



**PEARSON READING STREET  
LONGITUDINAL EFFICACY STUDY**

FINAL REPORT

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## EXECUTIVE SUMMARY

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Gatti Evaluation partnered with Pearson to evaluate the Reading Street program in a longitudinal randomized control trial study. The Reading Street program was evaluated in 170 randomly assigned elementary grade classrooms (i.e., K, 1<sup>st</sup>, 4<sup>th</sup> into 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>) in eleven schools distributed across six different states (i.e., AZ, CO, MA, MT, OH, and WA) during the 2009-10 and 2010-11 school years. This report provides methods and results for both years of the efficacy research.

The primary goal of this study is to conduct rigorous research to support the assertion that the Reading Street program significantly increases students' English Language Arts achievement in the first two school years of implementation, specifically in the areas of vocabulary, comprehension, writing and fluency, as well as attitudes towards reading and reading instruction.

Teachers and students alike had positive experiences with the Reading Street program across the two school years under study. Seventy-three percent of the teachers' focus group comments were positive in nature. Teachers appreciated the program's components that support differentiated and small group instruction, the ongoing progress monitoring and assessment, the vocabulary, and the reading selections. Teachers also very much liked that lessons are organized around central themes and that the program adds structure to the weekly literacy instruction.

Teachers also experienced some drawbacks. They felt that the pacing took some time to master, unanimously reporting that instruction felt natural to them by winter break. A few months of use and discovery were necessary for the teachers to become fully comfortable with the pacing and flow of the program. The same timeframe was true for their students to become comfortable with the structured routine offered by the Reading Street program.

***Teachers were overwhelmingly positive about their students' interactions with the program and firmly believe that the program increases motivation, participation, and energy in their classrooms.***

Teachers were overwhelmingly positive about their students' interactions with the program. Of the 446 recorded focus group comments, 79% were positive in nature (i.e., 80% positive in year one, 78% positive in year two). Students responded particularly well to small group time and the structure offered by the program. There was evidence to support the Reading Street teachers' assertions that Reading Street students had statistically more positive attitudes with regards to reading and reading instruction than their comparison group peers both by the end of 1<sup>st</sup> grade for the k-1<sup>st</sup> grade cohort and by the end of 5<sup>th</sup> grade for the 4<sup>th</sup>-5<sup>th</sup> grade cohort.

***Reading Street students had statistically more positive attitudes with regards to reading and reading instruction than their comparison group peers both by the end of 1<sup>st</sup> grade for the k-1<sup>st</sup> grade cohort and by the end of 5<sup>th</sup> grade for the 4<sup>th</sup>-5<sup>th</sup> grade cohort.***

Reading Street students in all three grade cohorts, respectively, saw large statistically significant gains on the GRADE in both year one and year two. In 2009-10, teachers and their students

were implementing Reading Street for the first time. In 2010-11, both teachers and students had one year of exposure to Reading Street.

***Early elementary Reading Street students statistically significantly outperformed their comparison group peers on the GRADE across the two study years while the late elementary cohort remained statistically equivalent.***

Reading Street students from the two early elementary cohorts outperformed their comparison group peers on the GRADE across the two study years. The late elementary cohort remained statistically equivalent on the GRADE overall. The late elementary comparison group students out-gained Reading Street students in comprehension in their 4<sup>th</sup> grade year; however, in their 5<sup>th</sup> grade year they remained superior in passage comprehension but were out-gained by the Reading Street students in sentence comprehension.

Further, the Reading Street students in the 1<sup>st</sup>-2<sup>nd</sup> grade cohort statistically out-gained their comparison group counterparts on the writing assessment. The other two cohorts were statistically equivalent with respect to writing achievement. Results were mixed for fluency scales. There were Reading Street students from several at-risk populations that statistically significantly outperformed their comparison group peers in reading achievement, writing and fluency, in particular the Hispanic Reading Street students. The African American comparison students, however, had higher gains than the African American Reading Street students.

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## I. INTRODUCTION

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***Pearson partnered with Gatti Evaluation to study the efficacy of the Reading Street program in a longitudinal study during the 2009-10 and 2010-2011 school years.***

As schools strive to meet the adequate yearly progress goals in reading achievement, many are attempting to maximize their efforts by implementing innovative basal reading programs. Scott Foresman Reading Street © 2011<sup>1</sup> is one such program. Gatti Evaluation partnered with Pearson to evaluate the Reading Street program via a longitudinal randomized control trial study. The Reading Street program was evaluated in 170 diverse elementary grade classrooms (i.e., K, 1<sup>st</sup>, 4<sup>th</sup> into 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>) in eleven schools distributed across six different states (i.e., AZ, CO, MA, MT, OH, and WA) during the 2009-10 and 2010-11 school years. This report provides methods and results for both years of the efficacy research.

***Reading Street is a pre-Kindergarten through 6<sup>th</sup> grade basal reading program based on the priority skills model, which incorporates phonemic awareness, phonics, fluency, vocabulary, and comprehension in appropriate amounts as each beginning reader progresses through subsequent grades.***

Reading Street is a pre-Kindergarten through 6<sup>th</sup> grade basal reading program based on the priority skills model. The priority skills model incorporates phonemic awareness, phonics, fluency, vocabulary, and comprehension in appropriate amounts as each beginning reader progresses through subsequent grades.<sup>2</sup> Because children approach text in various ways in accordance with their own abilities and purposes, reading instruction must be differentiated.<sup>3</sup> Differentiated instruction within the Reading Street Program ensures success for students of varying ability levels and experiences. Award winning reading selections seek to motivate students to learn, with a focus on developing a Big Idea in each unit along with science and social studies concepts. Reading Street also helps teachers achieve adequate yearly progress through integrated progress monitoring and assessment plans.

***Both the federal government and state adoption committees require publishers to conduct rigorous research to support the efficacy of their educational materials.***

Theoretically, research-based reading curricula can increase student reading achievement. Although a reading curriculum may be skillfully applied to create an educational environment that significantly increases achievement, poorly designed and implemented programs will provide little or no benefit, and may even be detrimental. Poorly designed and implemented curricula can confuse and frustrate students and teachers, proving to be a waste of valuable resources and learning time. For these reasons, the No Child Left Behind Act<sup>4</sup> requires publishers to conduct rigorous efficacy research to support their educational materials.

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<sup>1</sup> <http://www.pearsonschool.com/>

<sup>2</sup> <http://www.nationalreadingpanel.org>

<sup>3</sup> Lyon, G. R. (July 10, 1997). Report on Learning Disabilities Research. Testimony before the Committee on Education and the Workforce, U.S. House of Representatives.

<sup>4</sup> <http://www.ed.gov/nclb>

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## *Study Goals and Research Questions*

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The primary goal of the current project was to conduct rigorous research to support the assertion that the Scott Foresman Reading Street ©2011 curriculum significantly increases students' reading achievement and attitudes in the first two school years of implementation. The first year of implementation, when the program is new to both teachers and students, is the most challenging year for any new program to impact student achievement. The Reading Street program was tested against comparison classrooms, both randomly assigned within each school. The comparison classrooms were not required to change reading curricula, and teachers continued to utilize their current reading programs and favorite instructional practices. The secondary goal for this project was to collect information on teacher and student attitudes towards features and aspects of the Reading Street curriculum.

The research questions for this study are:

*RQ1: How does reading achievement differ for students using the Reading Street curriculum as compared to their peers using other elementary reading curricula?*

*RQ2: Do Reading Street students demonstrate more positive attitudes toward reading and reading instruction than their peers using other elementary reading programs?*

*RQ3: How was the Reading Street program implemented?*

*RQ4: How did teachers and students react to Reading Street?*

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## II. METHODOLOGY

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The Reading Street © 2011 elementary basal reading program was evaluated in 170 diverse elementary grade classrooms (i.e., K, 1<sup>st</sup>, 4<sup>th</sup> into 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>) in eleven schools distributed across six different states (i.e., AZ, CO, MA, MT, OH, and WA) during the 2009-10 and 2010-11 school years. The program was evaluated via a two-group, teacher level randomized, baseline to post observation assessment research design.

***The Reading Street efficacy study employed a two-group, classroom level, randomized design. Reading Street students received the program for reading/language arts instruction over two school years while students in the comparison classrooms received instruction from those materials and methods preferred by their classroom teachers.***

Teachers within each school were randomly assigned to one of the two study conditions (i.e., comparison or Reading Street) prior to the start of the study. Those teachers with Reading Street students in year two (i.e., 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>) were introduced to the program in 2009-10. It should be noted that two teachers were new in year two and thus were using the program in their first year of implementation.

Students in kindergarten, 1<sup>st</sup>, and 4<sup>th</sup> grade classrooms randomly assigned to use Reading Street in year one received the program for reading/language arts instruction for both school years. Students in the comparison classrooms received reading/language arts instruction from district adopted programs and those materials and methods preferred by their classroom teachers.

Gatti Evaluation provided participating schools all data collection materials, maintained constant communication with study participants, and followed clear data collection procedures throughout the study to ensure that both study and program implementation ran smoothly and effectively.

The following sections provide information on study procedures, including; student and teacher level data collection, site recruitment and selection, the nature of reading instruction at the study sites, program training and implementation, detail on educational settings at each study site, demographic information for study participants, and the statistical methodologies used to analyze outcomes.

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### ***Student Outcome Measures***

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***A challenging assessment battery was group administered to students to measure achievement and academic attitude growth during the school year.***

An assessment battery comprised of the *Group Reading Assessment and Diagnostic Evaluation* (GRADE), an academic attitude survey, the Elementary Reading Attitude (i.e., ERAS or “Garfield”) Survey, and the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) was used to measure gains in student achievement over the course of the school year. The



assessment battery was intended to challenge the students; attempting to adequately assess baseline reading knowledge, while also providing room for growth as knowledge is acquired during the school year.

The GRADE, academic attitude survey, and ERAS survey were group-administered by the classroom teachers at the beginning (i.e., corresponding to initial training) and end of school year (i.e., within four weeks of end of school). The DIBELS assessment was individually administered at the beginning, middle, and end of school year.

### ***Group Reading Assessment and Diagnostic Evaluation (GRADE)***

The GRADE is a standardized, nationally norm-referenced reading achievement test published by Pearson Assessment. The GRADE was constructed with all fifty states' standards in mind, covering a wide range of content topics and skills. The GRADE includes 11 levels that span grades preK-12, each with two parallel forms (i.e., level K for kindergarten, level 1 for 1<sup>st</sup> grade, level 4 for 4<sup>th</sup> grade). Form A was administered at baseline and form B was administered at the end of the school year. The GRADE offers scaled score transformations such as the Growth Scale Value that makes it easier to compare a student's performance over time. The GRADE is not a timed test, but generally takes between 70 and 100 minutes to administer. The level K test has 84 questions, the level 1 test has 90 questions, and the level 4 test is made up of 82 questions. Schools returned completed student tests to the site coordinators, who then shipped the tests to Gatti Evaluation for scoring.

Both GRADE overall and subtest scores were reported. The subtest scores allowed the research team to evaluate the effectiveness of the Reading Street curricula on important dimensions of reading/language arts acquisition. For level K, the subtests reported are; *Word Study* (42 questions) and *Listening Comprehension* (18 questions). The *Early Literacy Skills* subtests (i.e., *Print Awareness* 4 questions, *Letter Recognition* 11 questions, *Same and Different Words* 5 and 4 questions) do not assess either word study or comprehension skills but rather very basic visual and literacy skills. The *Early Literacy Skills* subtests are not reported separately but are part of the total kindergarten GRADE score. *Word Study* is comprised of three subsections: *Sound Matching* (12 questions), *Rhyming* (14 questions), and *Phoneme-Grapheme Correspondence* (16 questions). *Early Literacy Skills* is also comprised of three subsections: *Print Awareness* (4 questions), *Letter Recognition* (11 questions), and *Same & Different Words* (9 questions).

The Level 1 GRADE test is comprised of three subtests: *Word Study*, *Reading Comprehension* (43 questions), and *Listening Comprehension* (17 questions). For level 1, the *Word Study* (47 questions) subtest is further broken down into *Word Reading* (20 questions) and *Word Meaning* (27 questions), while the *Reading Comprehension* section is comprised of *Sentence Comprehension* (19 questions) and *Passage Comprehension* (24 questions). For level 4, *Word Study* is comprised of thirty-five vocabulary questions, and the *Reading Comprehension* section is also broken down into *Sentence Comprehension* (19 questions) and *Passage Comprehension* (28 questions). *Listening Comprehension* is not included in the 1<sup>st</sup> grade total GRADE scores, as it is intended to be a separate optional subtest.

Scores from the GRADE have been found to have an intraclass reliability in excess of 0.90 for the total score and in excess of 0.82 for subtest scores.

### ***Metropolitan 8 Writing Test***

The writing test is part of the Metropolitan Achievement Test Eighth Edition (MATW). In this assessment, students provide a written response to a prompt and a picture. A typical picture may include several friends in a park, each with a bicycle. The writing prompt may ask the examinee: What happened before the children arrived at the park? What are the children doing at the park? Examinees are given ten minutes to digest the picture and prompt and take down notes. Then the examinees are allowed to compose for 25 minutes. Lastly, examinees are permitted 10 minutes to edit their composition and are provided a checklist.

The MATW is scored both with a holistic (i.e., overall) score as well as six specific scores (i.e., content development, organizational strategies, word choice, sentence formation, usage, writing mechanics). Two independent raters each gave every composition a holistic score of 0-6 for a range of 0-12. Here raters are looking for a composition that is focused, flows fluently, has an easily discernable timeline, as well as proper mechanics. Each of the six specific scores ranges from 0-4.

The MATW offers forms for grades 1-12. Only the year two MATW holistic scores are reported. The 1<sup>st</sup> grade students were given the Primary 1 forms at both baseline and end-of-year. Second grade students were given the Primary 1 forms at baseline and the Elementary 1 forms at the end-of-year testing. Fifth grade students were given the Elementary 2 forms at baseline and the Intermediate 1 forms at the end-of-year. Two of four raters were randomly chosen to score each composition. The raters were very strongly related in their holistic scoring with ordinal correlation coefficients (i.e., Kendall's Tau b) of 0.86, 0.83, and 0.88 and agreement coefficients (i.e., Cohen's Kappa) of 0.73, 0.63, and 0.76 for 1<sup>st</sup>, 2<sup>nd</sup>, and 5<sup>th</sup> grade respectively.

### ***Reading Academic Attitude Survey***

The reading academic attitude survey was developed by the Gatti Evaluation Principal Investigator. Students responded to self-report questions regarding general reading attitude, confidence, motivation, and self-perceived aptitude. Questions also pertained to vocabulary and comprehension, as well as, recreational and academic reading. Student responses were coded as 1 for a positive response, 0 for a neutral response, and -1 for a negative response. This scoring method anchors a completely neutral student at an overall score of zero with positive total scores indicating an overall positive attitude. The kindergarten and 1<sup>st</sup> grade versions of the survey contained 16 items, and the 4<sup>th</sup> grade version of the survey contained 20 items.

Scores from former Gatti Evaluation attitude surveys have been found to have an intraclass reliability in excess of 0.75. The current study sample produced intraclass reliability coefficients of 0.73 to 0.78 for 1<sup>st</sup> and 2<sup>nd</sup> grade students and from 0.76 to 0.82 for 4<sup>th</sup> and 5<sup>th</sup> graders' scores. The scores for kindergarten students were less reliable, 0.613 for baseline scores and 0.635 for end of year scores.

### ***Elementary Reading Attitude Survey (ERAS)***

The ERAS survey, commonly known as the "Garfield survey", was developed by McKenna and Kear<sup>5</sup> as a measure of reading attitude levels for students in grades 1 through 6. The instrument is comprised of 20 questions falling into two subcategories: recreational reading attitudes (10

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<sup>5</sup> McKenna, M. C. & Kear, D. J. (1990). Measuring attitude toward reading: A new tool for teachers. *The Reading Teacher*, 43, 626-639.

questions) and academic reading attitudes (10 questions). The survey uses a 4-point Likert scale with anchored depictions of Garfield at each point. At the first point on the Likert scale, Garfield appears to be happy and excited. By the 4<sup>th</sup> point on the Likert scale, Garfield is hunched over and appears annoyed.

Scores from the ERAS survey have been found to have an intraclass reliability of 0.87 or higher across grades 1-6. The current study sample produced intraclass reliability coefficients ranging from 0.88, and 0.92 for all students.

### ***Dynamic Indicators of Basic Early Literacy Skills (DIBELS)***

DIBELS is a tool used to measure key early literacy skills in students in kindergarten through 6<sup>th</sup> grade. These early literacy skills fall into five main categories: phonemic awareness, alphabetic principals, phonics, accurate and fluent reading, vocabulary, and comprehension. The measures can be used to monitor students' progress and identify students who need additional help in reading. Research studies have found evidence of a positive relationship between student DIBELS scores and reading success.

For the purposes of this study, the following measures of fluency were used: *Phoneme Segmentation Fluency* (PSF) to measure phonemic awareness, *Nonsense Word Fluency* (NWF) to examine alphabetic awareness, and *Oral Reading Fluency* (ORF), to examine accuracy, fluency, and phonics. The PSF and NSF measures can be used at mid-year for kindergarten, through the end of 1<sup>st</sup> grade. Oral Reading Fluency can be used at mid-year with 1<sup>st</sup> grade students, through the 6<sup>th</sup> grade.

For kindergarten, the mid-year and end-of-year measures for PSF and NWF were analyzed. In 1<sup>st</sup> grade, the baseline and end-of-year scores were analyzed for PSF and NWF. The end-of-year ORF scores for 1<sup>st</sup> grade were also analyzed using baseline PSF and NSF scores as proxy baseline measures. In 4<sup>th</sup> grade, the baseline and end of year ORF measures were analyzed. Scale ranges and benchmark goals (ex., ORF score between 71-92 for 4<sup>th</sup> grade at months 1-3 equates to a "some risk" status) for DIBELS can be found online at [dibels.uoregon.edu](http://dibels.uoregon.edu).

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### ***Teacher Measures***

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In addition to the assessment battery, qualitative data collection methods were also employed. The research team collected qualitative data through self-report teacher logs and classroom observations, as well as teacher interviews and focus groups. The data was compiled and content analyzed to examine teacher attitudes, pedagogy and performance, as well as to illuminate the various ways teachers and students interact with the Reading Street program. The teacher and classroom data also increased the validity of the research findings by verifying results through multiple data collection methods, by adding context to the achievement results through reporting the perspectives of various study participants, and by collecting data throughout the project period. Continuous monitoring of the study sites was of immense importance, and teachers were routinely asked to share their opinions and concerns throughout the school year.

