELPAS but passed the standard version of the 6th-grade reading TAKS. Spanish ELLs who showed adequate yearly progress in English proficiency were 5.2 times more likely to pass reading TAKS than were those who did not show adequate yearly progress.

More Key Findings

- Former Spanish ELLs, on average, performed better on 6th-grade reading TAKS and had more growth in reading than did students with similar characteristics who were never ELL.
- Although current Spanish ELLs had a lower passing rate on 6th-grade reading TAKS, they showed slightly greater growth in reading than did students who were never ELL.
- Spanish ELLs' growth in English proficiency from 5th to 6th grade was a good indicator of their ability to pass 6th-grade reading TAKS (even if they had not met the passing standard in reading TAKS the prior year).
- Sampled Spanish ELLs and students who were never ELL and were on an elementary campus for 6th grade performed better on the standard version of reading TAKS, on average, than did similar students who were on a middle school campus for 6th grade.

Suggestion for Future Research: Explore how 6th grade housed on an elementary campus influences students' academic performance. Although this research did not address the full relationship of elementary-based 6th grade for all students, the data suggest that, for 6th-grade, Spanish ELLs and students who were never ELL who were on an elementary-based campus and who were also in the district for 5th grade performed better on the standard version of 6th-grade reading TAKS than similar students' whose 6th-grade was attached to a middle school.

What was not important with respect to the district's Spanish ELLs' reading TAKS performance?

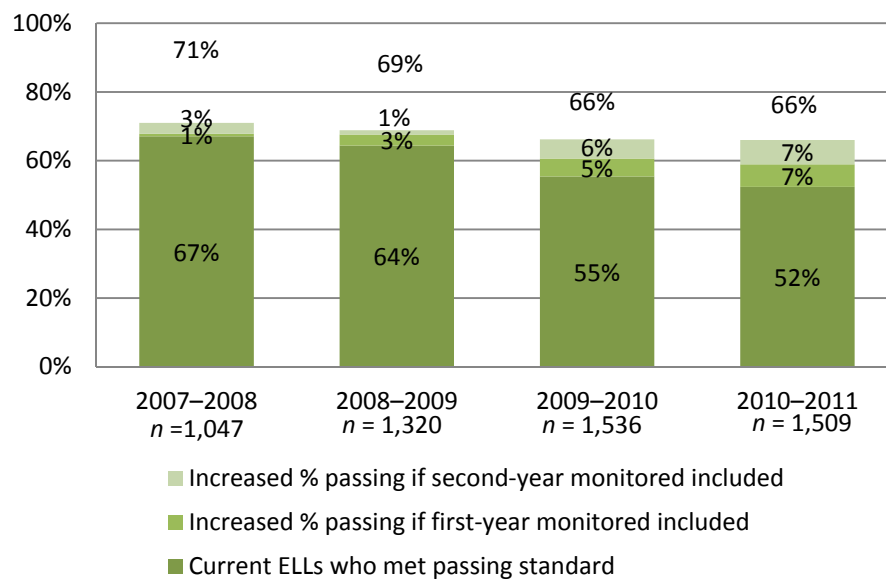
- The Texas Education Agency (TEA) policy that eliminated the Spanish version of 6th-grade TAKS did not significantly contribute to the decline in Spanish ELLs' reading TAKS performance (see technical note [1]).
- The decline in the district's 6th-grade Spanish ELL reading TAKS passing rate was not greatly influenced by inter-district mobility (i.e., Spanish ELLs new to the district in 6th grade) or by intra-district mobility (i.e., students' movement among Austin Independent School District [AISD] campuses) (see technical note [2]).

Detailed Findings

Increased Rate of Exited Spanish ELLs Influence on 6th-Grade Reading TAKS Performance

The number of first-year monitored 6th-grade Spanish students (i.e., recently exited ELLs) who took reading TAKS rose by 642%, from 36 students in 2007–2008 to 231 students in 2010–2011. The number of second-year monitored 6th-grade Spanish students taking reading TAKS rose by nearly 250% in the same time period. AISD identified and exited a greater number of Spanish ELLs in 4th and 5th grade than in previous years, which partially explains the decline in passing rates on 6th-grade ELLs' reading TAKS (i.e., more 6th-grade Spanish-speaking students were not counted among the ELLs' TAKS passing rates because they were more likely to have exited the program; see Figure 2).

Figure 2. Current and Monitored Spanish English Language Learners (ELLs) Who Met Standard on 6th-grade Reading Texas Assessment of Knowledge and Skills (TAKS) in 2007–2008 Through 2010–2011



Source. AISD reading TAKS summary tables, 2007–2008 through 2010–2011

Note. Results include students in the campus accountability subset who took standard TAKS, TAKS-M, or TAKS-Accommodated. The displayed percentages for passing and commended may not sum to above reported passing rates due to rounding (see technical note [3]).

