

A Report on the Effects of SRA/McGraw-Hill's *Reading Mastery, Signature Edition*: A Response to Intervention Solution

Introduction

The Problem

Although reading achievement in the United States has been inching upward for the past few years, Americans are far from being able to declare “mission accomplished” with respect to the *No Child Left Behind* goal of having all children reading on grade level by the 2013-2014 school year. In fact, student performance on the 2007 National Assessment of Education Progress (NAEP) clearly suggests that if reading achievement continues on its current trajectory, there is no way we will reach this goal in just four more years.

As seen in Exhibit 1, one-third (34%) of American fourth-graders performed below the *Basic* level of reading achievement on the NAEP in 2007; this means these students were not able to demonstrate an understanding of the text they read. In contrast, nearly one-fourth (24%) of these students performed at the *Proficient* level, which indicates they were able to make inferences, draw conclusions, and connect the text to their own experiences, while 7 percent were able to judge texts critically. Put another way, that's a mere 31 percent of American fourth graders who are functioning on or above grade level in reading.

Exhibit 1 also shows that many of our children continue to struggle with reading as they progress through school. That is, only 27 percent of the nation's eighth graders were able to make inferences, draw conclusions, and connect the text to their own experiences. As alarming as this statistic may sound, it pales in comparison to the fact that only 2 percent of these students demonstrated the ability to think critically about the test they read. Thus, to say that American educators need a different strategy for teaching children to read is a gross understatement. So, the only question remaining is how can we fix this problem?

Exhibit 1

2007 NAEP Reading Results		
Performance Level	4th Grade	8th Grade
Below Basic	34%	27%
Basic	34%	43%
Proficient	24%	27%
Advanced	07%	02%

One Proposed Solution

SRA/McGraw-Hill's *Reading Mastery, Signature Edition* is a reading intervention program developed by Direct Instruction (DI) author and founder Siegfried Engelmann. *Reading Mastery*, like all DI programs, has key instructional features that are not built into most non-DI programs. For example, all DI classrooms use quick pacing and group responses, planned correction procedures, and frequent cumulative review. The Reading Strand of the *Reading Mastery, Signature Edition*, which was the focus of this study, addresses the five essential components of reading as identified by The National Reading Panel—phonemic awareness, phonics and word analysis, fluency, vocabulary, and comprehension. In addition to providing spelling instruction, *Reading Mastery* also helps students develop decoding, word recognition, and comprehension skills that they can transfer to other subject areas.

Description of the Research Site and Purpose of the Study

PS 396 is a PreK–4 school located in the Bronx, New York. The school's 80 staff members serve an ethnically diverse and economically disadvantaged population of roughly 280 students, 77 percent of whom are Hispanic and 21 percent African American. About one-fourth of the students speak English as a second language, and the vast majority (92%) qualifies for free or reduced-priced meals. Considering the fact that the research has consistently shown that income increases with educational attainment, few readers would be surprised to learn that since only about 10 percent of the adults in the community have a college education, the median annual household income in this neighborhood is a little less than \$24,000. Likewise, readers may not be startled to hear that in 2008, only 24 percent of the students at PS 396 met or exceeded the state standards for English Language Arts (ELA)—the average for the state of New York was 70 percent.

In spite of these apparent challenges, the students at PS 396 have made considerable gains in math performance for the past several years. Encouraged by this success, the principal, Lawrence Wright went in search of an intervention program to help his struggling readers. After reviewing the literature about the performance of *Reading Mastery* and taking some time to personally acquaint himself with the components of the program, Mr. Wright approached his staff about the possibility of piloting *Reading Mastery* during the 2008-2009 school year. Once the teachers agreed to pilot the program, Mr. Wright met with researchers and SRA's professional development specialist to flesh out the logistics of the study. Among other things, they agreed the study should focus on two basic evaluation research questions:

1. What effect does *Reading Mastery, Signature Edition* have on the reading performance of students who are exposed to the program?
2. What effect does *Reading Mastery, Signature Edition* have on the attitudes and behaviors of students and educators who are exposed to the program?