***The research team collected achievement, attitudinal, as well as, observational and self-report data making the study both quantitative and qualitative in nature.***

### ***Weekly Teacher Logs***

All study teachers were required to complete weekly self-report online logs in which they described their reading lessons. Information from the weekly logs was important for two reasons; to guarantee Reading Street teachers fully and regularly utilized all key components of the program in an attempt to positively influence student achievement, and to document the instructional model utilized by each study teacher, including classroom environment, teaching style, pacing, reading content, and methods. The information in these logs was checked each week, and the project manager asked teachers for clarification when necessary.

Teachers were asked not to spend more than 15 minutes per week completing the logs. It is clear several teachers spent more time, however, as many of the logs were returned with detailed comments. Teachers often shared candid weekly experiences with the project manager and were typically happy to provide documentation describing weekly instruction and learning experiences related to the program. Comparison group teachers summarized daily classroom reading instruction time, topics and methods. Reading Street teachers were also asked to provide usage information for each major component of the program.

### ***Teacher Observations***

Site visits took place between mid-October and early December, and again between April and mid-May. Classroom observations were conducted by the research team. All study classrooms from each school were observed at least once during routine reading/ELA lessons. Portions of the observation forms included; a description of the classroom environment, summary of the lesson taught, teacher interviews, student comments, observed teaching strengths and weaknesses, pacing, and supplemental instruction information. The observations also allowed researchers to observe general classroom environment and teaching styles, and to verify the ability and willingness of Reading Street teachers to properly implement the program for reading instruction.

It should be noted that two observations show just a snapshot of the classroom environment and instructional competence. Some teachers were required to change their normal class time due to scheduling conflicts, which occasionally resulted in the observer having less than optimal time to spend in the classroom. The observations are, however, worthwhile because they are the only opportunity the research team has to directly observe the study teachers in action and verify teacher reported information. It should also be noted that the Reading Street consultants had opportunities to observe most teachers using the Reading Street program during the follow-up training visits. Teachers that were not returning their weekly implementation logs, missing training sessions, or generally perceived as struggling with their implementation were prioritized for observation by the Reading Street consultants so they could be given support and assistance.

### ***Teacher Surveys***

All participating teachers were administered two surveys about their teaching background; a baseline paper-based survey administered at the study orientation, and an end-of-year online survey. The purpose of the baseline teacher survey was to collect information on teaching experience, reading curricula, and prior research study experience. Teachers were asked to indicate their highest level of education and the number of years teaching total, as well as years they had spent at their district, school, and grade level.

The end-of-year teacher survey focused on gathering details about school context, teaching philosophy, and reading curriculum implementation. Teachers were asked about their curriculum materials, technology usage, and teaching strategies. Teachers were also asked to describe ways in which their school and students are unique. All of this information allowed researchers to gain additional insight into the overall experience at each research site.

### ***Reading Street Teacher Focus Group***

Focus groups were executed by the research team to ascertain teacher attitudes toward the Reading Street program. The face-to-face nature of a focus group, though more labor intensive, can be superior to simple questionnaires in collecting detailed attitudinal information from participants. When properly conducted, the focus group discussion gravitates to those topics most important to the participants, and can provide more nuanced information. Collecting attitudinal data in person allows for a better understanding of participant tone and importance of responses, and provides opportunity to delve deeper into topics.

### ***The focus group results describe what teachers and students liked about the Reading Street program, how the program could be improved, and how teachers are using specific features of the program.***

Focus group sessions were conducted at each school during site visits between April and mid-May. Representatives from the research team facilitated each session. The sessions lasted approximately 60 minutes. Eighty-five of the 87 Reading Street teachers participated in the focus group sessions.

These sessions provided a forum for teachers and administrators to respond to specific questions about the Reading Street curriculum, as well as express their professional and personal opinions about the curriculum. Each session held the teachers' comfort level as a high priority. The teachers were encouraged to speak without hesitation or inhibition, and to be as honest and candid as possible. Though the facilitator followed a structured interview format, the teachers were allowed to direct the discussion and provide their reactions to, and comment on, any and all aspects of the program. The focus group sessions provided extensive insight into teacher and student experiences with, and attitudes about, the Reading Street program. This information was supplemented with opinions informally shared by students during the observations.

Extensive notes were taken at each focus group session, allowing the research team to compile a large master file of participant responses. Following an exhaustive review of the teacher responses, a two-dimensional coding system was developed to organize the responses. Responses were categorized by *Topic Area* and *Attitude*. Topic area codes have a three digit numeric format, with the first digit on the left indicating general topic category and the remaining digits indicating a specific topic within each general category. The topic codes are further categorized by grade level, study site, and paired with either an 'N' to indicate neutral, a '+' to indicate positive, or a '-' to indicate a negative attitude toward an aspect of the program or the tone of the comment.

**Site Recruitment and Selection**

Prior to the 2009-10 school year, potential research schools were identified by Pearson sales representatives and via email blasts sent to districts with specific demographics. Schools that indicated interest were sent a study description that included responsibilities and incentives. Possible research schools were further vetted through local sales representatives. If the school indicated interest after reviewing the study description and being approved by the sales representative, they were asked to complete a detailed questionnaire. The intent of the questionnaire was to ensure participants understood all the requirements and benefits associated with participation. It was required that schools did not currently use the Reading Street program, that all participating teachers abide by the random assignment, and that all randomly assigned Reading Street classroom teachers fully implement the program with their students.

Table I Reading Street Longitudinal RCT Site State Assessment Information						
					School Results	Statewide Results
School Year	Grade	State	School	Met AYP	Meets Reading Standards	Meets Reading Standards
2008-09	4	AZ	1	Yes	59% (-15%)	74%
2008-09	4	CO	2	Yes	62% (-3%)	65%
2008-09	4	CO	3	No	68% (+3%)	65%
2008-09	4	MA	4	Yes	77% (+24%)	53%
2008-09	4	MA	5	Yes	60% (+7%)	53%
2008-09	4	MT	6	***	***	81%
2008-09	4	MT	7	***	***	81%
2008-09	4	OH	8	Yes	86% (+14%)	72%
2008-09	4	WA	9	Yes	83% (+9%)	74%
Parentheses indicate comparison to state percent meeting reading standards *** Information not available.						

After the questionnaire was reviewed and approved by the Principal Investigator, the school was invited to be a study participant. Finally, both a district level administrator (ex., curriculum director, superintendent) and a school level administrator (ex., principal) signed a memorandum of understanding outlining the responsibilities of each stakeholder. No available students of any socio-economic level, English proficiency level, or ethnic background, who opted to participate in the study, were excluded from the study. The research team adhered to the informed consent requirements of each participating school and/or district.

The final study sample was comprised of schools from public school districts located in mid- to large cities, suburban, or rural fringe areas. One school from each of Arizona, Ohio, and Washington states participated in the study. Three schools from two districts in Massachusetts,



two schools from two different districts in Colorado, and two schools from the same district in Montana also participated in the study.

Ethnic and socio-economic diversity among the student population were two criteria the evaluation team considered when recruiting study sites. A third criterion was that students exhibit a wide range of ability with respect to reading achievement. Table 1 shows, according to recent state achievement testing data, the percent of each school's students meeting state reading standards range between 15% below to 24% above statewide results. The evaluation team sought out diversity in the study sample to ensure the program would be used by learners of all abilities and backgrounds, thus reflecting the reality that is today's elementary classrooms.

### ***Reading Instruction***

Teachers assigned to the comparison condition were expected to implement the reading curricula currently being used in their school and/or district. On average, year one comparison group students had teachers that reported using their current curricular materials and methods from four to five years. This was also true for 5<sup>th</sup> grade comparison students. The 2<sup>nd</sup> grade comparison group students, however, had teachers reporting using their current materials and methods for almost 10 school years.

In the 2009-10 school year, four published reading/ELA programs were used by the comparison teachers at participating study schools at kindergarten, five programs at 1<sup>st</sup> grade, and five programs at 4<sup>th</sup> grade. Three of these programs were the same across the three grades. A large proportion of kindergarten and 1<sup>st</sup> grade comparison students had teachers that primarily implemented a teacher-created reading program (kindergarten comparison = 45.1%, 1<sup>st</sup> grade comparison = 58.4%), while relatively fewer students received a teacher-created reading program at 4<sup>th</sup> grade (4<sup>th</sup> comparison = 31.8%). In the second school year of the study a large majority of 2<sup>nd</sup> grade students (i.e., 71%) received instruction from teachers implementing a largely teacher-created curriculum, generally described as a balanced literacy approach.

In both the 2009-10 and 2010-11 school years, a majority of students attended classrooms where there was a person regularly assisting the classroom teacher (i.e., teacher's aide, paraprofessional, student teacher, reading coach, etc.). Comparison classrooms tended to have a higher percentage of students in classrooms with regular assistance. The average daily minutes of reading instruction was highest at 1<sup>st</sup> grade topping 100 minutes. Fifth grade students received the least amount of daily literature instruction. The Reading Street and comparison groups were similar in the portion of students taught by a teacher with a Master's degree. When statistically significantly different, the comparison group had a higher portion of students taught by a teacher with a Master's degree.

There was little difference in teaching experience among the year one teachers, approximately one year or less difference between the study conditions. The difference in teaching experience among the year two teachers was more pronounced. The 2<sup>nd</sup> grade comparison students were taught by teachers with an average of six more years teaching. Conversely, the 5<sup>th</sup> grade Reading Street students were taught by teachers with an average of five more years teaching. In

each year, at each grade, students had teachers with five years or more years teaching at their current grade.

Comparison teachers utilized various writing programs and methods. Some teachers used their own writing themes and prompts, some teachers followed the writing portions of their district adopted programs, and others followed explicit published writing programs. On average, year two 1<sup>st</sup>, 2<sup>nd</sup>, and 5<sup>th</sup> grade comparison group students completed 10, 9, and 4 writing pieces (i.e., pre-write, draft, revise, edit, publish) respectively.

Kindergarten 2009-10	Reading Street	comparison
years teaching	17.26	16.03
years at current grade <sup>S</sup>	11.75	5.58
master's degree	40%	42%
minutes reading instruction	88.30	92.46
regular classroom assistance <sup>S</sup>	67%	87%

<sup>S</sup> Indicates a statistically significant difference.

1 <sup>st</sup> Grade 2009-10	Reading Street	comparison
years teaching	15.99	16.43
years at current grade	9.22	8.49
master's degree	61%	70%
minutes reading instruction <sup>S</sup>	98.81	105.91
regular classroom assistance	83%	74%

<sup>S</sup> Indicates a statistically significant difference.

4 <sup>th</sup> Grade 2009-10	Reading Street	comparison
years teaching	14.58	14.52
years at current grade	5.83	6.82
master's degree <sup>S</sup>	62%	81%
minutes reading instruction	85.43	88.81
regular classroom assistance <sup>S</sup>	72%	90%

<sup>S</sup> Indicates a statistically significant difference.

1 <sup>st</sup> Grade 2010-11	Reading Street	comparison
years teaching	14.72	16.93
years at current grade	8.11	7.25
master's degree	64%	55%



minutes reading instruction	112.24	104.31
regular classroom assistance <sup>S</sup>	60%	80%
<sup>S</sup> Indicates a statistically significant difference.		

2 <sup>nd</sup> Grade 2010-11	Reading Street	comparison
years teaching <sup>S</sup>	15.31	22.10
years at current grade <sup>S</sup>	7.25	10.95
master's degree	78%	81%
minutes reading instruction	98.77	95.34
regular classroom assistance	57%	62%
<sup>S</sup> Indicates a statistically significant difference.		

5 <sup>th</sup> Grade 2010-11	Reading Street	comparison
years teaching <sup>S</sup>	17.18	11.98
years at current grade <sup>S</sup>	11.95	5.89
master's degree <sup>S</sup>	58%	69%
minutes reading instruction <sup>S</sup>	74.38	62.56
regular classroom assistance	74%	69%
<sup>S</sup> Indicates a statistically significant difference.		

## ***Reading Street Implementation***

***Teachers received multiple training sessions by Pearson curriculum specialists. The trainings allowed teachers to fully implement the program and fostered positive teacher and student attitudes.***

### ***Reading Street Teacher Training***

To initiate the study, Gatti Evaluation representatives conducted study orientations for all teachers at the start of both the 2009-10 and 2010-11 school years. The study orientation formally introduced the teachers to the research team, explained in detail the requirements and benefits of participation in the study, as well as, addressed any immediate questions or concerns about the research. All teachers were required to read and sign informed consent forms.

Pearson provided free product training and funding to cover the cost of substitute teachers during training. All Reading Street teachers, including the 2<sup>nd</sup> and 5<sup>th</sup> grade teachers who would participate in the second year of the research study, were required to attend training sessions facilitated by a curriculum specialist. The first curriculum training took place on-site over the course of two full school days. This training introduced administrators and teachers to the key components and instructional features of the Reading Street curriculum, including whole and

small group instruction, and progress monitoring. Follow-up training sessions were further provided to each school to support consistent usage and implementation fidelity of the Reading Street curriculum, and to acquaint teachers with new additions to the curriculum. For training dates by site, please see Table 2.

Table 2a Reading Street Longitudinal RCT School Year One Training Dates						
State	District	School	School Start Date	Initial Training Date	Follow-up Training Date	Additional Trainings
AZ	1	1	08/03/09	08/04/09	09/29/09	11/17/09 & 02/26/10
CO	1	2	08/13/09	08/11/09	10/05/09	11/20/09
CO	2	3	08/24/09	08/17/09	10/26/09	01/11/10 & 03/16/10
MA	1	4	09/02/09	08/25/09	10/19/09	12/08/09 & 02/23/10
MA	1	5	09/01/09	08/20/09	10/21/09	12/09/09 & 02/24/10
MT	1	6	08/26/09	08/19/09	10/05/09	12/01/09 & 03/03/10
MT	1	7	08/26/09	08/19/09	10/05/09	12/01/09 & 03/03/10
OH	1	8	08/25/09	08/18/09	10/13/09	12/11/09 & 02/17/09
WA	1	9	09/01/09	09/02/09	11/12/09	12/15/09 & 02/19/10

Table 2b Reading Street Longitudinal RCT School Year Two Training Dates						
State	District	School	School Start Date	Initial Training Date	Follow-up Training Date	Additional Trainings
AZ	1	1	08/09/10	08/04/10	11/16/10 & 02/22/10	11/18/10
CO	1	2	08/12/10	06/16/10	11/09/10	09/09/10
CO	2	3	08/23/10	08/31/10	11/01/10	10/04/10
MA	1	4	09/01/10	09/14/10	10/25/10 & 03/15/11	
MA	1	5	08/31/10	06/08/10	10/27/10	
MT	1	6	08/25/10	08/10/10	10/14/10 & 10/18/10	
MT	1	7	08/25/10	08/10/10	10/14/10 & 10/18/10	
OH	1	8	08/24/10	08/17/10	11/12/10	
WA	1	9	09/08/10	09/22/10	11/02/10	

Initial curriculum training sessions lasted a full two school days and typically began with a group presentation. Then teachers were separated into two groups by grade, primary (kindergarten-2<sup>nd</sup> grade) and secondary (4<sup>th</sup> and 5<sup>th</sup> grade), to get more personalized grade-level training. Subsequent training sessions coupled in-classroom observations with one-on-one meetings between teachers and consultants, and typically lasted one school day. After each visit the trainers provided feedback on each teacher's performance including strengths and weaknesses on program components, adherence to the study's implementation guidelines, and flagging those teachers in need of extra attention.

The trainings were well-received. The research team strongly believes that ongoing professional development can significantly affect the potential for a program such as Reading Street to foster positive teacher and student attitudes, meet students' needs, and ultimately increase student achievement.

### ***Reading Street Curriculum Usage***

This sub-section provides evidence in response to research question four, or

#### ***How was the Reading Street program implemented?***

Pearson ensured that research schools had full access to all Reading Street components that were available. It is worth noting the Reading Street ©2011 program was not released for public sale until January 2010. Therefore, some ancillary components of the Reading Street program were still under development when the study was launched in August 2009. As ancillary components became available, they were shipped to the research schools. Teachers assigned to use the Reading Street curriculum were asked to implement the core Reading Street components (i.e., Teacher Edition, Student Edition) to the best of their ability while awaiting ancillary materials. For example, while some of the posters and big books were not available, teachers simply made their own.

It should be noted that the Reading Street practice stations were not completed by the end of the first school year, and thus not used by the year one study teachers. Teachers created their own practice stations to go with the program in year one. Further, several sites were very concerned with strictly implementing the writing portions of the program and required extra training and assurance of how the writing portions could be applied to adhere with their state standards. Implementation of the writing portions and practice stations were, however, strictly adhered to in the second year of the study.

Reading Street teachers were expected to fully implement the writing portion of the program in year two. Specifically they utilized the daily mini lessons that focus on specific writing skills, weekly practice stations, weekly written responses meant to be reflective on the topic of the week, as well as, a one- to two-week writing project offered in each unit where students work through the entire writing process (i.e., plan, draft, revise, edit, publish). A majority of year two Reading Street teachers (i.e., 82%) reported using the mini lessons regularly, a majority (i.e., 64%) used the writing practice stations weekly, as well as, weekly test writing prompts (i.e., 82%). Further, 89% of teachers had their students work on writing process projects with the average teacher devoting five weeks to these writing projects.

In the study's second school year, the Reading Street teachers were expected to regularly use the practice stations. In addition to using the Reading Street stations, teachers were allowed to continue to use their own stations/centers during rotations, including those designed for science and/or social studies. All but five teachers, or 89%, used one or more of the practice stations at least once a week (i.e., does not include Let's Write). Many teachers (i.e., 44%) used all the practice stations weekly.

At the fourth and last training session of the 2009-10 school year (i.e., February and March) and the second training in year two (i.e., October and November) the trainers rated each of their teachers' overall performance implementing the program with regard to the study guidelines on a

1-10 scale. A rating of one was reserved for those teachers that were putting forth no effort; no teachers received a rating of one. A ten was reserved for those teachers using all the required components with distinction and proper pacing. These teachers represent the best implementing teachers the trainers have seen, in essence experts. Two second year teachers received a rating of ten.

A rating of five 5 was applied to those teachers trying their best to implement the program but were still having some problems implementing the required components and/or pacing. These teachers could be described as average implementers with seven to nine months using the Reading Street program. Twelve percent of the year one teachers, and 14% of the second year teachers performed at or below a rating of five.

The ratings three and seven acted as additional anchor points. A rating of three was applied to those teachers trying their best to implement the program but were still having substantial problems implementing the required components and/or pacing. Two first year teachers received a rating of three and this was the lowest rating given out in either year of the study. Conversely a rating of seven was given to those teachers that were implementing the required components well with good pacing. In the first year of the study 81% percent of teachers received a rating of seven or higher and 71% of second year teachers received a rating of seven and above.

