

**Executive Summary:**

During the 2018-2019 school year, Readorium conducted field test pilots with third grade students in six New York City Public Schools. The goal of these pilots was to assess the comprehension growth of students who used the Readorium program. All participating schools opted into this pilot through the NYC Department of Education. Each participating school agreed to have students use the program for a minimum of 90-minutes per week from October 2018-May 2019. Of the 180 students in these classes, 117 completed five or more Readorium books during this pilot study. The overall average comprehension gain of these students was 1.34 school years in 8 months.

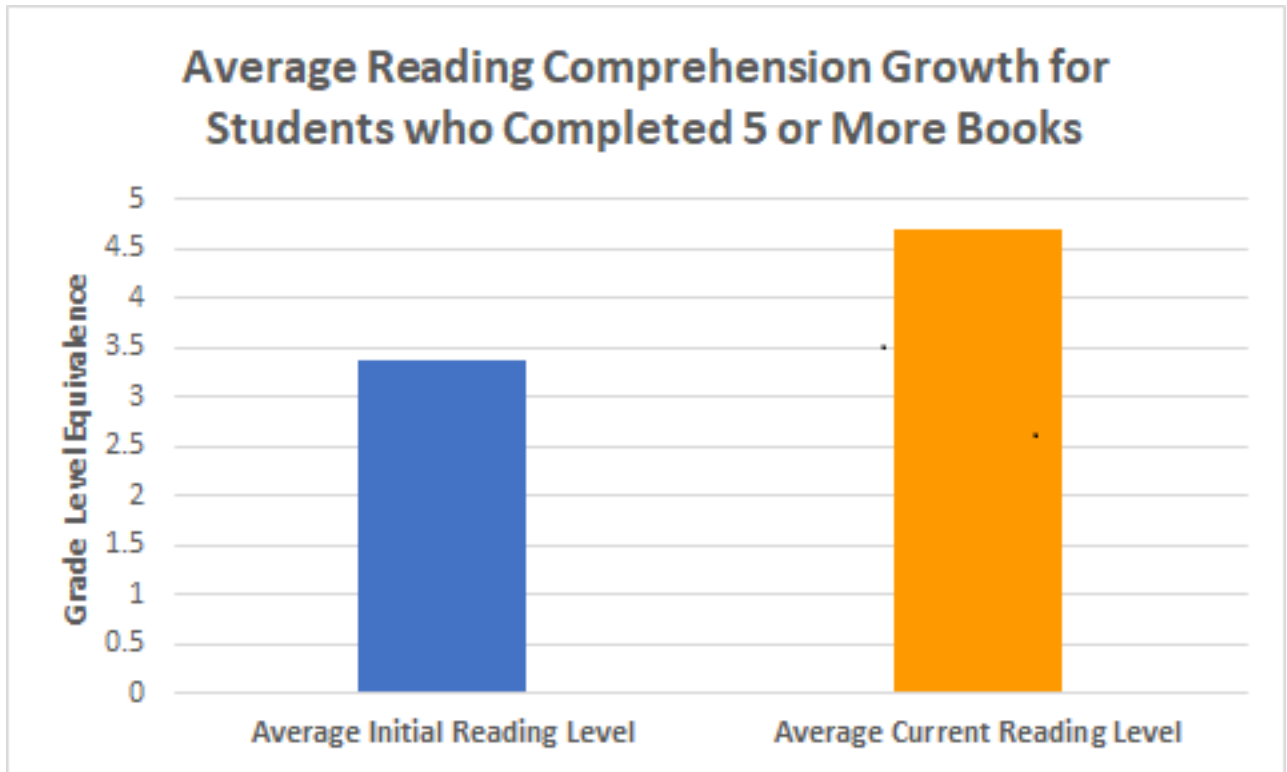
All participating teachers were involved in three professional development sessions that included an introduction to Readorium and its features, a deep dive into student data analysis and teacher instructional resources, and feedback on student progress and program use. This white paper includes details on the NYC School Readorium comprehension results, teacher feedback about program use, information on the original Readorium field testing, as well as background information on the features and mission of the Readorium program.

