



Question: How does the 2008 Texas Assessment of Knowledge and Skills (TAKS) performance of Austin Independent School District (AISD) former English-language learner (ELL) students differ according to bilingual education (BE) or English as a second language (ESL) program entry and exit patterns?

Response: This paper examines how AISD former ELL students performed on 2008 TAKS tests, according to their BE or ESL program entry and exit patterns, and extends earlier research that examined how former ELL TAKS performance varied by the number of years since students had exited from BE or ESL programs (González, 2007).

After a discussion with BE/ESL program staff regarding typical patterns of BE/ESL entry and exit, program evaluation staff coded exited ELL students who were enrolled during the 2007–2008 school year into one of three mutually exclusive groups: (a) elementary-program participants were those who entered between pre-kindergarten (pre-K) and 5th grade and exited by 6th grade; (b) extended-program participants were those who entered during elementary school grades, but exited between 7th and 12th grade; and (c) secondary-program participants were those who entered and exited between 7th and 12th grade. Results indicate that BE/ESL entry and exit patterns were significantly associated with student academic performance during the 2007–2008 school year.

Key Findings

- Students in the elementary-program group had the most common pattern of program entry and exit: 75% of exited ELLs had entered and exited BE/ESL programs by 6th grade.
- After exiting the BE/ESL program, elementary-program students performed at levels comparable to those of their general education (non-ELL) counterparts. At some grades levels and for some of the TAKS subjects, the TAKS performance of the elementary-program students surpassed that of non-ELL students.
- The TAKS performance of former ELL students in the secondary group (2% of exited ELLs) also was comparable to that of their non-ELL counterparts and did not significantly differ from that of students in the elementary-program for reading/English language arts (ELA), mathematics, and science TAKS.
- Students in the extended group differed from other former ELL students in several ways. They were significantly more likely to be economically disadvantaged and to be at risk of dropping out of school, and significantly less likely to be in the Gifted and Talented program. The extended group compromised almost 25% of this study's sample.
- Students in the extended group had significantly lower TAKS passing rates for mathematics and reading/ELA than did students in the elementary-program group, and significantly lower TAKS passing rates for science than did students in the secondary group.

- Former ELL students in the extended program also had significantly lower passing rates compared with those for non-ELL students in mathematics, science, and social studies TAKS in middle and high school.

Recommendations and Next Steps

- Former ELL students who have not exited BE/ESL programs by elementary school appear to require additional supports and services to be successful in secondary school. We recommend the development of an “early warning system” to identify elementary ELL students who are not making adequate progress in academics or in the English language in elementary school so these students can be targeted for extra support before, during, and after the transition to secondary school.
- We limited these analyses to ELL students who had exited BE/ESL programs by the 2007–2008 school year. It is possible that many ELL students who enter in the secondary level do not exit ESL before leaving AISD, graduating, or dropping out of school (Malerba, under review), so further study is needed to understand the full range of academic and social profiles of ELL students who enter in secondary grades. We found secondary students who entered and exited in secondary grades passed all TAKS subjects at rates comparable to those for non-ELL students; however, the size of this group was small (n = 95, only 2% of this study sample).
- Further exploration is required to understand the timing of program entry and exit, particularly among the extended-program students, who were less likely to pass TAKS than were students in the elementary-program group. Evidence suggests that many of these extended-program students entered BE/ESL programs at grades slightly later than did the elementary group. Although no formal statistical tests were conducted to test this hypothesis, results show that only 53% of the extended-program group entered in pre-K or kindergarten, whereas 81% of the elementary group entered in pre-K or kindergarten. Further analyses could test the hypothesis that participation in AISD’s BE/ESL early childhood education programs is an advantage for ELLs.
- Almost 200 ELL students were excluded from the analyses of this report because of missing or inconsistent entry or exit data. A continued emphasis on the consistent and accurate Language Proficiency Assessment System (LPAS) data entry will ensure high quality analyses in the future.