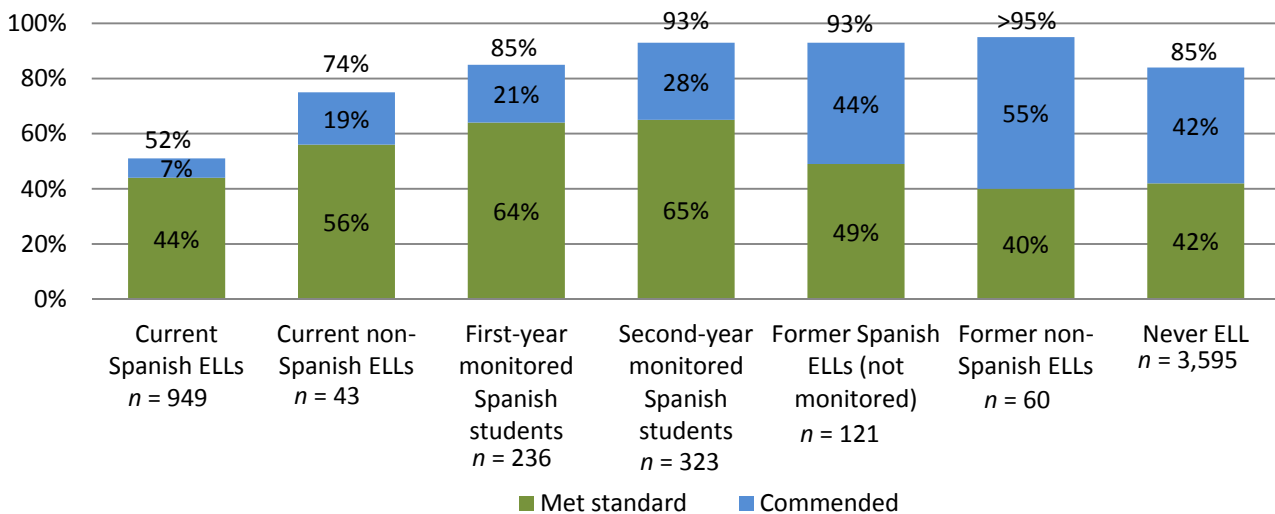
If first-year monitored students were included in the Spanish ELLs' 6th-grade reading TAKS passing rate, a 10 percentage point decrease was noted between 2007–2008 and 2010–2011. If second-year monitored students were included, the decline was 5 percentage points. In other words, the difference in the number of Spanish students exiting the language program from 2007–2008 to 2010–2011 had an effect on the 6th-grade reading TAKS passing rate, but does not explain all of the decline in the percentage of 6th-grade Spanish ELLs who passed reading TAKS.

If former ELLs and current ELLs passing rates are combined, the 5% decline took place in 2009–2010 when the academic achievement standard for 6th-grade reading was increased (TEA, 2010b). The passing rates for all AISD Spanish ELLs (former and current) were nearly the same for 2009–2010 and 2010–2011; however, the passing rate for first-year monitored Spanish ELLs declined by 5%, suggesting that more Spanish ELLs may have exited before they were academically ready (see technical note [3]).

AISD's 6th-Grade Spanish ELLs Reading TAKS Performance, Compared With Peers' Performance

Thirty-three percent fewer 6th-grade Spanish ELLs than students who were never ELL met standard on reading TAKS (i.e., 52% compared to 85%). (The passing rate for all non-ELLs, which included former ELLs, was 86%.) However, the AISD pattern for passing rates for current and former ELLs (Figure 3) was consistent with the pattern observed at the state level. Statewide results showed that 57% of ELLs (speaking any language) passed 6th-grade reading TAKS; 85% of first-year monitored former ELLs passed; 91% of second-year monitored former ELLs passed; and, 87% of other non-ELLs passed (TEA, 2011a). Five percent fewer AISD Spanish ELLs (52%), compared with all ELLs at the state level (57%), passed reading TAKS in Spring 2011; however, it is unclear how differences in patterns of ELLs exiting the language programs affected passing rates at the state level.

Figure 3: Reading Texas Assessment of Knowledge and Skills (TAKS) Performance, by English Language Learner (ELL) Status, Spring 2011



Source. AISD PEIMS records, 2003–2011, and reading TAKS summary tables, 2010–2011

Note. Results include all students in the district accountability subset who took TAKS, TAKS-M, or TAKS-A. Some percentages do not sum to displayed total due to rounding. Former non-Spanish ELLs' met standard was greater than 40%.

Overall, the achievement gap between 6th-grade students who were ELL or previously ELL and students who were never ELL was 16 percentage points. Thus, the achievement gap persisted with the inclusion of former ELLs in the analysis; however, the difference was nearly half of that when comparing passing rates between students who were never ELL and current Spanish ELLs only.

Student Characteristics

A higher percentage of Spanish ELLs than of former Spanish ELLs and students who were never ELL were economically disadvantaged, enrolled on a Title I-A campus, received special education services, or repeated a grade level (Table 1).

Table 1. Characteristics of 6th-grade Students Who Took Reading Texas Assessment of Knowledge and Skills (TAKS), by English Language Learner (ELL) Status, Spring 2011

| | Spanish ELLs (n = 949) | | Former Spanish ELLs (n = 674) | | Never ELL (n = 3,593) | |
|------------------------------|---------------------------|----|----------------------------------|----|--------------------------|----|
| | Number | % | Number | % | Number | % |
| Economically disadvantaged | 929 | 98 | 621 | 92 | 1,799 | 50 |
| Enrolled on Title I-A campus | 823 | 87 | 533 | 79 | 1,524 | 42 |
| Special education | 136 | 14 | 16 | 2 | 427 | 12 |
| Gifted and talented | 21 | 2 | 90 | 13 | 400 | 11 |
| Repeated 1 or more grades | 172 | 18 | 34 | 5 | 333 | 9 |