**Overview of the Outcome**

**Results of 2018/19 New York City Readorium Pilot Schools**

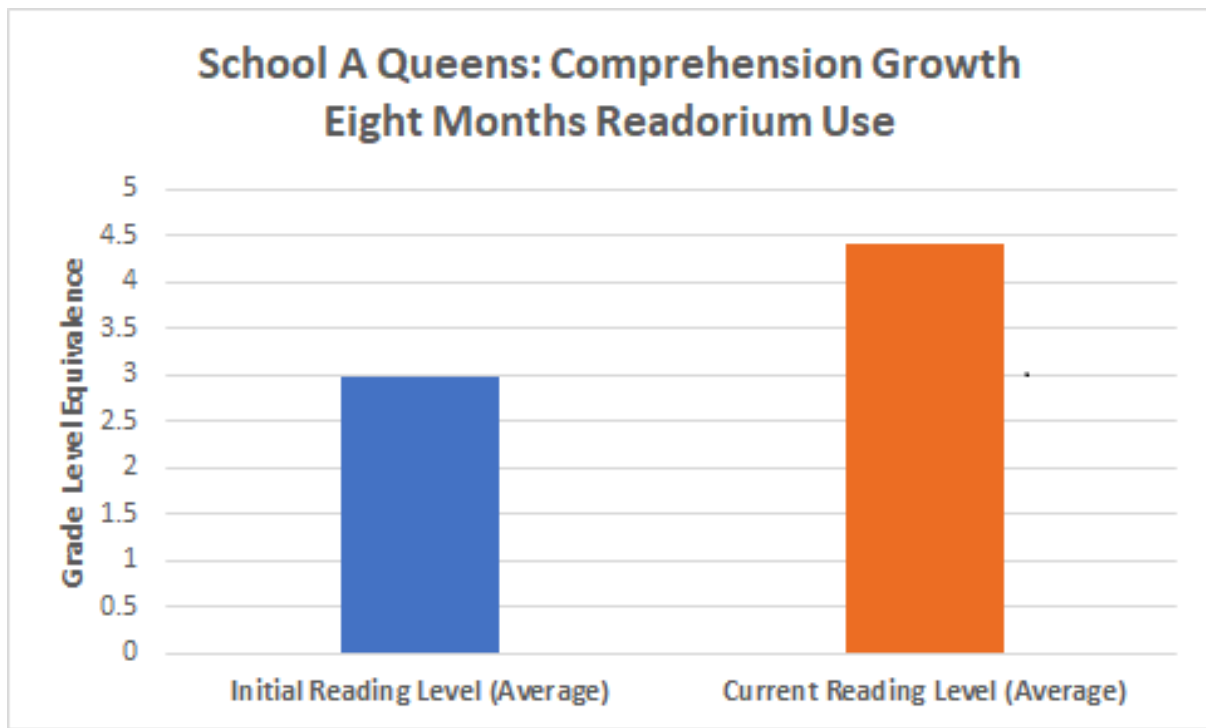
Readorium Student Progress Data was compiled during the 2018-2019 school year based on the pilots conducted in New York City Schools. All participating students were in the third grade. Students earn an initial reading score after completing their first Readorium chapter book. In subsequent books, the reading level of each chapter automatically adjusts to the student's individual performance. This is based on the number and types of hints needed to answer comprehension questions correctly. Student reading growth is indicated by the difference between their initial reading score and their current reading score. This information is available to teachers 24/7. For the purposes of this study, the 117 students who completed five or more Readorium books, with their accompanying strategy lessons, were included in these calculations. Each student's initial score in October 2018 was compared to their current reading level at the end of May 2019.

