Striving Readers:

Impact Study and Project Evaluation Report

Wisconsin Department of Public Instruction (With Milwaukee Public Schools)

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1647_01/12

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Executive Summary

American Institutes for Research (AIR) conducted an evaluation of the effect on struggling readers of implementing the READ 180 reading intervention in five participating schools in Milwaukee Public Schools (MPS) under a Striving Readers grant from the U.S. Department of Education. The evaluation used an experimental design in order to produce a rigorous estimate of the impact of the READ 180 intervention on measures of reading achievement for struggling students. The evaluation also explored implementation fidelity and the contexts and conditions of implementation that may extend or limit the intervention's effects.

Methodology

To measure program impact on students' academic performance in reading, AIR analyzed student achievement data collected from the Northwest Evaluation Association (NWEA) Measures of Academic Progress (MAP) benchmark assessment. AIR also administered a student survey to assess the impact on student engagement and self-efficacy for reading.

To measure program fidelity, AIR developed rubrics for assigning implementation fidelity scores for both the professional development model and the READ 180 classroom model. Each rubric was based on data collected from multiple sources, including interviews with READ 180 teachers and building administrators, classroom observations, and extant data student and teacher-level data. Scores were categorized into low, medium, and high levels of implementation for each READ 180 teacher/classroom.[1] Descriptive analyses of implementation data also were conducted to provide context for implementation successes and challenges.

Findings

Research Question One: Does the READ 180 reading intervention improve students' academic performance in reading?

The program had a significant impact on students' academic performance in reading. Students assigned to READ 180 scored approximately 1.8 points higher than control students when controlling for pretest scores and student-level covariates. This represents an effect size of d = 0.138.

Overall, results of the student survey were inconclusive, with students from the control and treatment groups responding similarly to the majority of survey items, though treatment students did indicate slightly higher self-efficacy in reading as well as higher levels of behavioral engagement. Due to the small sample size of study students participating in the survey, no differences were found to be statistically significant.

[1] The unit of analysis for the implementation fidelity analysis was to be the teacher. Because of teacher turnover during the year, however, this report will refer to teachers as classrooms.

Research Question Two: With what fidelity did the program implement the professional development model and what factors mediated the level of implementation?

Overall, the professional development model was implemented with medium fidelity. Some components of the model were implemented and attended as planned, including the READ 180 orientation trainings. However, other components were not. For example, some teachers did not complete the online RED Course trainings and three of the nine READ 180 roundtable sessions were cancelled. In addition, teachers did not receive individual mentoring sessions as planned.

Research Question Three: With what fidelity did classroom intervention teachers implement READ 180 and what factors mediated the level of implementation?

Overall, the READ 180 classroom model was implemented with high fidelity. However, student attendance in READ 180 classrooms was low and students' use of the READ 180 instructional software ranged from medium to low levels of implementation. Therefore, nearly all classrooms received a medium rating for fidelity to the classroom model. Teachers reported that prior experience teaching READ 180 and the support of the district READ 180 coordinator were important facilitators for successfully implementing the model.

Introduction and Study Background

American Institutes for Research (AIR) conducted an evaluation of the effect on struggling readers of implementing the READ 180 reading intervention in five participating schools in Milwaukee Public Schools (MPS) under a Striving Readers grant from the U.S. Department of Education. The purpose of this evaluation was to use an experimental design in order to produce a rigorous estimate of the impact of the READ 180 intervention on measures of reading achievement for struggling students. The evaluation also explored implementation fidelity and the contexts and conditions of implementation that may extend or limit the intervention's effects. The evaluation assessed the implementation and impact of the READ 180 program on struggling readers in the five participating schools over the one year of grant implementation, using a mixed-method approach and multiple data sources[2]. The primary purpose was to produce a rigorous causal impact estimate. The secondary purpose was to assess the fidelity of program implementation in the study schools.

