

Improving the reading and language skills of high school striving readers and English language learners:

A study of the effectiveness of Hampton-Brown *Edge*TM

2007–2008



This research was conducted by SEG Research, an independent educational research firm located in New Hope, Pennsylvania. SEG research provides research, evaluation, and assessment services to educational publishers, educational technology providers, assessment service providers and government agencies. SEG has been meeting the research and assessment needs of organizations since 1979.

Background and Purpose

During the 2007-2008 school year, SEG Research conducted a national study of students in grades nine through twelve to evaluate the effectiveness of the Hampton-Brown *Edge*™ program. *Edge*, published by National Geographic School Publishing/Hampton-Brown, is a core Reading/Language Arts Program designed for high school students who have not mastered essential reading, writing, and language skills. The students for whom *Edge* is intended are typically reading two or more years below grade level. *Edge* is designed for both striving readers who are native English speakers as well as English language learners (ELLs).

Edge is designed to motivate adolescent readers by including engaging, high-interest, multicultural literature selections, both fiction and nonfiction, presented in thematic units organized around Essential Questions—big ideas that are relevant to high school students and are worth speaking, listening, reading, thinking, and writing about. The *Edge* program presents a wide variety of classic and contemporary texts—literary, informational, persuasive, and functional.

Edge equips students with the skills they need to succeed in an academic environment through use of systematic teaching and active participation. *Edge* employs scaffolding techniques such as using the text to teach the text, specialized in-book reading supports, showing rather than telling, unpacking the thinking process, and helping students set literacy goals. Strategies and skills are taught with focus and repetition across genres to promote transfer.

The goal of this study was to evaluate the effectiveness of *Edge* as a core intervention program for improving student reading and language skills. The study examined performance of both striving readers and English language learners and found that both populations of students using *Edge* as a core intervention Reading/Language Arts Program made significant improvement during one school year's time as compared to students using other intervention programs.

Study Design

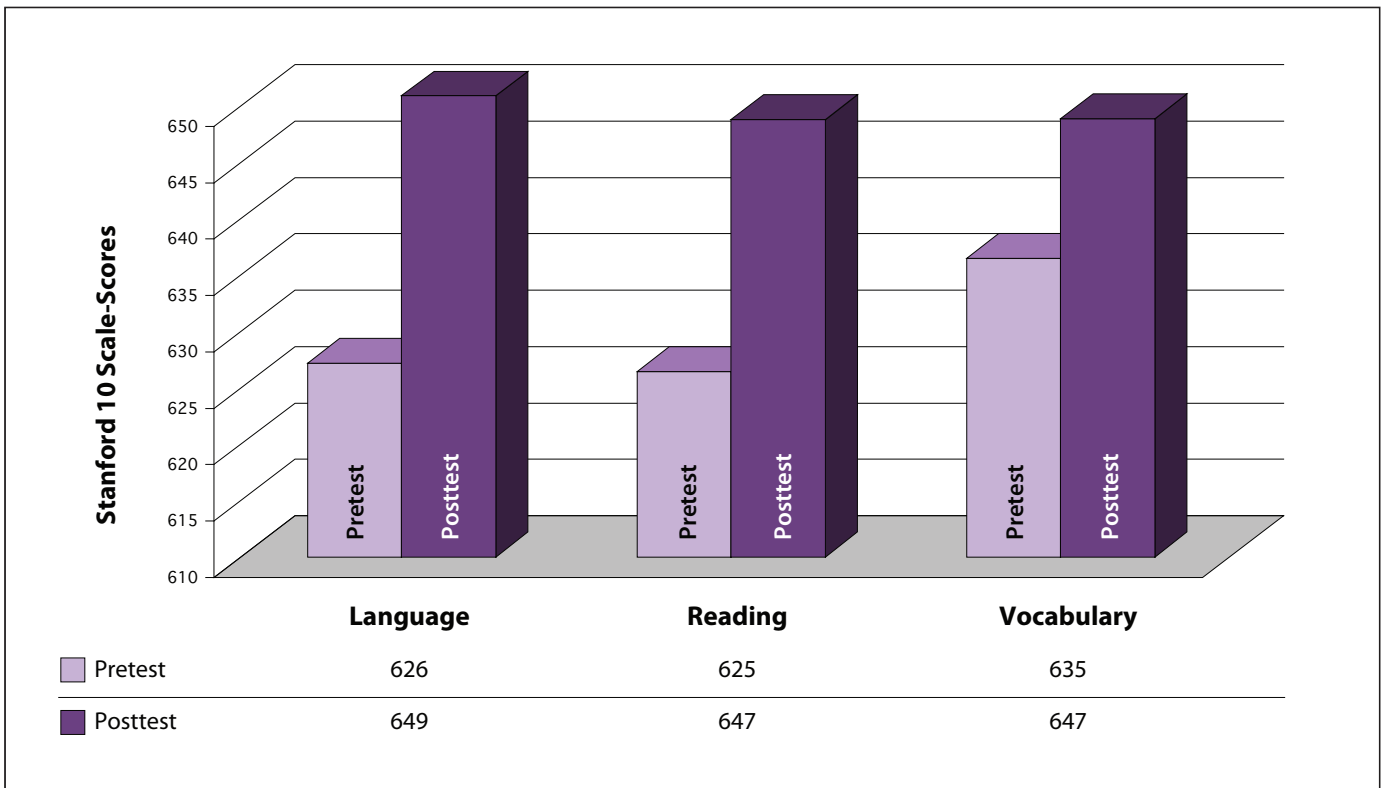
Between August 2007 and June 2008, approximately 1,800 students in 84 classrooms in 37 different schools in 18 districts representing all regions of the United States participated in a controlled study of *Edge* program effectiveness. Using a quasi-experimental, pre-post design, this study compared the growth in reading and language skills between students who received instruction using *Edge* (Experimental Group) and a comparable group of students who received instruction using other programs, without the benefit of *Edge* (Control Group). Growth in reading comprehension, vocabulary, and language was measured by comparing scores on the Stanford 10 Achievement Test Abbreviated Battery (SAT 10) at the beginning and end of the school year.