**Total: Average student comprehension growth of students participating Readorium NYC Pilot Schools**



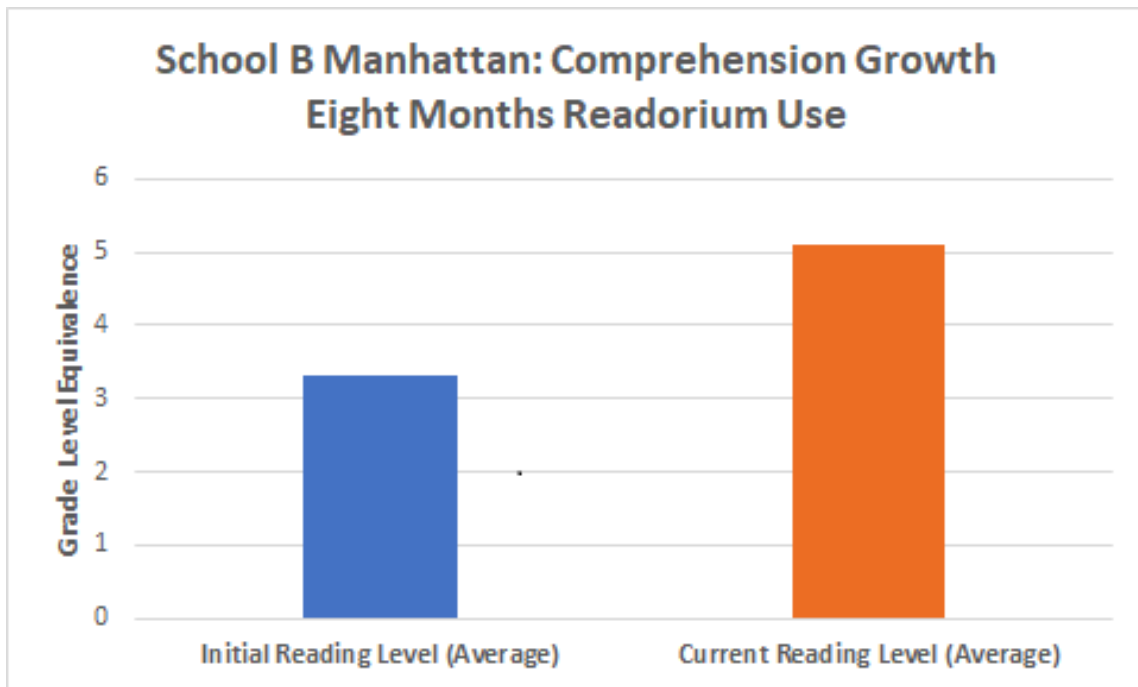
In October 2018, the initial average reading level of students in the Readorium Pilot (Schools A-F below) was 3.37 (third grade, fourth month.) In May 2019, after using Readorium for 8 months, the average reading level for all students was 4.71 (fourth grade, seventh month). **The average reading growth of students participating in the Readorium pilot for eight months was 1.34 school years.**