***Reading Street teacher implementation ratings indicated the trainers felt teachers were implementing the program well with respect to the study guidelines, 7.4 out of a possible 10.***

The year one average ratings for overall implementation (i.e., 7.2) indicated the teachers were ultimately implementing the program well with respect to the study guidelines. The year two average ratings for overall implementation (i.e., 7.4) were also high. In both study years these rating were consistent with standard deviations for the ratings of 1.4 and 1.6 for year one and two respectively.

The variance components for the raters and grade levels were negligible or essentially zero. Ninety-five percent of the variation in the ratings is due to the sites and teachers. This means that the average implementation for each site and the implementation for each teacher accounts for the bulk of what makes the ratings differ, not a teacher's grade level or the trainer that rated the teacher. This indicates strong inter-rater reliability.

The trainers also asked each of their teachers to rate themselves from 1-10 on how well they felt they were implementing the program and following the study guidelines. The trainers' rating and teachers' self ratings from both years correlated moderate to high with a Pearson correlation coefficient of 0.55 and 0.76. The sample means for the two ratings do not differ statistically and practically do not differ at all (i.e., year one = 7.3, year two = 7.5).

The Reading Street program consists of five major components, including; Get Ready to Read, Read and Comprehend, Language Arts, Wrap up your Week, and small group instruction, along with ELL and leveled instruction, progress monitoring and benchmark assessment, practice stations, and writing components. Further, the program is comprised of six units. Each unit is comprised of two volumes, each with three weeks' worth of curriculum content, totaling six

weeks of content per unit. It is expected that the kindergarten weeks should take from 375 to 505 minutes to complete. First and 2<sup>nd</sup> grade weeks should take 550 to 675 minutes to complete. Fourth and 5<sup>th</sup> grade weeks should take 520 to 645 minutes to complete.

Figure 1a Units Reached By Year One Reading Street Teachers

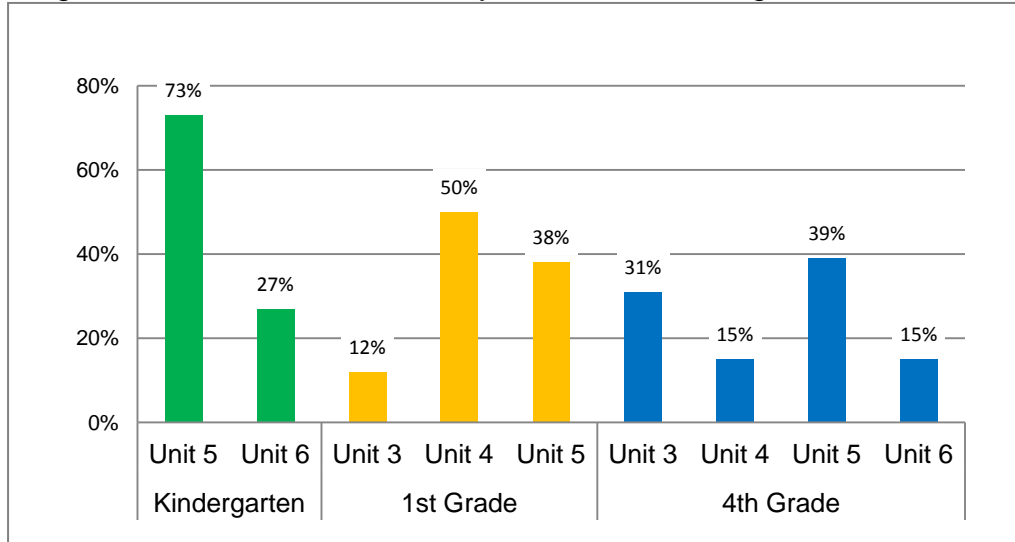
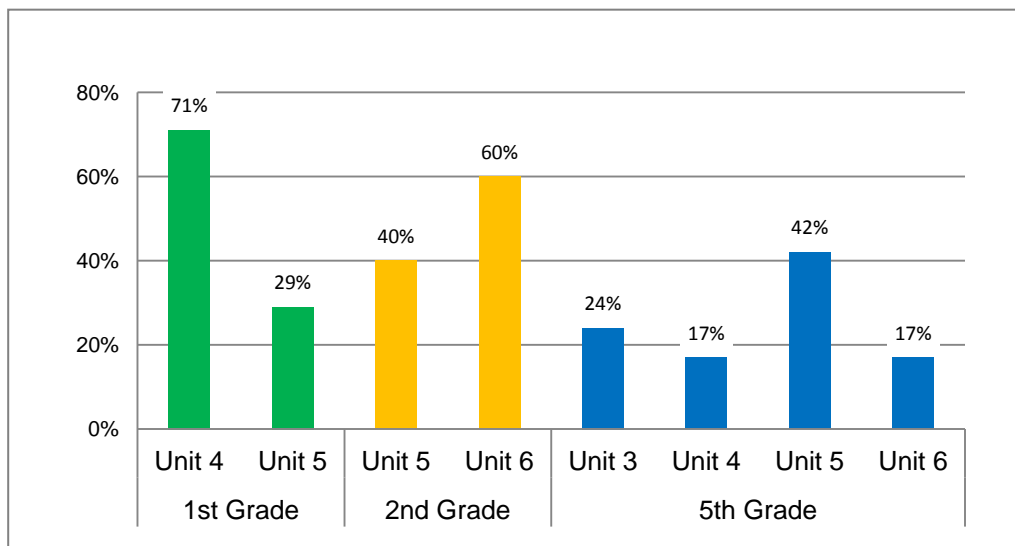


Figure 1b Units Reached By Year Two Reading Street Teachers



Pacing varied across the Reading Street teachers. Kindergarten teachers tended to complete more of the program than the other grades, with 27% reaching unit six by end-of-year testing, and the remaining Kindergarten teachers reaching unit five. Thirty-eight percent of year one 1<sup>st</sup> grade teachers reached unit five, while 50% reached unit four and 12% reached unit three. Fourth grade teachers were the more varied, with 15% reaching unit six, 39% reaching unit five, 15% reaching four, and 31% reaching unit three. A majority of 1<sup>st</sup> grade teachers (i.e., 71%) reached unit five in the second year, the remaining 1<sup>st</sup> grade teachers reached unit four. Similarly, a majority of 2<sup>nd</sup> grade teachers (i.e., 60%) reached unit six, the remaining 2<sup>nd</sup> grade teachers reached unit five. Lastly, as with 4<sup>th</sup> grade, 5<sup>th</sup> grade was more varied with 17% of 5<sup>th</sup>

grade teachers reaching unit six, 42% reaching unit five, 17% reaching unit four, and the remaining three teachers only reached unit three.

The first year's teachers routinely commented on the initial difficulty of keeping up with the suggested pacing of the program, in fact only 5 of the 36 recorded focus group comments about pacing were positive (i.e., 14%). Teachers also unanimously reported that instruction felt natural to them by winter break. A few months of use and discovery were necessary for the teachers to become fully comfortable with pacing and flow of the program. The same was true for their students. It took them a couple months to adapt to the structured routine offered by the Reading Street program. In the second year, however, many teachers commented on the ease at which they followed the pacing and moved through the program. In the second study year, 50% of teachers that used the program in the previous year had purely positive comments about the pacing of the program.

Reading Street teachers used the program for an average of 7.65 hours per week (i.e., 92 minutes per day) in year one and an average of 7.72 hours per week (i.e., 93 minutes per day) in year two. As for the major components of the program, teachers reported using the Get Ready to Read and Read and Comprehend sections the most. On average, the kindergarten teachers used the Get Ready to Read and Read and Comprehend sections just about equally while the 1<sup>st</sup> grade teachers used Get Ready to Read much more in both study years. The 2<sup>nd</sup> and 5<sup>th</sup> grade teachers instructed from the Read and Comprehend section substantially more. Teachers instructed from the Language Arts section third most and least frequently the Wrap up your Week section.

The small group instruction in Reading Street is considered an essential component of the program. Small group instruction includes guided reading techniques such as leveled or decodable readers, reading for fluency, phonics and/or word study, genre, comprehension strategies (ex., character study, picture walk, cause and effect, inference, retelling, ... etc.). As expected, small group time accounted for a larger percentage of instruction with strategic intervention students than for on-level or advanced students. In year one, small group time was 18%, 15%, and 12% of total instruction for the three groups respectively. Year two showed a similar pattern but a smaller percentage (i.e., 12%, 9%, and 7%).

Another essential component of the Reading Street program is the embedded progress monitoring. The progress monitoring includes reminders embedded in the teacher's editions that provide suggestions and opportunities, during both whole and small group time, to check individual student understanding of comprehension strategies, vocabulary, and fluency. Teachers monitored the progress for strategic intervention students most often, on average two days a week. On-level and advanced students were monitored one to two days a week.

Reading Street teachers were asked to use their weekly logs to record their impression of their students' engagement while using the program. Overall, year one teachers reported high classroom engagement for 28% of their students, average engagement for 54%, and low engagement for 19% of their students. Similarly in year two, teachers reported high classroom engagement for 30% of their students, average engagement for 54%, and low engagement for 17% of their students. These results are further validated by the fact that Reading Street teachers were overwhelmingly positive about their students' interactions with the program, 79% of teachers' comments regarding students' interactions were positive in nature.

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## *Settings*

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This section summarizes the educational model and environment for each study site, as well as a demographic breakdown. This information is crucial for determining how applicable results from this study may be to the consumers of this report.

### *Arizona District*

One school from this district participated in the study. This participating Arizona school is located in a rural fringe area of a large city. In 2008-09, the school district served a community of 10,000. The median household income is approximately \$50,000, indicating a middle class community. The school is medium to large sized, serving approximately 700 students in grades kindergarten through six. There is a strong sense of camaraderie and teamwork amongst the teachers at this school, and they strive to give their students the most supportive learning environment possible. The site is a Title 1 school with a great deal of learning diversity and high Hispanic (i.e., 70%) and ELL (i.e., 25%) populations. Many of the students come from low-income families and the school follows a strict dress code.

This school falls into the high range for participation in the nation's free or reduced price lunch program, with 85% of students eligible to receive free or reduced price lunch. The school did meet AYP in the 2008-09 school year. The percentage of 4<sup>th</sup> grade students testing at standard in reading in the 2008-09 school year was 59%, lower than the statewide results by 15%. The student/teacher ratio is approximately 23 to 1.

Twelve teachers participated in the study across the two school years. There were three kindergarten teachers, three 1<sup>st</sup> grade teachers, and two teachers from each of 2<sup>nd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> grade. In kindergarten, two teachers were randomly assigned to use Reading Street. In 2<sup>nd</sup>, 4<sup>th</sup> and 5<sup>th</sup> grade, one of the two teachers from each grade was randomly assigned to use Reading Street. One Reading Street teacher that taught kindergarten in the first school year moved to 1<sup>st</sup> grade in year two to replace a retired teacher. In the first school year of the study, one 1<sup>st</sup> grade teacher was randomly assigned to use Reading Street; however, in year two, two 1<sup>st</sup> grade teachers used Reading Street. The same 1<sup>st</sup> grade comparison teacher from year one remained in year two as well. Lastly, the 5<sup>th</sup> grade teacher randomly assigned to use Reading Street resigned early in year two. Her replacement started in October and was trained in November.

The year one baseline testing was administered between the last week of August 2009 and the second week of September 2009. The year 1 end of year testing was given between the last week of April 2010 and the second week of May 2010. The year 2 testing was very similar. Baseline testing was administered between the last week of August 2010 and the third week of September 2010, whereas, the end of year testing was given within the first two weeks of May 2011.

The district adopted a widely-published, elementary basal reading curriculum with a copyright date later than 2005. Four of the comparison teachers primarily adhere to the district-adopted basal program with some supplementation, while two heavily supplement the district-adopted program. One comparison teacher was new to their grade level in the 2009-10 school year. Teachers' daily reading blocks were 90 minutes in length for kindergarten, 2<sup>nd</sup>, and 4<sup>th</sup> grade



teachers. First grade teachers typically delivered reading instruction for 120 minutes or more daily and 5<sup>th</sup> grade teachers had 60 minute blocks.

### ***Colorado District One***

One school from this district participated in the study. The first thing you will notice walking into this Colorado elementary school is a two-story art installation made by teachers, students, and volunteers. Past installations have included representations of classic children's literature *The BFG* and *Where the Wild Things Are*. This exemplifies the effort that the teachers put into making learning a positive and exciting experience for their students. As this school is located in a largely military community, many students have family members that are deployed abroad. The student population is very diverse, and there is high mobility.

The school resides in a large suburb. In 2008-09, the school district served a community of 20,000. The median household income is approximately \$50,000, indicating a middle class community. The school is mid-sized, serving approximately 600 students in grades pre-kindergarten through five. The majority of the students are Caucasian (i.e., 50%), followed by African-American and Hispanic (i.e., 20% each). This school falls into the medium-high range for participation in the nation's free or reduced price lunch program with 52% of students eligible. The elementary school did meet AYP in the 2008-09 school year. The percentage of 4<sup>th</sup> grade students testing at standard in reading in 2008-09 was 62%, 3% lower than the statewide results. The student/teacher ratio is approximately 23 to 1.

Twenty-one teachers participated in the study across the two years, four kindergarten teachers, six 1<sup>st</sup> grade teachers, three 2<sup>nd</sup> grade teachers, four 4<sup>th</sup> grade teachers, three 5<sup>th</sup> grade teachers and one teacher who taught 1<sup>st</sup> grade in year one then 2<sup>nd</sup> grade in year two. Two kindergarten, three 1<sup>st</sup>, two 4<sup>th</sup>, two 2<sup>nd</sup> and two 5<sup>th</sup> grade teachers were randomly assigned to use Reading Street.

One of the 2<sup>nd</sup> grade teachers assigned to use Reading Street left for maternity leave during the summer of 2010. A long-term substitute was assigned and trained in June 2010 with the rest of the year two teachers. In December 2010, it was determined that the original teacher would not return to the school; therefore, the substitute remained on as the permanent Reading Street teacher. One 5<sup>th</sup> grade teacher randomly assigned to use Reading Street resigned and did not start the 2010-11 school year. Her replacement was trained on September 9<sup>th</sup> 2010 and taught Reading Street the entire 2010-11 school year.

Originally two kindergarten teachers were randomly assigned to use the Reading Street program, and one kindergarten teacher was assigned to the comparison group. Shortly after the first school year began, a new kindergarten teacher was hired who began using Reading Street, and thus was added to the treatment group. In November 2009, one of the Reading Street kindergarten teachers was transferred to 3<sup>rd</sup> grade, and a new teacher took her place as a Reading Street kindergarten teacher. This teacher was trained immediately on the program. Two Reading Street teachers and one comparison teacher taught half-day kindergarten, and the other Reading Street teacher taught full-day kindergarten.

The year one baseline testing was administered between the last week of August 2009 and the end of September 2009. The year one end of year testing was given between the middle of April 2010 and the second week of May 2010. The baseline testing for the second school year was



administered within the last two weeks of August 2010 and the beginning of September 2010, whereas, the end of year testing was given within the first two weeks of May 2011. The district adopted a widely-published, elementary basal reading curriculum with a copyright date later than 2005. Kindergarten teachers have daily reading blocks of 60 minutes and 4<sup>th</sup> and 5<sup>th</sup> grade teachers have 90 minutes blocks. The 1<sup>st</sup> grade teachers typically taught reading for more than 120 minutes daily and 2<sup>nd</sup> grade teachers taught reading from 90 to 120 minutes daily.

### ***Colorado District Two***

Teachers at this Colorado school describe their students as coming from a range of backgrounds with little to moderate parental involvement. Teachers have seen an increase in emotional and behavioral problems with their students over the last few school years. Despite this, teachers are proud of the hurdles their students overcome to make strides in their learning.

This school resides in a large suburb. In 2008-09, the school district served a community of 40,000. The median household income is approximately \$80,000, indicating an upper-middle class community. The elementary school is medium to small sized, serving approximately 350 students in grades kindergarten through six. The school has one primary ethnic group, Caucasian, accounting for 83% of the school population. This school falls into the medium range for participation in the nation's free or reduced price lunch program, with 26% of students eligible and has a small ELL population. They did not meet AYP in the 2008-09 school year. The percentage of 4<sup>th</sup> grade students testing at standard in reading in the 2008-09 school year was 3% higher than the statewide results at 68%. The student/teacher ratio is approximately 16 to 1.

A total of 10 teachers participated in the Reading Street study between years one and two; two teachers from each grade level (i.e., kindergarten, 1<sup>st</sup>, 2<sup>nd</sup>, 4<sup>th</sup> and 5<sup>th</sup>), of which one was randomly assigned to use Reading Street. Midway through year one, the research team was alerted that the 2<sup>nd</sup> grade Reading Street teacher was going to retire at the end of the year. In order to ensure that there was a 2<sup>nd</sup> grade teacher trained on the program who would be prepared to teach Reading Street the following year, the comparison teacher was moved to the Reading Street group as well. The new hire in the second year of the study became the 2<sup>nd</sup> grade comparison group teacher. The 4<sup>th</sup> grade Reading Street teacher was new to the grade level in the first year of the study, having taught 5<sup>th</sup> grade in years past. In year two, the 1<sup>st</sup> grade comparison teacher left the school and their replacement started in November.

The year one baseline testing was administered between the last week of August 2009 and the second week of September 2009. The year one end of year testing was given between the last week of April 2010 and the first week of May 2010. The second school year's testing was very similar. Baseline testing was administered between the last week of August 2010 and the second week of September 2010, whereas, the end of year testing was given within the first two weeks of May 2011.

Comparison teachers continued to use their previously chosen materials for reading instruction during the study. This school district does not mandate the use of one particular reading curriculum. Rather, the district provides essential standards that all teachers must include; this helps guide teachers in their choices of materials. All three comparison teachers used three different teaching philosophies (e.g. balanced-literacy, phonics and whole language). All teachers had assistance in the classroom, typically a combination of curriculum specialists and

paraprofessional/parent helper. Kindergarten, 1<sup>st</sup> and 2<sup>nd</sup> grade teachers typically taught reading 90-120 minutes daily and more. Fourth and 5<sup>th</sup> grade teachers had 90 minute reading blocks.

### ***Massachusetts District One***

Two schools participated from this district, an elementary and a middle school. The schools are mostly Caucasian (i.e., 95% and 97%) and the majority of students come from upper class backgrounds. Parents and teachers are very supportive and have high expectations for their students' education. Pre-school is a high priority in this community, and many kindergarten students are not new to the school environment. The biggest challenge teachers face is continuing to motivate all of their students when teaching to multiple ability levels in the classroom.

Both schools in this Massachusetts district reside in a large suburb. In 2008-09, the school district served a community of 10,000. The median household income is approximately \$100,000 indicating an upper-class community. The elementary school is a medium sized school serving approximately 600 students in grades kindergarten through four. Few students, only 3%, are eligible for participation in the nation's free or reduced price lunch program. The middle school is a large school serving approximately 900 students in grades five through eight. This school also falls into the low range for participation in the nation's free or reduced price lunch program, with 5% of students eligible.

