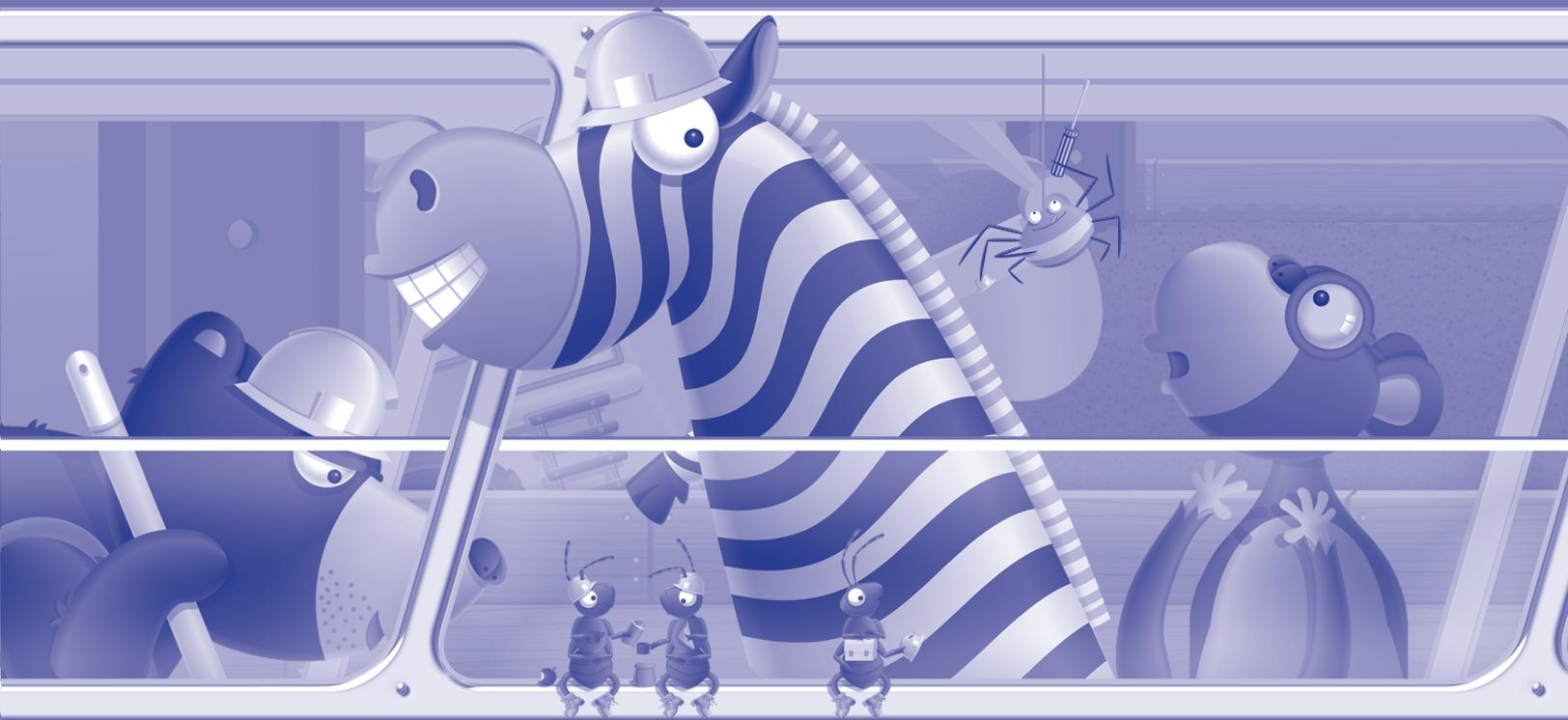


Pearson Research Overview



Pearson Research Overview

Pearson Education is committed to using scientific, evidence-based methods in the development of its educational curricula. A research team composed of educational research methodologists has been working with Pearson for seven years to integrate scientific research practices into the development of its curricula. Pearson also collaborates with regional education laboratories, universities, and private research companies to independently evaluate the effectiveness and usability of its curricula. These studies are designed to meet the rigorous standards of the What Works Clearinghouse.