### Breakdown of Results by School Queens



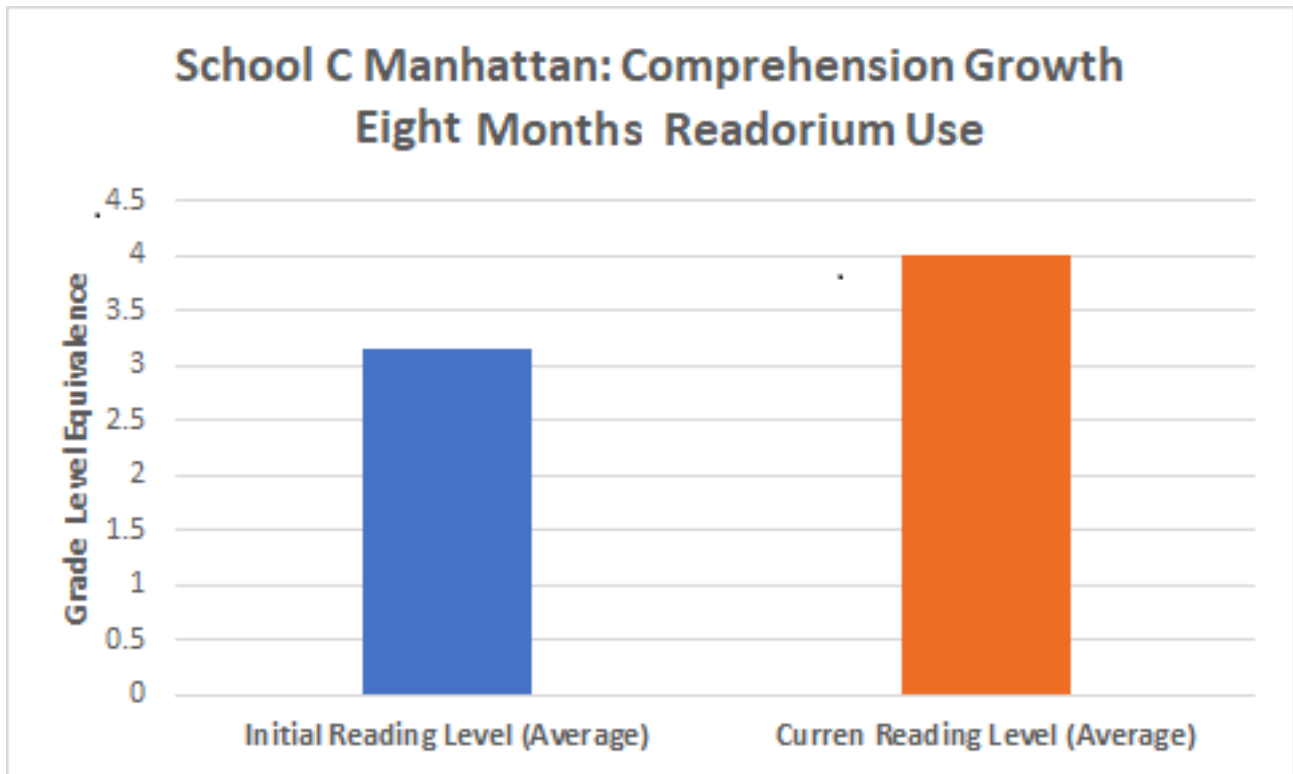
- One class of thirty-one students from School A participated in the Readorium study.
- In October 2018, the average initial reading level was 2.9 (second grade, ninth month).
- In May 2019, after using Readorium for 8 months, the average reading level was 4.4 (fourth grade, fourth month).
- **The average reading growth of these students was 1.5 school years.**

