

**EFFECTIVENESS  
REPORT**

*READ 180*®

Longitudinal Evaluation  
of a Ninth-Grade  
Reading Intervention

Phoenix, Arizona  
2003–2006



In 2003, after a comprehensive, yearlong search for a new district-wide reading intervention program, the Phoenix Union High School District (PUHSD) began implementing *READ 180* in all ten district high schools. Over the first three years of implementation, Policy Studies Associates, Inc. (PSA) conducted an in-depth evaluation study to examine the effectiveness of *READ 180* as an intensive intervention for struggling ninth-grade readers. The study findings suggest that *READ 180* is having an impact on participants' reading achievement, and that the intervention is particularly beneficial for English language learners (ELLs) and students who had the lowest levels of reading proficiency on their eighth-grade reading assessment prior to participating in the program.

In each year of the study, cohorts of *READ 180* students were compared with nonparticipants who were matched based on eighth-grade reading proficiency, ethnicity, gender, and ELL or special education eligibility. Eighth- and ninth-grade standardized reading test scores (SAT 9 or TerraNova) were analyzed for all participants and nonparticipants, and tenth-grade scores on the Arizona Instrument to Measure Standards (AIMS) were analyzed for the first two cohorts. Results indicated that *READ 180* participants made substantial gains on the Scholastic Reading Inventory and outperformed matched nonparticipants on their ninth-grade state reading assessments. In addition, *READ 180* participants who were designated ELL or who had lower scores at the eighth-grade test point significantly outperformed matched nonparticipants in ninth grade, and continued to perform higher a year later on the tenth-grade graduate exam.

This paper is a summary of the PUHSD study prepared by Scholastic Inc., using information and analysis completed by Policy Studies Associates, Inc. Further detail can be found in the two original reports by PSA, *Improving Student Literacy in the Phoenix Union High School District 2003-04 and 2004-05* (July 2006) and *Improving Student Literacy in the Phoenix Union High School District 2005-06* (November 2006), available at [www.scholastic.com/education\\_research](http://www.scholastic.com/education_research). The findings and conclusions presented here are those of Scholastic Inc. They do not necessarily represent the opinions of Policy Studies Associates or the Phoenix Union High School District, and no endorsement should be inferred.



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# Introduction

In the fall of 2003, the Phoenix Union High School District (PUHSD) in Phoenix, Arizona implemented *READ 180* to provide intensive intervention for ninth graders who entered high school reading a year or more below grade level. *READ 180* was selected as the new district-wide reading intervention program after a comprehensive, yearlong search. The search process began in January 2002, when PUHSD applied for a Comprehensive School Reform Demonstration (CSRD) Grant to begin planning a school reform measure that would address the persistent problem of low reading achievement in the district. During the 2002–2003 school year, teams of teachers from each school campus intensively studied reading intervention programs, met with program publishers, presented their findings to their colleagues, and, finally, made recommendations to PUHSD’s Assistant Superintendent of Instruction. *READ 180* was the unanimous first choice of all campus teams for a reading program for the general population of students. In March 2003, the Assistant Superintendent of Instruction made a recommendation to the Superintendent and Governing Board to purchase and fully implement *READ 180* in the 2003–2004 school year.

In preparing for implementation of *READ 180*, the district recognized the importance of adhering closely to the program model. District staff met on several occasions with Scholastic consultants to ensure the program was implemented with integrity for maximum results in achievement. In order to accommodate the prescribed 90-minute daily instructional block, district administrators decided to provide instruction in two consecutive 55-minute periods. The Governing Board approved supplemental federal funds to reduce class size, allowing schools to limit *READ 180* classrooms to 24 students. Teachers received in-depth summer training and continuous on-site support during the school year. In deciding how to allocate the 60 stages of *READ 180* that had been purchased for implementation in all ten district high schools (enough to serve 3,600 students), the district decided to focus on ninth graders, who participated in the program for a full year. One semester of *READ 180* was also provided to tenth graders reading below grade level to give them the opportunity to improve their reading skills prior to taking the statewide Arizona Instrument to Measure Standards (AIMS) Reading Test.

In addition to making an effort to implement the program model with integrity, the district made evaluating the results of *READ 180* a priority. Over the first three years of implementation (2003–2006), Policy Studies Associates, Inc. conducted an in-depth evaluation study to examine the effectiveness of *READ 180* as an intervention for struggling readers entering high school.

## Introduction (continued)

Specifically, four research questions were of prime interest:

1. How did changes in reading proficiency achieved by *READ 180* students compare with changes achieved by a matched sample of nonparticipants?
2. Which subgroups of students are likely to benefit most from participation in *READ 180*?
3. Did gains in reading proficiency achieved by ninth graders persist into tenth grade?
4. What gains did students in each cohort make on the Scholastic Reading Inventory™ (SRI) and what does the magnitude of gains on the SRI indicate about the potential gain on the AIMS reading test their following year as tenth graders?

At the conclusion of the evaluation study, analysis of the PUHSD data suggested four key overall findings about the impact of participation in *READ 180* on students' reading proficiency:

1. Ninth-grade *READ 180* students outperformed matched comparison groups of nonparticipants on tests included as part of the Arizona state assessment system.
2. ELL students who participated in *READ 180* outperformed matched nonparticipants, and the benefits of participation in *READ 180* for ELL students persisted into tenth grade.
3. *READ 180* participants with lower scores at the eighth-grade test point tended to achieve greater gains on the ninth-grade posttest than participants with higher initial scores and greater gains than matched nonparticipants. In addition, the benefits of participation in *READ 180* persisted into tenth grade for the students with lower pre-intervention levels of reading proficiency.
4. *READ 180* participants made substantial gains on the Scholastic Reading Inventory (SRI) assessment of reading proficiency. Students who made larger gains on the SRI were more likely to have higher scores and meet proficiency on the AIMS Reading Test.

These findings are discussed in more detail in the following sections.



## Implementation of *READ 180*

Phoenix Union High School District (PUHSD) is in an urban setting, serving approximately 25,000 students in Grades 9–12 at ten comprehensive and two alternative high schools. Students come to this high school district from 13 independent feeder elementary districts, with more than two-thirds reading at least one year below grade level as incoming ninth graders. When *READ 180* was implemented in 2003, 21% of the students were classified as English language learners and over 60% of the students qualified for free or reduced-price lunch. The student population was 73% Hispanic, 12% Caucasian, 10% African American, 2% Asian, and 3% Native American.

In the fall of 2003, PUHSD implemented Scholastic's *READ 180* program (Stage C, version 1.6) as an intensive intervention for struggling readers in the ninth grade. Students were identified as struggling readers at the end of eighth grade using a standardized norm-referenced test—the SAT 9 in 2003–2004 and the TerraNova in 2004–2005 and 2005–2006. *READ 180* was implemented in five classrooms at each comprehensive campus and in one classroom in each of the alternative settings. The maximum capacity that could be served was 3,600 students district-wide, with the lowest-scoring readers given priority for services. In addition, for each cohort a group of matched comparison students who were not enrolled in *READ 180* was identified.