Four phases of research are incorporated into the development of each new curriculum. The goal of establishing such extensive research methods is to ensure that every program enables all children to learn the skills and concepts they need for academic success. During the first phase of the research process, previous editions of the curricula are evaluated to determine best instruction practices as demonstrated by scientific evidence. These practices will be incorporated into the current curricula to begin establishing a scientific research base.

During the second phase, the authors and researchers conduct extensive literature reviews on content, instructional practices, and education standards. The data is synthesized and embedded into the curricula.

During the third phase, formative research is conducted on the curricula under development. Classroom field tests investigate usability, teacher and student feedback, and preliminary curricula effectiveness. School administrators, content specialists, and classroom teachers systematically evaluate the curricula in development.

The final phase of research examines the implementation and effectiveness of the curricula. Independent, randomized-control-trial studies are conducted to provide scientific evidence of student achievement on standardized assessments. Implementation and best practices are documented throughout the study period to further contribute to the effectiveness of the curricula. Pearson believes that research needs to be ongoing, with continual feedback to inform product revisions to meet student and teacher needs.

Scott Foresman Reading Street Foundational Research

Pearson has used a variety of research methods as a base on which to build our reading program. *Scott Foresman Reading Street (Reading Street)* ©2008 provides explicit, systematic, high-quality instruction focusing on the five critical elements in reading that have been identified by research: phonemic awareness, phonics, fluency, vocabulary, and comprehension. The authors of the program have vast experience in reading and reading education that includes classroom teaching; school-based and district-wide administration; and research specialization in areas such as comprehension, assessment, motivation, literacy development, intervention, engagement, and technology. The backgrounds of the authors allow them to select the best of what research and their experience have shown to be effective in promoting student success in reading.

Existing Influential Research

The instructional design of *Reading Street* was influenced by methods successfully implemented in previous versions of Scott Foresman reading programs. Pearson began its effort to produce scientific, research-based reading programs with *Scott Foresman Reading*.

Pearson collaborated with the independent research firm Empirical Education, Inc., to examine the effectiveness of the *Scott Foresman Reading* ©2002 program and specifically of the component *Links to Reading First*. This component was developed as an intervention for struggling readers, and the concept would be used in the *Reading Street* program. The quasi-experimental study (Newman and Jaciw, 2005), called the *Effectiveness of Scott Foresman's Links to Reading First as an Intervention for Struggling Readers*, collected DIBELS Oral Reading Fluency achievement data for matched users and nonusers of *Scott Foresman Reading*. The researchers compared DIBELS scores for eighty-eight students in Grades 1–3. The study provided evidence of the positive impact of *Links to Reading First* when used with younger students. The *Scott Foresman Reading* users saw a gain of 9.48 beyond the nonusers across all grade levels.

Difference between the means for the DIBELS fluency score

Group	n	Mean	Standard Deviation	Difference	Effect Size
Scott Foresman	37	72.028	28.204	9.478	0.388
Control	51	62.550	25.213		

The results indicate that students using *Scott Foresman Reading* are likely to see greater gains in reading achievement than nonusers.

A second quasi-experimental study (Gatti, 2003), called the *Scott Foresman Reading Effect Size Study*, collected reading achievement data from the National Center for Educational Statistics for users and demographically matched nonusers of the Scott Foresman program. The researchers compared district-level, pre-Scott Foresman adoption reading scores in Grades K–6 to post-adoption year scores. Positive district achievement outcomes were defined as pre- to post-adoption year gains in achievement scores using the form of national percentile rankings. The results indicated that 88 percent of the districts and grades saw a gain in state scaled reading achievement scores (Gatti, 2003). The quasi-experimental design does not allow us to make assumptions of causation, but does indicate that districts using *Scott Foresman Reading* are likely to see gains in reading achievement outcomes.

The completion of this study enabled the authors to move onto the second phase of research, establishing the research base for the new product. The authors drew upon the best practices identified in the 2002 copyright and used them in the development of the new program. In addition, the authors conducted an exhaustive literature search to analyze current research establishing best instructional practices in reading. A compilation of the articles used in establishing the best practices that were incorporated into *Scott Foresman Reading* is available from Pearson upon request.

Reading Street Instructional Design

During the development of the instructional design, the authors gave special emphasis to the following five areas: priority skills and success predictors, progress monitoring, differentiated instruction, literature for learning and thinking, and writing instruction.