The elementary school did meet AYP in the 2008-09 school year. The percentage of 4<sup>th</sup> grade students testing at standard in reading in the 2008-09 school year was 77%, higher than the statewide results by 24%. The student/teacher ratio is approximately 16 to 1. Students in 4<sup>th</sup> grade will move to the middle school in the second year of the study.

A total of 22 teachers participated in the study, four kindergarten teachers, four 1<sup>st</sup> grade teachers, two 1<sup>st</sup>/2<sup>nd</sup> grade combination class teachers, four 2<sup>nd</sup> grade teachers, four 4<sup>th</sup> grade teachers, and four 5<sup>th</sup> grade teachers. In kindergarten, two teachers were randomly assigned to use the Reading Street program. One of these teachers had two sections of two-and-a-half day kindergarten, and so used the program with both classes. In 1<sup>st</sup>, 2<sup>nd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> grade, two teachers per grade were randomly assigned to use the Reading Street program, as was one of the 1<sup>st</sup>/2<sup>nd</sup> combination classrooms. Two Reading Street teachers and four comparison teachers were new to their grade.

The first school year's baseline testing was administered by all of the study teachers throughout the month of September 2009, followed up with the end of year testing administered between the first and third week of May 2010. Baseline testing for the second school year was administered between the second and third week of September 2010, whereas, the end of year testing was given in last week of May 2011 through the first week of June 2011.

At the time of the study, intermediate classrooms (i.e., 4<sup>th</sup> and 5<sup>th</sup> grade) in the comparison group were using a newly published basal reading curriculum for the first time. These teachers adhered to this program with some supplementation. The other elementary school teachers created their own programs from a collective of literacy materials they had used in past years. All of the comparison teachers preferred a balanced literacy approach to teaching reading and had some form of additional support in the classroom. Kindergarten through 4<sup>th</sup> grade teachers typically teach reading for 90 minutes daily. Fifth grade has 60 minute literature blocks.

### ***Massachusetts District Two***

This district had two participating schools, and is located in a large suburb. The primary school serves pre-kindergarten through 2<sup>nd</sup> grade while the intermediate school serves 3<sup>rd</sup> through 5<sup>th</sup> grade. Though the schools have separate administrations, they are connected by a common hallway and collaborate closely with one another.

The schools provided various learning opportunities for their students. In addition to traditional classrooms, there was a French Immersion program beginning in kindergarten, a Montessori program, and Spanish language available in the first grade. Classroom composition varied, including students at different learning levels such as gifted, on-level, ELL, and IEP. These were the only elementary schools for the district, therefore were quite large. They enjoy a good deal of support from parents and the community.

In 2008-09, the schools served a community of approximately 14,000. The median household income was approximately \$100,000, indicating an upper class community. Both schools in this Massachusetts district are medium to large sized. The primary school serves approximately 700 students in grades pre-kindergarten through two, and the intermediate school serves approximately 600 students in grades three through five. The schools have one primary ethnic group, Caucasian, representing 94% of the school population. Only 3% of the students are eligible for free or reduced price lunch. The primary school did meet AYP in the 2008-09 school year. Data was unavailable for the intermediate school. The percentage of 4<sup>th</sup> grade students testing at standard in English Language Arts for the 2008-09 school year was 60%, 7% higher than the statewide results. The student/teacher ratio at the primary school is approximately 13 to 1. It is 15 to 1 at the intermediate school.

A total of 26 teachers participated in the study from these schools, four kindergarten, six teachers each in 1<sup>st</sup>, 2<sup>nd</sup>, and 4<sup>th</sup> grade, and four 5<sup>th</sup> grade teachers. Two kindergarten teachers were randomly assigned to use Reading Street. In 1<sup>st</sup>, 2<sup>nd</sup>, and 4<sup>th</sup> grade, three of the six teachers at each grade level were randomly assigned to use Reading Street. Finally, two 5<sup>th</sup> grade teachers were randomly assigned to the Reading Street group. The year one baseline testing was administered throughout the last three weeks of September 2009. The end of year testing was given within the first two weeks of May 2010. The year two baseline testing was administered between the second and third week of September 2010, whereas, the end of year testing was given within the last week of May and the first week on June 2011.

Most teachers use and have received training on guided reading, and the Developmental Reading Assessment (DRA). The majority of the teachers, 15 of 26, have a paraprofessional in their classroom for support. The rest have a student teacher, teacher's aide, parent helper, or SPED teacher. The district adopted a widely published elementary basal reading curriculum for the intermediate school. At the primary school, the comparison group teachers mostly create their own programs. Comparison teachers at both schools prefer a balanced literacy approach to reading instruction and have been following this approach for an average of seven years.

The 1<sup>st</sup> and 2<sup>nd</sup> grade teachers teach reading for 120 minutes daily. The 4<sup>th</sup> grade teachers teach reading for 60-90 minutes daily and 5<sup>th</sup> grade teachers have 60 minute literature blocks. The kindergarten teachers typically taught reading for 60 minute daily.

### ***Montana District***

Two separate elementary schools participated from the Montana district. The first elementary school was built in the 1970's with no walls in between classrooms in what is called an "open school" structure. Students come from a variety of backgrounds, and parents are active and involved. Teachers work hard in support of their students and think of the school as a family. The second elementary school also reports having very involved and supportive parents. Teachers and staff practice a teamwork approach, and there is a large emphasis on respect and good manners. These schools have one primary ethnic group, Caucasian, representing a total of 86% of the school population. Both schools met AYP for the 2008-09 school year.

The first participating school resides in a midsize city. In 2008-09, the school served a community of 25,000. The median household income is approximately \$60,000 indicating a middle class community. The school is medium to small sized, serving approximately 350 students in grades pre-kindergarten through six. Approximately 20% of students are eligible to receive free or reduced price lunch. The student/teacher ratio is approximately 15 to 1.

The second participating school also resides in a midsize city. In 2008-09, the school served a community of 50,000. The median household income is approximately \$55,000, also indicating a middle class community. This school is medium sized, serving approximately 400 students in grades pre-kindergarten through six. Approximately 30% of students are eligible to receive free or reduced price lunch. The student/teacher ratio is approximately 12 to 1.

Eleven teachers from the first school participated in the study; two kindergarten 1<sup>st</sup>, 4<sup>th</sup>, and 5<sup>th</sup> grade teachers, and three 2<sup>nd</sup> grade teachers. One teacher was randomly assigned to use Reading Street at each grade level. One teacher was new to the school, and three were new to their grade level. At the end of year one, one of the 2<sup>nd</sup> grade comparison teachers switched to 1<sup>st</sup> grade leaving one comparison and one treatment teacher like the other grades.

Thirteen teachers from the second school participated in the study; three teachers from kindergarten, 1<sup>st</sup>, and 2<sup>nd</sup> grade, and two teachers from 4<sup>th</sup> and 5<sup>th</sup> grade. In kindergarten, 1<sup>st</sup>, and 2<sup>nd</sup> grade, two of the participating teachers at each grade were randomly assigned to use Reading Street. At 4<sup>th</sup> and 5<sup>th</sup> grade, one teacher per grade level was randomly assigned to the Reading Street group. One study teacher was new to the school, and two were new to their grade level.

The year one baseline testing was administered throughout the first two weeks of September 2009. The end of year testing was given within the first two weeks of May 2010. In the second school year of the study, the baseline testing was administered between the first and third week of September 2010, whereas, the end of year testing was given between the second and third week of May and the first week on June 2011.

The primary grades at both schools use a widely published elementary basal reading program with a copyright date prior to 2005. In 4<sup>th</sup> and 5<sup>th</sup> grade, students are required by the district to read at least two novels, and so the reading program is novel-based. All but two teachers at the first school receive some form of help during their literacy instruction in the form of a parent, a paraprofessional, literacy coach, or teacher's aide. This additional support is less common at the second school, with only four teachers having a parent, literacy coach, or paraprofessional in the classroom during reading instruction. All but one comparison teacher at both schools prefer a balanced literacy approach to reading instruction.

Teachers at the first school typically taught reading for 90 minutes daily. Kindergarten, 1<sup>st</sup> and 2<sup>nd</sup> grade teachers from the second school taught reading for 90 minutes or more daily while 4<sup>th</sup> and 5<sup>th</sup> grade teachers typically taught reading/literature for 90 minutes.

### ***Ohio District***

The Ohio elementary school opened recently. It is housed in a new building with state-of-the-art facilities, such as a digital white board in every classroom. Students have varied learning abilities, with any given class including both gifted and IEP students. The school resides in a rural area and served a community of 3,000 in 2008-09. The median household income is approximately \$50,000, indicating a middle class community. Teachers say that being a part of a smaller community allows them to know more about their students. They make an effort to meet the personalized needs of their students. They also credit the success of the school to having strong and supportive leadership.

The elementary school in Ohio is a medium to small sized school serving approximately 320 students in grades kindergarten through six. The school has one primary ethnic group, Caucasian, representing 97% of the school population. Approximately 38% of students are eligible for free or reduced price lunch. The elementary school did meet AYP in the 2008-09 school year. The percentage of 4<sup>th</sup> grade students testing at standard in reading in the 2008-09 school year was 86%, higher than the statewide results by 14%. The student/teacher ratio is approximately 22 to 1.

Nine teachers participated in the study, one kindergarten, and two from each of 1<sup>st</sup>, 2<sup>nd</sup>, 4<sup>th</sup> and 5<sup>th</sup> grade. Since there was only one kindergarten teacher, this teacher was assigned to use the Reading Street program with her two half-day classes. In 1<sup>st</sup>, 2<sup>nd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> grades, one teacher from each grade level was randomly assigned to use the Reading Street program. None of these teachers were new to the school or district, and one was new to the grade level.

The year one baseline testing was administered throughout the first two weeks of September 2009. The end of year testing was given within the first two weeks of May 2010. In the second school year of the study, the baseline testing was administered between the first and third week of September 2010, whereas, the end of year testing was administered between the second and third week of May and the first week on June 2011.

The district adopted a widely published elementary basal reading curriculum with a copyright date prior to 2005. Two out of three comparison teachers essentially created their own reading programs, and one comparison teacher primarily uses the district-adopted program with some supplementation. Teachers prefer a balanced literacy approach to reading instruction and all teachers have additional classroom support during their literacy block from a paraprofessional, a Title 1 teacher, or a parent helper. First and 2<sup>nd</sup> grade teachers typically taught reading for 100 minutes or more daily. Fourth and 5<sup>th</sup> grade classrooms had daily literacy blocks ranging from 60-90 minutes.

### ***Washington District***

The Washington elementary school resides in a large suburb. In 2008-09, the school district served a community of 18,000. The median household income is approximately \$45,000, indicating a middle class community. This school serves approximately 300 students in grades



kindergarten through six. The school has one primary ethnic group, Caucasian, representing 84% of the school population. Approximately 50% of students are eligible to receive free or reduced price lunch.

The Washington state school has a number of different programs: a neighborhood program, a parent involvement program, a gifted program for grades 3-5, a special needs classroom, and a behavior disorder classroom. The many programs and opportunities reflect a school interested in meeting the needs of an ever-growing, diverse student population. The school has recently received awards for literacy and their administration. The elementary school did meet AYP in the 2008-09 school year and the percentage of 4<sup>th</sup> grade students testing at standard in reading was 83%, 9% more than the statewide results. The student/teacher ratio is approximately 16 to 1

Nine teachers participated in the study. Two teachers each from kindergarten, 1<sup>st</sup> grade, and 2<sup>nd</sup> grade, as well as, one fourth grade teacher, one 5<sup>th</sup> grade teacher and one 4<sup>th</sup>/5<sup>th</sup> grade combination class teacher. One kindergarten, 1<sup>st</sup>, and 2<sup>nd</sup> grade teacher was randomly assigned to use Reading Street. In 4<sup>th</sup> and 5<sup>th</sup> grade, because there was only one full class at each grade level, these teachers were assigned to use Reading Street, and the 4<sup>th</sup>/5<sup>th</sup> grade combination teacher was assigned to the comparison group. By the end of the second year, all the 4<sup>th</sup>/5<sup>th</sup> grade comparison students either left the district or were assimilated into the Reading Street classroom.

The year one baseline testing was administered during the second week of September 2009. The end of year testing was administered throughout the middle of April 2010 to the beginning of May 2010. The baseline testing was administered from second week of September 2010 in school year two, whereas, the end of year testing was given between the last week of May and the first week in June 2011.

Three of the four comparison teachers were piloting a widely published reading curriculum with a recent copyright. The fourth teacher was still using the older district-adopted reading program. Two of these teachers primarily used their district-adopted program with some supplemental materials, another teacher heavily supplemented the district-adopted program, and the fourth teacher primarily used her own materials. All of the teachers have a paraprofessional or teacher's aide in their classroom for support, and some additional help from parent helpers, or in the case of one teacher, a local college student. Further, all teachers take a balanced literacy approach to reading instruction. Teachers have daily language arts blocks of 90 minutes at 1<sup>st</sup> and 2<sup>nd</sup> grade and 60-90 minutes at 4<sup>th</sup> and 5<sup>th</sup>. The two kindergarten teachers typically taught reading for 60 and 90 minutes daily.

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## ***Participants***

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***The final diverse longitudinal sample consisted of 925 early and late elementary students from nine schools, in six states, located in different regions of the US.***

The final sample is comprised of students and teachers from 170 classrooms (i.e., school year one = 84, school year two = 86) from eleven schools distributed across six different states (i.e., AZ, CO, MA, MT, OH, and WA). The final study sample consisted of 281 kindergarten to 1<sup>st</sup>

grade (i.e., Reading Street = 159, comparison = 122), 309 1<sup>st</sup> to 2<sup>nd</sup> grade (i.e., Reading Street = 160, comparison = 149) and 335 4<sup>th</sup> to 5<sup>th</sup> grade (i.e., Reading Street = 184, comparison = 151) students. These students were nested in a total of 135 pairings of teachers across school year one and two, with 47 teacher pairs for the kindergarten to 1<sup>st</sup> grade student cohort, 52 pairs for the 1<sup>st</sup> to 2<sup>nd</sup> grade cohort, and 36 pairs for the 4<sup>th</sup> to 5<sup>th</sup> grade cohort. The median number of students in each teacher pairing was 5, 5, and 8 for the three cohorts respectively.

A total of 472 (i.e., Reading Street = 269, comparison = 203) or 90% percent of the kindergarten students tested at baseline remained in their classrooms and completed the 2009-10 school year (i.e., Reading Street = 87%, comparison = 95%). Likewise, 491 (i.e., Reading Street = 261, comparison = 230) or 86% of the year one 1<sup>st</sup> grade (i.e., Reading Street = 87%, comparison = 86%) and 517 (i.e., Reading Street = 265, comparison = 252) or 90% of the 4<sup>th</sup> grade (i.e., Reading Street = 87%, comparison = 91%) students tested at baseline in 2009-10 remained.

Of those first year kindergarten students, in year two 15% switched groups from their randomly assigned condition and 4% were not available to start the second year. Thirteen percent of year one 1<sup>st</sup> grade students switched groups in year two and less than one percent were not available to start the second year. Lastly, of the 4<sup>th</sup> grade students, 14% switched groups from their randomly assigned condition and 4% were not available to start the second year. Again, there was little attrition in the second school year with 92% (i.e., Reading Street = 175, comparison = 129), 88% (i.e., Reading Street = 193, comparison = 160), and 94% (i.e., Reading Street = 201, comparison = 157) of those valid 1<sup>st</sup>, 2<sup>nd</sup>, and 5<sup>th</sup> grade students tested at baseline remaining in their classrooms and completing the 2010-11 school year.

The data in Table 3 provides the demographic breakdown of the final longitudinal study sample. The study schools demonstrated considerable variation in reading achievement and ethnicity, as well as percentage of students eligible for free or reduced-priced lunch. Overall, 23% of the final study sample was eligible to receive free or reduced-priced lunch (i.e., Reading Street = 25%, comparison = 20%), 4% were not English proficient, 7% were Hispanic, 3% were African American, and 22% were designated as low achieving (i.e., Reading Street = 23%, comparison = 21%). There are very few ELL and African American students in the final study sample.

It should be noted the Ohio school had only one kindergarten teacher and thus it was not possible to randomly assign students to study groups. The Washington school had none of the six 4<sup>th</sup> grade students from the previous year’s comparison group remain at the end of 5<sup>th</sup> grade.