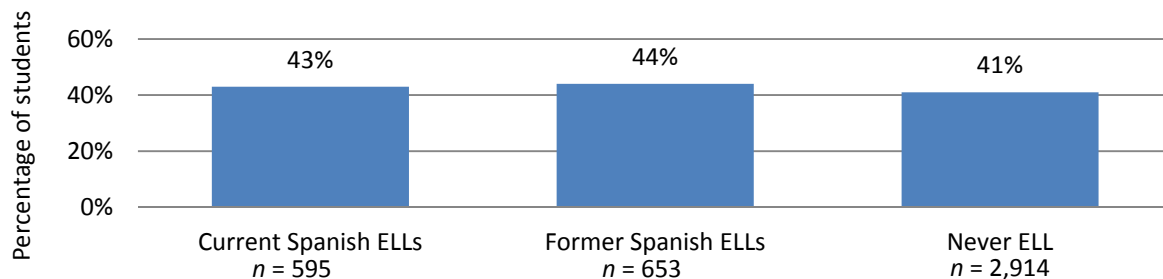
Source. AISD PEIMS records, 2003–2011, and reading TAKS summary tables, 2010–2011

Note. Results include all students who took TAKS, TAKS-M, or TAKS-A and who were enrolled in AISD in Fall 2010. Three students were excluded due to missing data. See technical note (4) for information regarding special education and grade retention.

The Department of Research and Evaluation (DRE) staff used generalized linear modeling to determine how student characteristics affected 6th-grade reading TAKS scores (see technical note [5]). After controlling for 5th-grade reading TAKS, economic disadvantage, Title I-A campus enrollment, gifted and talented program, previous grade retention, and elementary school enrollment, current Spanish ELLs scored 7.1 normal curve equivalent (NCE) points lower on 6th-grade reading TAKS, on average, than did students who were never ELL. Former Spanish ELLs scored 2.3 NCE points higher, on average, than did students who were never ELL, after controlling for various student characteristics.

Overall, 6th-grade Spanish ELLs had an average NCE of 29.4 in Spring 2011, which was more than one standard deviation below that of students who were never ELL. The data suggest that although current ELLs did not perform as well as similar peers, on average, former Spanish ELLs who exited the language programs prior to 6th grade were able to perform better than similar students who were never ELL on 6th-grade reading TAKS.

Figure 4. Students With One or More Years of Growth on 6th-grade Reading Texas Assessment of Knowledge and Skills (TAKS), by English Language Learner (ELL) Status, Spring 2011



Source. AISD PEIMS records, 2003–2011, and AISD reading TAKS summary tables, 2009–2010 and 2010–2011

Note. Results are based on students who took the English version of 5th- and 6th-grade reading TAKS.

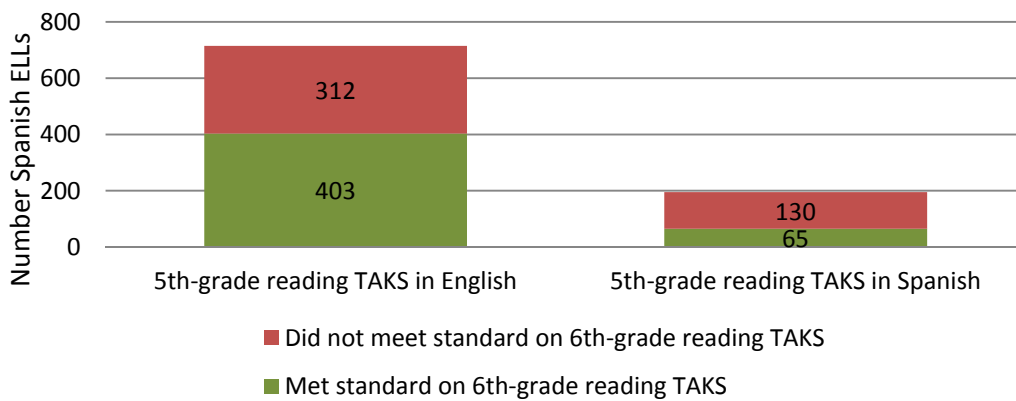
Forty-four percent of former Spanish ELLs made one year or more of expected growth in reading, compared with the state average based, on the standard 6th-grade version of reading TAKS (see technical note [6]). On average, AISD’s 6th-grade Spanish ELLs who took the standard English version of reading TAKS made 63% of expected annual growth, compared with all 6th-grade students at the state level. Students who were never ELL

showed growth that was 62% of the average growth at the state level, while former Spanish ELLs obtained 71% of expected growth at the state level. In other words, on average, AISD 6th-grade students (regardless of ELL status) had lower growth from 5th to 6th grade than did the average student at the state level on the standard reading TAKS assessment.¹ Sixth-grade former Spanish ELLs showed 9% more growth, on average, than did students who were never ELL. Current Spanish ELLs who took reading TAKS in English in 5th grade also showed slightly greater growth than did those who were never ELL.

Language Version of 5th-grade Reading TAKS

Of the 910 Spanish ELLs who took 5th-grade and 6th-grade reading TAKS in AISD, 79% took the 5th-grade reading assessment in English. Fourteen percent who took the test in English in 5th grade took the modified version. (The modified version was only available in English.)² Fifty-six percent of Spanish ELLs who took reading TAKS in English in 5th grade passed reading TAKS in 6th grade, while 33% of Spanish ELLs who took reading TAKS in Spanish in 5th grade passed reading TAKS in 6th grade (Figure 5).