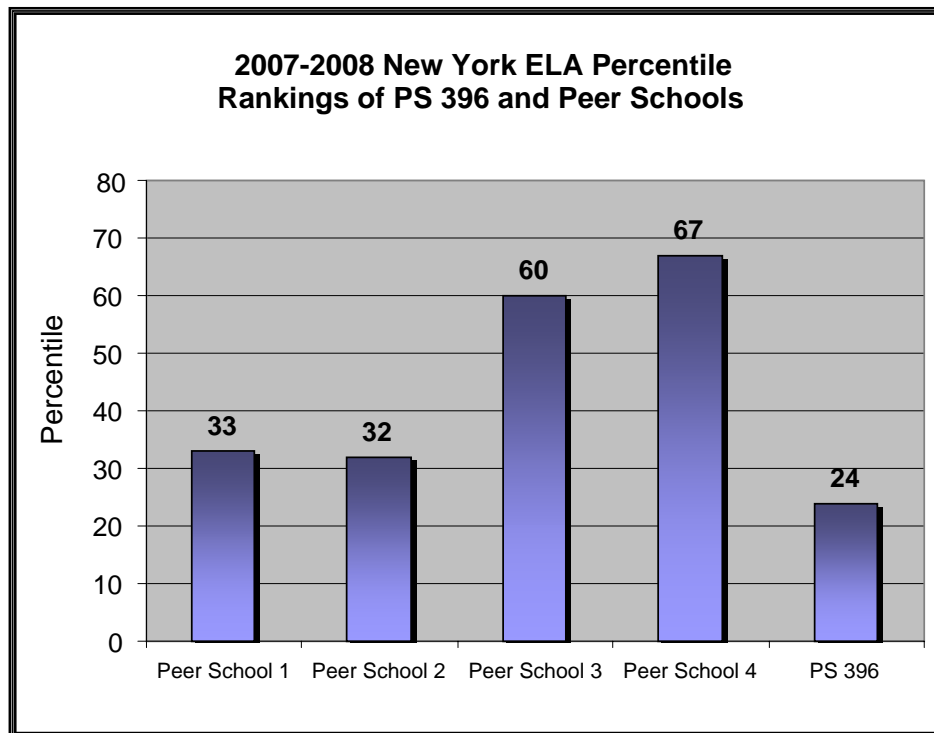
Methodology

Research Design

Initially, Mr. Wright and the researchers decided that the best research design to employ would be a group randomized-controlled trial, with half the students in PS 396 randomly assigned to use the Reading Strand of *Reading Mastery*, and the other half randomly assigned to continue using the reading intervention programs and strategies that were already in place at the school. However, as word of an impending reading intervention study spread throughout the school, an overwhelming majority of the teachers asked the principal if they could participate in the study. Being all too familiar with role that teacher buy-in plays in the success of any new instructional initiative, Mr. Wright asked the researchers to modify the research design to accommodate the additional teachers.

In the end, they agreed to employ a non-randomized comparison group research design, using four of PS 396's peer schools as the comparison group. (Each New York City public school is assigned to a peer group based on key demographics such as racial composition, Title I status, and past academic performance.) As shown in Exhibit 2, the four peer schools were performing somewhat better than PS 396 in reading prior to the beginning of the study. Specifically, only 24 percent of the students in PS 396 performed better than their counterparts in the peer schools on the 2008 New York English Language Arts (ELA) exam.

Exhibit 2



Fidelity of Program Implementation

In August of 2008, about ten days prior to the beginning of classes, all teachers selected to teach *Reading Mastery* were trained by an SRA consultant who specializes in *Reading Mastery* and other DI products. In September, when classes resumed, each of these teachers administered the *Reading Mastery* placement tests to their students and then placed them into learning groups by reading level, as opposed to grade level. Groups generally consisted of nine or fewer students.

Throughout the course of the study, teachers gave their students fluency and accuracy assessments after the completion of every fifth *Reading Mastery* lesson, and a comprehension skills assessment after every lesson. To monitor how closely teachers were following the program, the *Reading Mastery* consultant asked each teacher to complete a weekly online log. The log was designed to record the fluency and comprehension skills pass/fail rates, the number of *Reading Mastery* lessons completed, and the number of days teachers taught the program each week. The consultant also visited the *Reading Mastery* classrooms each month to further ensure the program was being implemented as intended and to provide instructional support to teachers as needed.

Prior to considering participation in this study, the principal had already developed the school's daily instructional schedule; consequently, teachers who taught *Reading Mastery* first thing in the morning reported that the normal business of getting the day started—PA announcements, late student arrivals, and so forth—ate into teaching time to the extent that they could rarely complete a *Reading Mastery* lesson in one day. However, as the year progressed and teachers became more comfortable with the schedule and the routines of *Reading Mastery*, most were able to complete the lessons within the recommended time.

Data Collection

Test Scores

Mr. Wright and the researchers agreed that reading achievement would be measured in three ways by two separate tests:

1. The spring 2009 New York ELA test scores for 3rd and 4th graders at PS 396 would be compared to their counterparts at the four peer schools.
2. The ELA scores for the PS 396 students who were 3rd graders in the spring of 2008 would be compared to their spring 2009 (4th grade) scores;
3. The *Rigby Reading Diagnostic and Evaluation System (Rigby READS)* results for the current year for all students at PS 396 would be compared to the previous year.

Rigby READS is a K-8 diagnostic and assessment system that was built from the *Metropolitan Achievement Tests, Sixth Edition (MAT6)*. Actually, its publisher, Houghton Mifflin Harcourt, reports that “approximately 93% of the test items included in *Rigby READS* comes from the *MAT6*.”

Interviews

Mr. Wright agreed to let researchers from SRA interview him and the *Reading Mastery* teachers at the end of the school year to get a sense of their overall opinion of program. The teacher interviews would also be used to validate the data teachers entered on their weekly lesson logs. The principal also agreed to let researchers interview a small sample of students at the end of the school year to learn their feelings about the new reading program. The principal- and teacher-interview protocols consisted of fourteen open-ended questions, while the student protocol consisted of nine open-ended questions. McGraw-Hill researchers tried out all interview protocols for clarity, flow, and timing prior to using them in the study.