Priority Skills and Success Predictors

The National Reading Panel has identified five core areas of reading instruction: phonemic awareness, phonics, fluency, vocabulary, and comprehension. *Reading Street* author Sharon Vaughn has found that not every skill at every grade level is equally important. For example, beginning readers need ample time to practice phonics skills. Older readers may need phonics instruction as an intervention strategy. If students do not acquire the knowledge and skills in each of these areas at the appropriate time, they will be at risk of developing reading difficulties (Alliance for Excellent Education, 2003). *Reading Street* prioritizes skills at each grade level to ensure that instructional emphasis is placed on the right skill at the right time.

Progress Monitoring

Fountas (2003) states that constant evaluation of students' growth and needs alerts teachers to what seems to be working for each student and makes them aware of students who may need more scaffolding in a specific area or who may respond better to a different approach. *Reading Street* includes baseline, unit, and end-of-year benchmark assessments to assist teachers in monitoring the progress of their students. The assessments were developed by Beck Evaluation & Testing Associates, Inc., and were validated by Gatti Evaluation (Gatti, 2007). The baseline assessments allow teachers to identify students' needs and make initial grouping decisions. Vaughn et al. (2003) found that *smaller* group ratios increase the likelihood of academic success through student-teacher interactions, individualization of instruction, student on-task behavior, and teacher monitoring of student progress and feedback. The unit benchmark assessments allow the teacher to monitor student progress and tailor instruction as

needed to ensure students are mastering priority skills. The end-of-year assessment reports the cumulative achievement of the student and helps the teacher determine if the student is prepared for the state assessment.

Differentiated Instruction

Reading Street is aligned with the research-based 3-Tier Reading Model as a result of the authorship of Dr. Sharon Vaughn. The 3-Tier Reading Model is a framework designed to help prevent reading difficulties from taking hold through differentiated instruction. Teachers have taught us that it is important to provide a daily plan for whole-group teaching and for meeting with small groups to attend specific needs. Our students benefit from customized instruction to differentiate for their needs. A consistent finding in meta-analyses examining effective instructional practices for students with reading and learning disabilities is that a combination of explicit and systematic instruction with carefully scaffolded instruction that provides modeling and feedback is associated with improved academic outcomes. (Vaughn et al., 2003). Furthermore, Reis et al. (2003) found that grouping academically talented students together for instruction has been found to produce positive achievement outcomes when the curriculum provided to students in different groups is appropriately differentiated.

Literature for Learning and Thinking

Stahl et al. (2004) found that storybook reading is the most powerful source of new vocabulary, including those academic words that are valued in school discourse. Books are literally "where the words are." *Reading Street* offers children stories, nonfiction texts, poems, and other genres through big books and read-alouds. Children's exposure to literature will help them continue to expand their knowledge of concepts and vocabulary.

Writing Instruction

Writing deepens students' understanding through exploration of ideas, organization and synthesis of information, and expression of themselves. Research shows that writing instruction also improves reading comprehension (Alliance for Excellent Education, 2004). *Reading Street* focuses on one of six important writing traits each week to give students time to acquaint themselves with the task of writing. A unit project allows them to bring all six traits together.

In addition to the five concepts introduced on page 4, the authorship team identified other areas requiring a strong research base. Because of the importance of these areas and the lack of space to adequately address each area in this document, a separate research document was created by Pearson to illustrate the connections between the research base and these program features. This document is available upon request from Pearson.

The Pearson formative research team began collecting data from teachers and administrators in May 2002. A total of 50 focus groups, including 436 teachers, were conducted across 15 U.S. cities from May 2002 through June 2004. The focus groups collected feedback on conceptualized Student Edition features and Teacher Edition prototypes, assessed the literature to be included in *Reading Street*, and were asked to report on current trends and issues in reading. At the same time, Pearson sent out a series of surveys to reach a wider population, and 449 educators responded to our questions. The surveys solicited their thoughts on assessment, skill strategies, teaching support, technology, professional development, leveled readers, and research. The input from the focus groups and surveys directly affected the development of *Reading Street*, further ensuring that it would meet the needs of all educators and students.