READ 180 Overview

READ 180 is a comprehensive reading intervention program developed by Scholastic. The program is designed to address individual student needs through adaptive instructional software, high-interest literature, and direct instruction in reading and writing skills. The READ 180 program follows a structured instructional model. Each class period begins with 20 minutes of whole-group instruction. Next, students break into three small groups and spend 20 minutes in each of the following rotations: small-group instruction, instructional software, and modeled and independent reading. The READ 180 class ends with time to reflect on what was learned that day during a 10-minute whole-group wrap-up. READ 180 was implemented in the five participating schools as part of Striving Readers in Fall 2010 through Spring 2011.

General Overview of the Striving Readers Evaluation

The evaluation focused on three primary research questions and used data collected from a variety of sources to measure implementation and impact. The data sources included student assessments, student surveys, extant professional development attendance records, classroom observations, READ 180 software logs from the Scholastic Achievement Manager (SAM), and interviews with intervention teachers and building principals. Table 1 presents the alignment between the evaluation measures and the research questions. A detailed description of the plans for evaluating the implementation and impact of the intervention, are provided in subsequent sections of this report.

[2] The original evaluation was designed to assess the impact of READ 180 over two years of intervention; however, funding for subsequent years of the program and the evaluation was eliminated.

Table 1. Alignment of Research Questions to Evaluation Measures

Research Questions	Measures
1. Does the READ 180 reading intervention improve students' academic performance in reading? a. What is the impact of the READ 180 intervention on struggling Grade 6–10 students' academic performance in reading? b. Are there differences between the amount of impact of the READ 180 intervention on the academic performance in reading of middle school students (Grades 6–8) and the amount of impact on that of high school students (Grades 9–10)? c. Are there differences between the amount of impact of the READ 180 intervention on the academic performance in reading of students with identified special needs and the amount of impact on that of other struggling readers? d. Does the READ 180 reading intervention increase student engagement and self-efficacy related to reading?	• NWEA MAP assessment • WKCE • Student survey
2. With what fidelity did the program implement the professional development model and what factors mediated the level of implementation? a. To what extent were professional development opportunities provided and attended as planned? b. How effective were professional development opportunities in preparing teachers to implement READ 180 and appropriate literacy instructional content and strategies? (In other words, what was the perceived quality of the professional development? What was the perceived impact on teachers' behaviors? Do teachers feel prepared and comfortable implementing the READ 180 classroom model?) c. To what extent were the identified curricular materials and resources made available to intervention teachers as planned?	• Professional development logs • Teacher interviews • Principal interviews
3. With what fidelity did classroom intervention teachers implement READ 180 and what factors mediated the level of implementation? a. To what extent did intervention teachers implement the READ 180 classroom model with fidelity? b. Did the students assigned to the treatment group attend the READ 180 class as planned?	• Classroom observations • Teacher interviews • Principal interviews • Scholastic Achievement Manager (SAM) Time-on-Task log • Period attendance

Part I: Intervention and Logic Model

This section provides graphic and narrative description of the intervention and its expected connections with student outcomes. The program was designed to provide the participating schools with a series of resources, including instructional materials, newly hired literacy intervention teachers, and professional development opportunities. If these resources were provided as planned, the logic model predicts that the intervention teachers would become knowledgeable about the READ 180 classroom model as a supplemental literacy class for struggling readers and become comfortable implementing it. In addition, READ 180 resources and supports were expected to enhance intervention teachers' knowledge and use of effective instructional practices. Ultimately, the use of effective classroom practices should lead to changes in students' behavior and academic performance. The following subsections provide detail about the specific components of the intervention model, including descriptions of the students targeted by the intervention and the characteristics of READ 180 teachers and classrooms.

Description of the Intervention Model

READ 180 is a comprehensive reading intervention program developed by Scholastic. The program is designed to address individual student needs through adaptive instructional software, high-interest literature, and direct instruction in reading and writing skills. The READ 180 program follows a structured instructional model. Each class period begins with 20 minutes of whole-group instruction. Next, students break into three small groups and spend 20 minutes in each of the following rotations: small-group instruction, instructional software, and modeled and independent reading. The READ 180 class ends with time to reflect on what was learned that day during a 10-minute whole-group wrap-up.