## Manhattan - School 1



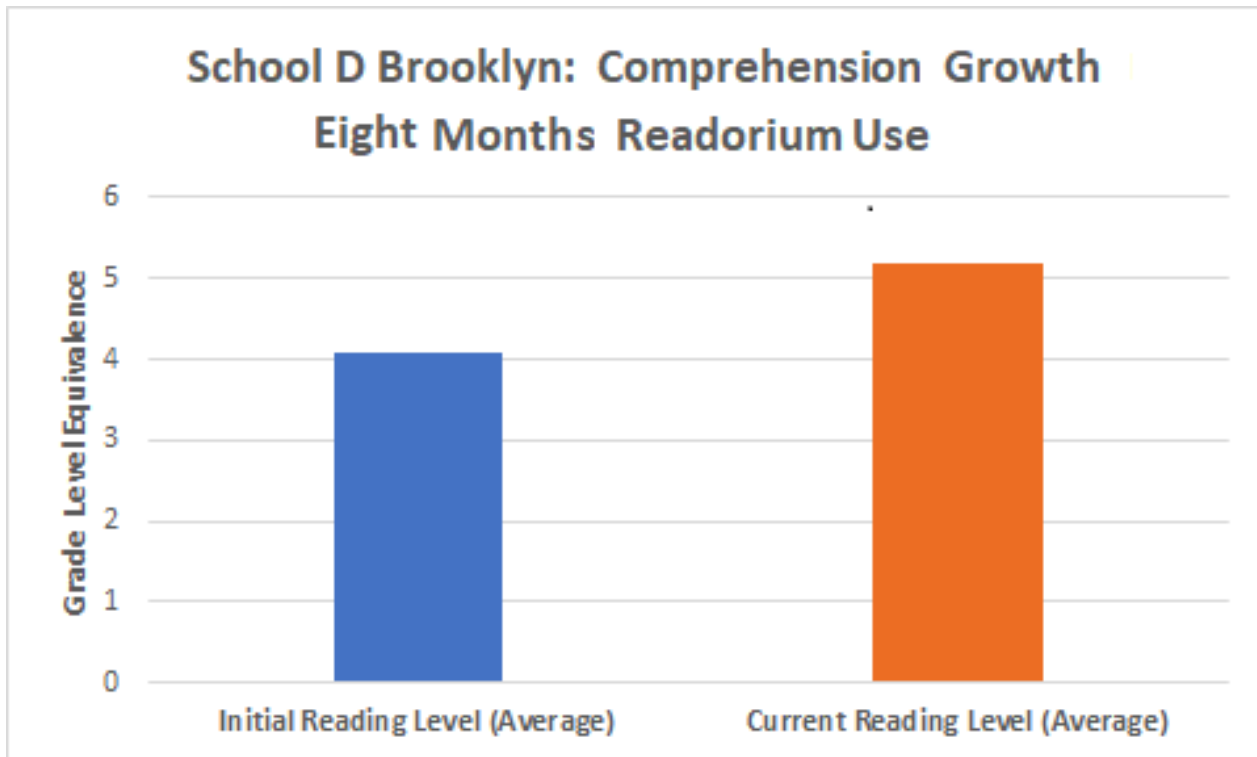
- One class of forty-five regular education and inclusion students from School B participated in the Readorium study.
- In October 2018, the average initial reading level was 3.3 (third grade, third month).
- In May 2019, after using Readorium for 8 months, the average reading level was 5.1 (fifth grade first month).
- **The average reading growth of these students was 1.8 school years.**

Manhattan - School 2



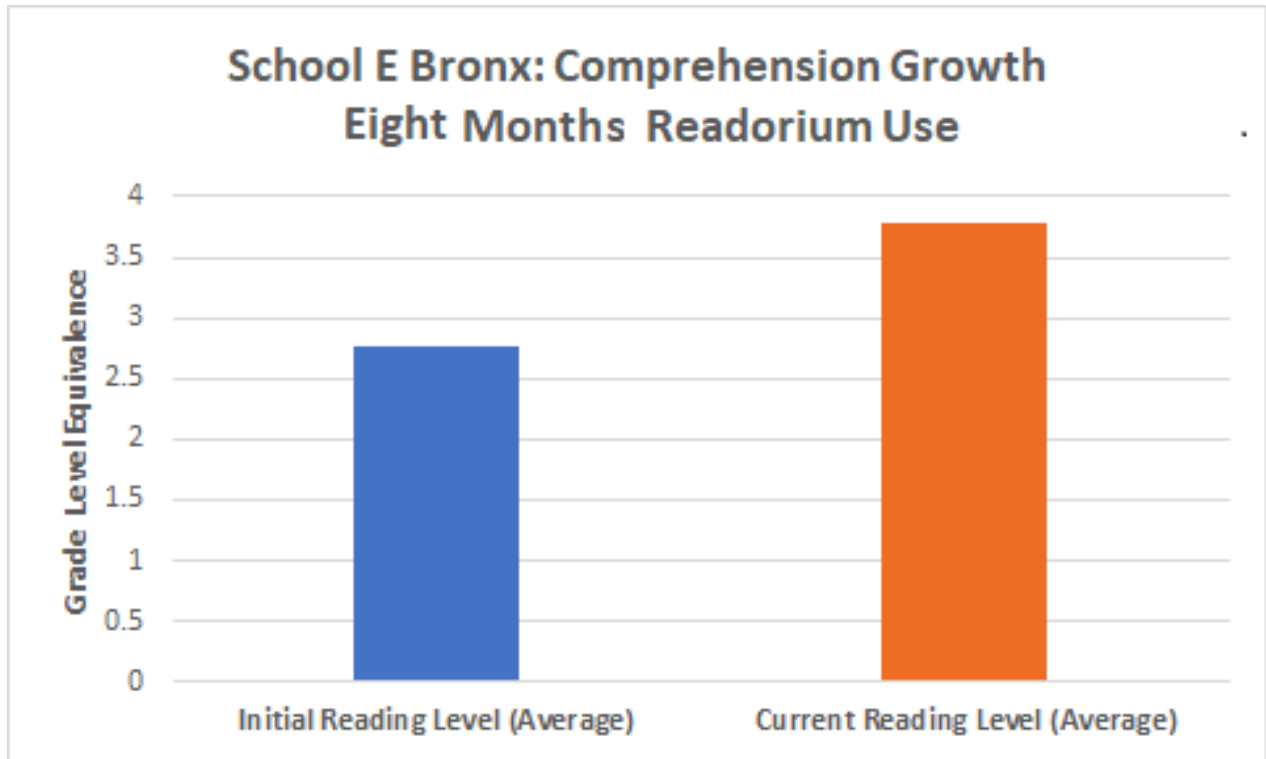
- One class of eighteen students from School F participated in the Readorium study.
- In October 2018, the average initial reading level was 3.1 (third grade, one month).
- In May 2019, after using Readorium for 8 months, the average reading level was 4.0 (fourth grade).
- **The average reading growth of these students was .9 school years.**