The comparison students were selected to be as close as possible to the *READ 180* students with respect to reading proficiency at the end of eighth grade, ethnicity, gender, and ELL or special education eligibility. This study focuses on three cohorts of students:

- Cohort 1 includes students who participated in *READ 180* as ninth graders in 2003–2004 (N=826) and matched nonparticipants (N=826)<sup>1</sup>. Data was also collected for these students the following year (2004–2005), when they were in tenth grade.
- Cohort 2 includes students who participated in *READ 180* as ninth graders in 2004–2005 (N=821) and matched nonparticipants (N=821). Data was also collected for these students the following year (2005–2006), when they were in tenth grade.
- Cohort 3 includes students who participated in *READ 180* as ninth graders in 2005–2006 (N=1,029) and matched nonparticipants (N=1,029).

<sup>1</sup> More students participated in PUHSD's *READ 180* program than are included in these matched comparison cohorts (as evident in the analysis of *READ 180* participants' SRI gains in the Key Findings section). There was a total of 1,200 *READ 180* ninth-grade participants in Cohort 1, 989 in Cohort 2, and 1,391 in Cohort 3. From this larger sample, students were selected for inclusion in the matched comparison group based on the following criteria: 1) students had to have two SRI scores at least 45 days apart (to allow for analysis of changes in SRI scores); 2) students had to have SAT 9 and/or TerraNova scores from both eighth and ninth grades; and 3) a matched nonparticipant had to be available for the purposes of comparison.

# Assessment Measures

**SAT 9**—All students in Cohort 1 took an alternate version of the state-mandated standardized test, the Stanford Achievement Test (SAT 9), at the end of eighth grade and again at the end of ninth grade. Students in Cohort 2 took this test only at the end of eighth grade before entering high school. This measure was not administered to students in Cohort 3. Reading comprehension is measured through responses to multiple-choice questions about the content of short passages.

**TerraNova**—Students in Cohort 2 took the newly mandated standardized test, TerraNova, at the end of ninth grade. Cohort 3 students took the TerraNova in eighth grade, prior to starting the *READ 180* program, and again at the end of ninth grade. Reading comprehension is measured through responses to multiple-choice questions about the content of short passages.

**AIMS**—Students who were ninth graders in 2003–2004 and 2004–2005 (Cohorts 1 and 2) took the state-mandated AIMS Reading Test as tenth graders. Reading comprehension is measured through responses to multiple-choice questions that follow the reading of short passages. The study ended before Cohort 3 entered tenth grade.

**SRI**—All *READ 180* students took the Scholastic Reading Inventory (SRI), a computerized adaptive assessment of reading comprehension skills, in the fall and spring of their ninth-grade year.

Exhibit 1 displays the assessment data available for each cohort.



## Exhibit 1

### Data Available by Cohort

	Cohort 1 (ninth graders in 2003–04)		Cohort 2 (ninth graders in 2004–05)		Cohort 3 (ninth graders in 2005–06)	
	<i>READ 180</i> participants	Nonparticipants	<i>READ 180</i> participants	Nonparticipants	<i>READ 180</i> participants	Nonparticipants
Dates of Enrollment in <i>READ 180</i>	X		X		X	
SRI Scores	X		X		X	
Eighth-Grade SAT 9 Reading Comprehension Scores	X	X	X	X		
Ninth-Grade SAT 9 Reading Comprehension Scores	X	X				
Eighth-Grade TerraNova Reading Scores					X	X
Ninth-Grade TerraNova Reading Scores			X	X	X	X
Tenth-Grade AIMS Reading Scores	X	X	X	X		
ELL Status	X	X	X	X	X	X
Special Education Status	X	X	X	X	X	X



## Data Collection and Analysis

The study used a quasi-experimental design, identifying a matched sample of nonparticipants for each cohort using a propensity matching technique. Propensity matching identifies the cases to be used in subsequent analyses and is a process separate from the actual data analysis.

Normal curve equivalent (NCE) scores were used to express the pre- and post-intervention scores and gains on standardized tests from the end of eighth grade to the end of ninth grade for both *READ 180* students and matched nonparticipants. Cohort 1 took the SAT 9 at both points in time and Cohort 3 took the TerraNova at both points in time; analyses for each of these cohorts focus on the *change in scores* between eighth and ninth grade for *READ 180* participants and nonparticipants. Cohort 2 students took the SAT 9 at the end of eighth grade and the TerraNova at the end of ninth grade, precluding a direct comparison of the change in scores across time. Therefore, Cohort 2 analyses focus on the differences between participants and nonparticipants in their *average ninth-grade TerraNova scores*. NCE scores were also used to describe pre- and post-performance on the SRI for all cohorts. Statistical significance was determined with the ANOVA procedure. A p value of less than .05 was used as the threshold of significance.

A common indicator of the impact of an independent variable, such as a reading intervention program, on a dependent variable, such as student achievement, is the effect size. (Note that “effect size” is a conventional research term, and is not necessarily meant to imply causality.) An effect size is useful for estimating the size or importance of the program effect, represented here as differences in the change in test scores between the participants and nonparticipants in *READ 180*. More specifically, in this study the effect size for Cohorts 1 and 3 was estimated by subtracting the difference between the *READ 180* participants’ average change in reading scores from eighth to ninth grade and the average change among the matched nonparticipants, and dividing the result by the pooled standard deviation in the pretest. Because Cohort 2 took two different measures for their eighth-grade pretest and ninth-grade posttest, effect sizes for this cohort were calculated using only ninth-grade scores. Therefore, for Cohort 2 the effect size was the difference between *READ 180* participants’ and matched nonparticipants’ average scores on the ninth-grade TerraNova, divided by the pooled standard deviation on the ninth-grade TerraNova for all participants and matched nonparticipants. An effect size of 0.1 is considered small, but large enough to be substantive. An effect size of 0.5 is considered moderate and 0.8 is large.

# Key Findings

## 1. Improved Reading Performance

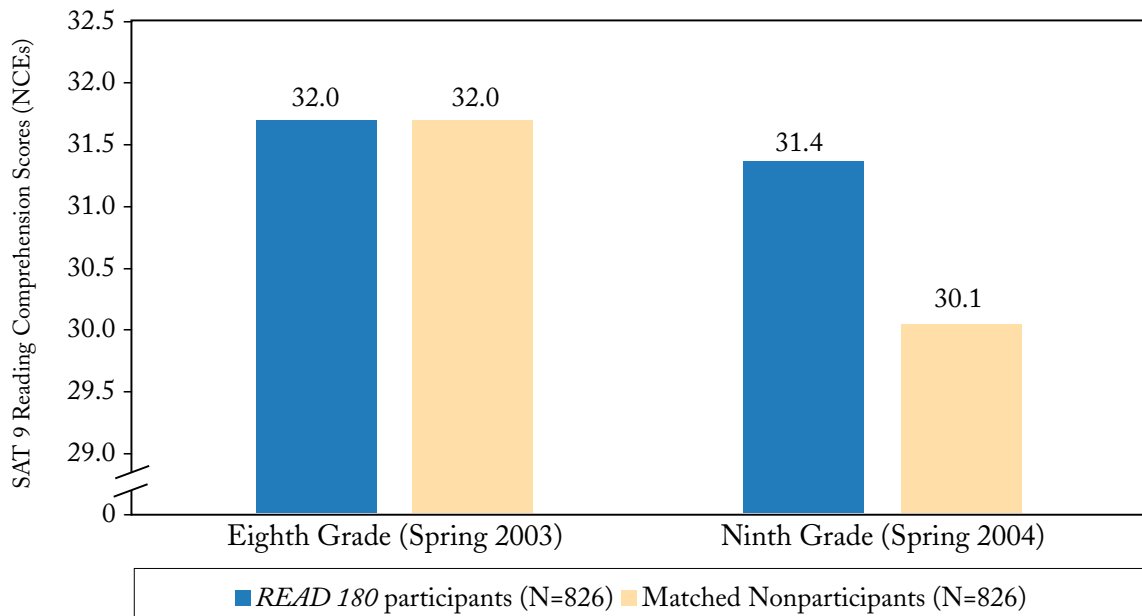
Ninth-grade *READ 180* students outperformed matched comparison groups of nonparticipants on tests included as part of the Arizona state assessment system.