Method

BE/ESL Program Entry and Exit Criteria

As of the 2007–2008 school year, to exit BE/ESL programs, students must have passed the English language version of the reading/ELA TAKS, scored advanced on comprehension on the speaking and reading sections of the Texas English Language Proficiency Assessment System (TELPAS), and either scored advanced high on the writing portion of the TELPAS or passed the writing TAKS in English. After students have met those criteria, they also must have scored fluent on the Language Assessment Scales-Oral (LAS-O). Finally, the campus language proficiency assessment committee (LPAC) makes the ultimate decision about students exiting BE/ESL programs. State mandate TAC §89.1225(i) requires ELL students to be exited no earlier than the end of 1st grade.

Using 2007–2008 district records, we identified 5,341 enrolled former-ELL students; however, 176 had inconsistent entry and exit data (e.g., students had entry dates but were missing exit dates, or had exit dates but were missing entry dates). Students with incomplete data were dropped from the analyses, yielding a final sample of 5,165 former ELL students.¹ Program entry dates ranged from school years 1991–1992 to 2007–2008, and the exit dates ranged from school years 1997–1998 to 2007–2008.

It is important to note that although ELL students may meet most of the test-related exit criteria in the spring of a given school year, they will not be considered officially exited and have a recorded “exit date” until the LPAC committee meets and decides the students can be exited. These LPAC meetings may not occur until the fall of the school year after which all other criteria have been met. As a result, although the groups outlined above and used in the following analyses are mutually exclusive, a coding system that categorized students according to grade level at which exit criteria were met (i.e., rather than according to a strict exit date) would result in smaller numbers of students being classified in different program groups, compared with the numbers described below.

Analysis Groups

Entry and exit patterns were used to creating three substantively different groups of former ELL students. Group membership was used to predict student performance on TAKS² taken during the spring semester of 2008. The TAKS performance of the groups of former ELLs was also compared with that of general education students.

Group membership was determined by the following BE/ESL program entry and exit patterns:

¹ Re-entry dates were not examined. The exit date was assumed to be the final exit date from a BE/ESL program.

² TAKS performance was not limited to the English-language version of the TAKS. The purpose of this report was to examine former ELL students’ TAKS performance in core subject areas, not their English language proficiency.

- **Elementary-program participants** are students who entered between pre-K and 5th grade and exited by 6th grade.
- **Extended-program participants** are students who entered during elementary school grades, but exited between the 7th and 12th grades.
- **Secondary-program participants** are students who entered and exited between the 7th and 12th grades.

Analysis Plan

Analyses were conducted to determine: (a) the number and percentage of students who were classified in each of the program groups, (b) any significant demographic differences between the groups, (c) whether exited ELLs across the three program groups performed differently from each other on the Spring 2008 TAKS, and (d) whether exited ELLs performed differently than general education students did on the Spring 2008 TAKS.

Results

Former ELL Entry and Exit Patterns

Table 1. Average Number of Years in Program by Former ELL Group

Program	Percentage of students	Average years in BE/ESL	Standard deviation	Range of years in program
Elementary (n = 3809)	74%	5.13	1.43	0.12 to 8
Extended (n = 1261)	24%	6.97	2.69	0.51 to 15
Secondary (n = 95)	2%	2.41	1.28	0.52 to 8
Total (n = 5165)	100%	5.54	2.03	0.12 to 15

Source. AISD records

Overall program participation was an average of 5.5 years, which was close to the average program length for elementary-program students. In comparison with other groups, former ELL students in the secondary group spent the shortest amount of time in BE/ESL programs (2.4 years), and the extended-program participants spent the longest amount of time in BE/ESL programs, nearly 7 years, on average.

Table 2 provides additional details about BE/ESL program entry and exit patterns by indicating the grade levels at which entries and exits occurred. Among the elementary group, 81% entered BE/ESL programs in pre-K or kindergarten; however, only 53% of extended-program students entered BE/ESL as early as pre-K or kindergarten. Among the secondary-program students, 80% entered ESL in 7th or 8th grade; only 20% of exited ELL students in this group entered ESL in high school.