Table 3 Reading Street Longitudinal RCT Sample Demographic Information									
Group	Grade	Student Count	<sup>1</sup> Percent In Low Achieving Group	Percent Not English Proficient	Percent Free/Reduced Lunch	Percent Caucasian	Percent Hispanic/Native American	Percent African American/Caribbean	Other Ethnicity or No Information
Arizona District									
RS	K-1	17	82%	65%	94%	6%	65%	6%	23%
Comparison		4	50%	0%	75%	0%	75%	25%	0%
RS	1-2	7	14%	43%	57%	14%	71%	14%	1%
Comparison		1	100%	0%	100%	100%	0%	0%	0%

RS		8	100%	100%	100%	13%	75%	0%	12%
Comparison	4-5	3	33%	0%	67%	0%	100%	0%	0%
<sup>2</sup> Colorado District 1									
RS		12	83%	0%	58%	58%	17%	17%	8%
Comparison	K-1	11	55%	9%	82%	64%	18%	18%	0%
RS		9	78%	0%	56%	78%	0%	22%	0%
Comparison	1-2	9	67%	0%	56%	89%	0%	11%	0%
RS		17	41%	6%	53%	29%	12%	41%	18%
Comparison	4-5	4	50%	0%	50%	75%	0%	25%	0%
Colorado District 2									
RS		11	18%	27%	36%	64%	27%	0%	9%
Comparison	K-1	12	17%	8%	42%	83%	8%	0%	9%
RS		9	11%	0%	44%	100%	0%	0%	0%
Comparison	1-2	5	20%	0%	0%	100%	0%	0%	0%
RS		14	0%	0%	29%	86%	0%	0%	14%
Comparison	4-5	16	31%	0%	38%	75%	25%	0%	0%
Massachusetts District 1									
RS		29	7%	0%	3%	90%	3%	0%	7%
Comparison	K-1	19	5%	0%	5%	79%	0%	0%	21%
RS		47	15%	0%	0%	87%	0%	4%	9%
Comparison	1-2	53	21%	0%	4%	96%	0%	2%	2%
RS		35	0%	0%	3%	89%	3%	0%	8%
Comparison	4-5	40	8%	5%	3%	95%	3%	0%	2%
Massachusetts District 2									
RS		31	23%	6%	0%	90%	6%	0%	4%
Comparison	K-1	24	8%	0%	0%	92%	0%	0%	8%
RS		39	18%	3%	3%	92%	0%	3%	5%
Comparison	1-2	34	26%	0%	3%	94%	3%	0%	3%
RS		49	0%	2%	4%	96%	4%	0%	0%
Comparison	4-5	48	4%	0%	6%	92%	2%	0%	6%
Montana District									
RS		45	29%	0%	36%	93%	2%	2%	3%
Comparison	K-1	32	25%	3%	25%	78%	3%	6%	13%
RS		25	28%	0%	24%	92%	0%	0%	8%
Comparison	1-2	19	32%	0%	21%	79%	5%	0%	16%
RS		26	8%	0%	8%	88%	4%	4%	4%
Comparison	4-5	26	8%	0%	23%	85%	8%	0%	7%
<sup>3</sup> Ohio District									



RS		12	67%	0%	50%	92%	0%	8%	0%
Comparison	1-2	9	33%	0%	56%	100%	0%	0%	0%
RS		17	6%	0%	35%	94%	0%	0%	6%
Comparison	4-5	14	29%	0%	64%	100%	0%	0%	0%
<sup>4</sup> Washington District									
RS		14	29%	0%	79%	79%	0%	7%	14%
Comparison	K-1	20	40%	0%	30%	100%	0%	0%	0%
RS		12	42%	0%	67%	100%	0%	0%	0%
Comparison	1-2	19	21%	0%	21%	95%	5%	0%	0%
RS		18	11%	0%	39%	78%	22%	0%	0%
<p>1. The lower achieving kindergarten sample constituted those scoring at baseline within the first stanine of the norming sample (i.e., lowest 4%), 1<sup>st</sup> graders within the first, second, and third stanine at baseline (i.e., lowest 23%), and those 4<sup>th</sup> graders scoring at or below the 3.0 grade equivalent at baseline.</p> <p>2. The first Colorado site could not provide meal program status for individual students. Participation in the meal program for each student was estimated by choosing the most likely participants as determined from all available known information.</p> <p>3. The Ohio school had only one kindergarten teacher and thus it was not possible to randomly assign students to study groups.</p> <p>4. The Washington school had no 5<sup>th</sup> grade students remaining from the previous year's comparison group.</p>									

## Data Analysis Procedures

Statistical analyses were performed on students' gain (i.e., end-of-year score minus beginning-of-year score) in GRADE total, growth scale value, and subtests scores, DIBELS scales (i.e., fluency), year two holistic MAT writing ratings, as well as, reading academic attitude and ERAS reading attitude (a.k.a. Garfield) survey scores for each grade level. Though the writing assessment was administered both school years, only second year scores were analyzed as Reading Street teachers were expected to fully implement the writing portions of the program in year two.

Mean raw score gains are compared between the Reading Street and comparison groups, except in those few cases when the growth scale value is used. Growth scale values are used to compare group mean gains on the GRADE, in total performance, across the two study years. Growth scale values are norm referenced transformations that attempt to map students' raw test scores on to a universal longitudinal ability scale (i.e., scaled score) so that performances for students taking tests at different levels may be compared.

Results were broken out and analyzed by subpopulations, including; gender, eligibility for free or reduced priced lunch, English proficiency, and ethnicity (i.e., Caucasian, Hispanic, African American). The analyses broken down by English proficiency and ethnicity only looked at GRADE Growth Scale Values across students from all grade bands. This is because there are too few ELL and African American students in the final study sample (i.e., 4% ELL, 7% Hispanic, 3% African American) to split results out for the three grade cohorts. Again, growth scale values are utilized so that performance may be compared for the three grade cohorts in the same sample.

In addition, results were calculated for a group of lower achieving students at each grade level. No single set benchmark for the norming sample provided an adequately sized group of lower achieving students from the study sample. The lower achieving kindergarten sample constituted those scoring at baseline within the first stanine of the norming sample (i.e., lowest 4%), 1<sup>st</sup> graders within the third stanine at baseline (i.e., lowest 23%), and those 4<sup>th</sup> graders scoring at or below the 3.0 grade equivalent at baseline. These cutoffs allocated 35%, 35%, and 18% of the kindergarten, 1<sup>st</sup>, and 4<sup>th</sup> grade study samples to the lower achieving groups respectively.

***Students' reading and writing achievement gains, as well as, gains in fluency, academic attitude and reading attitude were compared between Reading Street users and non-users. Results were also broken out and analyzed for key sub populations of students.***

Rigorous research design dictates that all characteristics of the study participants and their environmental influences that may impact the results, in addition to the curriculum, must be equated across study groups. Random assignment can only probabilistically equate study groups prior to the start of the study. The maintenance of a controlled and consistent environment for the study participants helps to ensure that differences found in the study groups on outcomes of interest may more confidently be attributed to the study conditions assigned to these groups and not other confounding factors.

An ordinary least squares fixed effects model was employed to statistically test model group mean gain score differences. While students were the unit of analysis, the school districts were the independent units. The hierarchical nature of the data (i.e., students nested within classrooms, classrooms nested within schools, schools nested within districts) has the effect of reducing the amount of independent information available in the sample, therefore decreasing the precision of estimates and the power of hypothesis tests to find these estimates statistically significant.<sup>6</sup> A naïve covariance structure<sup>7</sup> within a robust empirical standard error formulation was used to calculate confidence intervals for estimated effects. This procedure results in group mean differences that are unbiased and statistical hypothesis tests that are consistent<sup>8,9</sup> despite the nested nature of the data.

All statistical significance tests are two-tailed with a Type I error rate of 0.05. Statistically significant estimates are ones in which the probability of sampling scores that result in a group mean difference that much greater than zero when it is in fact null, is  $p = 0.05$  or 1 in 20 samples. Significance implies that the samples are likely drawn from two separate populations or that the group averages are unlikely to be the same in the population. Coupled with the study design we may then hold these statistically significant differences as evidence for one group outperforming the other.

Standardized effect size estimates (i.e., effect size = group mean gain score difference / comparison group sample standard deviation) along with a percentile rank based effect size

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<sup>6</sup> Donnar, A. & Klar, N. (2000) *Design and analysis of cluster randomization trials in health research*. Arnold Publishers, London.

<sup>7</sup> Initially a compound symmetric structure was assumed for the error variances but the extra parameter was not statistically significant for any of the statistical models.

<sup>8</sup> Liang, N. M. & Zeger, S. L. (1986). Longitudinal data analysis using generalized linear models. *Biometrika*, 73, pp. 13-22.

<sup>9</sup> SAS's Mixed procedure was used to analyze the data, see SAS Institute Inc. (2008) Online documentation 9.2. A linear model was defined with all fixed effects, full degrees of freedom, using the sandwich estimator for all standard errors with districts set as the independent level of nesting, and a naïve independent working covariance structure.

measure are computed for statistically significant group mean gain score differences.<sup>10</sup> The latter effect size measure indicates the percentile rank for the median Reading Street gain score in relation to the comparison group's distribution.

As many as 25 covariates were entered into the statistical models to reduce the residual variation or error about these effects. These covariates included baseline scores, student and teacher demographic information, as well as classroom environment indicators. The statistical models were able to find small to moderate effect sizes statistically significant. The average minimal detectable effect size for the statistical tests of group mean gain score differences across three grade levels on all outcome measures was 0.17 standard deviations (i.e., range of 0.07 to 0.42). Effect sizes as large as 0.17 standard deviations are most likely of practical significance. The careful review of efficacy studies for educational materials<sup>11</sup> indicate that the average group mean difference for studies with large samples (i.e., more than 250 students) is only 0.13 standard deviations.

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<sup>10</sup> Hedges, L. V. & Olkin, I. (1985). *Statistics methods for meta-analysis*. Academic Press, NY.

<sup>11</sup> Slavin, R. & Smith, D. (2009). The relationship between sample sizes and effect sizes in systematic reviews in education. *Educational Evaluation and Policy Analysis*, 31(4) pp. 500-506.

### III. RESULTS

Report section III summarizes the results of data analyses, including statistical and qualitative results, and group comparisons at baseline. The first subsection demonstrates the closeness of the samples on the quantitative outcome measures at baseline. The second subsection addresses research question one, comparing achievement for the Reading Street group to that of the comparison group for the whole sample, as well as for at-risk sub-populations of students. The third and fourth subsections address both research questions two and three. That is, do Reading Street students demonstrate more positive attitudes toward reading and reading instruction, and, how did teachers and students react to the program?

#### *Baseline Group Equivalence*

Tables four through six present the baseline group mean differences for each measure of achievement and attitude for kindergarten, 1<sup>st</sup> and 4<sup>th</sup> grade classrooms. These tables also show statistical significance test results and effect size measures for the baseline group mean differences. Except for the kindergarten GRADE, academic attitude and one fluency measure, all of the achievement outcomes were not statistically significantly different between the study groups at baseline, and the effect sizes were all within 0.20 standard deviations. In these three instances the comparison group had higher scores.

Table 4	Kindergarten Baseline GRADE Score Study Group Comparisons						
Measure	Sample Size RS/CP <sup>1</sup>	RS Mean (SD) <sup>2</sup>	CP Mean (SD)	Group Difference <sup>3</sup>	Sample p-value	Effect Size <sup>4</sup>	Effect Size Percent <sup>5</sup>
GRADE Overall	159/122	57.77 (13.865)	60.72 (12.192)	-2.9477	0.1128	-0.23	41%
Word Reading	159/122	3.52 (2.839)	3.10 (3.044)	0.4174	0.4236	0.14	55%
Holistic Writing	158/122	2.00 (1.410)	2.02 (1.455)	-0.0211	0.9422	-0.01	49%
Phoneme Segmentation	157/120	32.17 (16.327)	33.78 (14.890)	-1.5617	0.6020	-0.10	46%
Nonsense Word Fluency	157/120	37.70 (17.939)	42.01 (24.109)	-5.3872	<0.0001	-0.22	41%
Reading Attitude Survey	148/107	6.69 (5.421)	7.91 (4.473)	-1.3282	0.0045	-0.30	38%
Garfield Survey (ERAS)	156/115	57.22 (14.147)	58.65 (14.439)	-1.2359	0.5890	-0.09	47%

1. RS/CP indicates the Reading Street group size / comparison group size  
2. Mean indicates the group sample mean value and (SD) indicates the group sample standard deviation  
3. Group difference = Reading Street group mean - comparison group mean  
4. Effect Size = group mean difference / comparison sample standard deviation  
5. Effect Size Percent = percentile rank for the median Reading Street score in relation to the comparison group (i.e., set to 50%)  
Note: Holistic writing scores are reported from school year two. Kindergarten baseline Phoneme Segmentation and Nonsense Word Fluency were measured at mid-year.

Table 5		1 <sup>st</sup> Grade Baseline GRADE Score Study Group Comparisons					
Measure	Sample Size RS/CP <sup>1</sup>	RS Mean (SD) <sup>2</sup>	CP Mean (SD)	Group Difference <sup>3</sup>	Sample p-value	Effect Size <sup>4</sup>	Effect Size Percent <sup>5</sup>
GRADE Overall	160/149	49.71 (18.984)	49.42 (19.204)	0.2964	0.7918	0.02	51%
Word Reading	160/149	13.47 (4.796)	13.41 (4.803)	0.0594	0.8598	0.01	50%
Word Meaning	160/149	18.76 (6.857)	19.38 (6.700)	-0.6133	0.2422	-0.09	46%
Sentence Comprehension	160/149	8.26 (5.808)	7.82 (5.517)	0.4437	0.1176	0.08	53%
Passage Comprehension	160/149	9.22 (5.350)	8.81 (5.317)	0.4067	0.5003	0.08	53%
Holistic Writing	152/148	4.05 (2.174)	4.14 (2.159)	-0.0831	0.8122	-0.04	48%
Phoneme Segmentation	160/149	40.00 (12.580)	42.07 (12.977)	-2.0738	0.1237	-0.16	44%
Nonsense Word Fluency	160/149	40.12 (24.607)	41.39 (23.291)	-1.2705	0.1800	-0.05	48%
Oral Reading Fluency	160/149	75.19 (43.684)	73.13 (42.811)	2.0595	0.4138	0.05	52%
Reading Attitude Survey	152/143	6.04 (5.308)	6.75 (5.246)	-0.7281	0.2031	-0.14	44%
Garfield Survey (ERAS)	154/145	56.65 (14.066)	58.30 (12.454)	-1.6301	0.1505	-0.13	45%

1. RS/CP indicates the Reading Street group size / comparison group size  
2. Mean indicates the group sample mean value and (SD) indicates the group sample standard deviation  
3. Group difference = Reading Street group mean - comparison group mean  
4. Effect Size = group mean difference / comparison sample standard deviation  
5. Effect Size Percent = percentile rank for the median Reading Street score in relation to the comparison group (i.e., set to 50%)  
Note: Holistic writing scores and Oral Reading Fluency are reported from school year two.

Table 6		4 <sup>th</sup> Grade Baseline GRADE Score Study Group Comparisons					
Measure	Sample Size RS/CP <sup>1</sup>	RS Mean (SD) <sup>2</sup>	CP Mean (SD)	Group Difference <sup>3</sup>	Sample p-value	Effect Size <sup>4</sup>	Effect Size Percent <sup>5</sup>
GRADE Overall	184/151	56.65 (14.453)	56.79 (15.123)	-0.1359	0.8889	-0.01	50%
Vocabulary	184/151	22.44 (6.242)	22.76 (6.726)	-0.3214	0.4464	-0.05	48%
Sentence Comprehension	184/151	14.31 (3.778)	13.90 (4.348)	0.4091	0.0943	0.09	54%
Passage Comprehension	184/151	19.90 (5.557)	20.13 (5.340)	-0.2237	0.6071	-0.04	48%
Holistic Writing	182/148	5.79 (2.154)	5.98 (2.132)	-0.1992	0.5368	-0.09	46%
Oral Reading Fluency	184/149	102.96 (32.034)	101.99(29.908)	1.2214	0.7600	0.04	52%
Reading Attitude Survey	181/150	7.11 (5.583)	6.99 (6.140)	0.1461	0.7941	0.02	51%
Garfield Survey (ERAS)	182/149	57.64 (10.759)	56.47 (11.297)	1.1742	0.2139	0.10	54%

1. RS/CP indicates the Reading Street group size / comparison group size  
2. Mean indicates the group sample mean value and (SD) indicates the group sample standard deviation  
3. Group difference = Reading Street group mean - comparison group mean  
4. Effect Size = group mean difference / comparison sample standard deviation  
5. Effect Size Percent = percentile rank for the median Reading Street score in relation to the comparison group (i.e., set to 50%)  
Note: Holistic writing scores are reported from school year two.

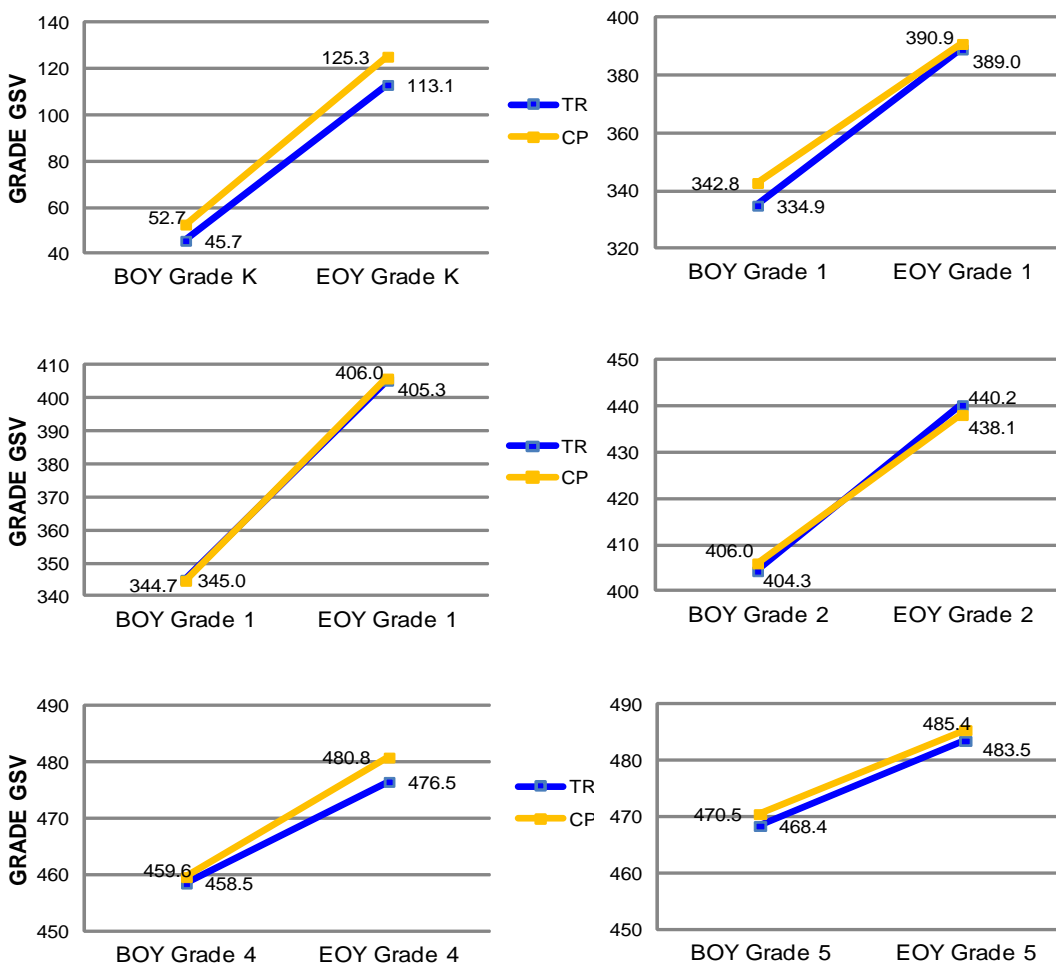
## Group Comparisons of Achievement Gains

This section will attempt to answer research question one:

*How does reading performance differ for students using the Reading Street curriculum as compared to their peers using other elementary reading curricula?*

***Early elementary Reading Street students statistically significantly out-gained the comparison group on the GRADE across the two school years.***

Figure 2 GRADE Growth Scale Values Compared Between Study Groups



Results reported in this section compared the performance of the Reading Street users to that of a comparison group of students across the two study years, and in each school year, of this longitudinal research effort. Reading Street users and comparison students comprised the two study conditions. Students in classrooms randomly assigned to use Reading Street received the program for basal reading/language arts instruction while students in the comparison classrooms

received reading/language arts instruction from district adopted programs and/or those materials and methods preferred by their classroom teachers.