### Cohort 1: Ninth Graders in 2003–2004

In Cohort 1 both *READ 180* and matched nonparticipants experienced a slight decline in the pre-post standardized test scores on the SAT 9 (Exhibit 2). However, *READ 180* students experienced a statistically significant smaller decline. This difference represents an effect size of +0.23, which can be interpreted to mean that 59% of the *READ 180* students scored above the comparison group's average score on the posttest.

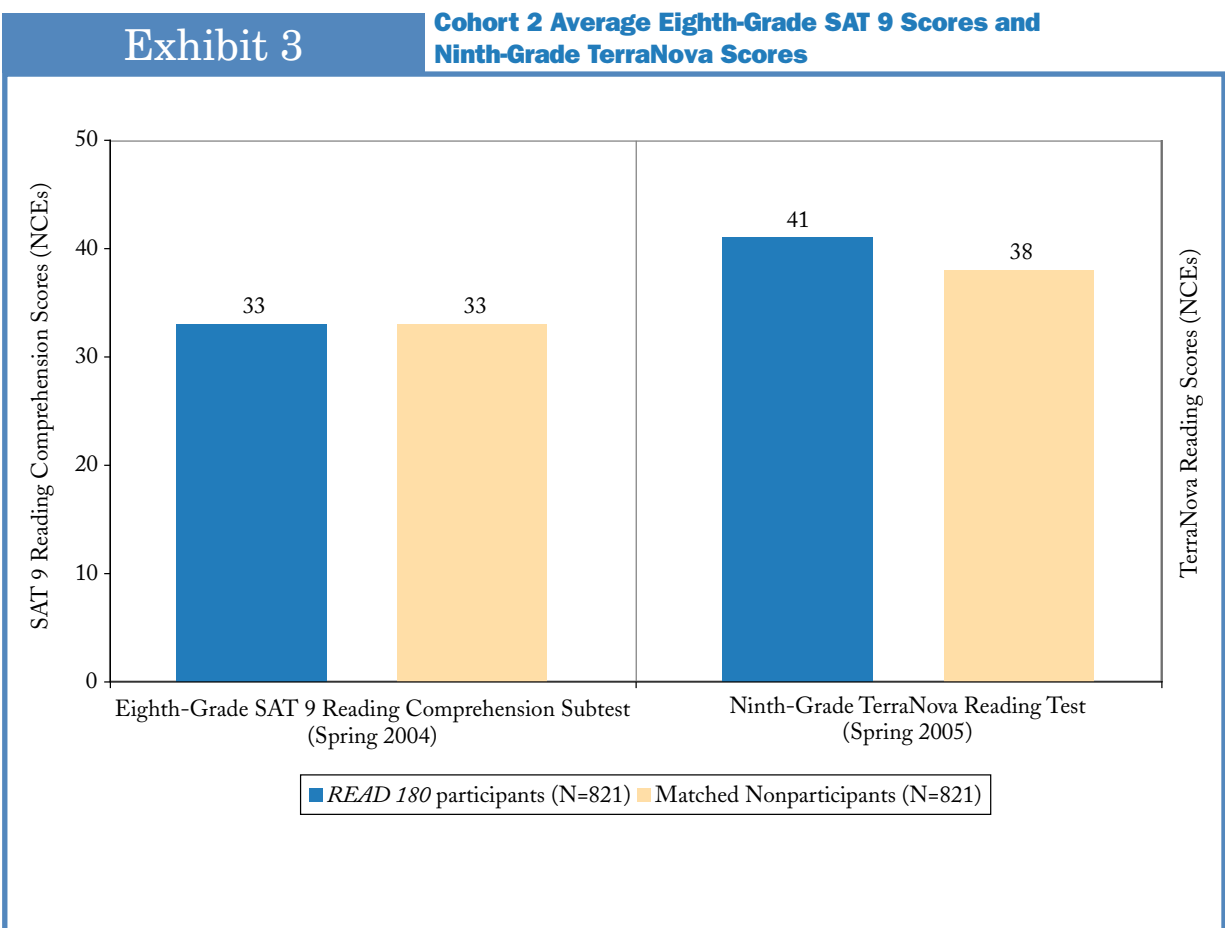
Exhibit 2

Cohort 1 Change in Average SAT 9 Reading Comprehension Scores from Eighth Grade to Ninth Grade



### Cohort 2: Ninth Graders in 2004–2005

Cohort 2 students who participated in *READ 180* achieved statistically significant higher average scores on the ninth-grade TerraNova Reading posttest than did a matched comparison group of nonparticipants (41 NCEs versus 38 NCEs, respectively). With an effect size of 0.27, this difference in average scores can be interpreted to mean that 61% of *READ 180* students scored higher than the comparison group's average score on the posttest (Exhibit 3).



