

Improving the language and literacy skills of
third-grade English language learners:

A study of the effectiveness of *National Geographic Reach*

2010–2011



Cultivating learning and positive change

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Background and Purpose

National Geographic Learning (NGL) recognizes the importance of gathering scientific research evidence to support educators in making decisions about instructional programs. As such, NGL contracted with Magnolia Consulting, LLC, an independent evaluation consulting firm, during the 2010–2011 school year to conduct an efficacy study of *National Geographic Reach* (*Reach*), a core, content-based, English as a Second Language (ESL) program for students in kindergarten through grade five.

Reach is a research-based program designed to provide active learning opportunities, scaffolded instruction, and flexibility to meet instructional priorities with the aim of moving all English language learners (ELLs) to language proficiency and reading independence. Through science and social studies content, students engage in hands-on and differentiated activities that easily align to teachers' various instructional settings. *Reach* immerses students in a dynamic language environment through content that aligns with national and state curriculum standards for ESL, English language arts, science, and social studies, including the Common Core State Standards. It provides an academic language development approach that incorporates opportunities for academic talk and scaffolded learning. Each unit focuses on strategies and skills for building language, vocabulary, reading, and writing for ELLs at all language proficiencies.

The purpose of this study was to evaluate the efficacy of *Reach* in increasing third-grade students' English language proficiency and reading ability. This study also included an examination of teachers' implementation of *Reach* with an emphasis on fidelity of implementation.

Overall, the study findings show that use of *Reach* with third-grade ELLs during one school year's time was found to significantly improve students' language proficiency and critical thinking skills. Results of this study clearly demonstrate that *Reach* increased students' reading comprehension skills. *Reach* distinguished itself from control programs in this study with its comprehensive language and literacy materials that connect students to the world around them.

Study Design

During the 2010–2011 school year, Magnolia Consulting conducted a study with 31 teachers and 296 third-grade ELLs nationwide. Evaluators employed a randomized controlled trial (RCT) design with students nested in schools in order to measure the program's impact on students' language proficiency and reading ability. Twenty-two schools were randomly assigned to either the *Reach* or control groups.

Student measures for both study groups included the following pre/posttests: the Language and Literacy Tests, the Oral Language Assessment, and the Gates-MacGinite Reading Test, Fourth Edition (GMRT-4). Evaluators analyzed the data to detect differences between the two study groups and also among student subgroups participating in the study. Evaluators also collected data from both *Reach* and control group teachers including monthly online implementation logs, classroom observations, and interviews.

Study Results

Language Proficiency

“The academic language frames in *Reach* have made a tremendous difference. Now I hear the children using academic language with complete sentences and appropriate grammar.” [Reach teacher, evaluator interview]

An important measure of program effectiveness for ELLs is the extent to which students demonstrate significant learning gains in language proficiency. *Reach* provides ELLs with academic skills and strategies by infusing reading, writing, and oral language practice with science and social studies content. For this study, both treatment (*Reach*) and control group students were given a validated Language and Literacy pretest and posttest to assess their Vocabulary, Grammar, and Comprehension/Critical Thinking skills.

Results of the Language and Literacy Tests indicate that *Reach* students demonstrated statistically significant gains on all measures of language proficiency. *Reach* students ranged from answering 6% to 15% more items correctly on the posttest than the pretest on the Vocabulary, Grammar, Critical Thinking and Total tests. When compared to control students, *Reach* students scored an average of 19 points higher on the Language and Literacy Total tests (Figure 1).

Critical Thinking

“*Reach* is high-interest and sophisticated. It helps children reach that higher-level thinking that many of them struggle with.” [Reach teacher, evaluator interview]

Reach develops critical thinking skills through an academic language development approach that incorporates opportunities for academic talk and scaffolded learning. Results from the Language and Literacy Tests indicate that the largest gain was in *Reach* students’ critical thinking. Students in the *Reach* group answered 14% more items correctly than control students (Figure 2). This finding confirms that *Reach’s* emphasis on sophisticated discourse through regular opportunities for academic talk increased students’ abilities to think critically. This difference is statistically significant and translates into a large effect size (0.75) according to Cohen’s classification of effect sizes.