Figure 5: Spanish English Language Learners' (ELLs) Spring 2011 6th-grade Reading Texas Assessment of Knowledge and Skills (TAKS) Performance, by 5th-grade Language Version in Spring 2010



Source. AISD PEIMS records and reading TAKS summary tables, 2010–2011

Note. Results include TAKS, TAKS-A, and TAKS-M for Spanish ELLs.

Recent immigrants and Spanish ELLs who scored *beginning* on TELPAS in Spring 2010 were more likely to take the Spanish version of the standard 5th-grade reading TAKS than were other Spanish ELLs. DRE staff used logistic regression to determine the student characteristics that were related to students taking 5th-grade reading TAKS in Spanish versus English. After controlling for indicators of economic disadvantage, Title I campus enrollment, gifted and talented, special education, recent immigrant, bilingual program placement, and 2010 TELPAS score, only recent immigrant status and 2010 TELPAS scores were significant. Recent immigrants were nearly 3 times more likely than Spanish ELLs who were not recent immigrants to take Spanish TAKS instead of English TAKS ($p < .01$). Spanish ELLs who scored *beginning* on TELPAS were 23 times more likely than Spanish

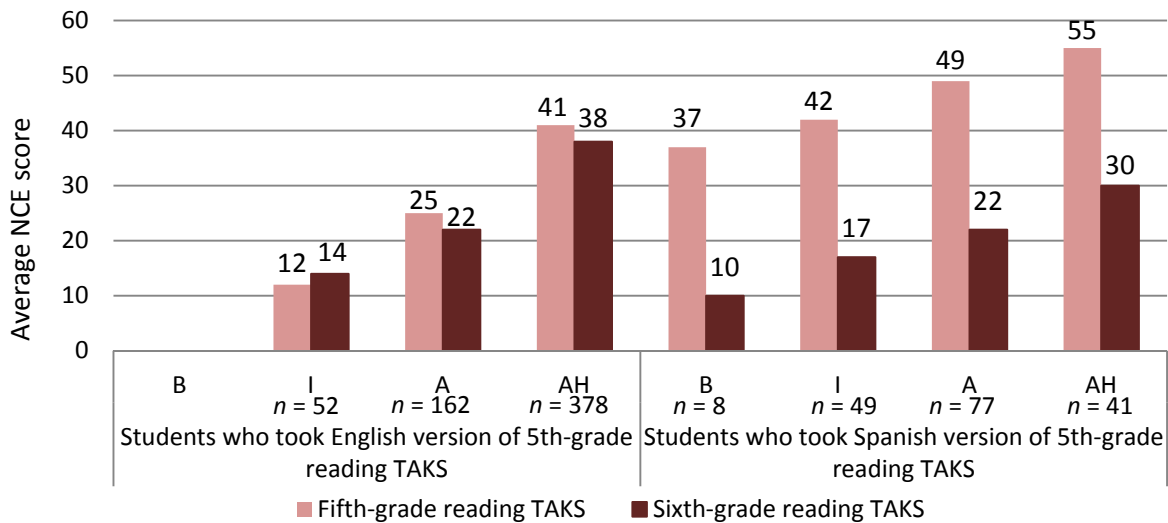
¹ DRE staff does not have access to data to determine AISD’s reading growth compared with growth for other urban districts or to control for individual student characteristics.

² Of the 771 Spanish ELLs who took the standard version of 6th-grade reading TAKS in Spring 2011 (i.e., not TAKS-M or TAKS-A) and took 5th-grade TAKS in AISD, 77% took the assessment in English in Spring 2010.

ELLs who scored *advanced high* to take reading TAKS in Spanish ($p < .05$). The data suggest students who should have taken the Spanish version of TAKS in 5th grade did so.

Does 5th-grade reading TAKS language version matter for Spanish ELLs' 6th-grade reading TAKS results? Spanish ELLs' 6th-grade reading TAKS performance was correlated with their English proficiency in their 6th-grade year (i.e., Spring 2011, see technical note [7]), while the TAKS language version of their 5th-grade year was related to their English proficiency in 5th grade (i.e., Spring 2010, see above). For Spanish ELLs who took the English version of 5th-grade reading TAKS, English proficiency was correlated with 5th-grade reading TAKS performance. For Spanish ELLs who took the Spanish version of reading TAKS in 5th grade, English proficiency was inversely correlated with 5th-grade reading TAKS performance. In other words, because the Spanish version of reading TAKS only assessed reading ability and not English proficiency, Spanish ELLs' performance was mostly related to their reading ability. In 6th grade, Spanish ELLs' reading TAKS performance was correlated to their English proficiency and most likely resulted in lower performance for those who had taken the 5th-grade reading TAKS in Spanish. However, analysis of variance indicated no significant difference in 6th-grade reading TAKS performance by 5th-grade language version for Spanish ELLs whose English proficiency was *beginning*, *intermediate*, or *advanced* in Spring 2010 (Figure 6).

Figure 6. Spanish English Language Learners' (ELLs) Spring 2011 Reading Texas Assessment of Knowledge and Skills (TAKS) Performance, by 5th-grade Test Language Version and Spring 2010 Texas English Language Proficiency Assessment Scales (TELPAS) Scores³



Source. AISD TELPAS records and reading TAKS summary tables, 2009–2010 and 2010–2011

Note. Result includes students who took standard TAKS for both 5th and 6th grade. NCE is the acronym for normal curve equivalent. TELPAS ratings are B = *beginning*, I = *intermediate*, A = *advanced*, and AH = *advanced high*. The bar is not shown for English version *beginning* due to redaction of data.