Students in both the Experimental (*Edge*) and Control Groups took a pretest (SAT 10) at the beginning of the school year to obtain a baseline measure of student reading and language skills. Students in the Experimental Group then received instruction using the *Edge* program, while those in the Control Group received instruction using other programs. At the end of the school year, students in both the *Edge* and Control Groups took a posttest (SAT 10). The results from the pretest and posttest were compared statistically to determine the level of growth in reading comprehension, vocabulary, and language skills. Students in the *Edge* and the Control Group were well-matched in ability and demographically. Any initial differences in the reading and language skills of students in the Experimental and Control Groups were statistically controlled during analysis.

Results

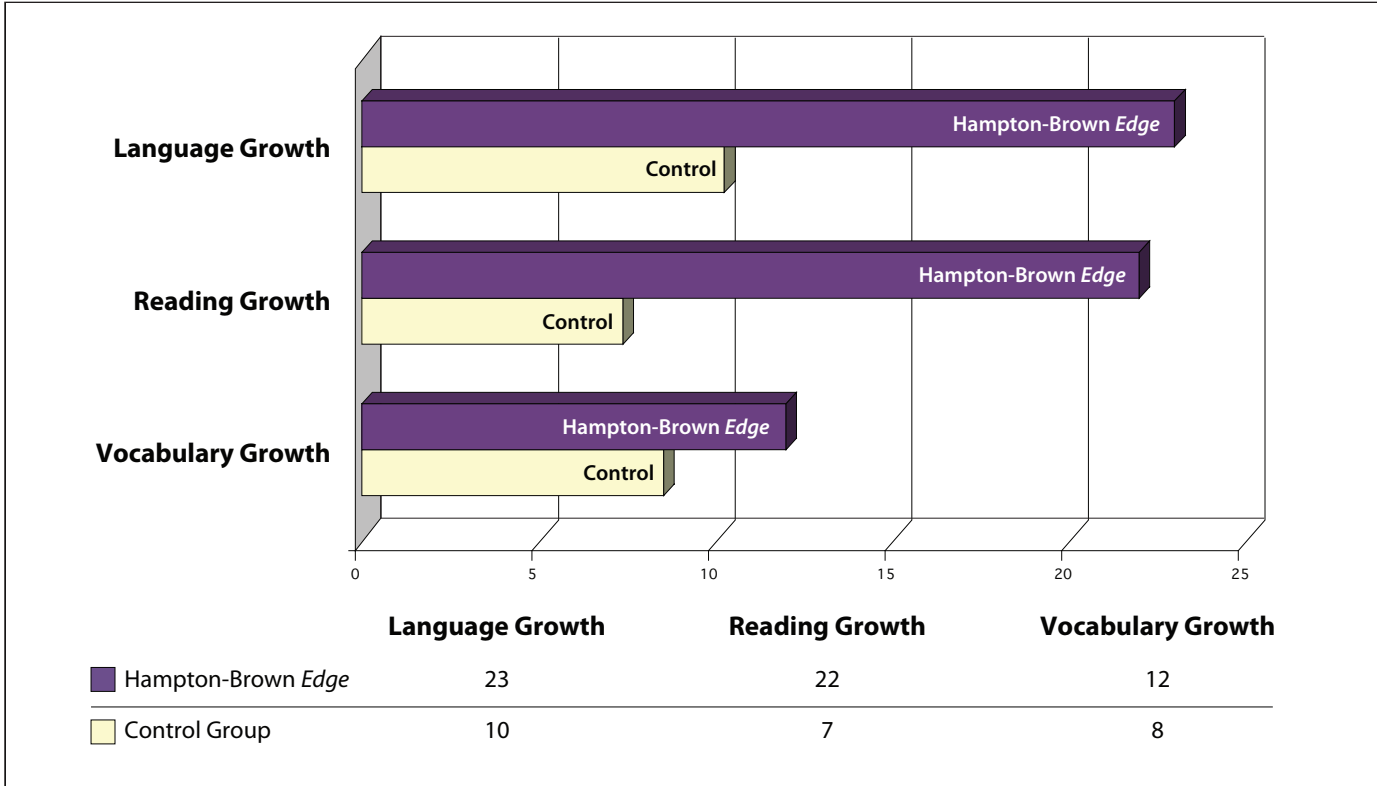
Pre-Post Growth for *Edge* Users The students who used *Edge* showed significant gains from pre- to posttest in language, reading comprehension, and vocabulary. Across the 2007-2008 school year, students in *Edge* classrooms increased their SAT 10 Language scale-scores by 23 points; their Reading Comprehension scale-scores by 22 points; and their Vocabulary scale-scores by 12 points (see Figure 1).

