

The Effect of Reading Plus on Student Achievement as Measured by the Smarter Balanced (SBAC) Assessment

School District

A large suburban school district in Southern California

Study Inclusion Requirements

Reading Plus group

1. Completed 80+ Reading Plus lessons during the 2015-16 school year
2. Completed the SBAC assessment in Spring 2015 and Spring 2016
3. Equivalent student exists in comparison group

Comparison group

1. Minimal or no Reading Plus use (0-19 lessons) during both the 2014-15 and 2015-16 school years
2. Equivalent student exists in Reading Plus group based on the following criteria:
 - A. Comparable baseline ELA achievement on the Spring 2015 SBAC (+/- 15 scale score points) and completed Spring 2016 SBAC
 - B. Comparable Demographics
 - Same grade level
 - Same economically disadvantaged status
 - Same classification on at least three other demographic variables (gender, race/ethnicity, Limited English Proficiency (LEP) status, and language)
 - Comparable school attendance during the 2015-16 school year (# of absences +/- 5)

Purpose of Report

This report focuses on the impact of Reading Plus on student achievement as measured by the Smarter Balanced Assessment Consortium (SBAC) English Language Arts (ELA) assessment.

Summary of Findings

Students who completed at least 80% of the recommended number of Reading Plus assignments (100 lessons / ~30 hours) achieved significantly larger gains on the SBAC ELA assessment in comparison to a group of demographically similar students who had minimal or no Reading Plus use ($p = 0.001$, $d = 0.49$). In addition, the average gains made by students who used Reading Plus with fidelity were often large enough for students to progress to a higher achievement level ($p < 0.001$, $d = 0.81$).

Results

The Reading Plus group achieved an average scale score gain of 59 points on the Spring 2016 SBAC ELA assessment (Figure 1). This gain was three times larger (40 points higher) than the one achieved by the comparison group. An SBAC ELA scale score gain of approximately 60 points often results in a student progressing to a higher SBAC ELA achievement level ([SBAC scale score ranges](#)).

SBAC ELA Scale Score Gains Between Spring 2015 and Spring 2016

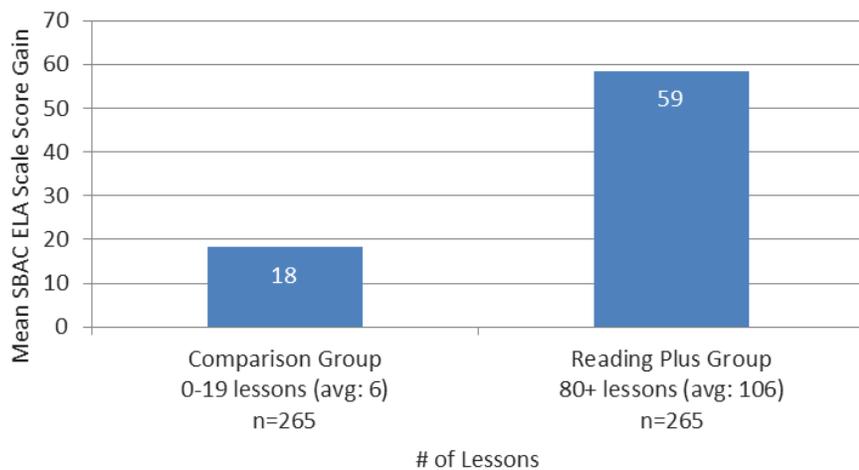


Figure 1: SBAC ELA scaled score gains from spring 2015 to spring 2016 are shown for students who completed at least 80 Reading Plus lessons versus a matched comparison group of students who used Reading Plus minimally (0-19 lessons). There is a statistically significant difference between the groups ($F(1,528) = 11.01$, $p = .001$, $d = 0.49$). Students who used Reading Plus with fidelity also achieved significant SBAC ELA scaled score gains between spring 2015 and spring 2016 ($p < .001$, $d = 0.81$).

As measured by the SBAC, Reading Plus students were more likely to improve their ELA achievement levels than the comparison group between Spring 2015 and Spring 2016:

- Twice as many Reading Plus students advanced from Level 1 to a higher achievement level (Figure 2a).
- Three times as many Reading Plus students advanced from Level 2 (below standard) to Level 3 or 4 (meeting or exceeding the standard) (Figure 2b).