The primary text used during whole-group and small-group instruction is the student rBook, which is an interactive work text. The rBook is organized into nine topical instructional workshops. Each workshop contains six sections: Preview/Teach Vocabulary, Reading, Vocabulary/Word Study, Writing and Grammar, Functional Literacy, and a Workshop Wrap-Up. Throughout the workshop, there are checkpoints that allow teachers to assess student knowledge and provide opportunities for more in-depth skill instruction and practice using the Resources for Differentiated Instruction text. READ 180 also provides teachers with a variety of assessment resources to inform instruction: Scholastic Achievement Manager (SAM) Time-on-Task Report, rSkills Test Reports, Scholastic Reading Inventory (SRI) Reports, and Reading Counts! Reports.

Students Targeted by the Intervention

During the 2010–11 school year, READ 180 was implemented schoolwide in Grades 6–9 in five Title I schools: Audubon School, James Madison Academic Campus (J-MAC), Mitchell School, Morse School for Gifted and Talented, and Northwest Secondary School.

Eligibility Criteria

The guidelines set forth by Milwaukee Public Schools for entrance to the READ 180 program determined a student's eligibility for random assignment according to whether he or she met one or more of the following criteria:

- The student scores Minimal or Basic on the Wisconsin Knowledge and Concepts Examination (WKCE) during fall 2009.
- WKCE data are not available for a student, and that student scores Minimal or Basic on the Discovery Education Assessment Predictive Benchmark Assessment (i.e., ThinkLink) on the most recently administered assessment (February–March 2010 or May 2010).
- No assessment data are available for the student, and teacher assessments and observations indicate that the student is performing at least two grade levels below expectations—that is, a Student Promotion System (SPS) rating of 1 on the 1–4 rating scale.

Students with disabilities also were eligible for the intervention if they have completed one year of the Language! course (meaning they will be at level C or above during the upcoming school year). In addition, English language learner (ELL) students who have a Language Acquisition Unit (LAU) level of 3.0 or higher were eligible for the intervention.[3]

Exclusionary Criteria

Students were excluded from the intervention if they meet any of the following criteria:

- Students with disabilities who are classified as Language level A during fall 2009 and students who have not completed the Language! course for an entire year will not be included in the study. In addition, students with disabilities participating in Unique (who take the state's alternative assessment) will be excluded from the sample.
- ELL students at an LAU level below 3.0 will be excluded.[3]
- Students who are receiving English as a second language (ESL) services may be excluded from the sample because they cannot be pulled from their ESL services to participate in the supplemental reading intervention. Those students who are able to enroll without conflict in both ESL services and the supplemental reading intervention can be included in the study.
- Students who are eligible for the sample on one or more student assessments but are deemed proficient/advanced by a principal or teacher will be excluded.

[3] In September 2010, MPS informed Learning Point Associates (merged with AIR in January 2011) that the criterion level for English language proficiency was raised to limit the eligible students to only those students with a LAU level of 4.0 and above.

Selecting READ 180 Teachers

As Table 2 shows, eight reading intervention teachers were hired to teach three to six 90-minute reading blocks daily serving approximately 450–500 students in the treatment group. Seven of the eight teachers were assigned to a single school and one teacher split time between James Madison Academic and Northwest Secondary School. These teachers were distinct from the regular ELA teachers providing instruction in the five study schools. No interaction was anticipated between the eight reading intervention teachers and the control students. Table 2 shows the planned distribution of sections across the schools as cohorts of students progressed through the three years. The Striving Readers grant was implemented only during the 2010–11 school year.

Table 2. Distribution of READ 180 Teachers and Students By School

School	Grade	Number of Sections			Number of Teachers
		2010–11	2011–12	2012–13	
Audubon	6	2		2	2
	7	2	2	1	
	8	2	2	1	
	9		2	1	
	10			1	
Morse	6	1		2	2
	7	2	1	1	
	8	1	2	1	
	9	2	1	1	
	10		2	1	
JMAC	9	2		2	2/3
	10		2		
Northwest Secondary	6	1		2	2 1/3
	7	2	1	2	
	8	2	2	1	
	9	2	2	1	
	10		2	1	
Mitchell	6	1	1	1	1
	7	1	1	1	
	8	1	1	1	
Total		**24**	**24**	**24**	**8**