Lesson Logs

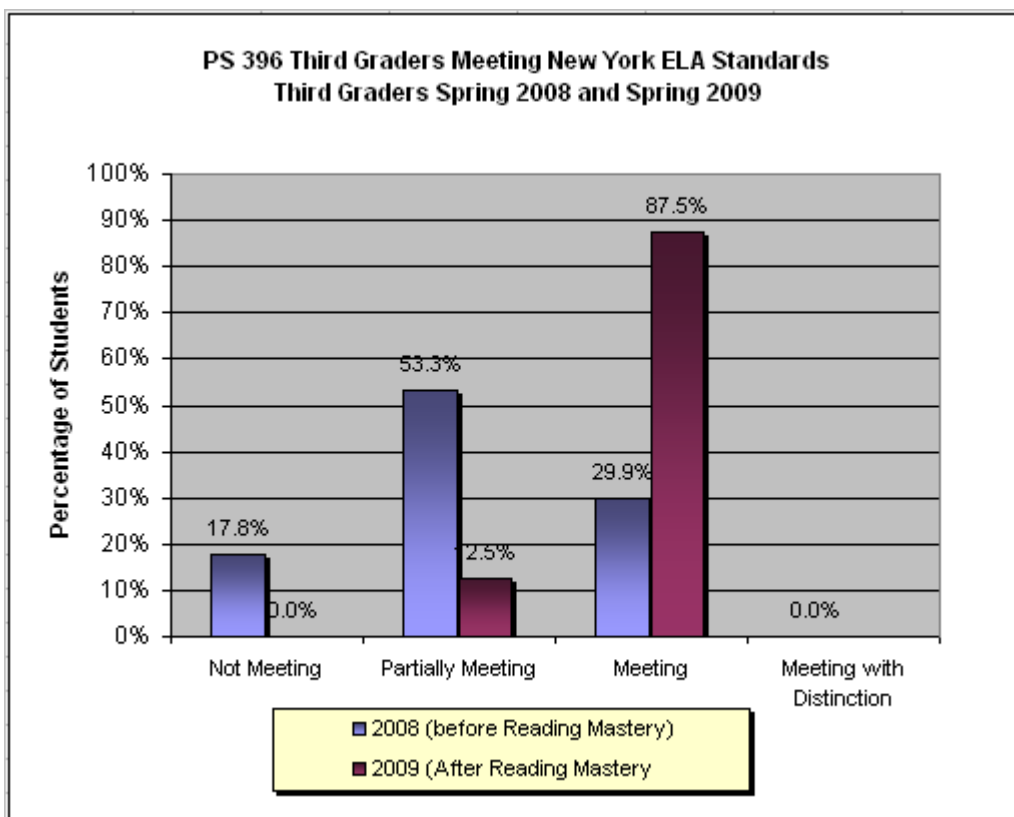
The Direct Instruction consultant created an online multi-item lesson log for teachers to complete weekly. The log was designed to capture the number of days teachers actually taught *Reading Mastery*, the number of lessons completed, the number of students passing fluency check-outs, and any teacher notes related to students' progress.

Results

New York State English Language Arts Test

As mentioned earlier, students at PS 396 have struggled with reading for quite some time; however, after experiencing *Reading Mastery* for just one school year, their ELA scores improved quite significantly. While Exhibit 3 shows that none of the students met the state's ELA standards *with distinction*, it also clearly demonstrates that the number of PS 396 third graders meeting the state's ELA standards increased rather significantly from about 30 percent in 2008 to roughly 88 percent in 2009.

Exhibit 3



Like Exhibit 3, Exhibit 4 also shows that none of the PS 396 students who were in the third grade during the 2007-08 school year met the state’s ELA standards *with distinction* as fourth graders; however, it does demonstrate that there was a positive shift in reading performance this year. For instance, the overall percentage of students failing to meet standards fell from nearly 18 to 10 percent, while the percentage of students fully meeting standards increased by nearly 11 percentage points—from about 30 to 41 percent.