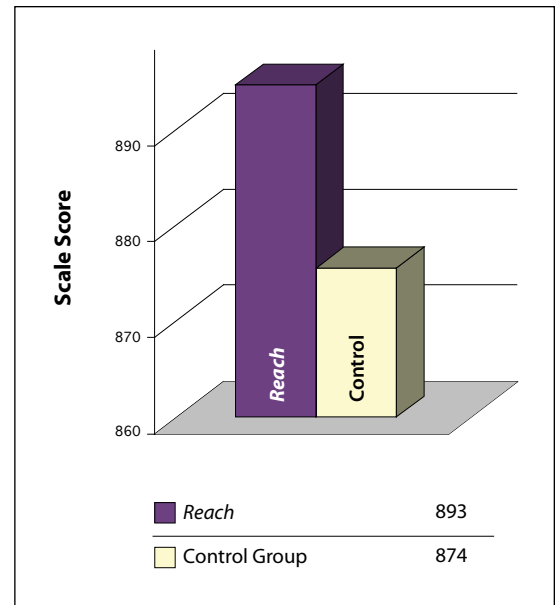


FIGURE 1. *Reach* and control students’ average scale score on the Language and Literacy Total posttest

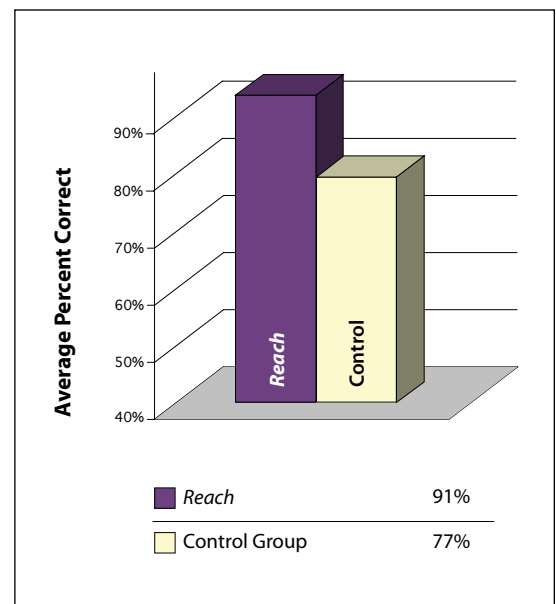


FIGURE 2. *Reach* and control students’ average percent correct on the Language and Literacy Critical Thinking subtest

Reading

“Throughout the year my *Reach* students’ desire to read has increased. They have become better readers—based on their test scores—and their comprehension and fluency scores have gone up.” [*Reach* teacher, evaluator interview]

The results indicate that *Reach* students demonstrated statistically significant, positive gains on all three GMRT-4 tests: Vocabulary, Comprehension, and Total Reading. *Reach* students gained 32, 34, and 32 scale score points respectively from fall to spring on the Comprehension, Vocabulary, and Total Reading tests. With effect sizes ranging from 1.21 to 1.51, this represents very large gains in reading achievement.

Additionally, on all three GMRT-4 tests—Vocabulary, Comprehension, and Total Reading—*Reach* students scored higher in the spring than did control students, with the greatest difference being in Comprehension (Figure 3). *Reach* students had greater student reading gains than control group students that were substantively important on the Comprehension subtest. The moderate effect size for Comprehension of .42 is considered a substantively important positive effect by the U.S. Department of Education’s What Works Clearinghouse (U.S. Department of Education, 2008).

Reach Implementation

“*Reach* allows me to target instruction at my students’ instructional level. We can talk about things that we learned in whole group with materials that are at their instructional level.” [*Reach* teacher, evaluator interview]

Student learning is often directly affected by a teacher’s fidelity of implementation with an instructional program. For this study, implementation information was collected through online teacher logs for both *Reach* and control group teachers. Additionally, evaluators conducted observations and interviews with study teachers.