Brooklyn



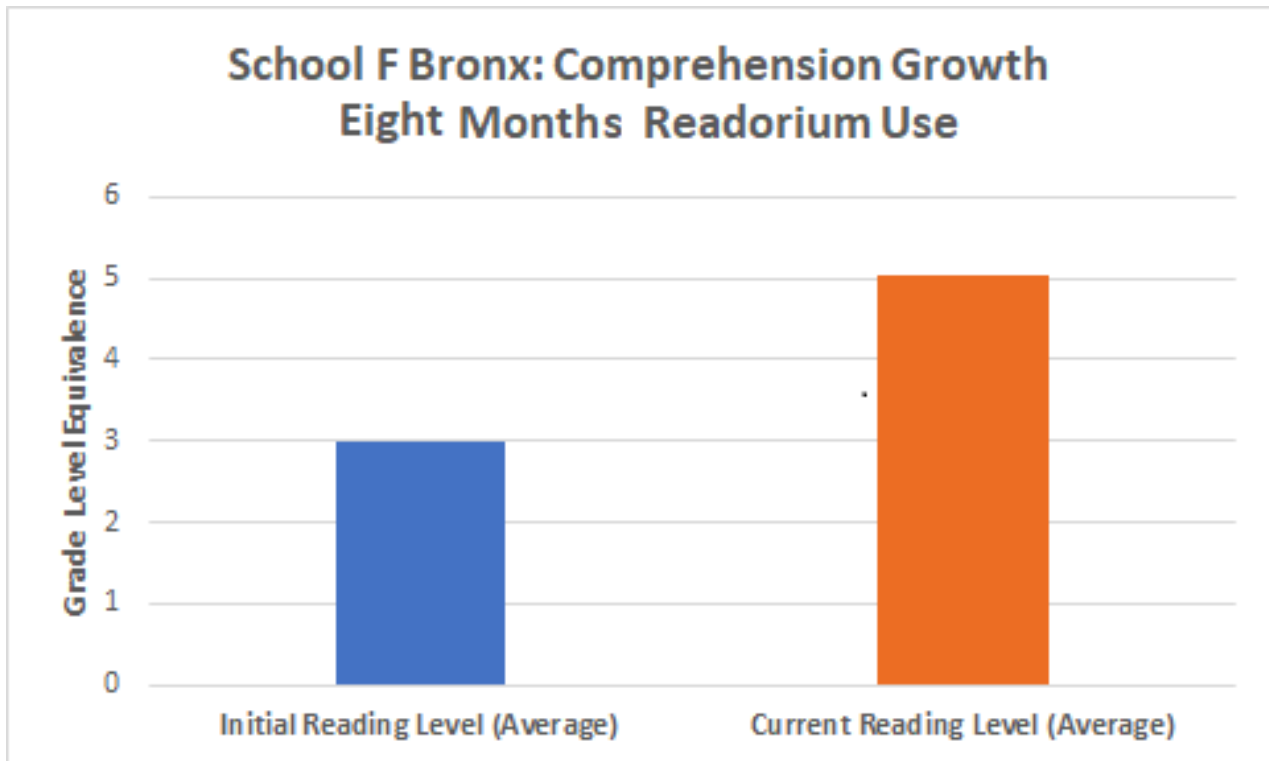
- One class of twenty-six students from School D participated in the Readorium study.
- In October 2018, the average initial reading level was 4.0 (beginning fourth grade).
- In May 2019, after using Readorium for 8 months, the average reading level was 5.2 (fifth grade, second month).
- **The average reading growth of these students was 1.2 school years.**