Exhibit 4

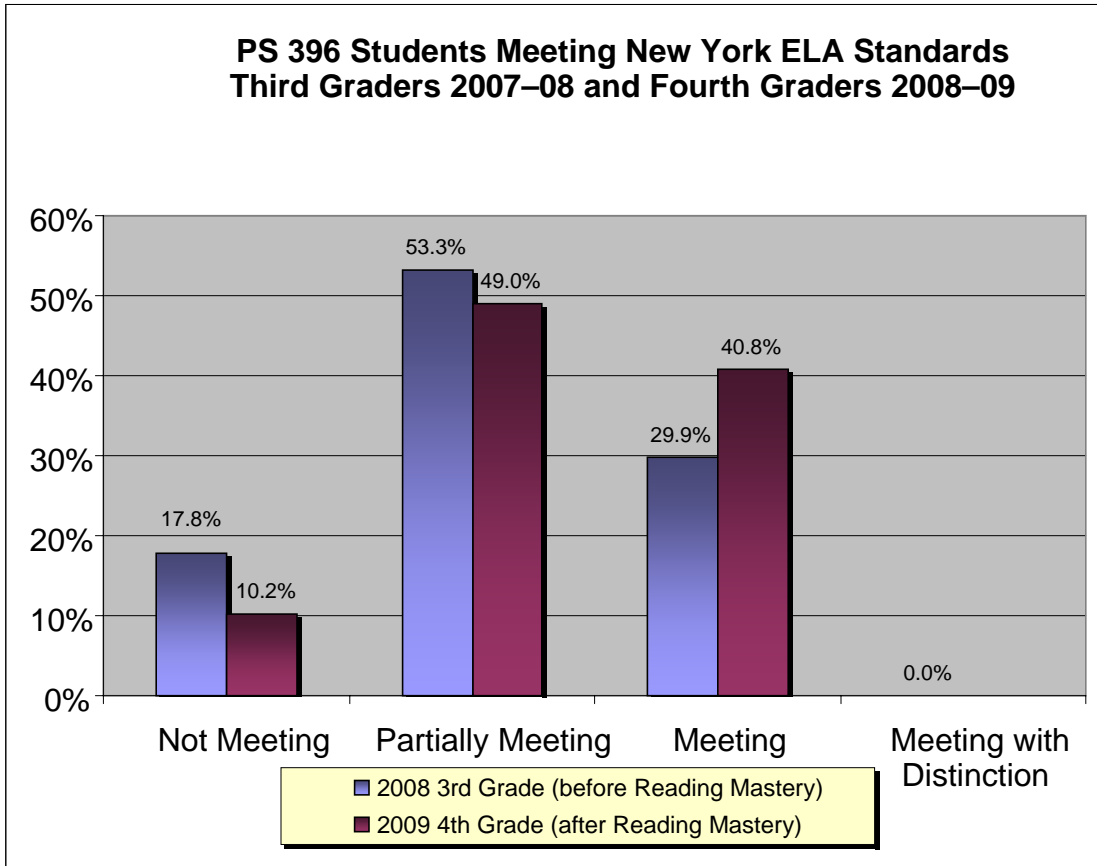
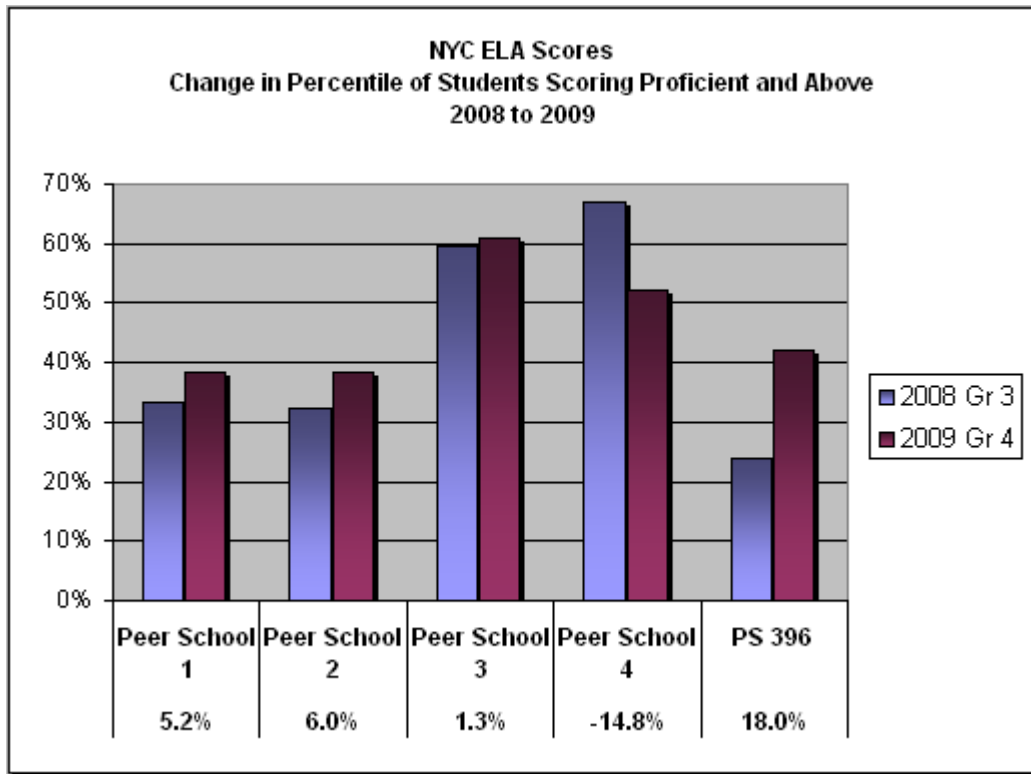


Exhibit 5 illustrates the change in percentile ranking PS 396 and its peer schools experienced on their ELA test from the spring of 2008 to the spring of 2009. PS 396 made the largest gain (18 percentile points), moving from the 24th to the 42nd percentile. The largest gain posted by a peer school, six percentile points, was seen at Peer School 2. The only school to experience a decline in performance was Peer School 4, which dropped nearly 15 percentile points.