Scott Foresman Reading Street Summative Research

The summative research to support *Reading Street* began in spring 2005. This phase of the research process offers further scientific evidence of the program's overall effectiveness in raising achievement levels and developing reading proficiency for all students.

Integrated Assessments

The integrated baseline, benchmark, and end-of-year assessments in this program are essential to inform instruction. The integrated assessment feature is particularly important in reaching struggling students that may be falling behind during the school year and are not identified as in need of remediation. Pearson intended for the assessments to ensure teachers are aware of the students' progress in mastering state standards on an ongoing basis, rather than waiting until the end-of-year state assessment.

In order to assure teachers and administrators that the integrated assessments were valid, Pearson collaborated with Gatti Evaluation; the Wisconsin Center for Educational Research (WCER); and a group of measurement, mathematics education, and assessment experts. The goal of this study was to conduct quality assurance and content validation research on the questions in its *Scott Foresman Reading Street*. The ultimate goal of this effort was to ensure that elementary school teachers across the United States are presented with high-quality, well-aligned classroom assessments to reliably monitor student progress in mastering NAEP and state educational reading objectives. The assessments provide feedback to student learning, particularly important in populations with struggling students. Webb (1992) argued that assessment should be used "to make informed decisions throughout instruction based on current information available about what a student knows and about what a student is striving to know." The complete research report, *Scott Foresman Reading Street Benchmark Item-Validation Study*, is available on the Pearson Web site.

The study followed the Surveys of Enacted Curriculum (SEC) alignment evaluation model developed at WCER by Drs. Andrew Porter and John Smithson. The Council of Chief State School Officers (CCSSO) has assisted in the development of the SEC model because it feels methods of measuring and reporting on alignment can allow all parties to see where standards and assessment intersect and where they do not. This evaluation model has been jointly approved by the CCSSO, the Institute for Educational Sciences, and the National Science Foundation for use in both program evaluations and by states in meeting federal requirements for alignment between assessments and standards.

The *Scott Foresman Reading* editorial staff analyzed the independent study data and used it to improve the overall quality of the test questions as well as identify which questions could benefit from alignment modification. Through working with independent experts in an ongoing validation process, Pearson is able to provide benchmark assessments that are truly useful to classroom practitioners in guiding instruction toward mastering state objectives.

The SEC alignment index (AI), developed at WCER, provides a test-level summary measure to describe the extent of similarity in content descriptions between achievement tests and educational objectives for each state and grade. Perfect alignment will have an AI of 1.00 (e.g., a test compared to itself). An index of 0 indicates that there is no content in common across the two descriptions. The calculation of the alignment measure is based upon a cell-by-cell comparison made across the two-dimensional content descriptions, where each cell represents an intersection of topic by performance expectation category. While there are no established criteria for what represents “good” alignment, results from analyses conducted across ten states over the past three years in Grades 4, 6, and 8 yielded AIs with a range of 0.12 to 0.40, with a mean AI of 0.27.

The alignment indices of the *Reading Street* benchmark items were very good. The SEC state-by-grade test-level alignment index results range from 0.16 to 0.41, with a mean of 0.26 and a standard deviation of 0.06. The mean of 0.26 indicates that the *Reading Street* benchmark items tend to align as highly to state standards as the state assessment test items. The alignment data indicates that 98 percent of the alignment indices for the unit sample and 100 percent of the alignment indices for the end-of-year sample are above the median for the state assessment sample.

Independent Research

Scott Foresman also wanted independent, empirical evidence of the effectiveness of the product. During the first full school year that the product was in print (2005–2006), independent research company Magnolia Consulting conducted a randomized-control-trial study to examine product effectiveness. The study was designed to meet the rigorous standards of the What Works Clearinghouse.

Magnolia Consulting recruited five schools to participate in this study, including sites in urban NY, suburban OR, and rural WV. A total of 944 students and 48 teachers participated in the study. The schools represented considerable ethnic diversity, with minorities representing 43 percent of the total study sample. In addition, 54 percent of the students received free or reduced-price lunch, 20 percent were classified Limited English Proficiency, and 7 percent were classified Special Education. Student ability levels varied from very low reading ability to exceptional ability.