Reach teachers demonstrated a high level of fidelity in implementing the required program components with an overall fidelity rating of 91.5%. As part of their implementation, teachers reported using the following teaching practices during either every lesson or during most lessons: scaffolded instruction, differentiated instruction, academic talk, vocabulary teaching routines, and reading teaching routines.

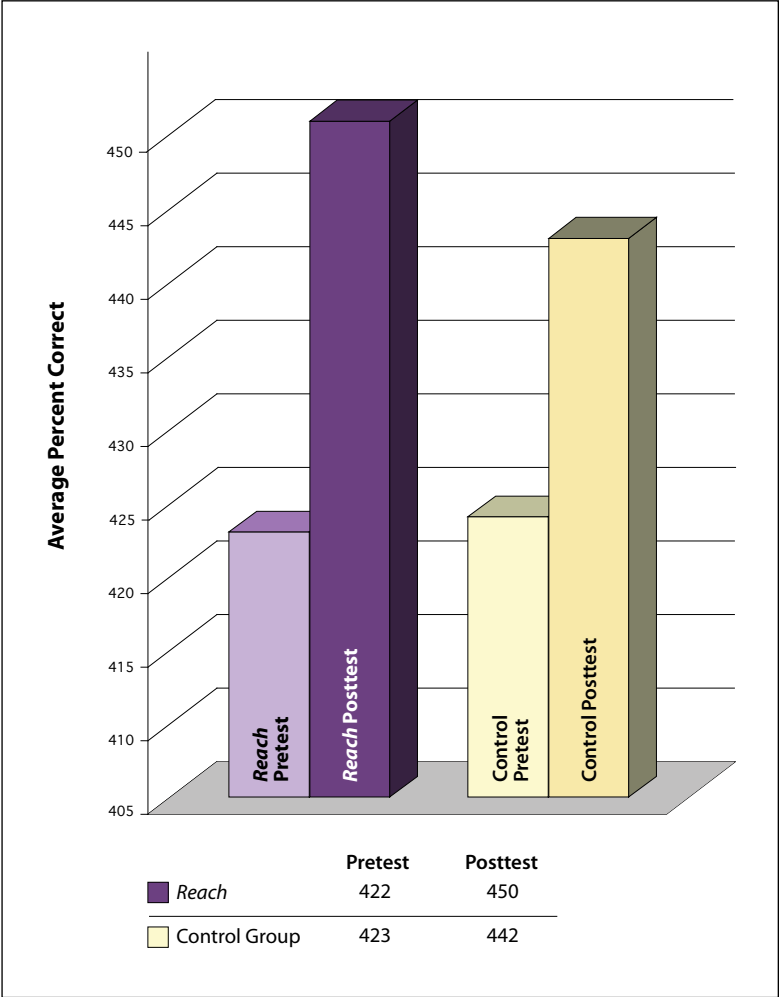


FIGURE 3. *Reach* and control students’ average pretest and posttest scale scores on GMRT-4 Comprehension

Results from this study indicate that regardless of the ESL delivery model used, *Reach* students performed equally well whether they received instruction through a pull-out, self-contained, or push-in model. This suggests *Reach* is flexible to align to any ESL delivery model and that students achieve comparable learning outcomes in language proficiency and reading regardless of the delivery model. Across *Reach* and control group classrooms, the majority of teachers provided ESL instruction using a pull-out model in which a small group of students were pulled from their classrooms for ESL instruction (n = 17) or a self-contained model in which classroom teachers provided ESL and content instruction to all students (n = 11). Other teachers used a push-in model to provide ESL instruction in the classroom during core reading instruction.

Teachers who used *Reach* rated the program’s effectiveness in improving student learning higher in several areas than control teachers rated their ESL programs and materials. The areas with the largest and most noteworthy differences in teachers’ effectiveness ratings were language function (30 percentage-point difference), critical thinking (28 percentage-point difference), and vocabulary (24 percentage-point difference). *Reach* teachers also gave higher effectiveness ratings than control teachers gave their programs and materials related to supporting active engagement in language development (27 percentage-point difference), scaffolded/differentiated instruction (23 percentage-point difference), and adapting to their instructional priorities (26 percentage-point difference) (Figure 4).