MPS advertised for and hired the READ 180 intervention teachers through the school district before the beginning of the 2010–11 school year. The project coordinator trained and helped them transition into their assigned school. MPS developed a job posting that outlined the following qualifications and educational requirements that successful candidates must possess:

- A minimum of three (3) years successful teaching experience within MPS or successful teaching experience in READ 180 while fully certified with a valid Wisconsin teaching license
- Licensed Reading Specialist/Teacher (316 or 317) or able to complete its licensing requirements within two (2) years of being hired as a READ 180 teacher
- Knowledge of current instructional practices related to a standards-based instructional design, including alignment to the Wisconsin Model Academic Standards
- Strong reading background, with experience in READ 180 preferred
- Experience working with at-risk middle or high school students
- Experience in diverse, multicultural teaching and learning environments
- Demonstrated ability to work as a collaborative and flexible team member in addressing school issues and challenges

READ 180 Classrooms

According to the Milwaukee's grant proposal, READ 180 class sizes were to be limited to 25 students per section. Suggestions from building administrators revealed a preference toward assigning students to classes within grade levels, although unmixed grade level sections were not a requirement for the project design.

Recommended Intensity/Dose for Students

The READ 180 supplemental reading intervention class lasted for 90 minutes each day. According to the project design, students would remain in the intervention for a minimum of one year and a maximum of two years, although students could exit from the intervention if they reached district-approved proficiency requirements in reading.

Logic Model

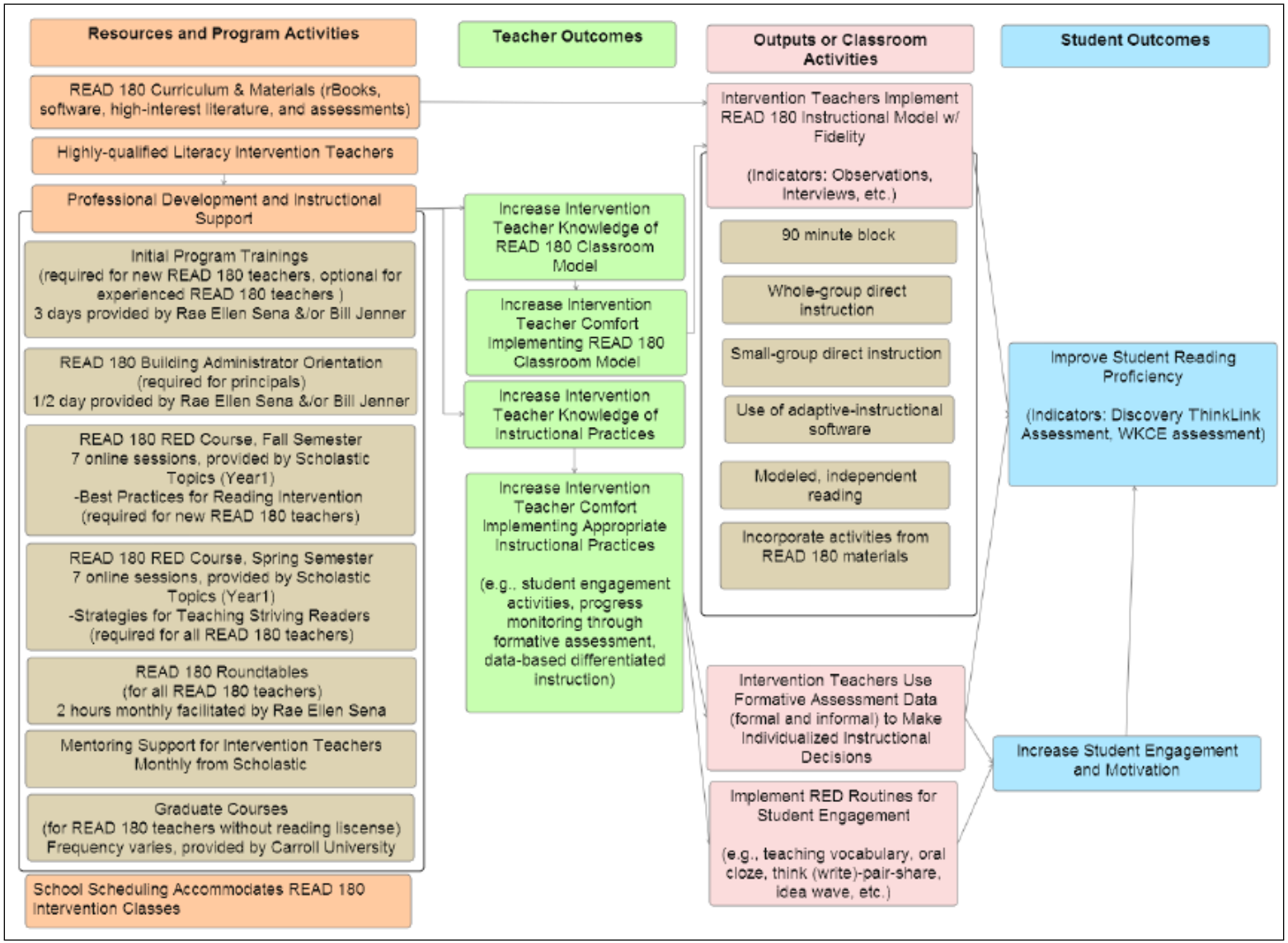
The logic model, depicted in Figure 1, suggests that, in order for change to occur, a number of resources are required—highly qualified teachers, READ 180 instructional materials, and professional development. One of the largest resources included in this plan was the hiring of highly qualified literacy intervention teachers. Eight reading intervention teachers were to be hired to teach 90-minute supplemental reading intervention classes in the five participating schools per day with 15–21 students in each block. The program also was designed to involve several other stakeholders (as additional resources) who have experience in adolescent literacy education and language and literacy development. These other stakeholders were the District Identified for Improvement (DIFI) supervisors, literacy coaches, and other experienced READ