Table 2. Former ELL Program Entry Patterns

Grade at exit	Grade at entry														Total
	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	
1	1 >1%	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	1
2	1 >1%	1 >1%	1 >1%	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	3
3	6 >1%	0 0	1 >1%	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	7
4	1132 39%	259 34%	103 29%	56 20%	40 15%	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	1590
5	792 27%	200 26%	87 24%	67 24%	50 19%	29 16%	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	1225
6	485 17%	159 21%	78 22%	73 26%	56 22%	39 22%	13 10%	0 0	0 0	0 0	0 0	0 0	0 0	0 0	903
7	232 8%	71 9%	40 11%	41 15%	54 21%	52 29%	31 23%	12 15%	0 0	0 0	0 0	0 0	0 0	0 0	533
8	103 4%	28 4%	20 6%	21 8%	26 10%	30 17%	34 25%	21 26%	13 23%	0 0	0 0	0 0	0 0	0 0	296
9	110 4%	31 4%	15 4%	14 5%	16 6%	15 8%	31 23%	25 31%	16 28%	5 23%	0 0	0 0	0 0	0 0	278
10	49 2%	12 2%	6 2%	5 2%	10 4%	12 7%	12 9%	15 19%	17 30%	10 45%	9 75%	0 0	0 0	0 0	157
11	19 1%	8 1%	3 1%	1 >1%	6 2%	1 1%	12 9%	6 7%	7 12%	5 23%	1 8%	1 50%	1 50%	1 100%	72
12	6 >1%	0 0	2 1%	2 1%	1 >1%	2 1%	2 1%	1 1%	3 5%	1 5%	2 17%	1 50%	1 50%	0 0	24
Total	2936 100%	769 100%	356 100%	280 100%	259 100%	180 100%	135 100%	80 100%	56 100%	21 100%	12 100%	2 100%	2 100%	1 100%	5089 100%

Source. AISD records. Note. The green color represents the elementary-program group, orange is the extended program group, and blue is the secondary-program group. From the sample of 5,165 former ELLs, 76 were missing entry and/or exit dates.

Student Demographics Across Program Groups

Among the former ELLs who were enrolled and had exited during the 2007–2008 school year, the highest percentage were Hispanic, economically disadvantaged, or both. However, within this fairly homogeneous group, statistically significant demographic differences were found among the former ELL student groups. Students in the extended-program group were significantly more likely to be economically disadvantaged and to be at risk for dropping out of school, and were significantly less likely to be identified as gifted and talented than were students in the elementary- and secondary-program groups. However, extended-program students were not more likely than elementary-program or secondary-program former ELLs to be enrolled in special education programs.

Table 3. Demographic Profile of Former ELLs From the 2007-2008 School Year

Demographic characteristics	Total students (n = 5341)	Percentage
Gender		
Female	2,744	51%
Male	2,597	49%
Ethnicity		
Native American	2	>1%
Asian/Pacific Islander	344	6%
Black, not of Hispanic origin	31	1%
Hispanic	4,851	91%
White, not of Hispanic origin	113	2%
Economically disadvantaged	4,588	86%
Special Education	125	2%
Gifted and Talented	516	10%
At Risk of Dropout	3386	63%

Source. AISD student records

Table 4. Statistically Significant Differences in Student Characteristics

	Elementary program	Extended program	Secondary program
Economically disadvantaged	3,286 (86%)	1,109 (88%) ↑	71 (74%)
At risk of dropout	2,142 (56%)	1,082 (85%) ↑	63 (66%)
Gifted and Talented	469 (12%)	41 (3%) ↓	1 (1%)

Source. AISD student records

Note. Arrows beside percentages indicate a statistically significant difference among the groups, and indicate the direction of difference according to Instrumental Variables Analysis. See Appendix B, note 1 for more details.

TAKS Performance Across Program Groups

Using TAKS records from the spring of 2008, we examined the effect of BE/ESL program group membership on the percentage of students passing TAKS in mathematics, reading/ELA, science, social studies and writing across grade levels. If students were tested more than once, we used the final score for a particular subject test. Out of the sample of 5,341 former ELL students, TAKS data were available for 4,687 students.

As shown in Table 5, the passing rates for students in the extended program were significantly lower than those for students in the elementary group for mathematics and reading/ELA. Neither the elementary nor extended-program groups had significantly different passing rates from the secondary group for mathematics or reading/ELA; however, the extended-program group had significantly lower science TAKS passing rates than did the secondary group. No significant group effects were found for the passing rates for the social studies TAKS. An insufficient number of students prevented a comparison of group differences for the writing TAKS.