Reading Plus students also were far less likely to lose ground on the SBAC between Spring 2015 and Spring 2016. Only 6% of the Reading Plus group dropped from SBAC ELA Achievement Level 2 to Level 1, while 38% of the comparison group regressed from Level 2 to Level 1 (Figure 2c).

Percent of Students Changing SBAC ELA Achievement Levels Between Spring 2015 and Spring 2016

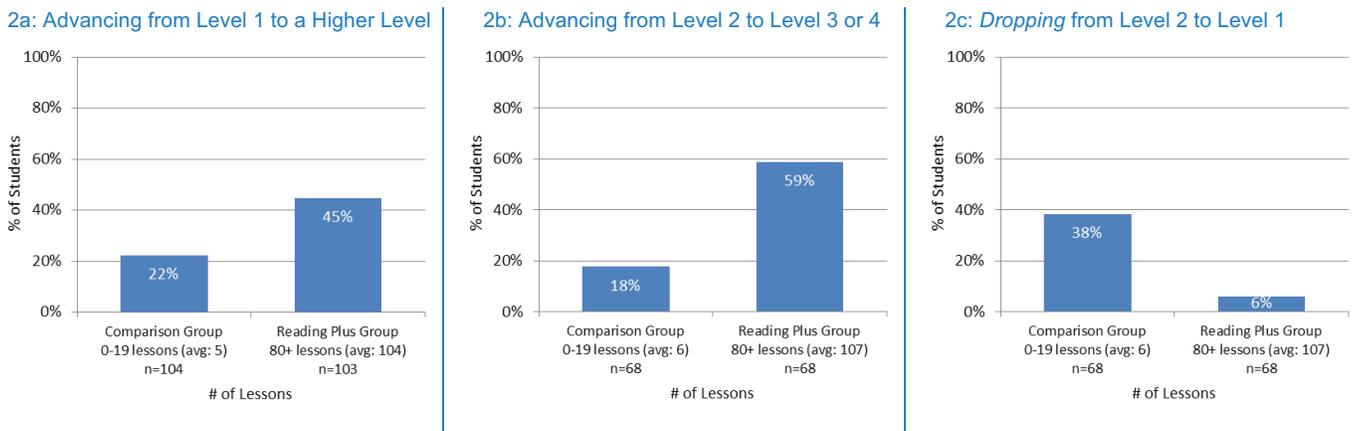


Figure 2. Statistically significant differences in the proportions of students changing achievement levels were seen between students who completed at least 80 Reading Plus lessons and a matched comparison group of students who used Reading Plus minimally (0-19 lessons): 2a ($\chi^2(2, N=207) = 15.47, p < .001$), 2b ($\chi^2(3, N=136) = 33.06, p < .001$), 2c ($\chi^2(3, N=136) = 33.06, p < .001$).

Study Design

A quasi-experimental ex post facto methodology was used for this study. This approach estimates the effect of Reading Plus by accounting for important student characteristics that may impact the results. The procedure creates “treatment” and “comparison” groups ex post facto (after the fact) to approximate the random assignment of students that would occur in an experimental design study. Specifically, it was possible to match 265 of 355 (75%) students who completed at least 80 Reading Plus lessons during the 2015-16 school year with other students in the district who had minimal or no Reading Plus use but had comparable demographic characteristics, school attendance, and Spring 2015 SBAC ELA scores. The Study Inclusion Requirements (see side panel on page 1) provide additional details about the matching procedure. Table 1 demonstrates that the Reading Plus group and the comparison group were statistically similar and had “baseline equivalence” prior to Reading Plus students completing 106 lessons, on average, during the 2015-16 school year.

Table 1: Baseline Equivalence between the Reading Plus and Comparison Groups*

Category	Comparison Group n=265 (avg: 6 lessons)	Reading Plus Group n=265 (avg: 106 lessons)
Mean SBAC scale score (Spring 2015)	2461	2461
Grade Level (5 - 6 - other)	26% - 61% - 13%	26% - 61% - 13%
Economically disadvantaged	42%	42%
Gender (F - M)	49% - 51%	43% - 57%
Race/Ethnicity (Hispanic - White - Other)	87% - 7% - 6%	83% - 10% - 7%
Limited English Proficiency	27%	25%
Language (Spanish - English - Other)	60% - 39% - 1%	57% - 42% - 1%
Mean # of Days Absent (2015-16 school year)	5.1	4.8

*Baseline differences between Reading Plus and comparison group students are not statistically significant ($p > .19$).