180 intervention teachers. As the following sections describe, these individuals would provide coaching support to the newly hired intervention teachers as they begin implementing the program. District and building administrators would oversee the ordering and delivery of the required instructional materials and would support and supervise the instructional practices of the intervention teachers. For example, READ 180 requires a 90-minute time block for effective implementation and computer accessibility. Therefore, building administrators must ensure that the school scheduling allows for 90-minute blocks and that the classrooms have the needed technological resources.

Professional Development Model

Four types of professional development opportunities were intended to serve as another set of resources for implementing the program. In conjunction with Scholastic (READ 180) and Carroll University, the Wisconsin Department of Public Instruction and MPS prepared to provide training and professional development to develop highly qualified teachers and administrators who would have the skills needed to support the implementation of the READ 180 intervention program for struggling readers in Grades 6–10 in participating schools. Scholastic, Carroll University, the Wisconsin Department of Public Instruction, and MPS sought to deliver 21st century professional development about how to effectively implement the READ 180 program that is consistent with the principles of adult learning; utilizes technology; and provides opportunities for interaction, collaboration, professional reading, practice, reflection, feedback, data analysis, and problem solving. This subsection describes the professional development model designed for groups of READ 180 teachers, for building administrators, and for ongoing instructional support to individual teachers.

Figure 1. Logic Model, Year 1 Plans



Group Professional Development Model for READ 180 Teachers

Scholastic provides start-up and READ 180 implementation training, including training on strategies to differentiate instruction for students with disabilities and English language learners; use of data to assess student achievement and inform instruction; traits-based writing strategies; classroom management and design; and software management instruction. In Year 1, new READ 180 intervention teachers were required to participate in three days of READ 180 start-up trainings. Days 1 and 2 would introduce teachers to program components and demonstrate how it addresses individual needs through small-group instruction, computer software, and high interest literature. Day 3 would expand teachers' knowledge; review classroom management and goal setting; provide time to learn advanced features of the management system; and focus on using reports to differentiate instruction. Attendance of experienced READ 180 intervention teachers at these trainings was optional.