Exhibit 5

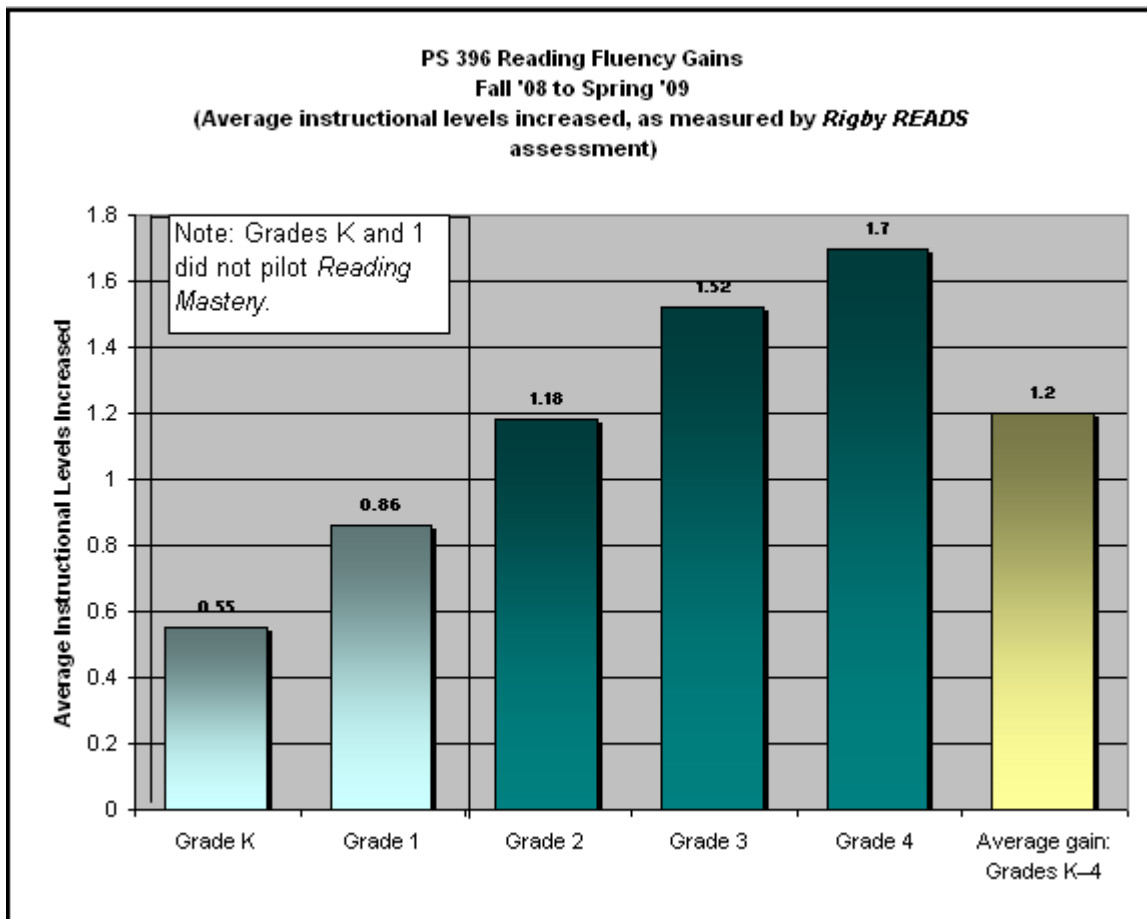


Rigby Reading Assessment and Diagnostic System (READS)

Kindergarten and First Grade

Although one combination kindergarten and first grade class did pilot the *Reading Mastery* program, researchers only received spring '09 Rigby test results for three of those students; therefore, those results were included in this report. That said, however, it is worth noting that the progress of the other kindergarten and first grade students at PS 396—those who did not use *Reading Mastery*—was not as extensive as that of the second, third, and fourth graders who did use the program. Exhibit 6 illustrates this point.