FIGURE 1
Pre-Post Growth for Students Using Hampton-Brown *Edge*



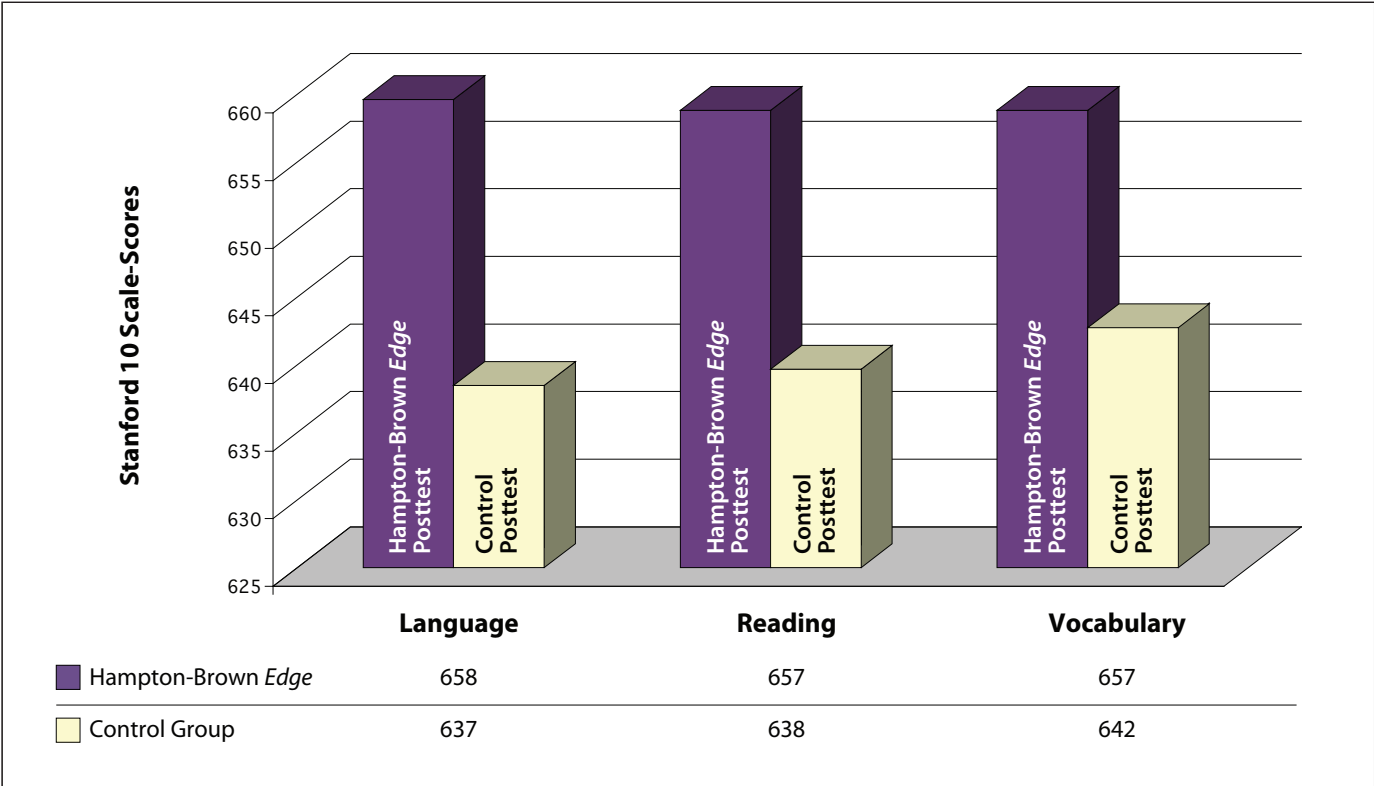
Comparison of Growth Between *Edge* Users and the Control Group The students using Hampton-Brown *Edge* also showed significantly greater gains in language, reading comprehension, and vocabulary than those students in the Control Group who were not using the *Edge* program. Gains by the *Edge* users are statistically significant at the $p < .001$ level; meaning there is less than a one in a thousand chance that the greater improvement seen for *Edge* users was due to chance. Comparing the *Edge* Group to Control Group results, students who used *Edge* gained more than three times (300%) as much in Reading Comprehension as those students who did not use *Edge*, more than twice (200%) as much in Language and one and a half times (150%) as much in Vocabulary (see Figure 2).