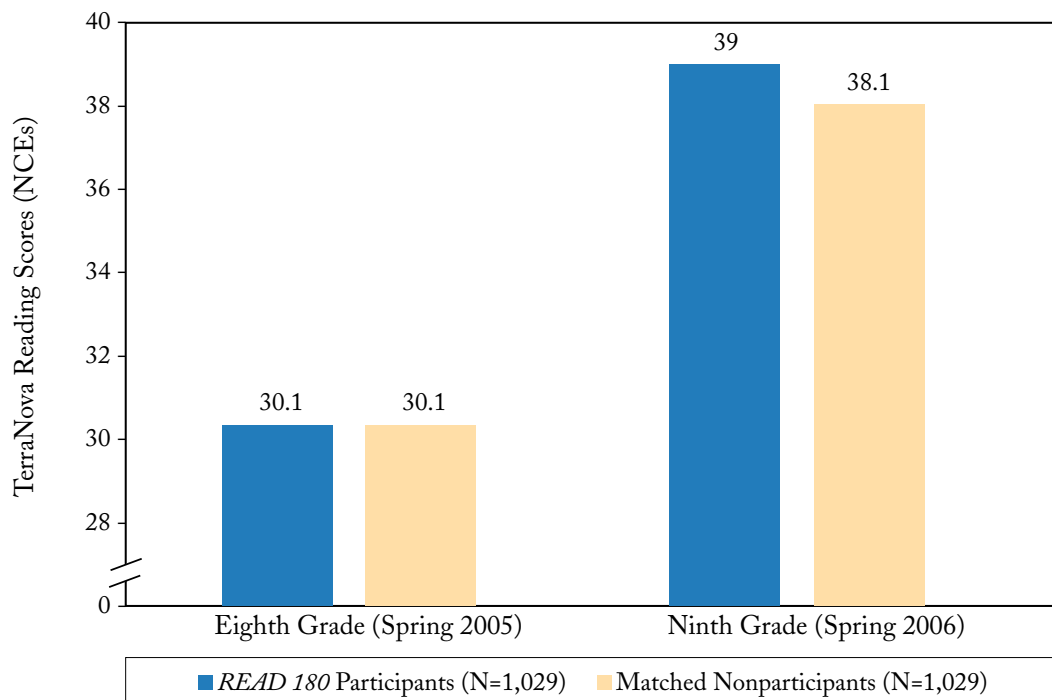


### Cohort 3: Ninth Graders in 2005–2006

Cohort 3 students who participated in *READ 180* achieved higher average scores on the TerraNova Reading posttest than did a matched comparison group of nonparticipants (39.0 NCEs versus 38.1 NCEs, respectively). On average, *READ 180* participants gained 8.9 NCEs, compared with an average gain of 8.0 NCEs among students in the comparison group (Exhibit 4). This difference in average gains is statistically significant and the effect size is +0.10, indicating that 54% of the participants scored above the nonparticipants' average score.

#### Exhibit 4

#### Cohort 3 Change in Average TerraNova Reading Scores from Eighth Grade to Ninth Grade



### Cohorts 1 & 2 Longitudinal Findings: Tenth-Grade AIMS Reading Test

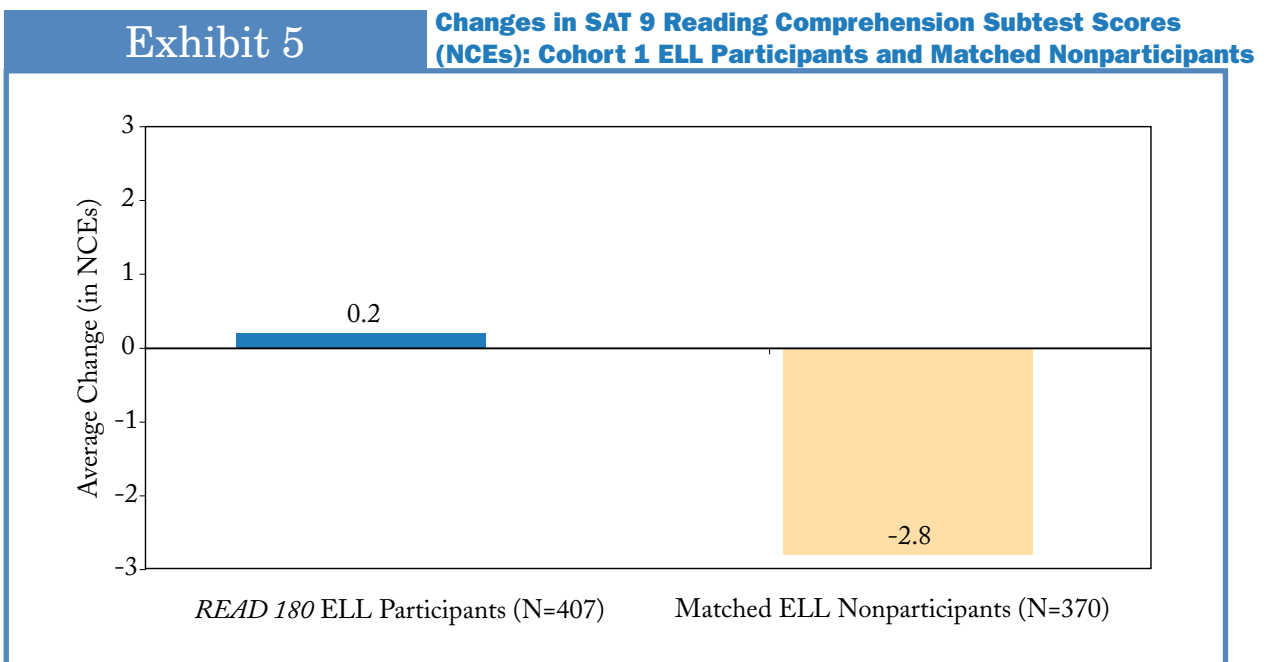
The results of the AIMS Reading Test indicate that reading achievement in PUHSD overall improved compared to other districts after *READ 180* was implemented in 2003–04. In 2005, when the first *READ 180* cohort took the AIMS, data reported by PUHSD showed a 33% increase in students meeting or exceeding proficiency on the AIMS Reading Test in contrast to Arizona overall, which showed a 19% increase. In 2006, the year Cohort 2 was assessed, the percent of students who met or exceeded proficiency decreased at both the state and district level. Some of this decline could be attributed to a state change in the assessment used to reclassify ELL students, thereby adding more recently reclassified ELL students to the database in 2006.

## 2. Benefits of *READ 180* for English Language Learners

**ELL students who participated in *READ 180* outperformed matched nonparticipants, and the benefits of participation in *READ 180* for ELL students persisted into tenth grade.**

### Cohort 1 ELLs: Pre- to Posttest Performance (2003–2004)

Among ELL students in Cohort 1, *READ 180* participants averaged a small gain (0.2 NCEs) in reading proficiency on the posttest (SAT 9). Matched nonparticipants averaged a decrease of 2.8 NCEs, a statistically significant difference with an effect size of +0.29 (Exhibit 5). This effect size can be interpreted to indicate that 62% of the *READ 180* ELL students scored above the average score for matched ELL nonparticipants.