**Bronx – School 1**



- One class of twenty-eight students from School E participated in the Readorium study.
- In October 2018, the average initial reading level was 2.7 (second grade, seventh month).
- In May 2019, after using Readorium for 8 months, the average reading level was 3.8 (third grade, eighth month).
- **The average reading growth of these students was 1.1 school years.**

**Bronx – School 2**



- One class of thirty-two students from School F participated in the Readorium study.
- In October 2018, the average initial reading level was 3.0 (beginning third grade).
- In May 2019, after using Readorium for 8 months, the average reading level was 5.0 (beginning fifth grade).
- **The average reading growth of these students was 2 school years.**

**Teacher Professional Development and Teacher Feedback**

The pilot teachers participated in three half-day Professional Development Events held in NYC.

- **Event 1:** Participants learned about the mission of the Readorium program, student features, and about the multitude of teacher resources available to them to help their students succeed. Teachers learned how to register new students, launch the program, and how to promote good reading habits.
- **Event 2:** Teachers learned how to analyze the three types of actionable student data reports that they could access 24/7. They also learned how to use the system’s resources to



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differentiate instruction based on this data

- **Event 3:** Teachers discussed student feedback and analyzed the progress of their students. All who attended were excited about the progress their students had experienced with Readorium and expressed their desire to have Readorium for the next school year. Here are just a few of their comments:

*“My students all have IEPs. This year, the students all met expectations on their most recent assessments. This is very unusual. I can only attribute that to the use of Readorium.”*

*“My students created their own literacy circles. Students normally work with their friends. When using Readorium, this changed. They discussed which books to read with the students working near them. They could all read the same books because each book was written on many different levels, so all kids could understand them. The kids were excited about what they were learning. After reading, the kids discussed the new information with each other.”*

*“My students began using scientific vocabulary they learned from Readorium. One little boy was asked if he now wanted to enter the Science Fair because he had learned so much science from Readorium. He piped up, ‘First I will need a hypothesis!’ He never would have used a word like hypothesis without Readorium.”*

## Background of Readorium

### Initial Readorium Field Test Results

Readorium was initially funded by the US Department of Education Institute of Education Research through three Innovative Research Grants. It was iteratively designed for Android and Apple systems. The Readorium Comprehension Research Team worked with reading experts and science authors nationwide. The program used What Works Clearinghouse studies to develop evidence-based instruction. These studies include the need for direct strategy instruction in context, teaching new vocabulary in multiple contexts, and differentiating comprehension instruction through scaffolded assistance.