In addition, the model called for intensive ongoing professional development sessions that would provide specific curriculum implementation training as well as best practices in literacy and data analysis. The ongoing training would involve teacher participation in Scholastic online RED courses. These courses were designed to increase teacher knowledge about adolescent literacy. RED course lessons guide the teacher through practice and real-world application. In Year 1, the online course topics included "Best Practices for Reading Intervention" (for novice READ 180 teachers) and "Strategies for Teaching Striving Readers" (for all READ 180 teachers). Participating in the RED courses was required.

Teachers also were required to participate in monthly roundtable sessions over the course of the program. During these sessions, teachers could discuss what they learned in the RED courses, such as strategies for delivering whole-group instruction in phonemic awareness, phonics, vocabulary, fluency, and comprehension. These two-hour sessions also were to provide teachers an opportunity to ask questions and share ideas with one another.

The program aimed to ensure that reading intervention teachers were highly qualified. Carroll University offered graduate-level coursework, which was required for teachers without a reading license. Teachers could earn credits toward their reading license and teachers who already had a reading license were to be granted credits toward their reading specialist license. Tuition reimbursement of up to 12 credits was offered to teachers who earned a B or better.

Professional Development Model for Building Administrators

Building administrators were required to attend a half-day orientation to the READ 180 classroom model in Year 1. During the orientation, administrators would receive a general overview of READ 180 and would personally experience the READ 180 classroom rotations—small-group instruction, instructional software, and modeled and independent reading—to better understand the student and teacher experience in the program.

Ongoing Instructional Support for Individual READ 180 Teachers

Another form of ongoing professional development provided to the intervention teachers was to provide mentoring from more experienced teachers and coaches. The professional development model indicated that a coach from Scholastic would conduct observations of each READ 180 intervention teacher once per month and provide feedback. The project coordinator from MPS also would conduct observations and provide feedback as needed. In addition, DIFI supervisors, literacy coaches, or experienced READ 180 teachers would spend time in the classroom with the teacher observing, providing feedback, and modeling appropriate instructional strategies as needed.

Planned Classroom Instruction Model

The previously described professional development opportunities, combined with the instructional materials and logistical building support, were designed to enable teachers to implement the READ 180 model with fidelity.

Recommended Use of Instructional Time in Each Class

Under the READ 180 classroom model, each day the teacher is to present systematic and explicit instruction in essential reading, writing, and vocabulary skills and strategies designed to move students from teacher-led instruction and modeling to guided and scaffolded practice and then independent practice in each class. Concretely, the 90-minute class involves students in a variety of instructional routines that the students participate in daily, beginning with whole-group instruction and skill lessons in phonemic awareness, phonics, fluency, vocabulary, text comprehension, writing, and grammar during the first 20 minutes of each period. For the next 60 minutes, students rotate among three activities: small-group instruction, modeled and independent reading, and instructional software on computer workstations. During this time, students receive intensive intervention that builds on the whole-group instruction.

During small-group instruction the teacher provides direct instruction to build students' reading, vocabulary, and writing skills using the READ 180 rBook and other instructional materials. This time is designed to customize instruction for the individual needs of the students. The teacher also may use this time to confer with individual students or check in on the other rotations when the students in the small-group rotation are working independently.

The modeled and independent reading rotation is designed to provide students with an in-class opportunity to listen to modeled reading of grade-level literature from the READ 180 Audiobooks or to read independently from the READ 180 Paperbacks. During this time, students also are expected to respond to the reading in writing using a writing log or journal.

The computer workstations are equipped with individualized instructional topic software that provides each student with ability-based instruction, all the while assessing the student's progress. The software is designed to engage students in instructional activities in four "Learning Zones": Reading Zone, Word Zone, Spelling Zone, and Success Zone. Progress reports are created for each student, which the teacher can review and use to differentiate instruction. The

last 10 minutes of each period is a wrap-up session at which the teacher facilitates discussion about the day's lesson.

Two additional components of the READ 180 model are essential instructional strategies that the teacher must use throughout the day. The first, referred to as RED routines, are designed to engage students in the instructional activities. The second component is the use of assessment data to guide instructional decisions. As mentioned previously, the teacher must use the progress reports created by the READ 180 software system along with other data sources to identify the individual strengths and weaknesses of students and then tailor the difficulty of the text, pacing, or skill development to meet their individual needs.