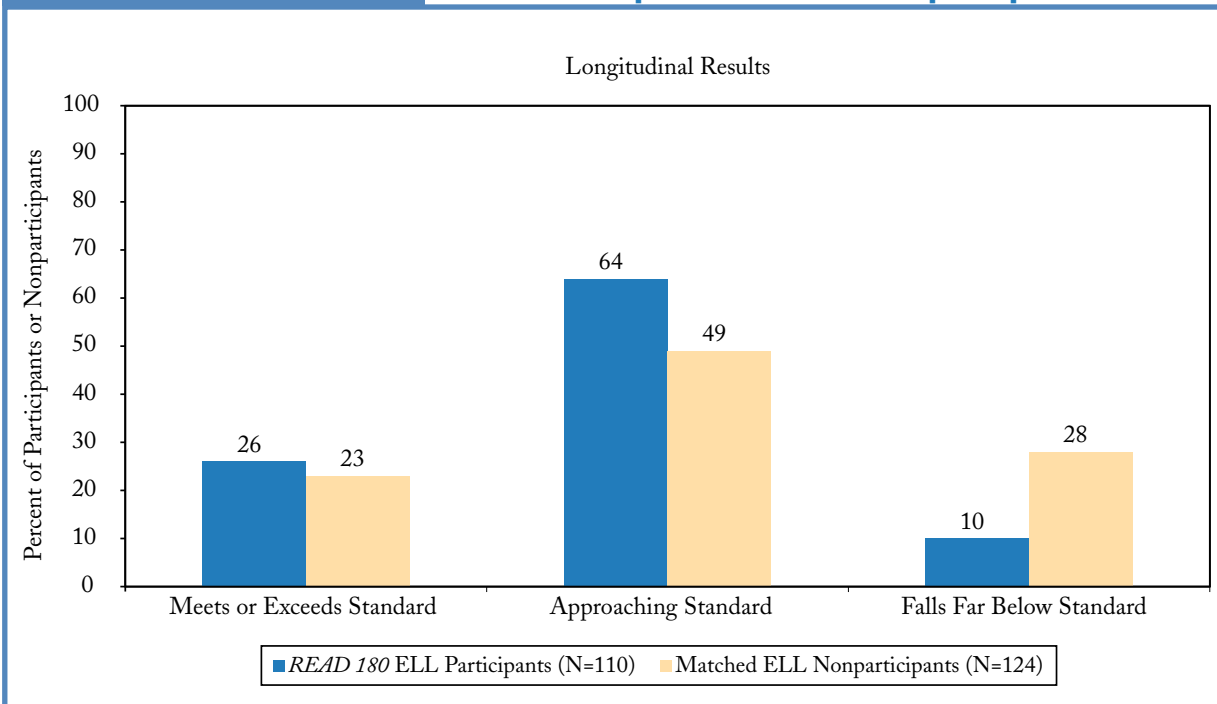


### Cohort 1 ELLs: Longitudinal Performance (2005)

On the AIMS Reading Test in tenth grade, Cohort 1 ELL participants achieved an average of 654 scale-score points, compared to an average 646 scale-score points earned by nonparticipating ELL students. The difference is statistically significant, and the effect size is +0.28, which can be understood to indicate that 61% of the participants scored above the comparison group's mean score. Correspondingly, a larger proportion of *READ 180* ELL participants than matched nonparticipants scored at the "Meets or Exceeds Standard" and the "Approaching Standard" levels in tenth-grade reading, almost one year after taking the *READ 180* class (Exhibit 6).

#### Exhibit 6

#### Cohort 1 Performance Levels on Tenth-Grade AIMS Reading Test: ELL Participants and Matched Nonparticipants



### Cohort 2 ELLs: Posttest Performance (2005)

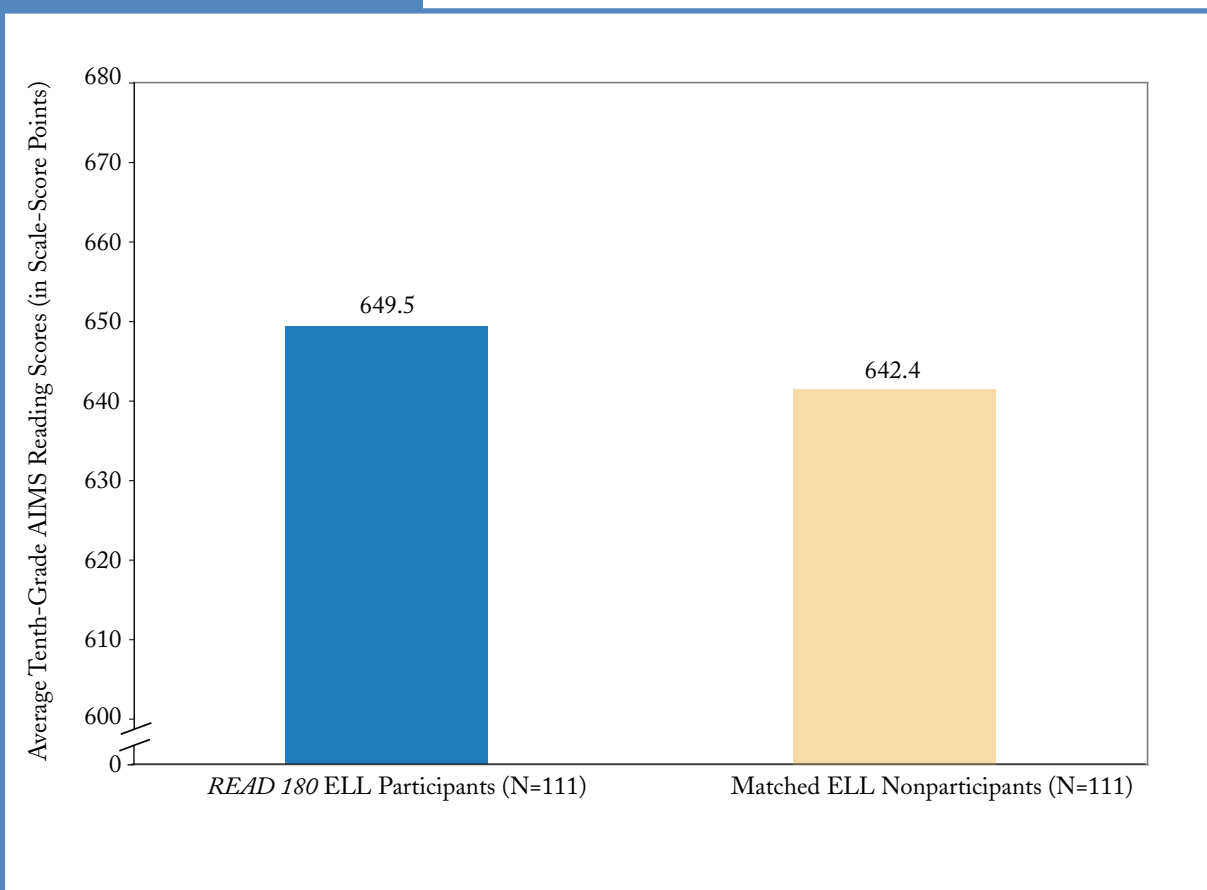
ELL students who participated in *READ 180* achieved an average score of 39.9 NCEs (+0.4 NCE) on the ninth-grade TerraNova Reading posttest, compared to an average score of 35.4 NCEs (+0.4 NCEs) among matched nonparticipants. The difference is statistically significant, and represents an effect size of +0.45, indicating that 67% of the ELL participants scored above the matched nonparticipants' average score.

### Cohort 2 ELLs: Longitudinal Performance (2006)

In tenth grade, Cohort 2 ELL participants averaged higher scores on the AIMS Reading Test (649.5 scale-score points) than nonparticipants matched on eighth-grade test scores and ELL status (642.4 scale-score points). The difference in scores is statistically significant and the effect size is +0.30, which can be interpreted to mean that 62% of the ELL participants scored above the matched nonparticipants' average score (Exhibit 7).