Figure 2 presents the Reading Street and comparison group means for GRADE growth value scores for each grade level cohort. Growth scale values attempt to map students’ raw test scores on to a universal longitudinal ability scale (i.e., scaled score) so that performances for students taking tests at different levels may be compared. Of the outcomes used in this study, only GRADE total scores may be transformed to growth scale values. The blue line represents the average gain in achievement for the Reading Street students from the start of each school year (i.e., BOY) to the end-of-year (i.e., EOY). Across the two school years the k-1<sup>st</sup> and 1<sup>st</sup>-2<sup>nd</sup> reading Street student cohorts saw statistically significant larger gains in growth scale value. There was no statistical difference across the two study years between the 4<sup>th</sup>-5<sup>th</sup> grade groups.

Table 7		Two Year Growth Scale Gain Study Group Comparisons					
Measure	Sample Size RS/CP <sup>1</sup>	RS Mean (SD) <sup>2</sup>	CP Mean (SD)	Group Difference <sup>3</sup>	Sample p-value	Effect Size <sup>4</sup>	Effect Size Percent <sup>5</sup>
K-1 <sup>st</sup> Cohort GSV	159/122	343.24 (52.009)	338.19 (44.744)	5.051	<.0001	0.11	54%
1 <sup>st</sup> -2 <sup>nd</sup> Cohort GSV	160/149	35.91 (28.848)	32.10 (24.212)	1.811	<.0001	0.06	53%
4 <sup>th</sup> -5 <sup>th</sup> Cohort GSV	184/151	25.04 (15.690)	25.79 (16.510)	-0.750	0.0869	-0.05	48%

1. RS/CP indicates the Reading Street group size / comparison group size  
 2. Mean indicates the group sample GSV gain score mean value and (SD) indicates the group sample GSV gain score standard deviation  
 3. Group difference = Reading Street group GSV gain score mean - comparison group GSV gain score mean  
 4. Effect Size = group GSV gain score mean difference / comparison sample GSV gain score standard deviation  
 5. Effect Size Percent = percentile rank for the median Reading Street GSV gain score in relation to the comparison group (i.e., set to 50%)

Tables eight through thirteen (i.e., see Appendix 1) present the mean gains for each measure of achievement and attitude for the study groups. These tables also show significance test results and effect size measures for the group differences. Reading Street students in all three grade cohorts, respectively, saw large statistically significant gains on the GRADE of 1.83, 1.85, and 0.87 standard deviations in year one and 1.05, 1.18, 0.92 standard deviations in year two.

Year One Kindergarten Scale	Effect Size <sup>1,2</sup>
GRADE Total	0.12 (55%)
Word Reading	-0.16 (44%)
Phoneme Segmentation Fluency	0.41 (66%)
Nonsense Word Fluency	0.11 (54%)
Year Two 1 <sup>st</sup> Grade Scale	Effect Size
GRADE Total	***
Word Reading	***
Word Meaning	***

Sentence Comprehension	***
Passage Comprehension	0.19 (58%)
Holistic Writing	***
Phoneme Segmentation Fluency	***
Nonsense Word Fluency	-0.18 (43%)
<b>K-1<sup>st</sup> Cohort GSV</b>	<b>Effect Size</b>
GRADE Growth Scale Value	0.11 (54%)
*** Indicates group gain score means are not statistically significantly different	
1. effect size = group gain score mean difference / comparison sample standard deviation	
2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).	

Reading Street students in the k-1<sup>st</sup> grade cohort statistically outperformed their comparison group counterparts on the GRADE and in fluency in their kindergarten year and performed higher in comprehension the second year. All findings were practically significant. The comparison group kindergarten students statistically outperformed the Reading Street students on the Word Reading subtest and in 1<sup>st</sup> grade fluency. There was no observed difference in the k-1<sup>st</sup> cohort study groups on the writing assessment.

<b>Year One 1<sup>st</sup> Grade Scale</b>	<b>Effect Size<sup>1,2</sup></b>
GRADE Total	***
Word Reading	***
Word Meaning	***
Sentence Comprehension	***
Passage Comprehension	***
Phoneme Segmentation Fluency	0.34 (63%)
Nonsense Word Fluency	***
<b>Year Two 2<sup>nd</sup> Grade Scale</b>	<b>Effect Size</b>
GRADE Total	0.11 (54%)
Word Reading	***
Word Meaning	0.12 (55%)
Sentence Comprehension	0.21 (58%)
Passage Comprehension	***
Holistic Writing	0.11 (54%)
Oral Reading Fluency	***
<b>1<sup>st</sup>-2<sup>nd</sup> Cohort GSV</b>	<b>Effect Size</b>



GRADE Growth Scale Value	0.06 (53%)
*** Indicates group gain score means are not statistically significantly different	
1. effect size = group gain score mean difference / comparison sample standard deviation	
2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).	

Reading Street students in the 1<sup>st</sup>-2<sup>nd</sup> grade cohort statistically outperformed their comparison group counterparts in fluency in their 1<sup>st</sup> grade year and out-gained the comparison students on the GRADE, both in vocabulary and comprehension subtests, as well as on the writing assessment by the end of 2<sup>nd</sup> grade. All of these effects are of practical significance and the comparison group saw no superior effects with this cohort.

Year One 4 <sup>th</sup> Grade Scale	Effect Size <sup>1,2</sup>
GRADE Total	-0.25 (40%)
Vocabulary	***
Sentence Comprehension	-0.33 (37%)
Passage Comprehension	-0.22 (41%)
Oral Reading Fluency	***
Year Two 5 <sup>th</sup> Grade Scale	Effect Size
GRADE Total	***
Vocabulary	***
Sentence Comprehension	0.05 (52%)
Passage Comprehension	-0.13 (45%)
Holistic Writing	***
Oral Reading Fluency	***
4 <sup>th</sup> -5 <sup>th</sup> Cohort GSV	Effect Size
GRADE Growth Scale Value	***
*** Indicates group gain score means are not statistically significantly different	
1. effect size = group gain score mean difference / comparison sample standard deviation	
2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).	

In contrast to the early elementary cohorts, 4<sup>th</sup>-5<sup>th</sup> grade comparison group students statistically out-gained the Reading Street students on the GRADE, specifically in comprehension in their 4<sup>th</sup> grade year. By the end of 5<sup>th</sup> grade however, the groups were statistically equal on the GRADE and the results for comprehension were mixed. There was no observed difference in the 4<sup>th</sup>-5<sup>th</sup> cohort study groups in fluency or on the writing assessment.

## Results by Subpopulations

In this section, the performance of Reading Street students from specific at-risk subpopulations are statistically compared to that of their comparison group peers from the same population. The analyses broken down by English proficiency and ethnicity looked solely at the two-year growth scale values across students from all grade bands. This is because there are too few ELL and African American students in the final study sample (i.e., 4% ELL, 7% Hispanic, 3% African American) to split by grade cohort. When the whole sample was broken out for ethnicity, African-American comparison group students statistically out-gained the African-American Reading Street students across both school years by a large margin. Hispanic Reading Street students, however, out-gained the comparison group Hispanic students by a sizable amount. There were no statistically significant differences for levels of English proficiency.

Two Year Gain All Cohorts	GSV Effect Size <sup>1,2</sup>
English proficient	***
not English proficient	***
African American	-0.67 (25%)
Hispanic	0.39 (65%)
Caucasian	***
*** Indicates group gain score means are not statistically significantly different	
1. effect size = group gain score mean difference / comparison sample standard deviation	
2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).	

### ***Reading Street students from several at-risk populations statistically significantly outperformed their comparison group peers in reading achievement, writing, and fluency.***

Results were broken out and analyzed for lower achieving students and those students eligible for free or reduced priced lunch (aka, low SES) at each grade level. When the early elementary sample (Kindergarten-1<sup>st</sup> grade cohort) was broken out by SES and baseline achievement, there was not a single statistically significant effect on the GRADE assessment for those at-risk students. The low SES Reading Street 1<sup>st</sup> graders in 1<sup>st</sup>-2<sup>nd</sup> grade cohort did, however, statistically out-gain low SES comparison students on the Word Reading subtest. This effect did not remain significant in year two. Further, these low SES Reading Street students, when in 2<sup>nd</sup> grade, statistically out-gained low SES comparison students on the Sentence Comprehension subtest.

When the late elementary sample was broken out by SES and baseline achievement on the GRADE assessment large effects in favor of the comparison group at 4<sup>th</sup> grade were either no longer statistically significant (i.e., lower achieving students) or significant in favor of the Reading Street group (i.e., low SES) by the end of 5<sup>th</sup> grade. The significant group differences for the at-risk 4<sup>th</sup> and 5<sup>th</sup> grade populations were seen solely on the GRADE comprehension subtests as there were no statistically significant effects on the vocabulary scale. Similar to the GRADE results, low achieving and low SES 4<sup>th</sup> grade comparison group students statistically

out-gained their Reading Street counterparts on comprehension subtests with moderate to large effect sizes. By the end of 5<sup>th</sup> grade, however, low SES Reading Street students statistically out-gained the low SES comparison students by a large margin and lower achieving students saw no significant group differences.

Kindergarten low achieving and low SES Reading Street students statistically out-gained the comparison group in fluency. Only the low SES Reading Street students remained statistically significant at the end of year two. Low SES year one 1<sup>st</sup> grade Reading Street students also statistically out-gained the comparison group. Further, year one 1<sup>st</sup> grade Reading Street low achieving students statistically out-gained the comparison group in fluency. There were no statistically significant effects in fluency for 2<sup>nd</sup> or 4<sup>th</sup> grade students. At 5<sup>th</sup> grade low achieving comparison group students out-gained Reading Street students in oral reading fluency.

Low SES 1<sup>st</sup> grade comparison group students out-gained the Reading Street students on the writing assessment by a large margin. There were no statistically significant differences in the groups of 2<sup>nd</sup> or 5<sup>th</sup> grade at-risk students on the writing assessment. The full list of effect sizes for sub-populations (i.e., lower achieving, genders, low SES) can be found in Appendix 1.

### ***Student Academic and Reading Attitudes***

***Reading Street students had statistically more positive attitudes with regards to reading and reading instruction than their comparison group peers by the end of 1<sup>st</sup> grade for the k-1<sup>st</sup> grade cohort and by the end of 5<sup>th</sup> grade for the 4<sup>th</sup>-5<sup>th</sup> grade cohort.***

This section will attempt to answer research question two:

*Do Reading Street students demonstrate more positive attitudes toward reading and reading instruction as their peers using other elementary reading programs?*

#### ***Reading Academic Attitude Survey***

The reading academic attitude survey was administered to students to examine general reading attitude, confidence, motivation, self-perceived aptitude, as well as, recreational and academic reading. The results from this survey indicate Reading Street students had statistically more positive academic attitudes with regards to reading than their comparison group peers by the end of 1<sup>st</sup> grade for the k-1<sup>st</sup> grade cohort and by the end of 5<sup>th</sup> grade for the 4<sup>th</sup>-5<sup>th</sup> grade cohort. The 1<sup>st</sup>-2<sup>nd</sup> grade cohort did not exhibit statistically significant differences in academic attitude.

Academic Attitude	Effect Size <sup>1,2</sup>
Year One Kindergarten	0.25 (60%)
Year Two 1 <sup>st</sup> Grade	0.11 (54%)
Year One 1 <sup>st</sup> Grade	***
Year Two 2 <sup>nd</sup> Grade	***

Year One 4 <sup>th</sup> Grade	***
Year Two 5 <sup>th</sup> Grade	0.15 (56%)
*** Indicates group means are not statistically significantly different	
1. effect size = estimated adjusted group difference / comparison sample standard deviation	
2. The value in the parentheses indicates the percentile rank for the median Reading Street score in relation to the comparison group (i.e., set to 50%).	

### ***Early Reading Attitude Survey***

The ERAS (i.e., Garfield) survey was also administered to measure student recreational and academic reading attitudes. The ERAS survey was administered because of its wide usage and recognition in the education field. The results from this survey indicate Reading Street students had statistically more positive attitudes toward reading than their comparison group peers by the end of 1<sup>st</sup> grade for the k-1<sup>st</sup> grade cohort and by the end of 5<sup>th</sup> grade for the 4<sup>th</sup>-5<sup>th</sup> grade cohort.

Reading Attitude	Effect Size <sup>1,2</sup>
Year One Kindergarten	***
Year Two 1 <sup>st</sup> Grade	0.08 (53%)
Year One 1 <sup>st</sup> Grade	***
Year Two 2 <sup>nd</sup> Grade	***
Year One 4 <sup>th</sup> Grade	-0.08 (47%)
Year Two 5 <sup>th</sup> Grade	0.18 (57%)
*** Indicates group means are not statistically significantly different	
1. effect size = estimated adjusted group difference / comparison sample standard deviation	
2. The value in the parentheses indicates the percentile rank for the median Reading Street score in relation to the comparison group (i.e., set to 50%).	

## ***Teacher and Student Reading Street Opinions***

This section addresses research question four:

### ***How did teachers and students react to the Reading Street program?***

Opinions about the Reading Street program were systematically collected from teachers during focus group sessions. Focus groups were conducted at each school during site observations between April and mid-May. These sessions provided a forum for teachers and administrators to answer specific questions, as well as, express their professional and personal opinions regarding the program. The teachers were encouraged to speak without hesitation or inhibition and to be as candid as possible. All forty-four of the year one Reading Street teachers participated in the year

one focus group and forty-one of the forty-three year two teachers participated in the second year focus group.

Each focus group session followed a standard format and was moderated by a member of the research team. Teachers were asked about their general opinions toward Reading Street, as well as their reactions to specific components of the program (e.g. Get Ready to Read, Read and Comprehend, Language Arts, etc.). Efforts were made to minimize response bias by avoiding leading questions, asking for both positive and negative information, and maintaining good rapport with participants.

A total of 2,161 (i.e., year one = 913, year two = 1,313) comments were coded from the focus group sessions; 1,326 were positive or indicated perceived strengths of the program and 614 were negative or indicated perceived weaknesses of the program. The remaining 221 comments were neutral, or did not indicate perceived strengths or weaknesses of program. The Reading Street teachers presented an overall very positive attitude about the program, with 73% of their focus group comments positive in nature.

*1<sup>st</sup> grade teacher: "I liked the program. I thought it was excellent."*

*2<sup>nd</sup> grade teacher: "Overall I love, love the program and the kids love it."*

*4<sup>th</sup> grade teacher: "Just compared to last year's class, [this class] is far advanced."*

*5<sup>th</sup> grade teacher: "I love the program."*

### ***Teacher's Edition and Pacing***

The first year's teachers routinely commented on the difficulty of keeping up with the suggested pacing of the program, in fact only 5 of the 36 recorded focus group comments about pacing were positive (i.e., 14%). Teachers also unanimously reported that instruction felt natural to them by winter break. A few months of use and discovery were necessary for the teachers to become fully comfortable with pacing and flow of the program. The same was true for their students. It took them a couple months to adapt to the structured routine offered by the Reading Street program. In the second year, however, many teachers commented on the ease at which they followed the pacing and moved through the program. In the second study year, 50% of teachers that used the program in the previous year had purely positive comments about the pacing of the program.

*1<sup>st</sup> grade teacher: "Pacing at the beginning of last year was a little hard for me. But now it's pretty simple."*

*1<sup>st</sup> grade teacher: "Once we got going then it really was a piece of cake and flows really easily."*

*5<sup>th</sup> grade teacher: "It was much easier this year, the second year."*

Teachers were resoundingly positive about the improved teacher's edition with 66% of comments positive in nature. They found the latest edition to be user-friendly. According to one 4<sup>th</sup> grade teacher, *"I was overwhelmed by the 12 teacher editions at first. Now it makes sense."*

*5<sup>th</sup> grade teacher: “Pearson did a great job of improving the teacher’s manual from last year. They made it a lot easier [to use].”*

Most teachers felt that the teacher edition allowed for easy planning.

*4<sup>th</sup> grade teacher: “When I am planning, everything is within the TE.”*

### ***Get Ready to Read***

The *Get Ready to Read* portion of the program encompasses concept development and vocabulary. This whole group instructional piece includes ELL poster activities, comprehension skills, reading, research, fluency, word analysis, and genre study. The majority of teachers were very receptive to the design and content of this segment of the program. Eighty percent of the teachers’ comments were positive.

Teachers were very positive (i.e., 83%) about the vocabulary and amazing word components of the Reading Street program. Reasons for their praise included the challenging nature of the words, carry over into other subjects and personal use, and repetition of the words within the curriculum.

*Kindergarten teacher: “The kids like the name ‘Amazing’ words – think something with sparkles on it. It makes it [vocabulary] special.”*

*1<sup>st</sup> grade teacher: “The vocabulary is amazing.”*

*1<sup>st</sup> grade teacher: “The kids love the fact that they’ve learned so many amazing words.”*

*2<sup>nd</sup> grade teacher: “I do actions with the amazing words, and the students love, love, love that.”*

*4<sup>th</sup> grade teacher: “The vocabulary piece has been really strong—I see a lot of progress with that and they really enjoy that.”*

*5<sup>th</sup> grade teacher: “If there was anything to fix, it would just be to add more amazing words.”*

Many teachers also felt that the activities in the Get Ready to Read section support the use and practice of the new vocabulary.

*Kindergarten teacher: “The kids like to hear the amazing words and vocabulary words throughout the week. Even as they hear it in Read Aloud book, big book, trade book they’re quick to pick up on it, they’re very excited. ‘Look it’s our amazing word.’ That’s a really good benefit that I haven’t seen happen in previous schools.”*

*4<sup>th</sup> grade teacher: “[The students are] very confident in their vocabulary, and I rarely get a student who gets more than one or two wrong on a vocabulary test. It goes in and stays there because we’ve used it so many times throughout the week.”*

Many teachers also responded positively to the fluency component:

*1<sup>st</sup> grade teacher: "I think our fluency passages are awesome. I want to use them more frequently than last year, and I'm getting more good feedback from parents too."*

Further, teachers commented positively on the opportunities to supplement the Get Ready to Read portion with technology. According to one 2<sup>nd</sup> grade teacher, *"I used the website for the Concept Talk piece and this was a hit with the students. They couldn't wait until Monday when we did this."*

*5<sup>th</sup> grade teacher: "My students really enjoyed the videos. I think seeing those graphic images helps fifth graders focus."*

Teachers and students also responded positively to the Grammar Jammers. One 1<sup>st</sup> grade teacher: *"All the little Grammar Jammers considerably help because then I can bring those up and say, 'Hey, remember in that Grammar Jammer sentence there's always a capital letter at the beginning and an end mark at the end?' We know what those are and we sing about them all the time."*

*5<sup>th</sup> grade teacher: "They love the grammar jammers. They love the little games you can play with the vocabulary. The word searches, crossword puzzles, all that kind of stuff."*

*5<sup>th</sup> grade teacher: "We use the videos as review for our state testing, particularly the grammar jammers, which the students really enjoyed."*

In addition to technological supplements, teachers recognized the plethora of opportunities for learning within the program. One 2<sup>nd</sup> grade teacher commented, *"I like that there's plenty of opportunities for kids to practice, so with all the practice sheets that they get, they can kind of show that they know the material."*

Some teachers expressed a desire for more phonemic awareness. Others commented that the Amazing Words were either too easy or too difficult for their students. The majority of teachers, however, had very few negative things to say.