Recommended Grouping of Students for Instruction

The program allows for flexible grouping of students. READ 180 teachers may create heterogeneous-ability groups or groups based on other factors such as student behavior.

Targeted Areas of Reading/Targeted Learning Strategies

READ 180 provides individualized, adjusted instruction in the five essential elements of reading instruction that were identified by the National Reading Panel (2000): The teacher is equipped with a curriculum for teaching essential reading skills—phonemic awareness, phonics, fluency, vocabulary, text comprehension, and writing and grammar.

The READ 180 instructional model promotes a balance of teacher-led direct instruction and computerized differentiated instruction every day, and it encourages differentiated and flexible instruction. The 90-minute lesson cycle begins and ends with teacher-led whole-group instruction. The whole-group instruction begins with the teacher providing systematic instruction of specific skills in reading, writing, and vocabulary to the whole class. During the whole-group instruction, students are provided the opportunity to use structured Red Routines such as Oral Cloze or Think (Write)-Pair-Share to practice speaking, listening, reading, and writing.

Students then divide into three smaller groups and rotate among three stations. Daily small-group direct instruction activities allow the teacher to monitor and address each student's individual needs. The instruction is used for students who are having difficulty with a particular skill and provides intensive instruction or conferencing with individual students. READ 180 Topic Software provides one-on-one dynamic instruction as it continuously assesses and adjusts to students' individual needs and learning rates. The Structured Independent/Modeled Reading provides students with access to a variety of literature and holds them accountable for their own reading.

Reading/Text Materials Provided to Students/Used as Part of the Intervention

The program design provided students, teachers, and classrooms with the following instructional materials:

- Interactive student work texts called rBooks (one for each student)

- READ 180 Paperback and Audiobooks (classroom set)
- READ 180 instructional software access (for each student)
- Instructional technology (e.g., computers, headphones, tape recorders—for each classroom)
- Resources for Differentiated Instruction (RDI books), which include lesson plan passages and graphic organizers designed to provide targeted skills instruction (for each teacher)
- READ 180 anchor videos (for each teacher)

Intended Uses of Technology as Part of the Intervention

During each class period, students would spend approximately 20 minutes at the computer workstation rotation. The topic software at the computer station has three "Zones": the Reading Zone, Word Zone, and Spelling Zone. The software provides continuous, scaffolded practice and opportunities for repeated reading of leveled text.

Technology also was intended to be incorporated into instructional activities during the structured, independent reading rotation. During this time, students could listen to audiobooks with age-appropriate text designed to motivate students to read.

Intended Student Assessment Procedures

READ 180 utilizes the Scholastic Reading Inventory (SRI), a computer-adaptive assessment to measure student performance and report scores in lexiles. Lexile measures are based on word difficulty and sentence length or semantic difficulty and syntactic complexity. The SRI was to be administered initially as a screening measure to determine baseline reading level and then three additional times throughout the year to monitor student growth.

According to the program design, student performance also was to be tracked by READ 180 Topic Software, rSkills Tests, Scholastic Reading Counts! Quizzes, and READ 180 rBook multiyear assessments of skills in phonemic awareness, phonics, fluency, comprehension, vocabulary, spelling, and writing and grammar to inform instructional decisions for differentiation of instruction to the needs of the individual student. In addition to the formative and summative assessments used in the READ 180 program, MPS used the Northwest Evaluation Association (NWEA) Measures of Academic Progress (MAP) benchmark assessment. The NWEA MAP is administered three times a year districtwide in Grades 3 through 10.

Planned Experiences for Control Students During the Intervention Period

According to the study design, both treatment and control students would receive regular English language arts instruction in the same classrooms from the same teachers. Treatment students would in addition receive a supplemental literacy intervention using the READ 180 program. Control group students would not participate in any supplemental instruction. Instead, these students would be enrolled either in study hall or in an elective.