## Exhibit 7

### Cohort 2 ELL Students' Tenth-Grade AIMS Reading Scores



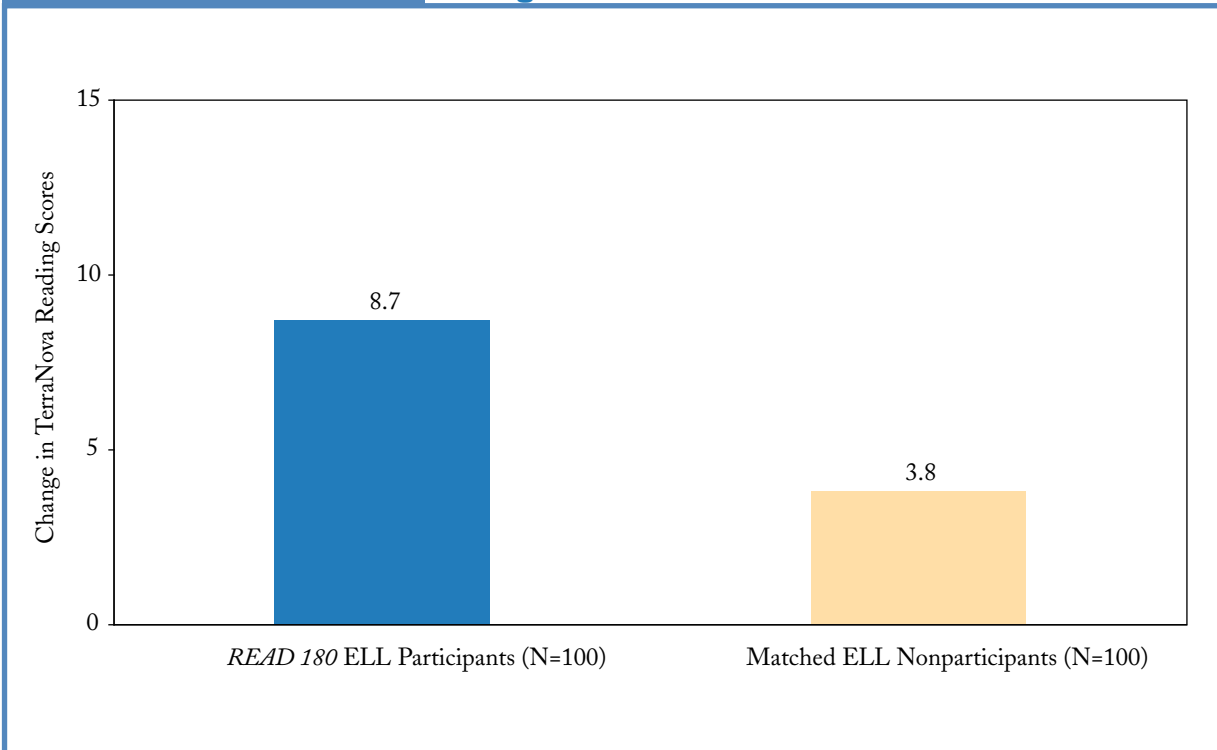


### Cohort 3 ELLs: Pre- to Posttest Performance (2005–2006)

Cohort 3 ELL students who participated in *READ 180* achieved larger gains on the TerraNova Reading Test between the eighth- and ninth-grade test points than did matched nonparticipants (Exhibit 8). Participants averaged a gain of 8.7 NCEs, while nonparticipants averaged 3.8 NCEs. The difference is statistically significant and the effect size is +0.39, indicating that 66% of the ELL students in *READ 180* scored above the mean score of students in the comparison group.

#### Exhibit 8

#### Cohort 3 Change in Ninth-Grade TerraNova Reading Scores Among ELL Students





### 3. Benefits of *READ 180* for Students With Lowest Pretest Scores

Participants with lower scores at the eighth-grade test point tended to achieve greater gains on the ninth-grade posttest than participants with higher initial scores, and greater gains than matched nonparticipants. In addition, the benefits of participation in *READ 180* persisted into tenth grade for the students with lower pre-intervention levels of reading proficiency.

#### Cohort 1

##### Lowest-Third Pretest Scores: Pre- to Posttest Performance (2003–2004)

Although the average SAT 9 Reading Comprehension scores of both participants and nonparticipants declined between eighth and ninth grade in Cohort 1, the performance of *READ 180* students who scored 45 NCEs or below on the eighth-grade SAT 9 declined only slightly (the average change was -0.2 NCEs), whereas the matched comparison group's scores declined significantly more (-1.8 NCEs). The effect size for this statistically significant difference between the two groups' average change in scores was +0.16, which can be interpreted to mean that 56% of the participants scored above the comparison group's mean score.

##### Lowest-Third Pretest Scores: Longitudinal Performance (2005)

In tenth grade, among Cohort 1 students who had scored below 35 NCEs<sup>2</sup> on their eighth-grade SAT 9 Reading Comprehension pretest, the *READ 180* participants averaged 656 scale-score points on the tenth-grade AIMS Reading Test, whereas matched nonparticipants averaged 651 scale-score points. The difference in the distribution of AIMS Reading Test scores between the two groups is statistically significant and the effect size is +0.17. This effect size indicates that 56% of the initially low-scoring *READ 180* participants scored above the matched comparison group's mean score.

#### Cohort 2

##### Lowest-Third Pretest Scores: Posttest Performance (2005)

*READ 180* students in Cohort 2 who scored 40 NCEs or below on their eighth-grade SAT 9 Reading Comprehension pretest scored higher on the ninth-grade TerraNova Reading Test than did similar nonparticipants (39.8 NCEs versus 36.2 NCEs). The difference is statistically significant and the effect size is +0.30. This can be interpreted to mean that 62% of the participants scored above the nonparticipants' average score on the TerraNova.

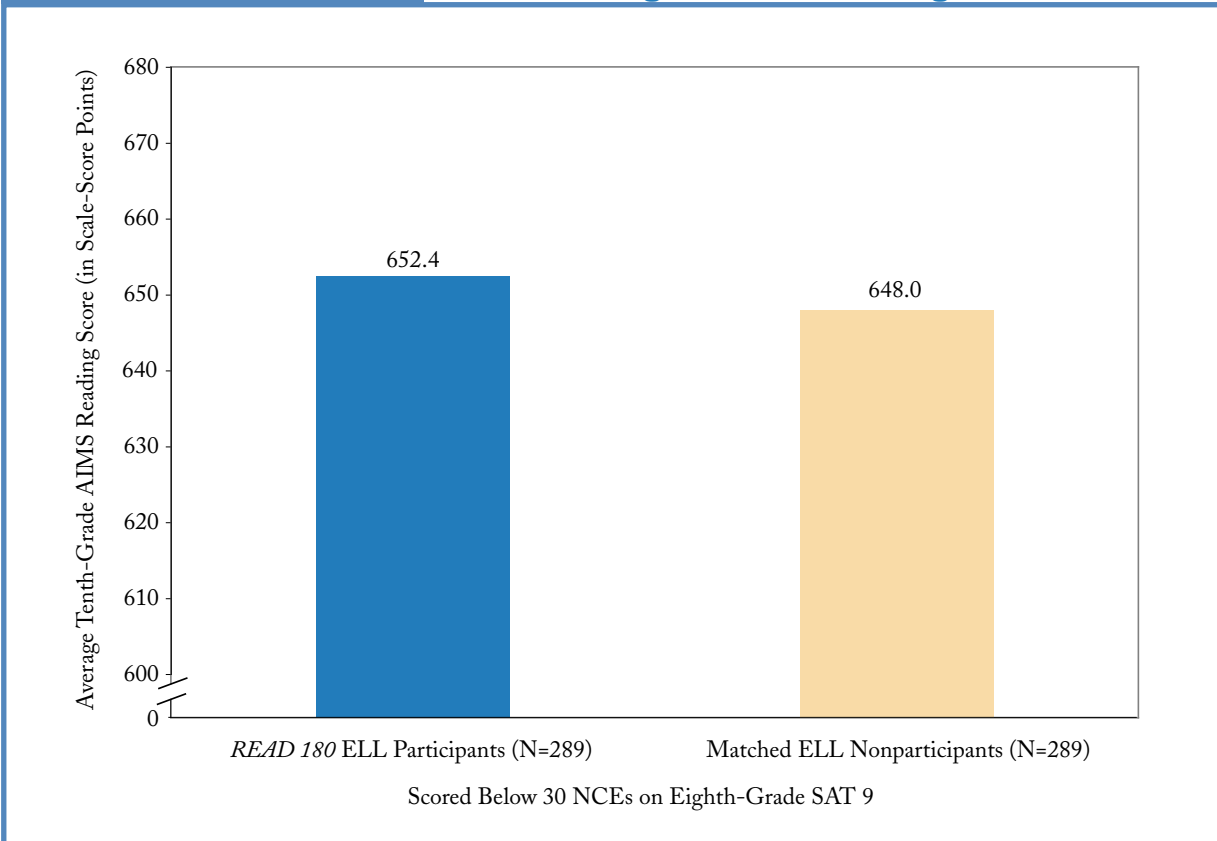
<sup>2</sup> Note that the cut-off scores (45 NCEs versus 35 NCEs) change depending on the time interval for testing (immediate versus sustained) and the outcomes assessment (SAT 9 versus AIMS). While regression to the mean represents a threat for the SAT 9-to-SAT 9 comparison, this threat is lessened when the pretest is different from the posttest, as in the case of the SAT 9-to-AIMS comparison.