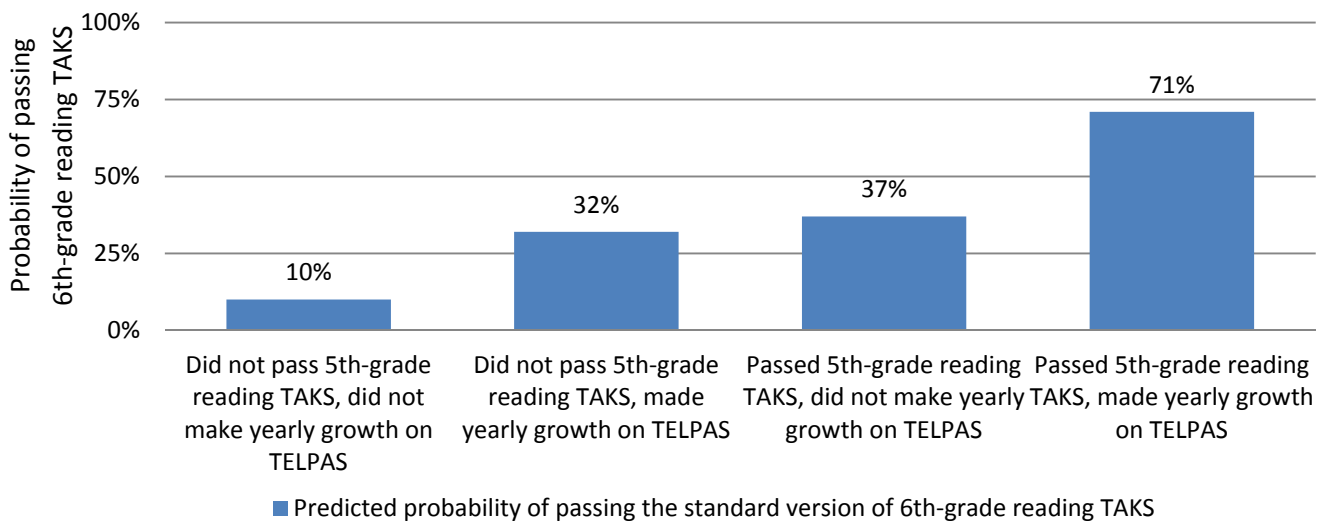
Spanish ELLs whose English proficiency was *advanced high* in Spring 2010 and who took the Spanish version of reading TAKS in 5th grade had significantly lower 6th-grade reading TAKS performance than did Spanish ELLs who took the English version of 5th-grade reading TAKS. However, the Spanish ELLs who took the Spanish version performed better on 5th-grade reading TAKS than did those who took the English version. (The NCEs are

³ The figure uses Spring 2010 TELPAS scores because the language version of TAKS in 5th grade cannot be related to the students' English proficiency in 6th grade.

based on the state level distribution of scale scores. ELLs who took the Spanish version of TAKS are only compared with other ELLs who took the Spanish version. ELLs who took the English version are compared with all students who took the English version.) Of the Spanish ELLs who took the standard version of reading TAKS in 5th and 6th grade, 85% ($n = 176$) passed the Spanish version of 5th-grade reading TAKS, and 71% ($n = 595$) passed the English version of 5th-grade TAKS.

Conclusion. To improve Spanish ELLs' 6th-grade reading TAKS performance, emphasis should be placed on growth in English language proficiency instead of on the language version in which they take TAKS in elementary school. Although Spanish ELLs who passed 5th-grade reading TAKS and made yearly growth on TELPAS were the most likely to pass 6th-grade reading TAKS, the model suggests that focusing on English proficiency growth for all Spanish ELLs, including those who did not pass 5th-grade reading TAKS, may be effective in increasing Spanish ELLs' 6th-grade reading TAKS performance. Only a 5% difference was found in predicted probability of passing 6th-grade reading TAKS between Spanish ELLs who passed 5th-grade reading TAKS and did not make yearly growth on TELPAS and Spanish ELLs who did not pass 5th-grade reading TAKS but made yearly growth on TELPAS (Figure 7).

Figure 7. Spanish English Language Learners' Predicted Probabilities of Met Passing Standard on 6th-grade Reading Texas Assessment of Knowledge and Skills (TAKS) Performance, by Met Passing Standard on 2010 5th-grade TAKS and Made Yearly Growth on 2011 Texas English Language Proficiency Assessment Scales (TELPAS)

