



Effective technology for English Learners

A CONTROLLED STUDY OF ROSETTA STONE FOUNDATIONS

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Education

Key Findings

- This study provides **strong** evidence, according to the Every Student Succeeds Act (ESSA) evidence standards, for the effectiveness of Rosetta Stone® Foundations for English learners in sixth through eighth grades.
- Usage of Rosetta Stone software is associated with greater gains in multiple aspects of English over the course of a school year.

Introduction

This study evaluated the effectiveness of Rosetta Stone Foundations as part of a blended learning program for middle school English Learners (ELs). During the 2017-2018 school year, ELs in an urban school district in Arizona participated in a randomized controlled trial. The study was conducted jointly by the Rosetta Stone Research Team, the school district, and researchers from the University of Maryland. Results indicate that use of Foundations had a significant positive effect on ELs' language gains over a nine-month period.

Participants and Design

Students in sixth through eighth grades from eight schools participated in the study. All students were ELs categorized as low proficiency learners. Using a group-randomized procedure, 221 students were assigned, by school, to either the treatment or control group prior to pretesting. In the final study sample, 98 percent of students identified their home language as Spanish, and all students received free or reduced-price lunch. For the final statistical models, 152 students¹ were included (Control=72, Treatment=80).

The primary measurement tool was the Test of English Language Learning (TELL) diagnostic test from Pearson. The test includes both a beginning-of-year test (pretest) and end-of-year test (posttest) to measure baseline proficiency and calculate growth in a number of domains. The district recruited retired teachers at each school to administer the two tests. Pretesting was conducted in late August and early September 2017, while posttesting was completed in early May 2018.

District personnel received implementation training at the beginning of the school year and once again midway through the year. At the treatment sites, teachers determined how to best incorporate Rosetta Stone Foundations, based on school schedules, equipment, and logistics. Instructors and paraprofessionals monitored usage either in the classroom or in a designated computer lab. Students used a variety of devices—Chromebooks, iPads, desktop and laptop computers—to access the software. At the control group sites, teachers used the district's standard English Learner curriculum.

¹ The study began with 221 students, but due to attrition, special education status, and missing data, 152 students were included in the final statistical models.



Analysis

Data was assembled from three sources: usage data from Rosetta Stone servers, demographic information provided by the district, and TELL testing results. Researchers from the University of Maryland conducted the analyses. Because the TELL provides 11 potential outcome variables, the researchers first carried out a principal components analysis (PCA) to group the variables into a smaller number of meaningful composites. Results of the PCA suggested three primary composites: Speaking-Listening², Reading-Writing³, and Reading Aloud⁴.

Statistical analyses were conducted using the three composites identified in the PCA as the outcome variables in separate multilevel models. The models used to evaluate the effectiveness of the intervention included the following explanatory variables: Rosetta Stone program usage, grade level, attendance, and sex. Usage was operationalized as the number of unique prompts⁵ completed within the Foundations program. Random effects (e.g., for student, teacher, and school) were included as necessary to account for the nested nature of the data.

Results

Foundations users and control group students ("non-users") performed equivalently on all three composites during pretesting, indicating that they were well matched on initial English proficiency. Over the school year, Rosetta Stone program users showed significantly greater gains than non-users in both the Speaking-Listening and Reading Aloud composites. In the case of the Reading-Writing composite, both users and non-users exhibited similarly large gains over the year.

For the Speaking-Listening composite, on average all students improved from the pretest to the posttest. However, the Rosetta Stone® Foundations users showed greater improvements than the non-users, and the amount of improvement from pretest to posttest increased as program usage increased (See Figure 1). Students that used Foundations the most essentially doubled their gains on the Speaking-Listening composite relative to non-users.

For the Reading Aloud composite, students in the non-users group did not significantly improve from pretest to posttest. The gains were directly related to the amount of program usage, with more improvement resulting from increased usage (See Figure 2). Students that completed the most unique prompts in Foundations had a nearly threefold increase on the Reading Aloud composite relative to non-users, holding all other covariates constant.⁶

² The Speaking-Listening composite consists most heavily of the Speaking, Listening, Grammar (Spoken/Written), Vocabulary (Spoken/Written), Fluency, and Pronunciation TELL scores.

³ The Reading-Writing composite consists most heavily of the Pre-Literacy Reading and Early Writing scores, and to a lesser degree the Grammar (Spoken/Written) and Vocabulary (Spoken/Written) scores.

⁴ The Reading Aloud composite consists most heavily of the Reading Rate and Expressiveness scores, and to a lesser degree the Pre-Literacy Reading score.

⁵ A prompt is defined as any item that can generate a response value, either through writing, speaking, clicking, or tapping.

⁶ This increase is so large in part because the non-users did not show a statistically significant improvement from pretest to posttest, whereas the Foundations users did.



Figure 1: Model-based estimated gains on the Speaking-Listening composite (in standard deviations), showing larger improvements with increased Rosetta Stone® Foundations usage.