### Lowest-Third Pretest Scores: Longitudinal Performance (2006)

In tenth grade, Cohort 2 *READ 180* students who had scored below 30 NCEs on their eighth-grade SAT 9 Reading Comprehension Test achieved higher scale-scores on the AIMS Reading Test, on average, than matched comparison students. Among these initially low-scoring students, *READ 180* participants averaged 652.4 scale-score points, while comparison students averaged 648.0 scale-score points (Exhibit 9).

## Exhibit 9

### Cohort 2 Average Scores on Tenth-Grade AIMS Test for Students Scoring Below 30 NCEs on Eighth-Grade SAT 9



The difference is statistically significant and the effect size is +0.16, which can be interpreted to indicate that 56% of the *READ 180* participants scored above the matched nonparticipants' mean score on the AIMS.

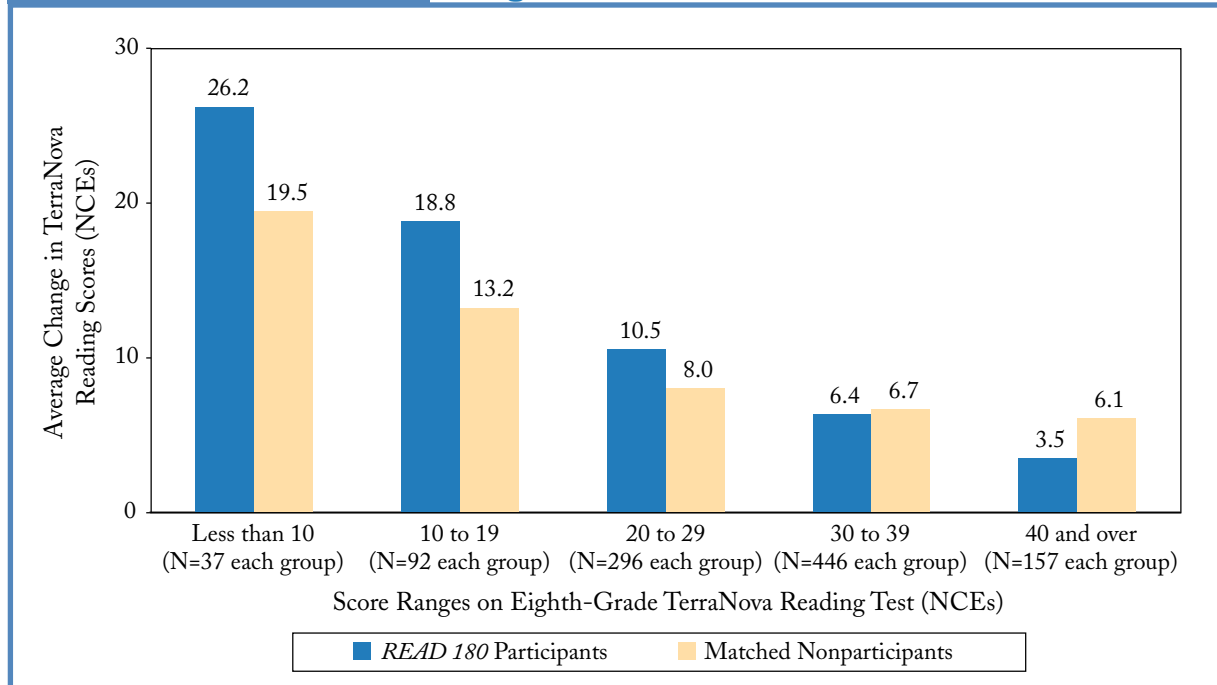
### Cohort 3

#### Lowest-Third pretest Scores: Pre- to Posttest Performance (2005–2006)

*READ 180* participants who scored below 30 NCEs on their eighth-grade TerraNova Reading Test averaged larger gains between the eighth- and ninth-grade test points than did similar nonparticipants (13.7 NCEs versus 0.1 NCEs), a statistically significant difference with an effect size of +0.30. This effect size can be interpreted to mean that 62% of the initially low-scoring *READ 180* participants scored above the matched nonparticipants' average score. In general, participants with lower scores on the eighth-grade TerraNova achieved larger gains in reading proficiency than did matched nonparticipants (Exhibit 10).

### Exhibit 10

#### Cohort 3 Change in TerraNova Reading Scores By Score on Eighth-Grade Test



#### 4. Scholastic Reading Inventory Gains

*READ 180* participants made substantial gains on the Scholastic Reading Inventory™ (SRI) assessment of reading proficiency.