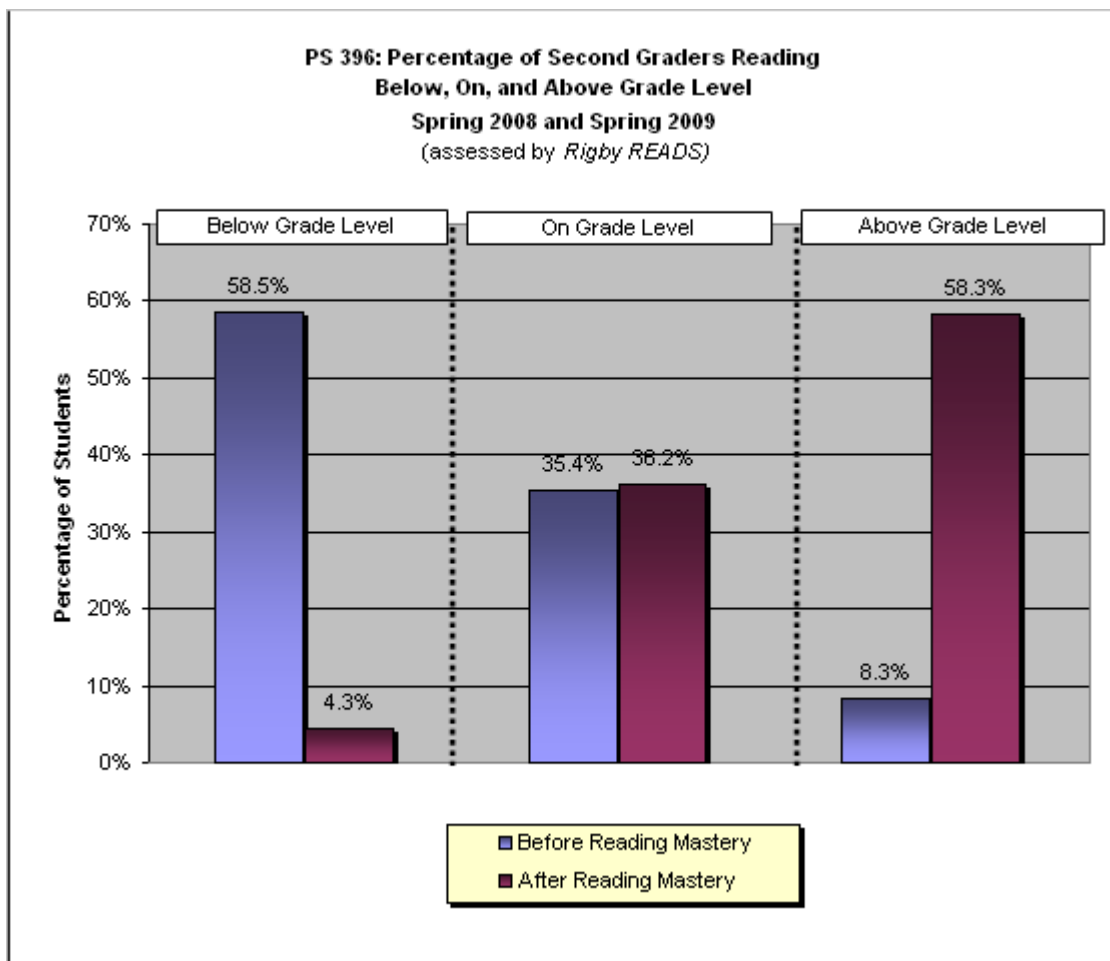
Exhibit 6



Second Grade

In the spring of 2008, forty-eight second graders at PS 396 took the *Rigby READS* assessment. The test showed that 15 students (36%) were reading on grade level, and only 4 were reading above grade level before being exposed to *Reading Mastery*. Over half (56%) were reading below grade level. When the students who were in the second grade in the spring of 2009 took the test—after experiencing *Reading Mastery*—the results were significantly higher than those of the previous school year. As shown in Exhibit 7, nearly all (94%) of the students were reading on or above grade level. More specifically, 36 percent of the students were reading on grade level and 58 percent were reading above level.

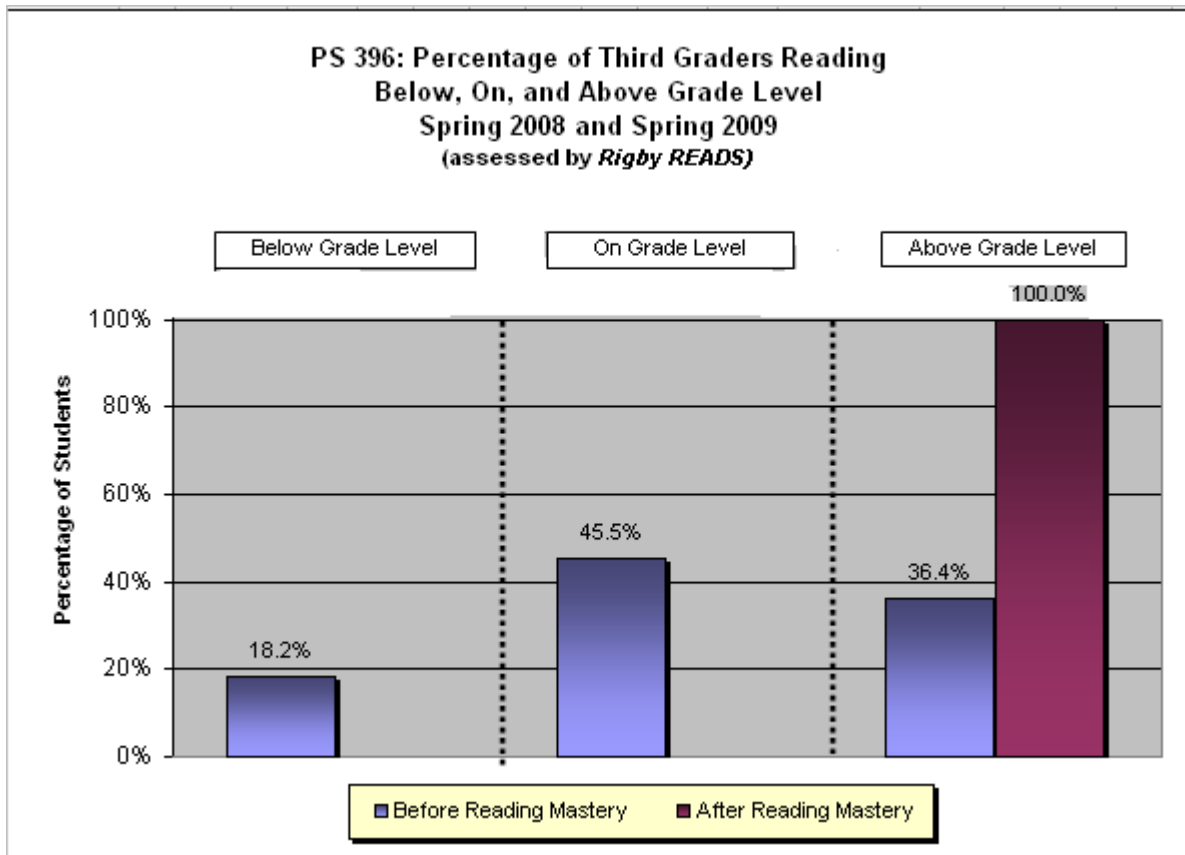
Exhibit 7



Third Grade

In the spring of 2008, thirty-three third graders at PS 396 took the *Rigby READS* assessment. Eighteen percent of these students scored below grade level, 45 percent scored on grade level, and 36 percent scored above grade level. In the spring of 2009, as seen in Exhibit 8, all third graders at PS 396 scored above grade level, after being exposed to *Reading Mastery* for just one academic year.