Table 5. Significant Differences in TAKS Passing Percentages

	Elementary program	Extended program	Secondary program
Mathematics	81%	74% ↓	78%
Reading/ELA	96%	93% ↓	97%
Science	86%	81% ↓	98%

Source. AISD TAKS files

Note. Arrows beside percentages indicate a statistically significant differences ($p < .05$) in passing percentages between groups on the same test according to MANCOVA, using the Tukey-Kramer method. See Appendix B, note 2 for more details.

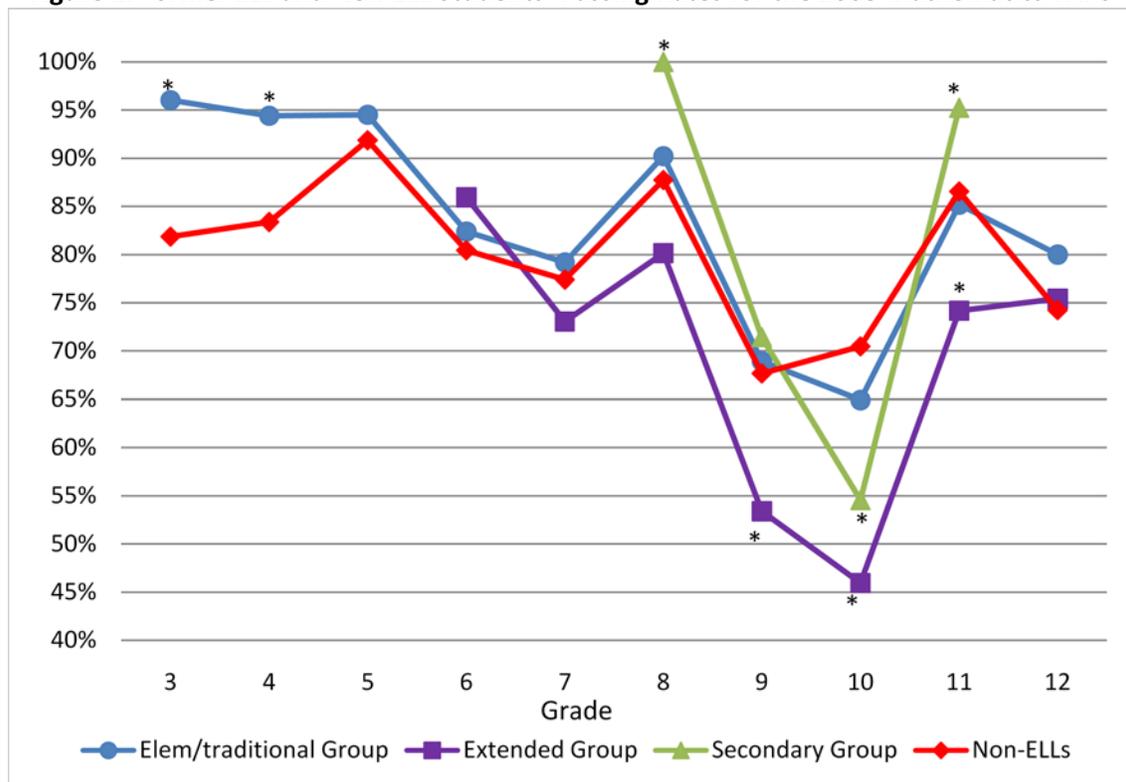
TAKS Performance Compared for ELLs and Non-ELLs

Mathematics TAKS

As shown in Figure 1, exited elementary-program students performed well on the mathematics TAKS, scoring significantly higher on mathematics than did non-ELL students in the 3rd and 4th grade. Across 5th through 12th grades, former ELL students who exited by 6th grade passed at rates comparable to those of their non-ELL counterparts; that is, the percentages for exited ELLs who passed were not statistically significantly different from those for general education students.