##### Cohort 1: Ninth Graders in 2003–2004

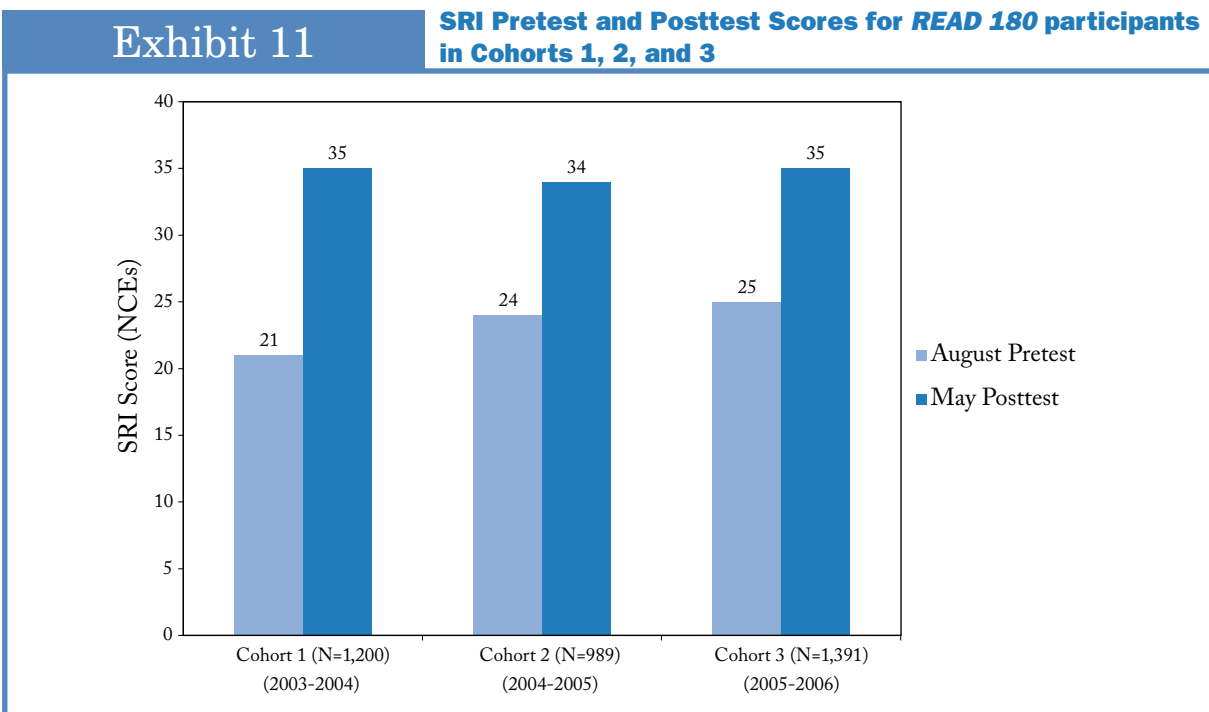
A total of 79% of *READ 180* students in Cohort 1 made pre- to posttest gains on the SRI (Exhibit 11). On average, Cohort 1 *READ 180* students' SRI scores increased from 21 NCEs ( $\pm 1$  NCE) in August 2003 to 35 NCEs ( $\pm 1$  NCE) in May 2004, a statistically significant gain of 14 NCEs. More than half of the Cohort 1 students achieved two or more years of growth in reading ability and 33% achieved four years of growth or more.

### Cohort 2: Ninth Graders in 2004–2005

In Cohort 2, *READ 180* participants' SRI scores increased from 24 NCEs ( $\pm 0.5$  NCE) in the beginning of the year to 34 NCEs ( $\pm 0.5$  NCE) in the end of the year, with the difference in the distribution of scores being statistically significant (Exhibit 11). On average, students gained two years of growth in reading proficiency; 40% achieved gains of three or more years.

### Cohort 3: Ninth Graders in 2005–2006

Like their peers in Cohorts 1 and 2, Cohort 3 *READ 180* participants made substantial gains on the SRI (Exhibit 11). Their average score on the SRI pretest was 25.3 NCEs, while on the posttest they averaged 35.1 NCEs. This gain of 9.8 NCEs was equivalent to two years of growth.



**Students who made larger gains on the SRI were more likely to have higher scores and meet proficiency on the AIMS Reading Test.**

In Cohorts 1 and 2, there was a positive relationship between participants' gains on the SRI in ninth grade and their scores on the tenth-grade AIMS test, such that students with larger gains on the SRI were more likely to have higher scores on the AIMS Reading Test than *READ 180* students with smaller SRI gains. Cohort 3 students were in ninth grade during the last year of the study, and therefore tenth-grade AIMS data were not available for their cohort.

# Summary

Results of this study show that participation in *READ 180* in ninth grade made a difference for struggling readers at the high school level. The positive impact of this program was measured through the SAT 9 and TerraNova standardized assessments, as well as through the state criterion-referenced test, Arizona Instrument to Measure Standards (AIMS), and the Scholastic Reading Inventory™ (SRI). *READ 180* students in all three cohorts outperformed students in a matched sample of nonparticipants on all measures of reading proficiency, with effect sizes ranging from .10 to .27 (Exhibit 12).

Among *READ 180* participants in each cohort, two subgroups of students appeared to benefit most from participation in the program. Overall, *READ 180* ninth-graders who were eligible for ELL services achieved larger gains on the state assessments than did the matched nonparticipants who were eligible for ELL services. These differences were observed in changes in average scores between the eighth-grade and ninth-grade state-mandated assessments, and again in the differences in the average scores achieved by participants and matched nonparticipants on the tenth-grade reading graduation exam. As shown in Exhibit 12, effect sizes ranged from .28 to .45 for the immediate and longitudinal results.

The second group of students who benefited more from *READ 180* were students who had lower levels of reading proficiency prior to participating in the program. For example, Cohort 2 ninth-grade *READ 180* participants who had scored 40 NCEs (33<sup>rd</sup> percentile) or below on their eighth-grade SAT 9 Reading Comprehension Subtest scored higher on their ninth-grade TerraNova Reading Test than did the matched group of nonparticipants. Effect sizes among this group of students ranged from .16 to .30 for the immediate and longitudinal results (Exhibit 12).

**Exhibit 12**

**Effect Sizes Between *READ 180* Participants' and Nonparticipants' Performance**

Cohort	Overall	English Language Learners		Lowest Performers Prior to <i>READ 180</i>	
	Pre- to Posttest (8th to 9th Grade)	Pre- to Posttest (8th to 9th Grade)	Longitudinal Results (10th grade)	Pre- to Posttest (8th to 9th grade)	Longitudinal Results (10th grade)
1	.23 (SAT 9)	.29 (SAT 9)	.28 (AIMS)	.16 (SAT 9)	.17 (AIMS)
2	.27 (TerraNova)	.45 (TerraNova)	.30 (AIMS)	.30 (TerraNova)	.16 (AIMS)
3	.10 (TerraNova)	.39 (TerraNova)	NA	.30 (TerraNova)	NA



Thus, this study found that participation in *READ 180* was associated with meaningful benefits in reading proficiency for struggling ninth-grade readers. In addition, with respect to prioritizing students for placement in the program, participation was associated with particular benefits for English language learners and students who were farthest below grade level upon entering high school (i.e., below the 33<sup>rd</sup> percentile).

## Note to Readers

This report was developed to provide an efficient review of three years' worth of data. Whereas the original Policy Studies Associates, Inc. reports also include data from two tenth-grade cohorts, these are not included in this report. The *READ 180* participants in these two cohorts (tenth graders in 2003–2004 and 2004–2005) only received *READ 180* for one semester—half of the one year recommended for full implementation of the model. In addition, the only data available for these students was SRI scores from the initial and final test points, making it impossible to compare *READ 180* participants to matched nonparticipants. For these reasons, this executive summary focuses only on the ninth graders in the study, who received a full year of *READ 180* and took multiple assessments of reading proficiency.

Nonetheless, the tenth-grade results indicate that *READ 180* participants exhibited small-to-moderate increases in reading proficiency after one semester. On average, the 2003–2004 tenth graders gained 7.5 NCEs, or more than one grade level. The 2004–2005 tenth graders averaged a gain of 1.5 NCEs. More details about each of these cohorts are available in the full PSA reports at [www.scholastic.com/education\\_research](http://www.scholastic.com/education_research).

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