The Gates-McGinitie Reading Test 4th Edition (GMRT-4) and DIBELS assessment were used to measure student reading achievement. The GMRT-4 was given at the beginning and end of the school year, while the DIBELS was administered at the beginning, middle, and end of the year.

Student Performance Results

Magnolia determined that students who used *Reading Street* demonstrated statistically significant gains in reading achievement during the one-year study period. The gains were large, were documented by multiple measures, and were evident by the middle of the school year. First-grade students gained an equivalent of more than 45 percentile points on the GMRT-4 from pretest to posttest and more than 26 percentile points on the DIBELS Oral Reading Fluency test from midyear to posttest. Second-grade students gained an equivalent of more than 30 percentile points on the GMRT-4 and 36 percentile points on the DIBELS Oral Reading

Fluency. Finally, third-grade students gained an equivalent of more than 24 percentile points on the GMRT-4 and more than 25 percentile points on the DIBELS Oral Reading Fluency test from pretest to posttest. Students in first and second grade achieved higher than the benchmark scores for DIBELS Oral Reading Fluency, and nearly reached the benchmark at third grade after just one year of *Reading Street* implementation. This is particularly impressive in the second and third grades where students started the year scoring significantly below the benchmark goal.

DIBELS Oral Reading Fluency Scores



The analyses also indicated that the program worked equally with students of varying ability levels, including intervention, below-level, on-level, and above-level readers. The majority of *Reading Street* users advanced in reading-group level after just one year of usage. At the beginning of the school year, 18 percent of *Reading Street* students were in intervention-level reading groups. By the end of the year, this number had decreased by 10 percent. Twenty percent of *Reading Street* students began in above-level reading groups, and this number increased to 32 percent by the end of the year. These numbers are further proof that *Reading Street* will increase student achievement for all levels of learners.

Reading Ability: Group Shifts



The study also investigated whether using the *Reading Street* program resulted in increased student achievement as compared to other types of reading programs. The results did not show a significant difference between control and treatment student performance. It is important to recognize that teachers using *Reading Street* were able to show the same amount of growth during their first year of implementation as teachers using a program that had been in the districts for five to six years. The *Reading Street* teachers were able to overcome the implementation gap in their first year of implementation, which is very difficult. A third-grade *Reading Street* teacher commented, "Test scores have doubled. If anything, they have surpassed the other (non-*Reading Street* users) teachers' classrooms by a little bit, especially in vocabulary. They have better writing skills. They understand multiple questions. They have a Web site that they go to for state testing and they have surpassed the other classrooms."

Student Motivation and Engagement

In addition to providing evidence of efficacy, Magnolia Consulting investigated other outcomes associated with use of the *Reading Street* program. The full results of the report *An Efficacy Study on Scott Foresman's Reading Street Program: Year One Report*, are available on the Pearson Web site. A couple notable findings were that *Reading Street* teachers indicated that their students were highly engaged by the program, the program had multiple modes for learning and interaction (i.e., teacher-student, student-student, and independent work), the Teacher's Edition was easy to use, and there was a wealth of materials. A second-grade *Reading Street* teacher commented, "I really enjoyed this year's reading program. I can't believe how much my class retained from the beginning of the year. They have all become better readers and writers. I loved the assessments: they gave a clear picture of areas that a child has a weakness in. Thank you for letting me experience this pilot. I have become a better teacher due to this wonderful program."

Research Replication

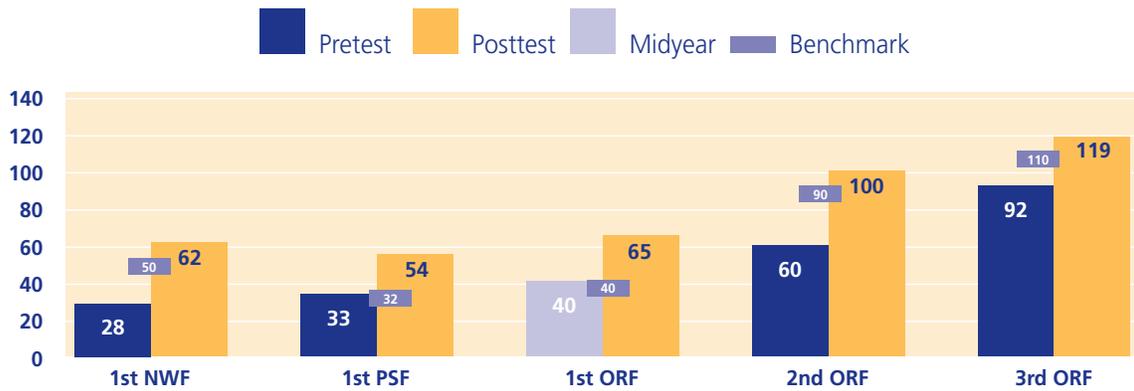
Scott Foresman was positively encouraged by the preliminary findings of this report but felt it was important to provide further evidence of effectiveness through replication of the study at additional schools. As such, Scott Foresman collaborated with Magnolia Consulting for a second year to examine the product. A randomized-control-trial design was again used. The study was conducted during the 2006–2007 school year.

