

## What is the effectiveness of Reading Plus® on ninth-grade intermediate ELL students' reading scores as measured by the GRADE™?



### Background

Extensive research demonstrates that ELL students must develop silent reading proficiency to close the achievement gap and build a foundation for future academic and career success. To become competent readers in school and beyond, students with limited English ability need to strengthen comprehension and linguistic skills, expand vocabulary, and become more motivated and engaged in their reading instruction.

### Vocabulary and Comprehension Development

Many ELL students are able to decode English text but struggle comprehending what they have read. Reading Plus® has a variety of modules to help ELL students expand their word knowledge and develop their ability to use context clues to determine meaning, as well as extensive comprehension skill-building activities.

### Functional and Academic Vocabulary

The Reading Plus® program's contextual analysis activities develop the functional and academic vocabulary necessary for success in school and career.

### Multi-Cultural Content

Reading Plus® offers a wide range of multi-cultural, leveled texts to appeal to students of all reading abilities. These texts engage and motivate ELL students, building language confidence as they progress toward reading proficiency.

### Population

The study included 91 ninth-grade ELL students from the Sunnyside Unified School District (SUSD) in Tucson, Arizona, who scored at the intermediate level on the 2009 or 2010 Arizona English Language Learning Assessment (AZELLA).

### Implementation Overview

- The study was conducted during the fall semester of the 2010/2011 school year.
- The Group Reading Assessment Diagnostic Evaluation (GRADE™), a Pearson assessment, was used to assess pre- and post-treatment reading proficiency of all participating students. Based on GRADE™ pre-test scores, a stratified randomized assignment technique was used to distribute students evenly between two web-based interventions.
- During the 12-week intervention period, students were exposed to the following programs:
  - Treatment Group: Reading Plus®, a web-based silent reading intervention by Taylor Associates
  - Control Group: Nova Net®, a web-based, mastery-based program by Pearson that is designed to help students address gaps in core subject areas. (For the purpose of the study, the control group used the reading/language arts component.)

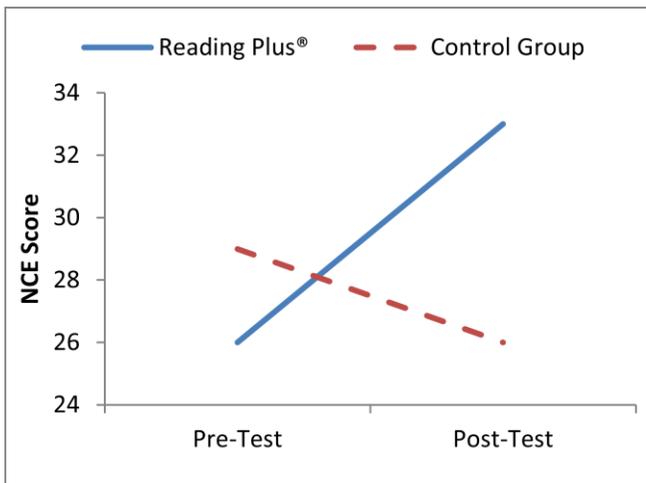
### Summary of Findings

Reading Plus® demonstrated a statistically significant effect on ninth-grade intermediate ELL students' reading scores. The Reading Plus® treatment group made significantly higher reading gains than the control group in both vocabulary and reading comprehension as measured by the GRADE™ test.

## Results

The Reading Plus® students' mean Norm Curve Equivalents (NCE)\* improved by an average of 7.3 points (or about 7.3 percentiles), effectively moving the NCEs from a mean of 26.11 to 33.41. By contrast, the control group's NCEs dropped from a mean of 28.57 to a mean of 26.02 (or about the 26<sup>th</sup> percentile). The difference between the two groups was significant at the <.001 level.

**Figure 1. Total NCE Change**



The mean NCE change difference is significant at the .001 level.

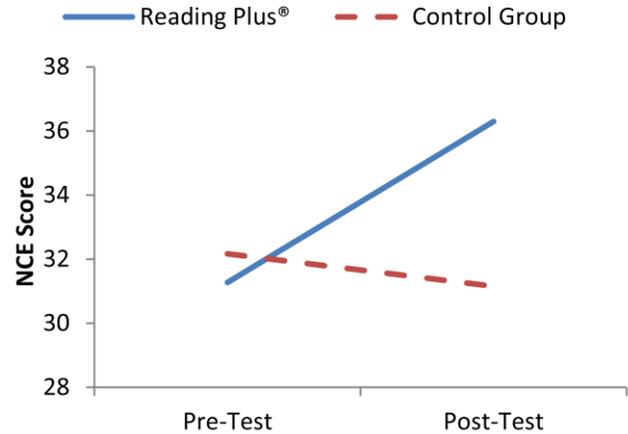
The National NCE Mean for eight-grade students completing middle school level (M) is 50 NCE. The study participants represented a population sample that was well below the national performance average. Forty-five out of 91 students had a starting NCE of < 25 (or below the 25<sup>th</sup> percentile). Forty-two students had a starting NCE between 26 and 50 (26<sup>th</sup> to 50<sup>th</sup> percentile), and only four students began with an NCE of above 50 (or above the 50<sup>th</sup> percentile).

While the Reading Plus® group achieved a 1.1 grade level (GE) improvement in twelve weeks, the control group regressed by about half a grade level.

\* Normal Curve Equivalents are commonly referred to as NCEs. Many state and federal agencies use them as a reporting method for specialized programs such as Title 1. NCEs are based on percentiles but have been statistically converted to an equal-interval scale of measurement. Therefore, NCEs can be arithmetically manipulated, meaning they can be averaged. This makes them particularly helpful for reporting data. The range of NCEs is from 1 (corresponding to a percentile rank of 1.0) to a score of 99 (or 99<sup>th</sup> percentile rank) with a mean of 50.

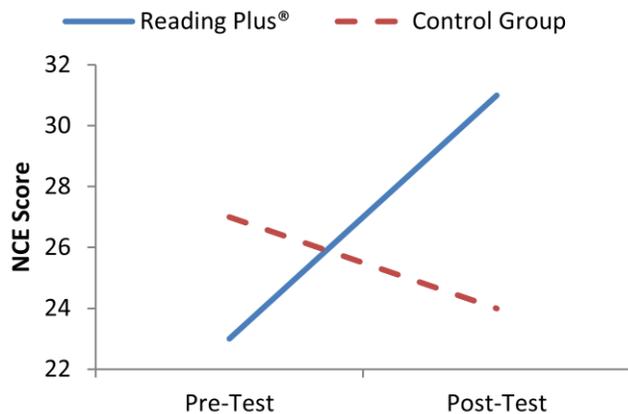
The Reading Plus® group also achieved statistically significant higher gains within both Vocabulary and Comprehension Composite subcomponents.

**Figure 2. Vocabulary NCE Change**



The mean NCE change difference is significant at the .05 level.

**Figure 3. Comprehension Composite NCE Change**



The mean NCE change difference is significant at the .001 level.

## NCE Gains and Session Completion

Although the Reading Plus® groups at both schools made improvements, Table 1 demonstrates that School 2, where students completed more sessions, achieved higher NCE gains than School 1.

**Table 1. NCE Gains and Session Completion**

	Total Test NCE Gain	# of RP® Sessions	# of GR™ Lessons	# of CP™ Lessons
School 1 Mean	3.60	37	51	36
School 2 Mean	10.37	47	68	43