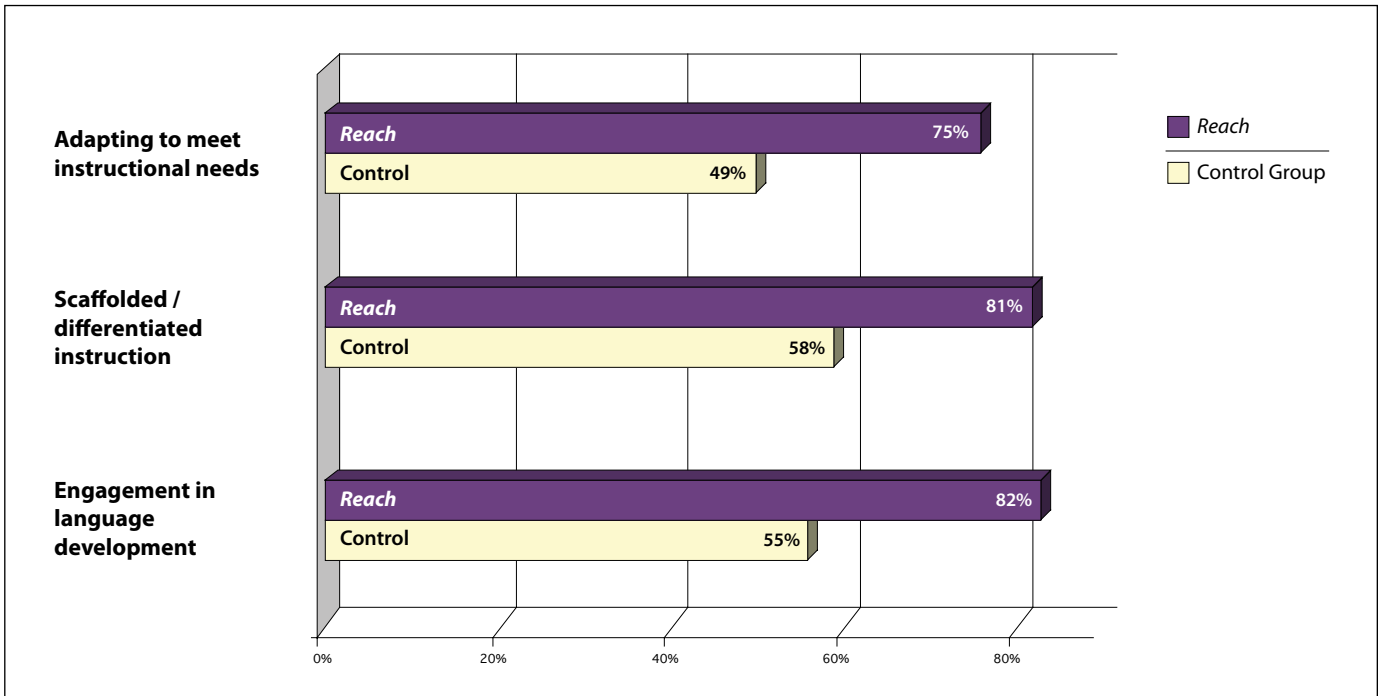


FIGURE 4. Percentage of teacher log responses indicating effectiveness of program in supporting instruction

Summary

Results of this nationwide study clearly demonstrate that *Reach* students showed statistically significant gains on all measures of language proficiency. Study results show that *Reach* improves the critical thinking skills of English language learners through an academic language development approach that incorporates opportunities for academic talk and scaffolded learning. This is the study's most significant finding. *Reach* students also demonstrated statistically significant positive gains on the GMRT-4 Vocabulary, Comprehension, and Total Reading tests. Study results indicate that *Reach* teachers rated their program's effectiveness in improving student learning higher than control group teachers rated their ESL programs and materials. Additionally, *Reach* students performed equally well regardless of the ESL delivery model.

Reach distinguishes itself from control programs in this study with its comprehensive language and literacy materials that connect students to the world around them. These findings demonstrate that *Reach* is effective in building ELLs' language proficiency, critical thinking, and reading ability.