Six schools participated in this study, including sites in suburban MA, rural KY, urban PA (two schools), and urban MA (two schools). A total of 1,207 students and 58 teachers were included in the study. The schools represented a diverse mix of geographic locations, ethnic compositions, socio-economic statuses, and performance levels.

Student Performance Results

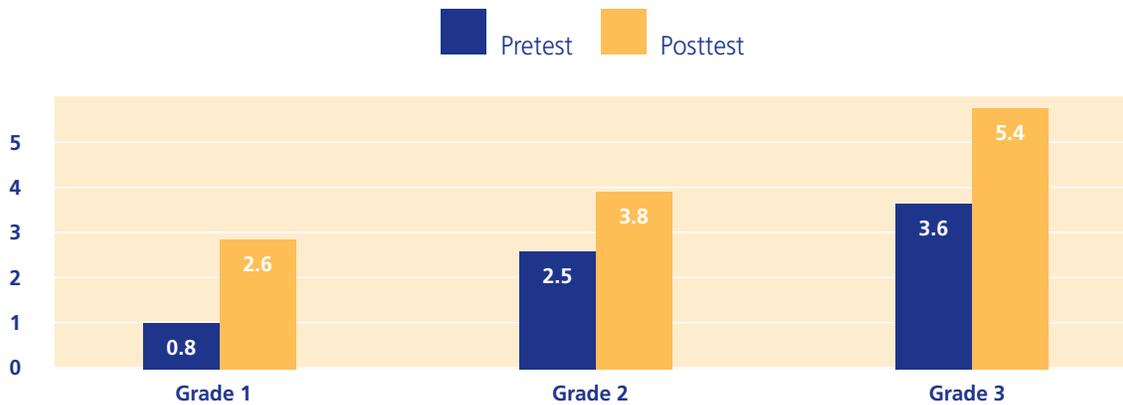
The results from the second year of data collection statistically confirmed that students using *Reading Street* significantly increase their reading achievement as evidenced by the GMRT-4 and DIBELS. Across grades, students demonstrated an average gain of 32 percentile points on the GMRT-4. All students reached, and often surpassed, the end-of-year benchmarks on all fluency measures. Second- and third-grade students gained an equivalent of 47 percentile points on the DIBELS Oral Reading Fluency (ORF) test.

DIBELS Oral Reading Fluency Scores



An analysis of the grade-equivalent scores on the GMRT-4 showed that *Reading Street* students gained more than one grade-equivalent level through the course of one school year. The average growth per year is one grade equivalent, and *Reading Street* users far surpassed that goal.

GMRT-4 Grade Equivalent Scores



The results also confirmed that *Reading Street* worked equally well for students of all ability levels. The students in the on-level and below-level groups gained significantly higher than students in the above-level and intervention-level groups, but each group demonstrated growth from pretest to posttest.

This study investigated other outcomes associated with use of the *Reading Street* program. The full results of the report, *An Efficacy Study on Scott Foresman's Reading Street Program: Year Two Report*, are available on the Pearson Web site. Resoundingly, teachers applauded the comprehensiveness of the *Reading Street* program. During focus groups, teachers described particular materials or components they especially liked. For example, they enjoyed the phonemic awareness lessons, differentiated materials (i.e., leveled readers), decodable readers, ELL materials, and the Fresh Reads assessment. Teachers also commented on liking the thematic and conceptual integration of the series across program components. The majority of teachers

commented on the advantage of the program containing science and social studies content connections. One first-grade teacher commented, “*Reading Street* materials have impacted my ability to run small groups. You don’t have to scramble if you don’t have anything for really low readers. You still have some of the decodables. The advanced group has their own materials and the on-level group is taken care of too.”