Students in the extended-program group had scores comparable to those for non-ELLs in the 6th, 7th, and 8th grade; however, they passed at significantly lower rates on the mathematics TAKS in the 9th, 10th, and 11th grades than did non-ELL students. Former ELL students in the secondary-program group passed at significantly higher rates than did non-ELL students in the 8th and 11th grades; however, this group scored significantly lower than did their non-ELL counterparts in the 10th grade.

Figure 1. Former ELL and Non-ELL Students' Passing Rates for the 2008 Mathematics TAKS



Note. Figure 1 is based on cross-sectional data; it is not a longitudinal representation.

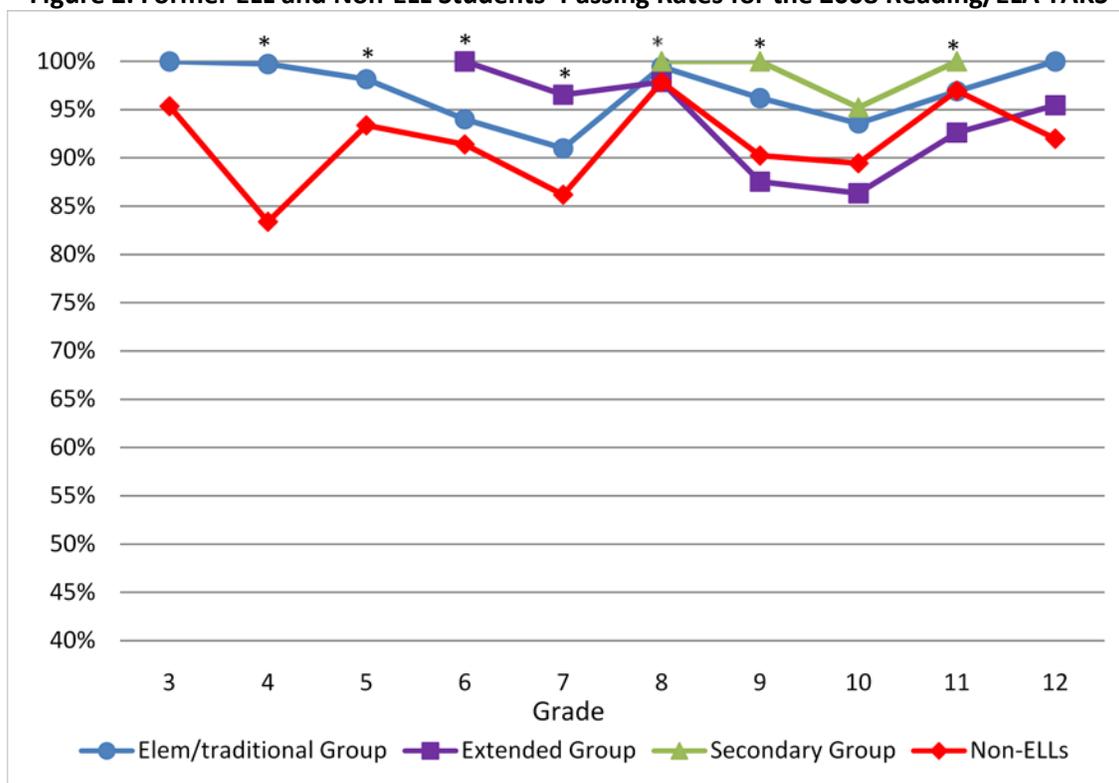
* Indicates a statistically significant difference between the former ELL group and non-ELL students.

Reading TAKS

Former ELL students, regardless of their entry/exit patterns, performed well on the reading/ELA TAKS. Their passing rates closely mirrored, and in some grades surpassed, the passing rates of non-ELL students. As shown in Figure 2, former ELL elementary-program students' reading/ELA TAKS passing rates were significantly higher than those of non-ELL students in the 4th and 5th grades; however, in all other grades, their passing rates were not significantly different from those of non-ELL students.

Former ELL students in the extended-program group had significantly higher passing rates than did non-ELL students for the reading/ELA TAKS in the 6th and 7th grades, but the passing rates were comparable for ELLs and non-ELLs in the 8th through 12th grades. The secondary-program group's passing rates for the reading/ELA TAKS were significantly higher than those of the non-ELL students in the 8th, 9th, and 11th grades and comparable to those of non-ELLs in the 10th grade.