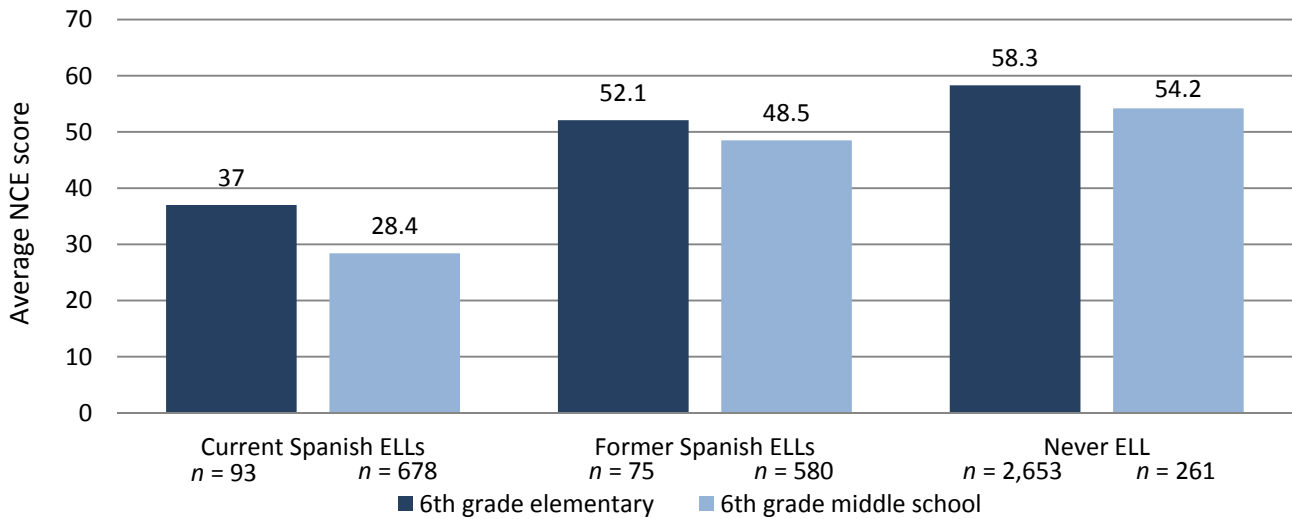


Source. AISD TELPAS records and reading TAKS summary tables, 2009–2010 and 2010–2011

DRE staff also investigated how transition in language program from 5th to 6th grade related to 6th-grade reading TAKS performance; however, not enough variation was found in the data to test the effect. Language program transition was mostly related to whether the 6th grade was housed on an elementary campus, because most Spanish ELLs who went to middle school transitioned from bilingual education (BE) to an English as a second language (ESL) pull-out program. Only Spanish ELLs who stayed on an elementary campus did not have a program change (i.e., they were in content-based ESL or BE). DRE staff tested the difference in NCEs on 6th-grade reading TAKS for elementary- and middle-school based 6th grade using analysis of variance (Figure 8). Both Spanish ELLs and students who were never ELL who were enrolled on an elementary campus had higher

NCE scores than did students enrolled on a middle school campus. If only Spanish ELLs showed this relationship, it would have been possible that the difference in performance was related to language program change (i.e., BE to ESL), but this was not the case.

Figure 8. Sixth-grade Reading Texas Assessment of Knowledge and Skills (TAKS) Performance, by English Language Learner (ELL) Status and 6th-grade Elementary or Middle School Enrollment



Source. AISD reading TAKS summary tables, 2010–2011

Note. Results include students in the district accountability subset who took standard TAKS for both 5th and 6th grade.

Funding Sources

Funding for this report was provided by district local funds.

District Strategic Plan

This report relates to AISD’s strategic plan goal 1, measurable outcomes 1 and 2, and to AISD’s strategic plan goal 2, measurable outcome 3. **Goal 1:** All students will perform at or above grade level. **Measurable Outcome 1:** TAKS passing rates who have been in the district for at least three consecutive years. **Measurable Outcome 2:** TAKS passing rates who have not been in the district for at least three consecutive years. **Goal 2:** Achievement gaps among all groups of students will be eliminated. **Measurable Outcome 3:** Achievement gaps among ethnic groups.

References

Texas Education Agency. (2011a). *TAKS summary reports for 2010–2011*. Retrieved from <http://www.tea.state.tx.us/student.assessment/taks/rpt/sum/yr11/>

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

Texas Education Agency. (2010a). *LPAC Manual Training, 2010–2011*. Retrieved from www.tea.state.tx.us/student.assessment/ell/LPAC-ManualTraining2011.pdf

Texas Education Agency. (2010b). *Vertical scale technical frequently asked questions*. Retrieved from http://www.tea.state.tx.us/index3.aspx?id=3818&menu_id=793

Texas Education Agency. (2010c). *Technical Digests, 2009-2010: Appendix B: TAKS statistical tables*. Retrieved from <http://www.tea.state.tx.us/student.assessment/techdigest/yr0910/>

Technical Notes

- (1) One percent of AISD 6th-grade ELLs took any version of the TAKS reading test in Spanish in 2007–2008, and less than one percent of 6th-grade ELLs took a Spanish version of reading TAKS in 2008–2009. Students could take the Spanish version for a maximum of 3 years (TEA, 2010a).
- (2) Fifty-one percent of Spanish ELLs who were in the district for at least 3 consecutive years ($n = 878$) passed 6th-grade reading TAKS. Students' 3-year consecutive status was determined by whether they had a TAKS test on record in the previous 2 years and the student was in the accountability subset for the current year. Only 71 6th-grade Spanish ELLs who were in the 2010–2011 accountability subset were not in the district for 3 consecutive years; their reading TAKS passing rate was 66%. Less than 3% ($n = 27$) of Spanish ELLs took reading TAKS on a campus different from the campus in which they were enrolled in Fall 2010. Mobility may still be important for individual students' ability to pass TAKS.
- (3) **Table T-1. First-Year and Second-Year Monitored Spanish English Language Learners' (ELLs) 6th-grade Reading Texas Assessment of Knowledge and Skills (TAKS) Passing Rate, by Year**

| | First-year monitored former Spanish ELLs | | Second-year monitored former Spanish ELLs | |
|------------------|--|-------------------|---|-------------------|
| | Number taking reading TAKS | Percentage passed | Number taking reading TAKS | Percentage passed |
| 2007–2008 | 38 | 87 | 130 | 92 |
| 2008–2009 | 155 | 90 | 66 | 92 |
| 2009–2010 | 200 | 90 | 269 | 92 |
| 2010–2011 | 236 | 85 | 323 | 93 |