Over the course of the project, researchers conducted three feasibility tests and one pilot study in over 40 classrooms in 9 socioeconomically diverse school districts in NJ and CT. All field test teachers reported that Readorium was easy to use and could be integrated into the classroom. All field teachers would

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recommend *Readorium* to their schools and colleagues. Eighty-one percent of students agreed that Readorium was easy to use and that they were able to get help when needed. Seventy-two percent of students would recommend Readorium to other students. The Diagnostic Online Reading Assessment (DORA) by Let's Go Learn was used as a pre and post assessment measure. Positive outcomes in the DORA scores correlated with the number of Readorium books that students completed. On average, the students who read 10 books or more books during the 2-month pilot studies gained a full year in reading comprehension on the DORA, and the more they read the greater the gain.

### **Readorium: Brief History**

Readorium is a web-based program with automatically adaptive science chapter books aligned to the Next Generation Science Standards, as well as to State Science Standards. Readorium was developed to address several pervasive problems in education. The results of the National Assessment of Educational Progress has flatlined in both reading and science over the last decade, with two-thirds of students performing under the proficient level in each of these subtests. Many students struggle to comprehend non-fiction text, especially in science, because of the concentration of new vocabulary and unfamiliar concepts. Reading proficiency is the main predictor of science achievement (Maerten-Rivera, Myers, Lee, & Penfield, 2010) and is necessary for success in college-level science courses (U.S. Department of Education, 2012). The achievement gap grows when so many students have difficulty comprehending scientific text.

The development and evaluation of Readorium programs by Mtelegence Corporation was funded through three Small Business Innovative Research (SBIR) Grants from the Institute of Education Sciences (U.S. Department of Education). The grants were awarded to Mtelegence in 2010, 2011, and 2012 to develop Readorium Scholar (for grades 6-8) and Readorium Rising Reader (for grades 3-5).

### **Readorium's Mission**

Readorium's mission is to provide a completely personalized approach to teaching students the reading strategies and word learning skills needed to become thoughtful, analytical readers of science text. All students can understand the same information because the text and support systems automatically adjust to their individual needs as they read and respond to high level thinking questions.

### Readorium Features

- **Personalized Instruction:** Readorium’s science chapter books are aligned to NY ELA standards, the Common Core Standards, and NGSS Standards. Each book is written at 10-12 readability levels. Text levels and supports automatically adapt to each student’s needs as they read and answer questions.
- **Leveled Text and Supports:** Readorium chapter books are written at 10-12 different readability levels, with the same information, paragraph structure, graphics, captions, and academic vocabulary.
- **Book Mentors:** Mentors teach students the strategies and word learning skills they need to understand the text as they read. Mentors provide scaffolded supports at points of confusion (when students answer questions incorrectly.)
- **High Level thinking Questions:** Students at all skill levels answer the same high-level thinking questions. Students who answer questions incorrectly receive additional support, as needed, from the book mentor.
- **Teacher Resource Center:** Actionable Individual and Class Progress Data, as well multimedia and printable instructional materials to differentiate classroom instruction based on this data are available 24/7.
- **Professional Development:** All necessary teacher training is included in the price.

### Readorium Recent Awards

- Recommended by the [National Science Teachers Association](#)
- 2019 Institute of Education Sciences – US Department of Education: [Success Story](#)
- 2018 International [Reimagine Gold Award for K-12 Education](#)
- 2017 CODiE finalist for [Best Cross-Curricular Solution](#)
- 2016 National CODiE Award for [Best Reading/English/Language Arts/Instructional Solution](#)
- 2016 ED Tech Digest [Cool Tool Finalist](#)
- 2016 [Trendsetter Award](#) for innovative content by the Software and Information Industry Association
- 2016 International [Reimagine Bronze Plaque](#) for K-12 Innovation

### **Readorium NYC Pilot Results 2018-2019**

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- Readorium initial field test results are published in the peer review journal *Education Research Quarterly*, Volume 37, Issue 1 September 2013 *Nonfiction Reading Comprehension in Middle School: Exploring an Interactive Approach*

### **Funding Sources for Readorium**

Readorium is a Sole Source Resource on FAMIS. It can be purchased with local funds, as well as with Title I & Title IV funding.