### ***Read and Comprehend***

The *Read and Comprehend* section includes a multi-day reading selection. Teachers responded positively (i.e., 78%) to the Read and Comprehend portion of the program. Particularly teachers and students liked the stories. One 1<sup>st</sup> grade teacher reported, *"I really like the stories and the way the 2<sup>nd</sup> time we read it, the kids can partner up. It's very organized regarding the retell and showing the pictures again rather than the kids having to go back and remember what was happening."*

*1<sup>st</sup> grade teacher: "They like the anthologies and the leveled readers."*

Teachers appreciated that many of the texts were non-fiction and cross-curricular, including a lot of interesting history and science content.

*2<sup>nd</sup> grade teacher: "I love that there was so much non-fiction."*



*2<sup>nd</sup> grade teacher: "I like the stories and how it really integrates a lot of either science or social studies aspects into the program."*

Teachers appreciated that the read aloud and sing along components help students gain broad-based background knowledge, as well as discuss and discover themes, texts, authors, characters, and conflicts. According to one kindergarten teacher, *"The program as a whole is very good. I'm seeing some very good results from it. I appreciate the comprehension piece."*

*1<sup>st</sup> grade teacher: "It's cute because they really like [the songs] and they hum them and they sing them. The songs have been really nice to connect a lot of the pieces together."*

*2<sup>nd</sup> grade teacher: "The multi-day read and guide comprehension give students guidance on what to look for in comprehension."*

Most teachers recognized and expressed appreciation for the benefit of small-group time. According to a 2<sup>nd</sup> grade teacher, *"Small group is a special time for them. They can ask questions. They have a comfort level in their small groups."*

Although utilization of the language arts component was not required, those who did tended to appreciate the depth of content and advanced nature of skills taught. As one 5<sup>th</sup> grade teacher commented, *"This year, I like the language arts, I love how the spelling, the grammar, it all intertwines."*

### **Writing Portions**

Teacher response was mixed regarding the writing portion of the Reading Street program. In the first year, the overall teacher response to the writing portion was overwhelmingly negative; 69% of the teacher responses were negative. Teachers were more positive in the second study year where a majority of the teachers' responses were positive in nature (i.e., 53%).

Lower grade teachers appeared to be in consensus that the sequencing of writing skills was different from traditional methods.

*1<sup>st</sup> grade teacher: "The writing is difficult for them. A lot of the writing topics are not easy."*

In the higher grades, concerns with the writing section primarily focused on concerns about state testing. According to one 4<sup>th</sup> grade teacher, *"The writing doesn't work well for us. On our test we write an expository and a narrative. And to get it to the state standard it takes us half a year to do narratives and half a year to do expository. In Reading Street, they might have good starters, but to get us to the level that we need, it would take a lot longer than a week to do a state standard type of job."* Some teachers' also expressed concerns about learning and adopting a new methodology. One 4<sup>th</sup> grade teacher commented: *"The writing pieces are really hard for our kids. There aren't many mini lessons before it. It just assumes kids know how to do these things. 'So now, go write an invitation or now, go write a poem'. To us it feels a little disconnected."*

It appears that pedagogy and attitudes play an important role in the success of the writing portion. Teachers that responded well to the writing components generally considered the content and expectations as positively challenging material rather than difficult. One 4<sup>th</sup> grade

teacher indicated: *“I was very concerned about writing at the beginning of year because we are responsible for long composition in March every year, and teaching our children length of writing. The positive [about Reading Street] is, children aren’t bored with writing by the time March comes. They are learning to write and use all of the tools of writing on the smaller pieces such as advertisements and writing a myth. So they’re doing some fun things. It really wasn’t fun before. They do the expository and persuasive writing that we’re eventually going to have to be responsible for, so I’m thrilled with that piece of the writing – it’s a whole different outlook on it.”*

*1<sup>st</sup> grade teacher: “I like the daily fix-its and I like the idea that you start one writing project on Monday and it works pretty much the same project all week long, little bits of it, so they end up seeing the different parts of the writing process.”*

Another teacher liked the *Look back and Write* portion of the weekly assessments.

*4<sup>th</sup> grade teacher: “[The writing piece] keeps asking kids to look back and write – respond to text, and prompts them. That’s a skill our kids need to do. The look back and write piece is really important for us.”*

In reviewing the focus group transcripts, it is clear that teachers were divided in their opinions of the writing portion of the program. Opinions appeared to stem from the abilities students brought to class and expectations based in traditional teaching styles. It is clear, however, that experience with the writing portions of the Reading Street program lessens teachers’ concerns with the writing.

*5<sup>th</sup> grade teacher: “I think a lot of the students have grown to like the writing program.”*

### ***Progress Monitoring and Assessment***

Teachers generally liked the progress monitoring and assessment components of the program. Seventy-five percent of the 156 teacher comments were positive. Teachers generally agreed that the progress monitoring and assessment components kept them adequately informed of student growth.

*1<sup>st</sup> grade teacher: “It’s constantly on your mind, ‘don’t wait till Friday.’”*

These components often informed instruction and assisted with preparation. According to one 2<sup>nd</sup> grade teacher, the weekly tests were helpful to *“inform instruction and reteach material if needed.”* Another 5<sup>th</sup> grade teacher commented: *“The weekly tests are awesome, and [the students] expect it. They know it’s coming and we chart their progress.”*

In particular, teachers working with a group of students that required differentiated instruction appreciated the ongoing attention paid to the needs of all students. According to one kindergarten teacher, *“It allows me to group my kids differently.”* Another 2<sup>nd</sup> grade teacher commented, *“The weekly tests helps gives me a weekly guideline as to who’s kind of struggling with some things, who’s just breezing through.”*

Teachers also appreciate showing parents and administrators progress made on behalf of students.

*4<sup>th</sup> grade teacher: “At conference time I had a pile of tests I could show parents. You can see growth with that.”*

Many teachers commented on using the assessment pieces to supplement already existing district-wide or school assessments.

*2<sup>nd</sup> grade teacher: “We DIBEL three times a year and we progress monitor with DIBELS, too, but I do the fresh reads [to assess] for comprehension.”*

### ***Student Response to Program***

Teachers were overwhelmingly positive about their students’ interactions with the program. Of the 446 recorded comments, 79% were positive in nature (i.e., 80% positive in year one, 78% positive in year two). Several teachers commented on the increased motivation, participation, and energy in their classrooms and students responding well to reading instruction, *“They do get engaged, I’ve gotten wonderful responses from it.”*

*1<sup>st</sup> grade teacher: “They all seem to enjoy the program and are actively engaged in every aspect.”*

*5<sup>th</sup> grade teacher: “A lot of the real world connections really increases their interest.”*

In addition, teachers indicated growth in skill as a direct result of the increase in student involvement and structure offered by the program.

*Kindergarten teacher: “My [students] love hearing a story read by me and they can actually follow along in the book. And now they can get it out by themselves. Now they can find the page. They love listening to the stories and following along, and they love the retell and being able to put them in order. That it’s colorful helps them a lot. They’re empowered now.”*

*Kindergarten teacher: “On Wednesday they know they are going to do sentences, and they say ‘yeah!’ I like that on Friday they know they are going to have a test, they look forward to it.”*

*1<sup>st</sup> grade teacher: “They don’t whine and they’re into it now and even when we’re on the 2<sup>nd</sup> read they will flip right to it.”*

Students responded well to small group time, particularly at the kindergarten level. *“When we get the colored readers, they are like Yeah!”* said one kindergarten teacher. Another indicated, *“My students love the small groups. And I like it! Last week I was doing excessive DRA, so we went whole group, and they really missed it, and I missed it! They enjoy that small time with me.”*

*2<sup>nd</sup> grade teacher, regarding small group time: “the students eagerly wanted to meet and learn.”*

Echoing most sentiments, another kindergarten teacher said, with regard to small group time: *“My kids are doing really well. I think because it is leveled, they can feel successful and feel really good about themselves, where as they may not feel that with whole group. And my high kids too, that is the one point where they are challenged.”*

### ***Materials, Content, Alignment, and Accessibility***

Many teachers quickly shifted from feeling overwhelmed at the start of implementation to feeling comfortable with the plethora of material in Reading Street program. As one 1st grade teacher commented, *“You have enough stuff to do for four hours, and it’s stuff that’s not just stuff but relevant stuff.”* One 4<sup>th</sup> grade teacher commented, *“I’ve never had a shortage of things for them to do.”*

*1<sup>st</sup> grade teacher: “It’s so differentiated. We are all doing simple machines this week; all three levels have a book about simple machines they can use.”*

In general, teachers appreciated *“how nice it was to have things to pick and choose from.”*

Most teachers found the content of the Reading Street program to be sufficient in meeting the needs of state and school assessments. According to one Reading Specialist, *“The Content is meeting state standards.”* Similarly, another 4<sup>th</sup> grade teacher commented that the content *“Is wonderful. Everyone agrees in general it’s meeting standards.”*

Most teachers also found the content of the program to be on target with district expectations and standards, as well as classroom ability levels. According to one 5<sup>th</sup> grade teacher, *“It’s nice to have something that aligns with our curriculum.”*

*1<sup>st</sup> grade teacher: “I feel like content is perfect for this grade level.”*

Others felt that the content would benefit from supplementation with additional resources. According to one 1<sup>st</sup> grade teacher, *“If they’re reading only 4 pieces, you’ve got to supplement with your own reading materials—they need to read more.”*

Resoundingly, teachers and students responded positively (i.e., 85%) to the leveled and decodable readers. As one 1<sup>st</sup> grade teacher stated, *“I like the leveled readers, that the language and the writing is all in one place.”* Teachers often applauded the readers’ ability to combine skills taught throughout lessons.

Although many teachers believed the Reader’s/Writer’s Notebook was a valuable and consummate resource for a variety of activities, some found it to be too large, particularly for younger students. According to one 1<sup>st</sup> grade teacher, *“If I was going to use it the way the publisher intends it to be used; I’d have to have it cut into smaller chunks. It’s too big. The kids can’t handle that big of a book.”* Another 1<sup>st</sup> grade teacher says, *“Sometimes they’re kind of ‘ugh, again’ because it’s just this huge, massive book. But it’s helped them on their skills a lot.”*

Some teachers also felt that despite the variety of concepts and skills presented within the Reading Street program, there was a lack of preparation for the poetry skills later found within the curriculum. One 5<sup>th</sup> grade teacher commented, *“There is no poetry to speak of in this book.”*

According to another 1<sup>st</sup> grade teacher, *“The poetry piece has been hard and I don't do it the way that it is there just because it doesn't work for us.”*

One of the most popular pieces of the Reading Street program among the focus group members was the leveled and decodable readers. Reasons included relevance to the main story and skills, vocabulary, and high interest level among students. According to one 1<sup>st</sup> grade teacher, *“The program spirals from the decodable reader to the songbook, it all correlates together. It's nice how it does that”*. Another 2<sup>nd</sup> grade teacher commented: *“The leveled readers that went along with the basal stories were always tied in nicely and supported the story.”* Ease of use was another factor in teachers' high praise of the leveled readers. As one 5<sup>th</sup> grade teacher commented, *“I love all of the little readers. I think having a book in their hands, and not having an anthology but actually having a little book that is a normal book to them, is really valuable.”*

Many students also responded positively to the leveled reader. According to one 1<sup>st</sup> grade teacher, *“They don't just want to read theirs; they want to get their hands on the ones for the other groups too.”*

*4<sup>th</sup> grade teacher: “The leveled readers work well for all 3 levels, and students enjoy them. They've gotten a lot of practice which is great.”*

Some teachers felt that the directions for the student centers could be improved in terms of clarity and time investment regarding preparation. According to one 2<sup>nd</sup> grade teacher, *“I feel like the directions on the centers are not child-friendly all of the time.”* In addition, some teachers found it difficult to create materials when needed. One 5<sup>th</sup> grade teacher: *“I've avoided some of the teacher-made practice stations for the simple reason that I just don't have time to do teacher-made work cards.”*

### ***Focus Group Summary***

Teachers and students had positive experiences with the Reading Street program. Teachers appreciated the program's components that challenged and supported students' reading skills (ex. leveled and decodable readers, technological supplements), vocabulary (ex. Amazing Words), the variety of stories and genres, both fiction and non-fiction, imbedded progress monitoring and assessments, as well as, opportunities to support differentiated learning with small group instruction. Teachers also very much liked that lessons are organized around central themes, that the program connects concepts and skills throughout the program, and that the program adds structure to the weekly reading/ELA instruction.

Some teachers experienced drawbacks, mostly related to teacher style and preference. Several believed the Reader's/Writer's Notebook was too big for students, yet they found it beneficial in terms of providing a plethora of resources. Many teachers also had initial reservations about the writing portions being too difficult or meeting content standards. In the second year of the study, teachers were more receptive to the writing components. During the first year's focus group sessions, several teachers also commented on the difficulty of keeping up with the suggested pacing of the program. In year two, however, many teachers commented on the ease at which they followed the pacing and moved through the program. Several teachers also commented on the improved teacher's edition and appreciated its usability. Teachers were resoundingly positive toward the Reading Street program overall, and many commented on looking forward to using the program again next year.



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## IV. DISCUSSION

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Teachers and students alike had positive experiences with the Reading Street program across the two school years under observation. Teachers appreciated the program's components that support differentiated and small group instruction, the ongoing progress monitoring and assessment, vocabulary, and reading selections. Teachers also very much liked that lessons are organized around central themes and that the program adds structure to the weekly literacy instruction. Teachers also experienced some drawbacks. They felt that the pacing took some time to master and some remarked the writing components were not what they were used to.

***Teachers were overwhelmingly positive about their students' interactions with the program and firmly believe that the program increases motivation, participation, and energy in their classrooms.***

Teachers were overwhelmingly positive about their students' interactions with the program and firmly believe that the program increases motivation, participation, and energy in their classrooms. Students responded particularly well to small group time and the structure offered by the program. There was evidence to support the Reading Street teachers' assertions as Reading Street students had statistically more positive attitudes with regards to reading and reading instruction than their comparison group peers both by the end of 1<sup>st</sup> grade for the k-1<sup>st</sup> grade cohort and by the end of 5<sup>th</sup> grade for the 4<sup>th</sup>-5<sup>th</sup> grade cohort.

***Reading Street students had statistically more positive attitudes with regards to reading and reading instruction than their comparison group peers both by the end of 1<sup>st</sup> grade for the k-1<sup>st</sup> grade cohort and by the end of 5<sup>th</sup> grade for the 4<sup>th</sup>-5<sup>th</sup> grade cohort.***

The product training was well received by the Reading Street teachers. Reading Street teachers unanimously reported that instruction felt natural to them by winter break. A few months of use and discovery were necessary for the teachers to become fully comfortable with the pacing and flow of the program. The same was true for their students falling into the structured routine offered by the Reading Street program. Reading Street teachers were implementing the required components well with good pacing in the first school year.

The final sample consisted of 925 early (i.e., k-1<sup>st</sup>, 1<sup>st</sup>-2<sup>nd</sup>) and late elementary (i.e., 4<sup>th</sup>-5<sup>th</sup>) students from 170 classes from nine schools, in six states, located in different regions of the US. Overall, 23% of the final study sample was eligible to receive free or reduced-priced lunch (i.e., Reading Street = 25%, comparison = 20%), 4% were not English proficient, 7% were Hispanic, 3% were African American, and 22% were designated as low achieving (i.e., Reading Street = 23%, comparison = 21%). Attrition was not a major concern as 88% and 91% of those students tested at baseline in year one and two remained in the final study sample. Further, 83% of those students completing their first study year remained in their randomly assigned study group. The comparison group teachers used several published literacy programs along with a wide variety of supplemental materials.

Reading Street students in all three grade cohorts saw large statistically significant gains on the GRADE in both school years indicating substantial growth in achievement for both vocabulary and comprehension. This includes the first school year when classroom teachers were implementing the program for the first time with their students that were also new to the program.

***When compared to similar classrooms of students randomized from the same school, the early elementary Reading Street students outperformed the comparison group on the GRADE across the two study years while the late elementary cohort remained statistically equivalent.***

When compared to similar classrooms of students randomized from the same school that continued to receive established programs and methods, the early elementary Reading Street students outperformed the comparison group on the GRADE across the two study years while the late elementary cohort remained statistically equivalent. The late elementary comparison group students out-gained Reading Street students in comprehension in their 4<sup>th</sup> grade year; however, in their 5<sup>th</sup> grade year they remained superior in passage comprehension but were out-gained by the Reading Street students in sentence comprehension.

Further, the Reading Street students in the 1<sup>st</sup>-2<sup>nd</sup> grade cohort statistically outperformed their comparison group counterparts on the writing assessment. The other two cohorts were statistically equivalent with respect to writing achievement. Results were mixed for fluency scales. There were Reading Street students from several at-risk populations that statistically significantly outperformed their comparison group peers in reading achievement, writing and fluency, in particular the Hispanic Reading Street students. The African American comparison students, however, had higher gains than the African American Reading Street students.



## A.1 Gain Score Study Group Comparisons

Tables seven through twelve present the mean gains for each measure of achievement and attitude for each study group. These tables also show significance test results and effect size measures for the group differences.

Table 8		Kindergarten Year 1 Gain Score Study Group Comparisons					
Measure	Sample Size RS/CP <sup>1</sup>	RS Mean (SD) <sup>2</sup>	CP Mean (SD)	Group Difference <sup>3</sup>	Sample p-value	Effect Size <sup>4</sup>	Effect Size Percent <sup>5</sup>
GRADE Overall	159/122	20.19 (10.695)	18.92 (11.030)	1.2706	0.0006	0.12	55%
Word Reading	159/122	5.06 (3.031)	5.61 (3.420)	-0.5437	0.0005	-0.16	44%
Phoneme Segmentation	157/120	19.79 (15.091)	14.53 (13.416)	5.4739	<0.0001	0.41	66%
Nonsense Word Fluency	157/120	13.61 (13.143)	12.07 (16.328)	1.7668	<0.0001	0.11	54%
Reading Attitude Survey	148/107	1.14 (7.195)	-0.42 (6.573)	1.6748	<0.0001	0.25	60%
Garfield Survey (ERAS)	156/115	0.14 (16.499)	-1.82 (16.582)	0.8237	0.2061	0.05	52%

1. RS/CP indicates the Reading Street group size / comparison group size  
2. Mean indicates the group mean gain score value and (SD) indicates the group sample standard deviation  
3. Group difference = Reading Street group mean gain score - comparison group mean gain score  
4. Effect Size = group mean gain score difference / comparison sample standard deviation  
5. Effect Size Percent = percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%)  
Note: Holistic writing scores are reported from school year two. Kindergarten baseline Phoneme Segmentation and Nonsense Word Fluency were measured at mid-year.