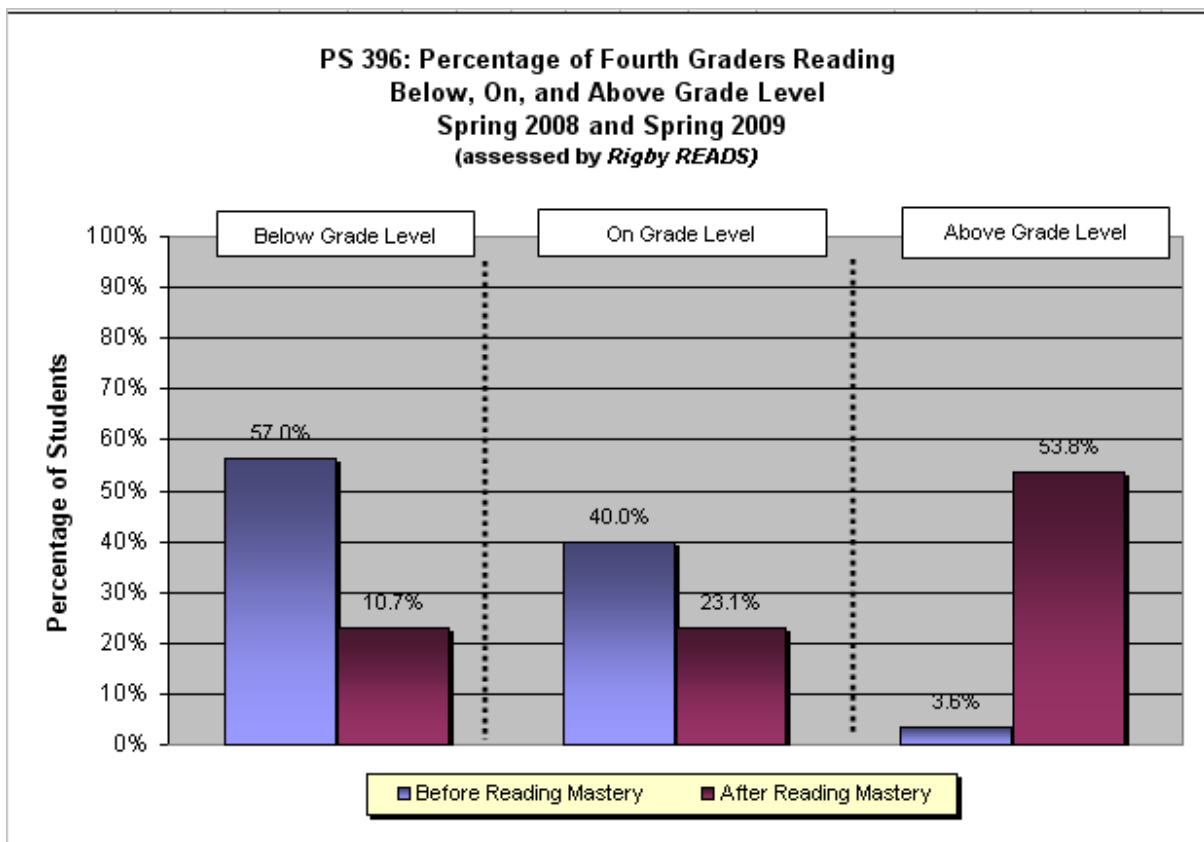
Exhibit 8



Fourth Grade

When the 55 fourth graders at PS 396 took the *Rigby READS* assessment in the spring of 2008, the majority (57%) of them scored below grade level, 40 percent scored on grade level, and just 4 percent scored above grade level. The following year, however, as seen in Exhibit 9, the percentage of students scoring below grade level decreased to about 11 percent, the percentage of students scoring on grade level decreased to 23 percent, and the percentage of students scoring above grade level jumped to around 54 percent. Simply put, the number of fourth graders reading on or above grade level in 2008 increased by one-third after being exposed to *Reading Mastery* for just school year.

Exhibit 9



Interviews

Lesson Logs

Because of the time required to log on to the database and enter new data, many teachers did not regularly complete the lesson logs as intended. As a result, the researchers were not able to use the lesson logs to verify that the program was implemented with complete fidelity.

Principal Interview

Mr. Wright stated that he is an overall proponent of balanced literacy, however, he also believes that “in the end, you have to use what works.” Thus, he agreed to pilot *Reading Mastery, Signature Edition* as an intervention program thinking that doing so would not require a complete abandonment of the balanced literacy philosophy, and it seems he may have been right. In fact, one specific comment he made might explain why this program worked so well with his students:

“Reading Mastery worked here because the teachers were volunteers and because we allowed certain implementation flexibility. This particular year, with the need to help students read better quickly, I appreciated the fact that Reading Mastery is one literacy component that is not subject to interpretation. You don’t necessarily want a bunch of robots for teachers, but it’s good to have a program where you can input one thing and expect exactly a certain output. Working with smaller groups on intervention, paraprofessionals can effectively teach this and make quite an impact!”

When asked what effect if any *Reading Mastery* had on his overall philosophy of reading instruction, Mr. Wright said that, not coming from a background of scripted reading, he does and has always had a positive view of balanced literacy, but depending on the specific needs of students in the community an administrator might want to consider a program that stresses the basic skills. He went on to say that *Reading Mastery* works quite well for elementary school students and possibly will work equally well for middle school students.

In response to the question of whether or not he would feel comfortable recommending *Reading Mastery* to other principals, Mr. Wright stated that he would, but emphasized that the program works especially well with a balanced literacy approach because students also need to develop their writer’s voice. He also said that no problem is “a silver bullet,” and that the key to any successful program implementation is to “begin small, get teacher buy-in, and make sure teachers have the training and support they need.” Dr. Wright concluded the interview by stating that there was “never a point during the year when I wished we had not done this” and that he was “glad we formed the partnership” because he felt that “we brought something good to the school.”