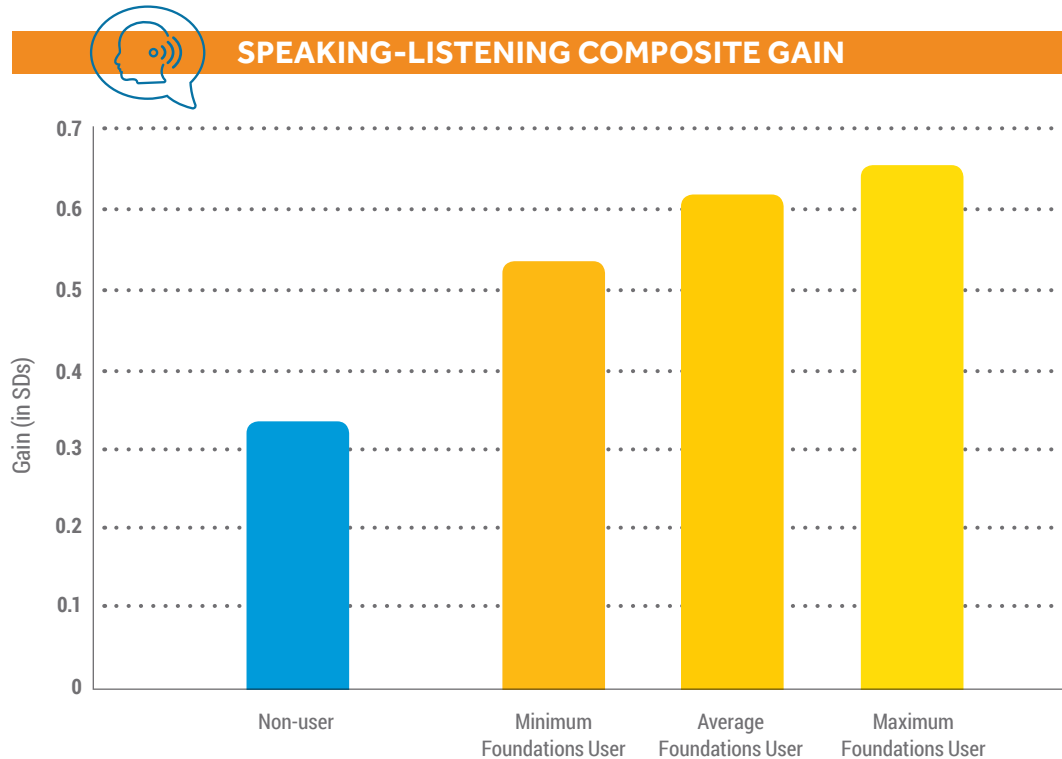
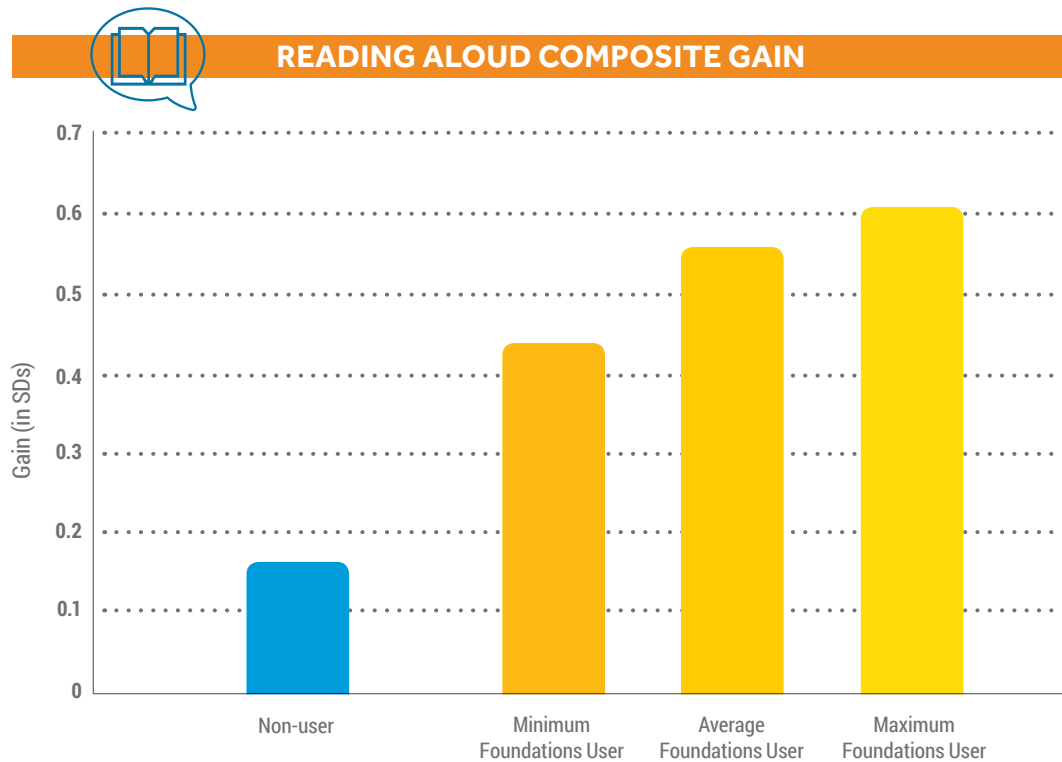


Figure 2: Model-based estimated gains on the Reading Aloud composite (in standard deviations), showing larger improvements with increased Rosetta Stone Foundations usage.



Discussion

This randomized controlled trial examined the effectiveness of Rosetta Stone® Foundations for low proficiency middle school English learners over the course of one school year. Students who used Foundations showed larger gains in speaking, listening, and reading aloud over the course of one school year. Within the set of Rosetta Stone users, more product usage was related to greater gains, providing further evidence that software usage was driving improvement in these skills. Because students were randomly assigned and performed equivalently at pretest, this study provides strong evidence, based on ESSA criteria, for the effectiveness of Rosetta Stone Foundations for English learners within a blended learning program.

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Our scalable, interactive solutions have been used by over 12,000 businesses, 9,000 public sector organizations, and 22,000 education institutions worldwide, and by millions of learners in over 150 countries.