School coordinators and administrators also shared positive views of *Reading Street*. Aspects they most liked about the program included the differentiated materials and instruction, cross-content connections, the high quality of the materials, and the wealth of materials that provide teachers with everything they need. One administrator commented, “No Child Left Behind calls for a strengthening of academic achievement. The *Reading Street* program certainly does this by presenting materials and differentiated instruction to meet the needs of students who are on different levels. Additionally, this program has been very beneficial to our students. It is very motivational for both teachers and students.”

Scott Foresman conducted another study during the 2008–2009 school year. Though results were positive for the year-two study conducted by Magnolia Consulting, evaluators postulated that one school year was insufficient for *Reading Street* teachers to feel comfortable implementing a brand new curriculum with high fidelity. In fact, the researchers mentioned that “given the comprehensive repertoire of materials, it takes teachers about three months to become comfortable with the program” (Wilkerson et al., 2007, p. 51). As a result, the current study builds upon this previous research by specifically recruiting teachers with at least one year of previous experience implementing *Reading Street*.

Scott Foresman collaborated with another independent evaluator, Claremont Graduate University, to conduct “The Effects of *Reading Street* on Reading Achievement: A Focus on Second Year Curriculum Users”. This quasi-experimental matched pairs study tested the effectiveness of the *Reading Street* curriculum during the 2008–2009 school year in 2nd and 4th grades. Schools using *Reading Street* for at least one year prior to September 2008 were matched to comparison schools using a different elementary reading curriculum on school demographic variables. The academic research team worked with the sales force to recruit schools that were considered “high implementers” of the *Reading Street* program and who had participated in at least one day of professional development on the program. The final study sample was comprised of 26 schools from 3 geographic regions (Northeast: MA, ME, NY; Midwest: IA, KS, MN; and Southeast: WV) with 81 teachers and 1,594 students. Approximately one quarter of all students were non-Caucasian and roughly 40% received free/reduced lunch. The schools represent a diverse mix in geographic locations, ethnic compositions, socio-economic statuses, and performance levels.

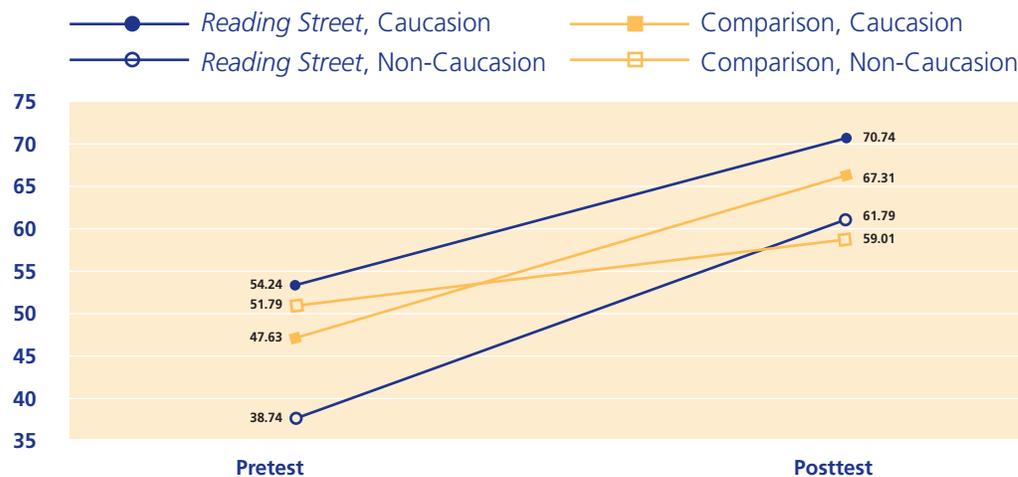
Performance Results

Students were assessed at the beginning and end of year with the Group Reading Assessment and Diagnostic Evaluation (GRADE). Findings show that students using *Reading Street* significantly improved over the course of the school year in reading achievement. Second-grade students improved, on average, 20 Normal Curve Equivalent (NCE) points on GRADE subtests of vocabulary, comprehension and total achievement. Fourth-grade students improved, on average, 22 NCE points across these same three GRADE subtests. By the end of the school year, second-grade students were performing at close to a fourth grade reading level (grade equivalent = 3.81) and fourth-grade students were performing at nearly a seventh-grade level (grade equivalent = 7.04).