Source. AISD reading TAKS summary tables, 2007–2009 through 2010–2011

Note. Results include students in the district accountability subset (i.e., those whose were enrolled in AISD in the fall) and who took standard TAKS, TAKS-A, and TAKS-M.

- (4) Sixteen percent of non-special education Spanish ELLs repeated a grade level. Six percent of non-special education students who were never ELL repeated a grade level. The majority of non-special education students who repeated a grade level did so in 1st or 2nd grade (48%); 6th grade represented 2% of repeated grade levels by non-special education students.
- (5) For the model, only students who were categorized as current Spanish ELL, former Spanish ELL, or never ELL and who took the standard TAKS exam (i.e., not TAKS-M or TAKS-A) in Spring 2010 and Spring 2011 were included. Table T-2 provides a description of the sample. Due to the low number of students in each category who took standard TAKS and received special education services, those students were excluded. (Fifty-three students total in the sample were in special education, and Spanish ELLs and Former ELLs had fewer than 5 students represented. DRE staff also ran a model that included special education students, and their inclusion did not significantly contribute to the model.)

Table T-2. Description of Sample Students' Characteristics

| | Spanish ELLs (n = 771) | | Former Spanish ELLs (n = 655) | | Never ELL (n = 2,914) | |
|---|---------------------------|------|----------------------------------|------|--------------------------|------|
| | Number | % | Number | % | Number | % |
| Economically disadvantaged | 755 | 98 | 601 | 92 | 1,343 | 46 |
| Enrolled on Title I-A campus | 675 | 87 | 519 | 79 | 1,197 | 41 |
| Gifted and talented | 21 | 3 | 90 | 14 | 389 | 13 |
| Repeated 1 or more grades | 116 | 15 | 31 | 5 | 184 | 6 |
| Sixth grade attached to elementary school | 93 | 12 | 75 | 11 | 261 | 9 |
| | Mean | SD | Mean | SD | Mean | SD |
| Fifth-grade reading TAKS average normal curve equivalent (NCE) scores | 37.0 | 18.7 | 50.6 | 14.6 | 56.7 | 18.7 |
| Sixth-grade reading TAKS average NCE scores | 29.4 | 17.8 | 48.9 | 16.1 | 54.6 | 21.2 |

Source. AISD PEIMS records, 2003–2011, and reading TAKS summary tables, 2010–2011

DRE staff converted TAKS scale scores to NCE scores to measure year-to-year growth and compare performance by test language version. Because 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.

Table T-3. 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 |

TEA only publishes scale score frequencies for the April administration of TAKS (TEA, 2011b, TEA, 2010c). 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: $NCE = 21.06 * NORMSINV(PR/100) + 50$

NCEs were estimated for scale scores not represented among the frequency table provided through TEA by the following formula: $NCE(x) = \{[(NCE(SS_1) - NCE(SS_2)) / (SS_1 - SS_2)] * (X - SS_1)\} + NCE(SS_1)$