FIGURE 2
Comparison of Pre-Post Growth for Students Using Hampton-Brown *Edge*
and Control-Group Students Using Other Programs



Comparison of Matched Posttest Scores This study controlled for any initial differences in the reading and language skills of students in the *Edge* and Control Groups using a statistical procedure known as analysis of covariance (ANCOVA). The result of this type of analysis is a more accurate comparison of growth between groups and allows us to compare differences as if the two groups (*Edge* and Control) were identically matched in initial reading proficiency. When controlling for students' initial ability in this manner, the posttest performance of the two groups is significant. *Edge* students finished the year with scores that were 21 scale-score points higher in Language, 19 scale-score points higher in Reading Comprehension, and 15 scale-score points higher in Vocabulary on the SAT 10 measures (see Figure 3).

FIGURE 3
Comparison of Matched Posttest Scores for Students Using Hampton-Brown *Edge*
and Control-Group Students Using Other Programs



Effect Size To better understand the magnitude of the resultant difference between *Edge* users and those who did not use *Edge*, we looked at what researchers refer to as the “effect size.” Effect size computation provides a common metric that can be used for comparing the strength of different treatments (e.g. instructional programs) across studies. We compared the average (mean) score for the *Edge* Group to the average (mean) score for the Control Group (adjusted for any initial differences in student ability). We found effect sizes of +.42 for Language, +.40 for Reading Comprehension, and +.27 for Vocabulary. This is a very large effect indicating that the students who used *Edge* performed well above the students who did not use *Edge*. For comparison, these effect sizes are well above the average effect sizes of other reading programs as reported by Slavin (2008) in his comprehensive synthesis of middle and high school reading program research studies. As reported by Slavin (2008), mean effect sizes for mixed-method reading programs were reported at about +.23 and a mean effect size for instructional-process reading programs of +.21. The effect size found during this analysis of *Edge* is nearly twice as high as the effect size reported for other reading programs designed for high school students.

Summary

Students enrolled in *Edge* classrooms achieved significantly greater gains in language, reading comprehension, and vocabulary than students enrolled in classes that did not use *Edge*. Students who used *Edge* gained more than three times (300%) as much in Reading Comprehension as those students who did not use *Edge*, more than twice (200%) as much in Language and one and a half times (150%) as much in Vocabulary.

When controlling for students’ initial ability using analysis of covariance, the findings of this study are quite significant. *Edge* students finished the year with scores that were 21 scale-score points higher in Language, 19 scale-score points higher in Reading Comprehension, and 15 scale-score points higher in Vocabulary than the Control Group on the SAT 10 measures.

To understand the magnitude of the resultant difference between *Edge* users and those who did not use *Edge*, we looked at effect size. We found effect sizes of +.42 for Language, +.40 for Reading Comprehension, and +.27 for Vocabulary. This is a very large effect indicating that the students who used *Edge* performed well above the students who did not use *Edge*.

The findings of this study demonstrate that students using *Edge* as a core intervention Reading/Language Arts Program can make significant improvement during one school year’s time as compared to students using other intervention programs.

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