Teacher Interviews

Of the nine teachers interviewed, two said they had not actually volunteered to teach *Reading Mastery* but instead were selected by the principal, and all teachers except one professed a pre-pilot bias toward balanced literacy programs. In spite of their apprehensions, however, they all recognized the need to improve their students’ reading skills and, as such, approached the pilot with an open mind. The only teacher who did not begin the study with a bias toward

scripted instructional programs had used DI in a previous school and was already convinced that *Reading Mastery* could work for her students.

While all teachers reported positive feelings toward *Reading Mastery*, it is possible—as with any interview—that at least some of the responses may have reflected a social desirability response bias. That is, some teachers may have spoken favorably of the program simply because they knew the interviewers worked with the publisher of *Reading Mastery*, McGraw-Hill. Other comments, however, suggest that teachers were generally sincere in their feelings toward the program. One especially interesting comment expressed by two of the lower level teachers was that “the students are obviously increasing their fluency, but not their comprehension.” One of those teachers went on to say that, “I’m a bit concerned they are simply becoming very good decoders!” Immediately thereafter, the third and fourth grade teachers reported that “I can see comprehension occurring ...”, and “This program especially enhances comprehension.” This is an interesting contradiction of opinions, especially when compared to the philosophy of *Reading Mastery* which states . . .

Grades K and 1 are designed to teach students the decoding and comprehension skills they need to become accurate and fluent readers. Decoding is taught explicitly and systematically. Students will encounter numerous opportunities for building fluency, allowing them to focus on the meaning of the text. Comprehension instruction begins early to teach students how to infer, predict, conclude, and apply the skills they have learned. While Grades 2 and 3 continue to emphasize accurate and fluent decoding, the primary focus of these levels is to teach students how to ‘read to learn.’ Students are taught the skills necessary to read, comprehend, and learn from informational text....”

Similarly, one teacher added that she thought the program needed trade books and another teacher said that students occasionally get frustrated with the repetition. These comments were later balanced by a teacher who expressed gratitude that the stories in the program are not “silly stories” but “good literature, such as Mark Twain and *Stone Soup*.”

When one interviewer expressed a regret that they could not leave personal thank-you gifts, a teacher responded, “You **have** given us a gift—I’m a third grade teacher and when six struggling students who couldn’t get past level K sail into the first and second grade reading levels, I’ve been given a gift.” Interestingly, one of the two teachers who said she did not volunteer to participate in the study and who professed private reservations about using a scripted program, may have given the strongest endorsement of *Reading Mastery*: “I would not only be glad to teach this program again, but I’d also be pleased if I learned that my own child—who will be attending a parochial school—will be taught to read with this program.”

Student Interviews

Only four students were interviewed—two third graders and two fourth graders. In the beginning, their comments generally related to their teachers and to their interactions with their classmates. However, as the interviews progressed, the students tended to focus more on reading in general and about *Reading Mastery* in particular. For example, all four students said that they like reading and actually prefer it to watching television. One student clarified that he preferred reading over television because “nothing on TV is as good.” Another student said he prefers reading because “the book has more information and you enjoy it.”

Three of the four students said they consider themselves to be good readers. The one who thought he was not a good reader did say that, “Reading is getting easier because I read at home...not every day, but sometimes.” When asked if they would like to have a job that requires them to read every day, all of the students said yes. A third grader even said she wanted to be a first-grade teacher when she grows up. Possibly not to be outdone, her male counterpart indicated that he wanted to be an actor who “reads a lot of books.”

None of the students expressed discomfort with reading aloud in class. In fact, they all seemed perfectly comfortable with the short read-alouds that the program prescribes and one student even said she wished that the stories would last longer. Moreover, they all expressed a great deal of excitement when relating their favorite stories from the *Reading Mastery* selections. One child, in particular, was so enthralled with the retelling of a story about a goose named Henry that she couldn’t be interrupted for further questioning until she had related the entire plot to the interviewers.

Discussion

Based on its demography, PS 396 seems like any other economically disadvantaged elementary school in a large urban district, but a closer look inside reveals a school that debunks most inner-city stereotypes. For example, the physical and psychological climate at PS 396—which research has shown time and again to be largely shaped by the school’s leadership—is uncharacteristically positive. An outsider visiting the PS 396 for the first time will notice that the school is exceptionally clean, orderly, and safe—all key ingredients to a successful learning environment. In fact, an outsider who keeps up with education research might even suggest that this school embodies all the correlates of effective schools identified some 30 years ago by Larry Lezotte, Ron Edmonds, and Wilbur Brookover:

- Instructional Leadership
- Clear and Focused Mission
- Safe and Orderly Environment
- Climate of High Expectations
- Frequent Monitoring of Student Progress
- Positive Home-School Relations
- Opportunity to Learn and Student Time on Task

Recently, this outsider’s perspective was corroborated by school insiders such as parents, who overwhelmingly (96%) reported on their 2008-2009 New York City Department of Education School Survey that they were satisfied with the education their children were receiving, and by the number of teachers at PS 396 (98%) who reported that their principal lets them know what is expected of them, and encourages them to play a meaningful role in setting goals and making decisions. The effective schools theory was further supported by the school’s ELA and *Rigby READS* test results which show outstanding growth for students who used *Reading Mastery* in spite of seemingly insurmountable odds.

As a result of the success with the Reading Strand of the *Reading Mastery, Signature Edition*, all teachers who participated in the pilot this year have agreed to expand the program next year to include the Language Arts and Writing strands. Also, the kindergarten and first grade classes, who did not participate this year, will be implementing the reading strand next year in an attempt to replicate the reading improvement seen in Grades 2, 3, and 4 this past year.