where

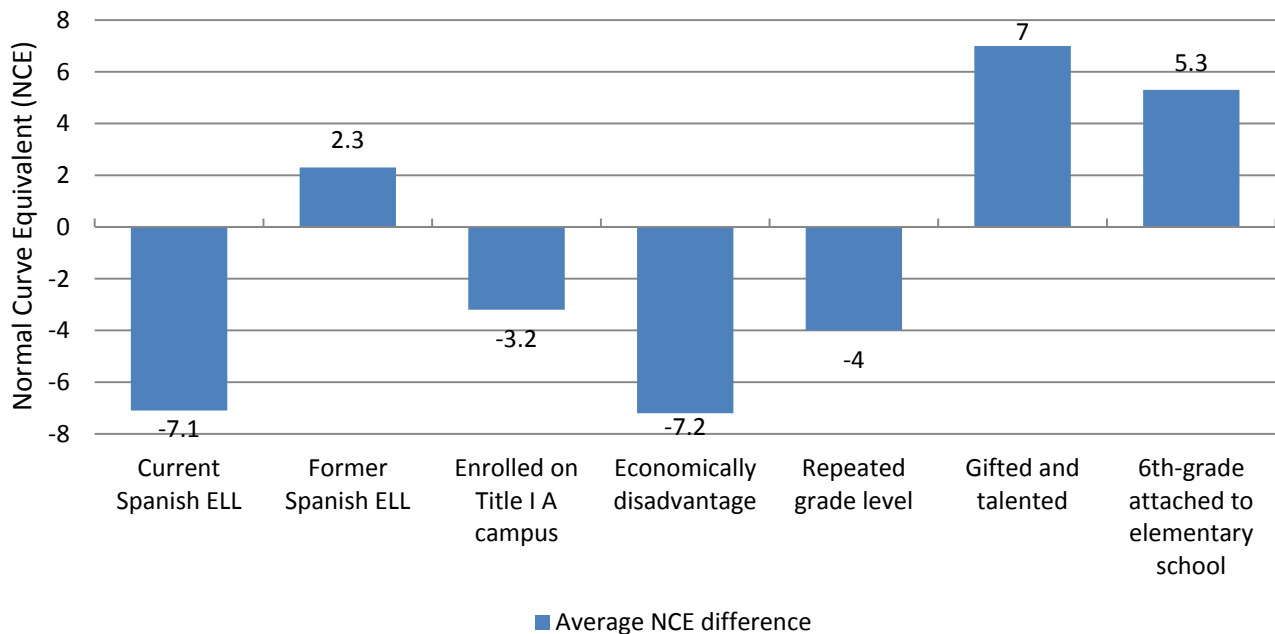
X = scale score of interest

SS₁ = next lowest available scale score

SS₂ = next highest available scale score

The model produced estimates of students' 6th-grade reading TAKS NCEs based on their characteristics (Figure T-1).

Figure T-1. Estimated Difference in 6th-grade Reading Texas Assessment of Knowledge and Skills (TAKS) Performance, by Student Characteristics, Spring 2011



Source. AISD PEIMS records, 2003–2011, and reading TAKS summary tables, 2010–2011

Note. The results are based on the standard version of 6th-grade reading TAKS and exclude special education students. The baseline represents students who are not in the defined category. For current Spanish English language learners (ELLs) and former Spanish ELLs, the baseline represents students who were never ELL. The estimates control for the other student characteristics and 5th-grade reading TAKS performance. The estimates were significant ($p < 0001$).

Although 6th-grade former Spanish ELLs' average reading TAKS NCE score (mean = 48.9) was lower than the average NCE score for students who were never ELL (mean = 54.6) (Table T-2), the above model suggests the difference in means might be related to differences in economic status between the two groups. On average, former ELLs gained 2.3 NCEs more than did never ELLs; however, if they were economically disadvantaged, they lost 7.2 NCEs, for a net loss of 4.9 NCEs on average. Economic disadvantage (-7.2) had nearly the same effect on 6th-grade reading TAKS performance as did ELL status (-7.1).

- (6) Expected growth size (EGS) was calculated with the following formula: $EGS = (SS_6 - SS_5)/SD_5$
 where
 SS_6 = scale score at 50th percentile at the 6th grade Texas state level in Spring 2011
 SS_5 = scale score at 50th percentile at the 5th grade Texas state level in Spring 2010
 SD_5 = standard deviation of 5th grade Texas state level scale scores in Spring 2010

The EGS for the 6th-grade year in 2011 with base year of 2010 for reading TAKS was .26 standard deviations for students who took the exam in English for both years. The Spanish and English versions of TAKS are not vertically aligned (i.e., the vertical scales are based on the language version of the assessment) (TEA, 2010b). The EGS measure assumes vertical alignment of assessments, and therefore growth cannot be reliably calculated between years in which a student switched from a Spanish to English version of the TAKS assessment.

To convert EGS to expected yearly growth in NCEs, the following formula was used: $NCE = EGS * 21.06$

For students who took the English version of reading TAKS in 5th and 6th grades, 5.58 NCEs represented average yearly growth.

- (7) DRE staff ran correlation matrices on Spanish ELLs' TELPAS composite scores and reading TAKS scale scores. he results are presented in Table T-4.

Table T-4. Correlation Between Texas English Language Proficiency Assessment Scales (TELPAS) Composite Scores and Reading Texas Assessment of Knowledge and Skills (TAKS) Scale Scores, by 5th-grade TAKS Language Version, Spring 2010 and Spring 2011

| Fifth-grade language version | TELPAS 2010 (5th grade) | | TELPAS 2011 (6th grade) | |
|----------------------------------|-------------------------|---------|-------------------------|---------|
| | Correlation | p value | Correlation | p value |
| English version (n = 590) | | | | |
| TAKS 2010 (5th grade) | .58 | .0001 | .50 | .0001 |
| TAKS 2011 (6th grade) | .53 | .0001 | .57 | .0001 |
| Spanish version (n = 173) | | | | |
| TAKS 2010 (5th grade) | .28 | .0002 | .37 | .0001 |
| TAKS 2011 (6th grade) | .40 | .0001 | .61 | .0001 |

Source. TELPAS records and TAKS records, 2009–2010 and 2010–2011

Note. Results include Spanish ELLs who took the standard version of 5th- and 6th-grade TAKS and had TELPAS scores for Spring 2010 and Spring 2011. The above excludes special education students (n < 10). The correlation for 6th-grade reading TAKS 2011 and TELPAS 2011 for the entire sample was .60 (p < .0001) and was .40 for TAKS 2010 and TELPAS 2010.

SUPERINTENDENT OF SCHOOLS
 Meria J. Carstarphen Ed.D.

OFFICE OF ACCOUNTABILITY
 William H. Caritj, M.Ed.

DEPARTMENT OF RESEARCH AND EVALUATION
 Holly Williams, Ph.D.

BOARD OF TRUSTEES
 Mark Williams, President • Vincent Torres, M.S., Vice President
 Lori Moya, Secretary • Cheryl Bradley • Annette LoVoi, M.A. • Christine Brister •
 Robert Schneider • Tamala Barksdale • Sam Guzman