Table 9		1 <sup>st</sup> Grade Year 2 Gain Score Study Group Comparisons					
Measure	Sample Size RS/CP <sup>1</sup>	RS Mean (SD) <sup>2</sup>	CP Mean (SD)	Group Difference <sup>3</sup>	Sample p-value	Effect Size <sup>4</sup>	Effect Size Percent <sup>5</sup>
GRADE Overall	159/122	23.18 (23.946)	21.52 (22.078)	1.6597	0.4676	0.08	53%
Word Reading	159/122	3.88 (6.782)	3.66 (5.986)	0.2248	0.7437	0.04	51%
Word Meaning	159/122	4.96 (8.238)	4.65 (7.398)	0.3147	0.7497	0.04	52%
Sentence Comprehension	159/122	7.25 (6.458)	7.39 (6.474)	-0.1419	0.8511	-0.02	49%
Passage Comprehension	159/122	7.08 (7.326)	5.82 (6.520)	1.2621	0.0247	0.19	58%
Holistic Writing	155/120	2.56 (2.216)	2.67 (2.026)	-0.1499	0.3154	-0.07	47%
Phoneme Segmentation	158/122	8.41 (13.206)	9.22 (12.581)	-0.8510	0.5484	-0.07	47%
Nonsense Word Fluency	158/122	35.05 (23.227)	40.06 (26.897)	-4.9190	0.0040	-0.18	43%
Reading Attitude Survey	159/122	3.12 (5.448)	2.55 (5.401)	0.5703	0.0137	0.11	54%
Garfield Survey (ERAS)	159/122	4.05 (15.983)	2.90 (14.180)	1.1487	0.0274	0.08	53%

1. RS/CP indicates the Reading Street group size / comparison group size  
2. Mean indicates the group mean gain score value and (SD) indicates the group sample standard deviation  
3. Group difference = Reading Street group mean gain score - comparison group mean gain score

4. Effect Size = group mean gain score difference / comparison sample standard deviation

5. Effect Size Percent = percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%)

Note: Holistic writing scores are reported from school year two. Kindergarten baseline Phoneme Segmentation and Nonsense Word Fluency were measured at mid-year.

Table 10	1 <sup>st</sup> Grade Year 1 Gain Score Study Group Comparisons						
Measure	Sample Size RS/CP <sup>1</sup>	RS Mean (SD) <sup>2</sup>	CP Mean (SD)	Group Difference <sup>3</sup>	Sample p-value	Effect Size <sup>4</sup>	Effect Size Percent <sup>5</sup>
GRADE Overall	160/149	26.03 (14.334)	26.41 (14.058)	-0.3781	0.7017	-0.03	49%
Word Reading	160/149	4.89 (3.397)	5.03 (4.023)	-0.1393	0.5581	-0.03	49%
Word Meaning	160/149	6.76 (6.022)	6.30 (5.696)	0.4609	0.2882	0.08	53%
Sentence Comprehension	160/149	7.14 (5.695)	7.66 (5.145)	-0.5269	0.1320	-0.10	46%
Passage Comprehension	160/149	7.25 (6.191)	7.42 (6.073)	-0.1728	0.7772	-0.03	49%
Phoneme Segmentation	160/149	15.37 (12.408)	10.28 (14.775)	5.0869	0.0212	0.34	63%
Nonsense Word Fluency	160/149	39.84 (28.989)	40.55 (26.338)	-0.7128	0.8097	-0.03	49%
Reading Attitude Survey	152/143	2.43 (5.690)	1.60 (5.902)	-0.1070	0.8990	-0.02	49%
Garfield Survey (ERAS)	154/145	2.38 (14.250)	2.41 (11.932)	-0.0831	0.9447	-0.01	50%

1. RS/CP indicates the Reading Street group size / comparison group size  
 2. Mean indicates the group mean gain score value and (SD) indicates the group sample standard deviation  
 3. Group difference = Reading Street group mean gain score - comparison group mean gain score  
 4. Effect Size = group mean gain score difference / comparison sample standard deviation  
 5. Effect Size Percent = percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%)  
 Note: Holistic writing scores and Oral Reading Fluency are reported from school year two.

Table 11	2 <sup>nd</sup> Grade Year 2 Gain Score Study Group Comparisons						
Measure	Sample Size RS/CP <sup>1</sup>	RS Mean (SD) <sup>2</sup>	CP Mean (SD)	Group Difference <sup>3</sup>	Sample p-value	Effect Size <sup>4</sup>	Effect Size Percent <sup>5</sup>
GRADE Overall	160/149	13.63 (13.032)	12.37 (11.570)	1.2621	0.0495	0.11	54%
Word Reading	160/149	2.53 (3.825)	2.52 (3.723)	0.0082	0.9722	0.00	50%
Word Meaning	160/149	2.26 (3.329)	1.87 (3.202)	0.3905	0.0074	0.12	55%
Sentence Comprehension	160/149	3.83 (4.303)	3.07 (3.605)	0.7641	<0.0001	0.21	58%
Passage Comprehension	160/149	5.02 (5.354)	4.92 (5.052)	0.0993	0.6672	0.02	51%
Holistic Writing	152/148	1.88 (2.541)	1.64 (2.436)	0.2602	0.0315	0.11	54%
Oral Reading Fluency	160/149	42.83 (23.049)	43.21 (20.167)	-0.3768	0.7131	-0.02	49%
Reading Attitude Survey	160/149	.53 (4.990)	.91 (5.499)	-0.3815	0.3469	-0.07	47%
Garfield Survey (ERAS)	160/149	-.85 (12.849)	.28 (11.601)	-1.1319	0.1338	-0.10	46%

1. RS/CP indicates the Reading Street group size / comparison group size  
 2. Mean indicates the group mean gain score value and (SD) indicates the group sample standard deviation  
 3. Group difference = Reading Street group mean gain score - comparison group mean gain score

4. Effect Size = group mean gain score difference / comparison sample standard deviation

5. Effect Size Percent = percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%)

Note: Holistic writing scores and Oral Reading Fluency are reported from school year two.

Table 12	4 <sup>th</sup> Grade Year 1 Gain Score Study Group Comparisons						
Measure	Sample Size RS/CP <sup>1</sup>	RS Mean (SD) <sup>2</sup>	CP Mean (SD)	Group Difference <sup>3</sup>	Sample p-value	Effect Size <sup>4</sup>	Effect Size Percent <sup>5</sup>
GRADE Overall	184/151	6.50 (6.857)	8.34 (7.478)	-1.8444	<0.0001	-0.25	40%
Vocabulary	184/151	3.12 (3.523)	3.18 (4.414)	-0.0592	0.1204	-0.01	49%
Sentence Comprehension	184/151	1.97 (2.608)	2.95 (2.930)	-0.9742	<0.0001	-0.33	37%
Passage Comprehension	184/151	1.41 (3.742)	2.22 (3.664)	-0.8109	<0.0001	-0.22	41%
Oral Reading Fluency	184/149	33.05 (18.118)	34.17 (15.241)	-1.0837	0.1012	-0.07	47%
Reading Attitude Survey	181/150	0.17 (5.346)	0.09 (5.394)	0.1017	0.7722	0.02	51%
Garfield Survey (ERAS)	182/149	-1.80 (9.722)	-1.07 (10.214)	-0.7779	<0.0001	-0.08	47%

1. RS/CP indicates the Reading Street group size / comparison group size  
 2. Mean indicates the group mean gain score value and (SD) indicates the group sample standard deviation  
 3. Group difference = Reading Street group mean gain score - comparison group mean gain score  
 4. Effect Size = group mean gain score difference / comparison sample standard deviation  
 5. Effect Size Percent = percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%)  
 Note: Holistic writing scores are reported from school year two.

Table 13	5 <sup>th</sup> Grade Year 2 Gain Score Study Group Comparisons						
Measure	Sample Size RS/CP <sup>1</sup>	RS Mean (SD) <sup>2</sup>	CP Mean (SD)	Group Difference <sup>3</sup>	Sample p-value	Effect Size <sup>4</sup>	Effect Size Percent <sup>5</sup>
GRADE Overall	184/151	7.74 (7.471)	8.28 (8.418)	-0.5402	0.1127	-0.06	47%
Vocabulary	184/151	3.09 (4.094)	3.14 (4.117)	-0.0521	0.5336	-0.01	49%
Sentence Comprehension	184/151	2.00 (2.533)	1.85 (2.677)	0.1457	0.0228	0.05	52%
Passage Comprehension	184/151	2.66 (4.130)	3.29 (4.753)	-0.6338	<0.0001	-0.13	45%
Holistic Writing	182/148	2.31 (2.321)	2.26 (2.363)	0.0540	0.7282	0.02	51%
Oral Reading Fluency	181/128	14.70 (17.301)	14.63 (18.681)	0.7888	0.1087	0.04	52%
Reading Attitude Survey	184/150	-0.04 (4.063)	-0.65 (3.946)	0.6098	<0.0001	0.15	56%
Garfield Survey (ERAS)	184/150	0.09 (9.519)	-1.45 (8.643)	1.5188	<0.0001	0.18	57%

1. RS/CP indicates the Reading Street group size / comparison group size  
 2. Mean indicates the group mean gain score value and (SD) indicates the group sample standard deviation  
 3. Group difference = Reading Street group mean gain score - comparison group mean gain score  
 4. Effect Size = group mean gain score difference / comparison sample standard deviation  
 5. Effect Size Percent = percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%)  
 Note: Holistic writing scores are reported from school year two.

## A.2 Group Comparisons of Achievement Gains by Subpopulation

Appendix 1 lists the effect sizes for statistically significant group (i.e., Reading Street users v. non-users) mean gain score differences (i.e., end-of-year score minus beginning-of-year score) in GRADE total and subtests scores, DIBELS scales, year two holistic MAT writing ratings, as well as, reading academic attitude and ERAS (a.k.a. Garfield) survey scores for each study year, grade level, and specific subpopulation (i.e., lower achieving, gender, lunch status)

### Results for Kindergarten-1<sup>st</sup> Grade Cohort

Year One Kindergarten Subpopulation	GRADE Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	0.19 (57%)
Reduced priced lunch	***
Full priced lunch	***
*** Indicates group mean gains are not statistically significantly different.	
1. effect size = group mean gain difference / comparison sample standard deviation	
2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).	

Year Two 1 <sup>st</sup> Grade Subpopulation	GRADE Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	***
Reduced priced lunch	***
Full priced lunch	***
*** Indicates group mean gains are not statistically significantly different.	
1. effect size = group mean gain difference / comparison sample standard deviation	
2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).	

Year One Kindergarten Subpopulation	Word Reading Effect Size <sup>1,2</sup>
Low achieving	***
Male	-0.29 (39%)
Female	***
Reduced priced lunch	***
Full priced lunch	-0.18 (43%)
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year Two 1 <sup>st</sup> Grade Subpopulation	Word Reading Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	***
Reduced priced lunch	***
Full priced lunch	***
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year Two 1 <sup>st</sup> Grade Subpopulation	Word Meaning Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	***
Reduced priced lunch	***
Full priced lunch	***
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year Two 1 <sup>st</sup> Grade Subpopulation	Sentence Comprehension Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	***
Reduced priced lunch	***
Full priced lunch	***
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year Two 1 <sup>st</sup> Grade Subpopulation	Passage Comprehension Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	0.27 (60%)
Reduced priced lunch	***
Full priced lunch	0.37 (65%)
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year Two 1 <sup>st</sup> Grade Subpopulation	Holistic Writing Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	***
Reduced priced lunch	-0.50 (31%)
Full priced lunch	0.13 (55%)
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year One Kindergarten Subpopulation	Phoneme Segmentation Fluency Effect Size <sup>1,2</sup>
Low achieving	0.81 (79%)
Male	0.70 (76%)
Female	***
Reduced priced lunch	0.64 (74%)
Full priced lunch	0.33 (63%)
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year Two 1 <sup>st</sup> Grade Subpopulation	Phoneme Segmentation Fluency Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	***
Reduced priced lunch	0.36 (64%)
Full priced lunch	-0.26 (40%)
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year One Kindergarten Subpopulation	Nonsense Word Fluency Effect Size <sup>1,2</sup>
Low achieving	***
Male	0.16 (56%)
Female	***
Reduced priced lunch	***
Full priced lunch	0.10 (54%)
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	



Year Two 1 <sup>st</sup> Grade Subpopulation	Nonsense Word Fluency Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	***
Reduced priced lunch	***
Full priced lunch	-0.21 (42%)
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

**Results for 1<sup>st</sup>-2<sup>nd</sup> Grade Cohort**

Year One 1 <sup>st</sup> Grade Subpopulation	GRADE Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	***
Reduced priced lunch	***
Full priced lunch	***
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year Two 2 <sup>nd</sup> Grade Subpopulation	GRADE Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	***
Reduced priced lunch	***
Full priced lunch	***
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year One 1 <sup>st</sup> Grade Subpopulation	Word Reading Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	***
Reduced priced lunch	0.41 (66%)
Full priced lunch	-0.16 (44%)
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year Two 2 <sup>nd</sup> Grade Subpopulation	Word Reading Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	***
Reduced priced lunch	***
Full priced lunch	***
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year One 1 <sup>st</sup> Grade Subpopulation	Word Meaning Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	***
Reduced priced lunch	***
Full priced lunch	***
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year Two 2 <sup>nd</sup> Grade Subpopulation	Word Meaning Effect Size <sup>1,2</sup>
Low achieving	***
Male	0.20 (58%)
Female	***
Reduced priced lunch	***
Full priced lunch	0.16 (56%)
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year One 1 <sup>st</sup> Grade Subpopulation	Sentence Comprehension Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	-0.23 (41%)
Reduced priced lunch	***
Full priced lunch	***
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year Two 2 <sup>nd</sup> Grade Subpopulation	Sentence Comprehension Effect Size <sup>1,2</sup>
Low achieving	***
Male	0.16 (56%)
Female	0.25 (60%)
Reduced priced lunch	0.61 (73%)
Full priced lunch	0.12 (55%)
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year One 1 <sup>st</sup> Grade Subpopulation	Passage Comprehension Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	***
Reduced priced lunch	***
Full priced lunch	***
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year Two 2 <sup>nd</sup> Grade Subpopulation	Passage Comprehension Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	***
Reduced priced lunch	***
Full priced lunch	***
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year Two 2 <sup>nd</sup> Grade Subpopulation	Holistic Writing Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	0.26 (60%)
Reduced priced lunch	***
Full priced lunch	***
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year One 1 <sup>st</sup> Grade Subpopulation	Phoneme Segmentation Fluency Effect Size <sup>1,2</sup>
Low achieving	***
Male	0.30 (62%)
Female	0.38 (65%)
Reduced priced lunch	***
Full priced lunch	0.36 (64%)
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year One 1 <sup>st</sup> Grade Subpopulation	Nonsense Word Fluency Effect Size <sup>1,2</sup>
Low achieving	0.19 (58%)
Male	***
Female	***
Reduced priced lunch	***
Full priced lunch	***
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year Two 2 <sup>nd</sup> Grade Subpopulation	Oral Reading Fluency Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	***
Reduced priced lunch	***
Full priced lunch	***
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

**Results for 4<sup>th</sup>-5<sup>th</sup> Grade Cohort**

Year One 4 <sup>th</sup> Grade Subpopulation	GRADE Effect Size <sup>1,2</sup>
Low achieving	-1.00 (16%)
Male	-0.42 (34%)
Female	***
Reduced priced lunch	-0.39 (35%)
Full priced lunch	-0.22 (41%)
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year Two 5 <sup>th</sup> Grade Subpopulation	GRADE Effect Size <sup>1,2</sup>
Low achieving	***
Male	-0.18 (43%)
Female	***
Reduced priced lunch	0.20 (58%)
Full priced lunch	-0.14 (44%)
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year One 4 <sup>th</sup> Grade Subpopulation	Vocabulary Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	***
Reduced priced lunch	***
Full priced lunch	***
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year Two 5 <sup>th</sup> Grade Subpopulation	Vocabulary Effect Size <sup>1,2</sup>
Low achieving	***
Male	-0.21 (42%)
Female	***
Reduced priced lunch	***
Full priced lunch	***
*** Indicates group mean gains are not statistically significantly different.	
1. effect size = group mean gain difference / comparison sample standard deviation	
2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).	

Year One 4 <sup>th</sup> Grade Subpopulation	Sentence Comprehension Effect Size <sup>1,2</sup>
Low achieving	-1.39 (8%)
Male	-0.59 (28%)
Female	-0.07 (47%)
Reduced priced lunch	-0.62 (27%)
Full priced lunch	-0.27 (39%)
*** Indicates group mean gains are not statistically significantly different.	
1. effect size = group mean gain difference / comparison sample standard deviation	
2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).	

Year Two 5 <sup>th</sup> Grade Subpopulation	Sentence Comprehension Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	***
Reduced priced lunch	0.56 (71%)
Full priced lunch	-0.09 (47%)
*** Indicates group mean gains are not statistically significantly different.	
1. effect size = group mean gain difference / comparison sample standard deviation	
2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).	



Year One 4 <sup>th</sup> Grade Subpopulation	Passage Comprehension Effect Size <sup>1,2</sup>
Low achieving	***
Male	-0.26 (40%)
Female	***
Reduced priced lunch	-0.33 (37%)
Full priced lunch	-0.20 (42%)
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year Two 5 <sup>th</sup> Grade Subpopulation	Passage Comprehension Effect Size <sup>1,2</sup>
Low achieving	***
Male	-0.16 (44%)
Female	-0.10 (46%)
Reduced priced lunch	***
Full priced lunch	-0.17 (43%)
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year Two 5 <sup>th</sup> Grade Subpopulation	Holistic Writing Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	***
Reduced priced lunch	***
Full priced lunch	***
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year One 4 <sup>th</sup> Grade Subpopulation	Oral Reading Fluency Effect Size <sup>1,2</sup>
Low achieving	***
Male	***
Female	***
Reduced priced lunch	***
Full priced lunch	***
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	

Year Two 5 <sup>th</sup> Grade Subpopulation	Oral Reading Fluency Effect Size <sup>1,2</sup>
Low achieving	-0.40 (35%)
Male	***
Female	***
Reduced priced lunch	***
Full priced lunch	***
<p>*** Indicates group mean gains are not statistically significantly different.</p> <p>1. effect size = group mean gain difference / comparison sample standard deviation</p> <p>2. The value in the parentheses indicates the percentile rank for the median Reading Street gain score in relation to the comparison group (i.e., set to 50%).</p>	