In general, students across all demographic subgroups (ethnicity, grade level, lunch status and gender) significantly improved their reading achievement from pretest to posttest on the GRADE. Descriptively, students who were male, non-Caucasian, or received free or reduced lunch showed large gains in reading over the school year. These findings suggest that *Reading Street* may be particularly advantageous for students who are male, from minority backgrounds, or who are economically underprivileged.

Further, there was a significant condition-by-ethnicity cross-level interaction at second grade (see Figure 1).

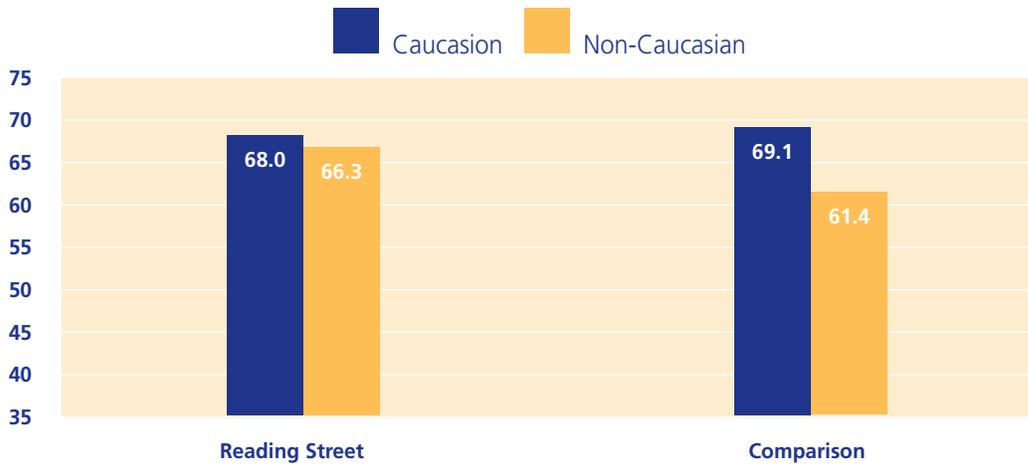
Figure 1: Differential Reading Gains by Condition and Ethnicity at Second Grade
y-axis: Normal Curve Equivalent Scores (Total Test)



A significant interaction is indicated in Figure 1 by the non-parallel lines from pretest to posttest across different subgroups of students. Parallel lines for all subgroups would indicate uniform growth from pretest to posttest, whereas the intersecting lines illustrates differential growth.

Specifically, at the end of the school year, the gap between the Caucasian and non-Caucasian scores for the comparison group was much larger than the gap between the Caucasian and non-Caucasian scores for the treatment group (See Figure 2).

Figure 2: Significant Condition by Ethnicity Interaction at Second Grade Indicates *Reading Street* May Close the Gap for Non-Caucasian Students
y-axis: Predicted Normal Curve Equivalent Scores (Total Test)



This suggests that for second grade, Reading Street, may be particularly beneficial for non-Caucasian students and may help close the achievement gap for these students.

These results are particularly noteworthy since they were obtained in the final statistical model which controls for all other potential sources of variation. We currently are unaware of another elementary reading program showing this growth using this level of scientific study. In future research we will focus on reexamining these hypotheses and replicating these results in order to further strengthen these conclusions and practical implications.

In Fall 2009, we began a two-year longitudinal efficacy study of *Reading Street* ©2011 in eight school districts across four regions of the United States. We will have a report of the first-year results in September 2010.

Conclusion

The breadth and depth of research that supports this program proves that *Reading Street* is truly a scientific, evidence-based program with empirical data to prove its effectiveness in increasing student reading achievement. Indeed, independent evaluators found that *Reading Street* students demonstrated statistically significant gains in reading achievement. Pearson is grateful for the opportunity to continue contributing to the efforts of the literacy research community.

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