Figure 2. Former ELL and Non-ELL Students' Passing Rates for the 2008 Reading/ELA TAKS

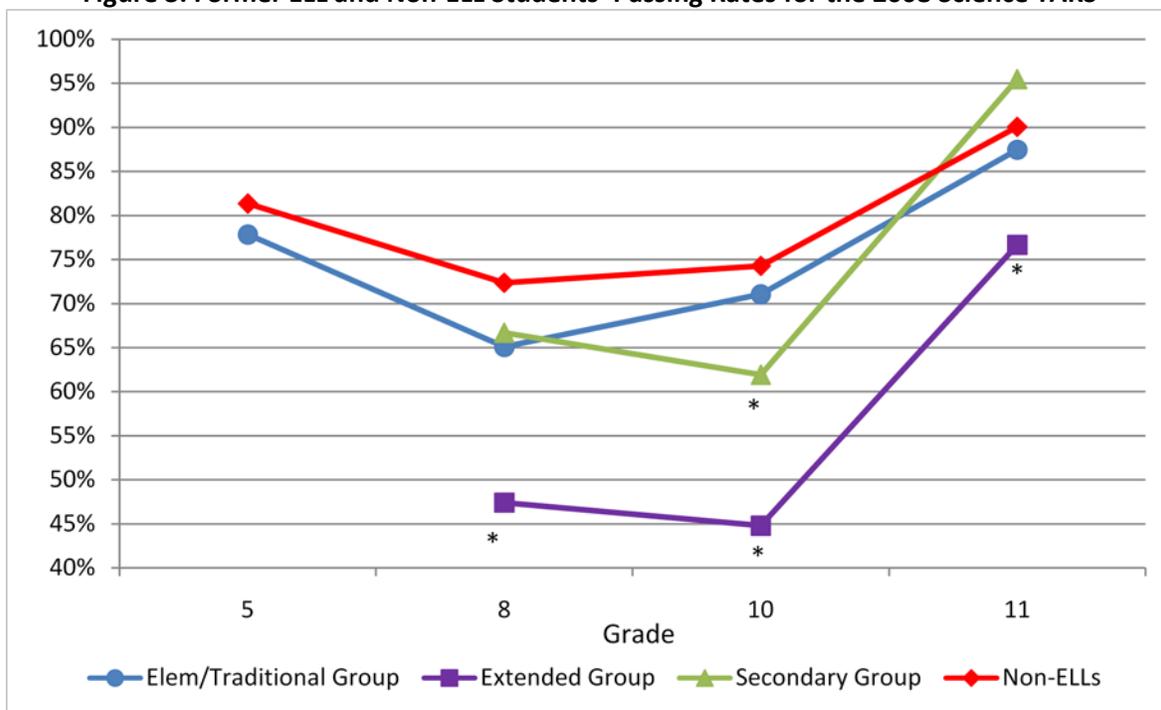


Note. Figure 2 is based on cross-sectional data; it is not a longitudinal representation.
 * Indicates a statistically significant difference between the former ELL group and non-ELL students.

Science TAKS

Former ELL students in the elementary-program group had passing rates for the science 2008 TAKS that were not significantly different than those for non-ELL students. The passing rates for the former ELL students in the extended-program group were significantly lower in the 8th, 10th, and 11th grades than were those for non-ELL students. The secondary-program students also had significantly lower passing rates than did non-ELL students for the science TAKS in 10th grade; however, their scores were comparable to general education students in the 8th and 11th grades.

Figure 3. Former ELL and Non-ELL Students' Passing Rates for the 2008 Science TAKS



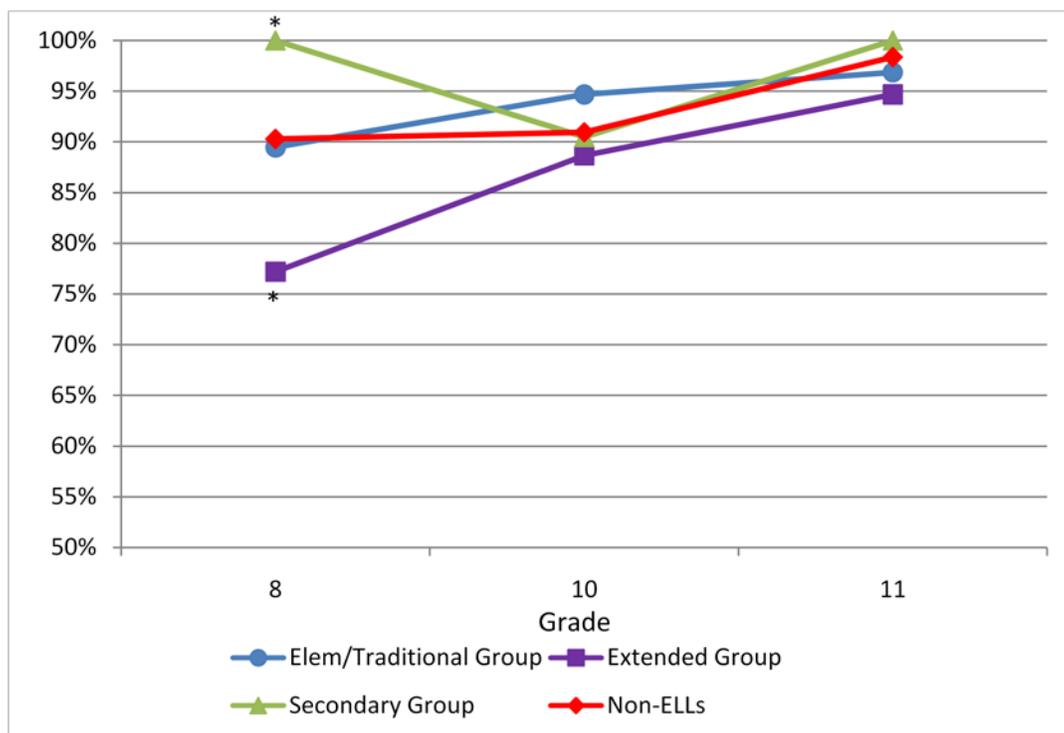
Note. Figure 3 is based on cross-sectional data; it is not a longitudinal representation. The science TAKS is offered only in the 5th, 8th, 10th, and 11th grades.

* Indicates a statistically significant difference between the former ELL group and non-ELL students.

Social Studies TAKS

At each grade level, former ELL students in the elementary-program group had passing rates for the social studies 2008 TAKS that were not significantly different from those for non-ELL students (see Figure 4). The social studies passing rates for the former ELL students in the extended-program group were significantly lower in the 8th grade than were those for non-ELL students; however, the passing rates for the secondary-program group were significantly higher than those for non-ELL students in the 8th grade.

Figure 4. Former ELL and Non-ELL Students' Passing Rates for the 2008 Social Studies TAKS



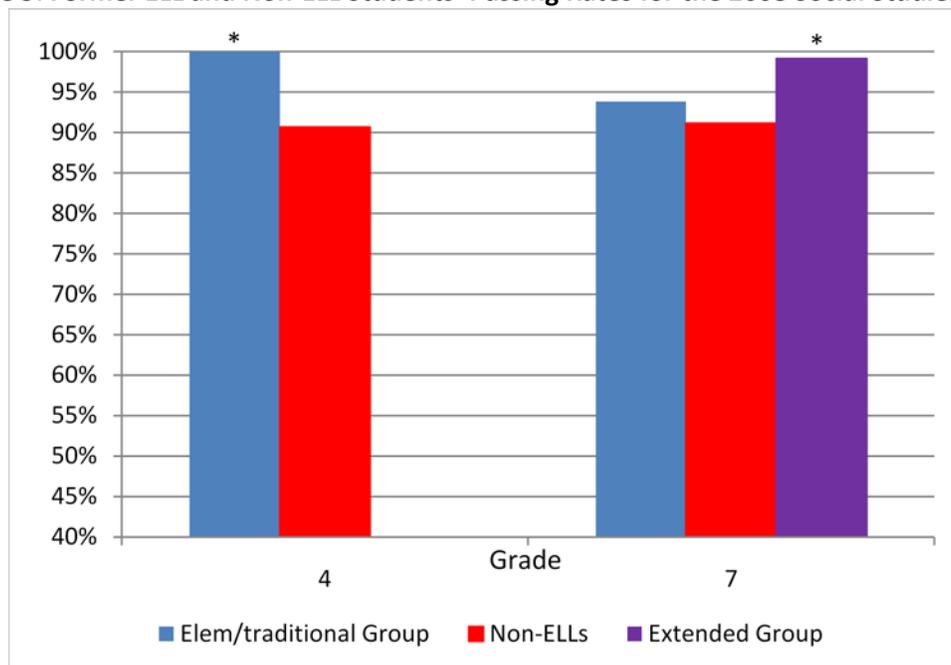
Note. Figure 4 is based on cross-sectional data; it is not a longitudinal representation. The social studies TAKS is offered only in the 8th, 10th, and 11th grades.

* Indicates a statistically significant difference between the former ELL group and non-ELL students.

Writing TAKS

Former ELL students in the elementary-program group had significantly higher passing rates for the 2008 writing TAKS in the 4th grade than did non-ELL students. The passing rates for former ELL students in the elementary group were comparable to those for non-ELL students in the 7th grade. The passing rates for former ELL students in the extended-program group were significantly higher in the 7th grade than were those for non-ELL students.

Figure 5. Former ELL and Non-ELL Students' Passing Rates for the 2008 Social Studies TAKS



Note. Figure 5 is based on cross-sectional data; it is not a longitudinal representation. Data were not available for former ELL students in the secondary group because they were not in the 7th or an earlier grade in 2008. The writing TAKS is offered only in the 8th, 10th, and 11th grades.

* Indicates a statistically significant difference between the former ELL group and non-ELL students.

References

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Appendix A

Table A-1. Number of Students with Scored TAKS Tests Spring 2008

TAKS subject area	Non-ELL students	Elementary program	Extended program	Secondary program	Total
Math	30,094	3,589	1,032	59	34,774
Reading/ELA	29,324	3,573	1,012	59	33,968
Social studies	8,767	1,160	546	51	10,524
Science	2,665	1,655	546	52	4,918
Writing	6,520	893	115	0	7,528

Appendix B. Technical Notes

1. Page 7, Table 4. Instrumental variable regression analyses (Baltagi, 1998) were used to detect statistically significant demographic differences among the three groups. Group variable main effect $F(7, 4538) = 157.41, p < .001$; Adjusted R -squared = 0.20.
2. Page 7, Table 5. We tested for statistical significance among the former ELL student groups using the Multivariate Analysis of Covariance technique (MANCOVA; Dowsett, Huston, Imes, & Gennetian, 2008), controlling for the effects of prior-year TAKS performance, gender, and free/reduced-price lunch status. Wilks' Lambda test criterion was used to determine whether students' TAKS passing rates were significantly different across the three former ELL student groups (see Table B-1 for differences among groups). Intraclass correlation analyses also were performed to examine if campus affected the results. The null findings indicate that campus did not have a significant effect on student outcomes after controlling for student demographic characteristics (intraclass correlation = 0.08, $p < .10$).

Table B-1. Results From MANCOVA Analysis

Outcome	Elementary program group	Extended program group	Secondary program group	F value	R^2
Math passing rate	0.81 ^a (.37)	0.74 ^b (.48)	0.78 ^{ab} (.44)	266.38***	0.26
Reading/ELA passing rate	0.96 ^a (.19)	0.93 ^b (.27)	0.97 ^{ab} (.13)	39.71***	0.05
Science passing rate	0.86 ^a (.44)	0.81 ^{ab} (.49)	0.98 ^{ac} (.42)	16.63***	0.13

Note. Group values are the passing rates for each cohort, with standard deviations in parentheses. Different superscripts (a–c) denote statistically significant differences at $p < .05$. Values with the same superscripts are not statistically different from one another. Only significant results are presented.

* $p < .05$; ** $p < .01$; *** $p < .001$.

3. Pages 8–12, Figures 1–5. We used the proportions hypothesis test to detect significant group differences (De Veaux, Velleman, & Bock, 2008).