Part II: Implementation Study

The evaluation will address the following research questions related to program implementation:

Research Question 2: With what fidelity did the program implement the professional development model and what factors mediated the level of implementation?

a. To what extent were professional development opportunities provided and attended as planned?

b. How effective were professional development opportunities in preparing teachers to implement READ 180 and appropriate literacy instructional content and strategies? (In other words, what was the perceived quality of the professional development and the perceived impact on teachers' behaviors? Do teachers feel prepared and comfortable implementing the READ 180 classroom model?)

c. To what extent were the identified curricular materials and resources made available to intervention teachers as planned?

Research Question 3: With what fidelity to the model did classroom intervention teachers implement READ 180 and what factors mediated the level of implementation?

a. To what extent did intervention teachers implement the READ 180 classroom model with fidelity?

b. Did the students assigned to the treatment group attend the READ 180 class as planned?

The evaluation used a systematic approach to determining the extent of fidelity to both the professional development model and the classroom model. The following sections provide an overview of the data sources and rubrics that were used to calculate a fidelity score for each teacher (which will be summarized at the school level for the purposes of reporting).[4] Although systematic in nature, these scoring systems are primarily being used to aggregate across a large number of data sources and do not necessarily represent a true quantitative measure of program fidelity. A weighting procedure is used to ensure that certain aspects of fidelity or certain data sources do not contribute too much or too little to the determination of overall fidelity. The fidelity scores will be reported simply as high, medium, or low implementation in accordance with the requirements of the grant and the stakeholders.

In addition to reporting implementation fidelity scores, this section also provides detailed summaries about particular aspects of program implementation.

Implementation Data Sources and Collection Methodology

Several data sources were used to measure implementation of the professional development model and classroom model.

[4] Implementation measures will not be reported as attributed to a specific school so as not to identify individual teachers. We will report only the number of schools achieving a particular level of implementation (i.e., high, medium, or low).

Professional Development Logs

The project coordinator from MPS was asked to maintain professional development logs to indicate the nature of professional development opportunities provided, when they occurred, and who participated. The logs will include records of the following professional development opportunities:

- READ 180 orientation trainings
- Building administrator professional development trainings
- Scholastic RED courses
- Monthly roundtable sessions
- Graduate-level coursework, including the following courses: Emergent Literacy, Issues in Children's and Adolescent Literature, Reading Assessment in the K–12 Classroom, and Practicum in Assessing and Teaching Reading (as needed)

The project coordinator also was asked to coordinate with Scholastic to maintain coaching logs to document the frequency of coaching sessions between Scholastic and each READ 180 intervention teacher.[5] At the end of the school year, AIR reviewed and compared these records to original professional development plans to respond to Research Question 2.

Interviews With READ 180 Teachers and Building Administrators

AIR conducted structured interviews with READ 180 teachers and building administrators to assess implementation of the professional development model and classroom model. The research team developed interview protocols designed to capture perceptions about professional development quality, implementation of the READ 180 model, and facilitators and barriers to implementing the program. Teachers were interviewed in the fall and spring, and administrators were interviewed in the spring and summer. Respondents were asked whether they found the professional development sessions helpful and whether they modified their practices because of what they learned during the professional development sessions. Interviews also were used to gather data from teachers and administrators on the extent to which they had access to READ 180 and other instructional materials, such as technology equipment, and any barriers to using the provided resources.

To facilitate determining the extent of implementation of the classroom model from teacher and principal interview responses, the evaluation team developed an interview scoring rubric. The rubric maps teacher and principal responses to a rating of high, medium, or low implementation and is provided in full detail in Appendix A. The interview rating rubric also demonstrates how interview data were incorporated into the professional development model fidelity score.

[5] The contract between MPS and Scholastic. was not finalized during the school year and therefore coaching sessions did not occur as planned. As a result, no coaching logs were available.

Classroom Observations

Each of the eight intervention teachers were observed four times during the year for a total of 32 classroom observations.[6] Observations were staggered across the school year in order to assess change in implementation over time. The observation protocol (provided in Appendix B) focuses on key characteristics of the READ 180 classroom model and teacher instructional practices. Classroom instruction was rated as high, medium, or low in implementation on the following aspects of the intervention model: whole-group instruction, small-group instruction, modeled and independent reading, computer rotation, and whole-group wrap-up. These ratings were then combined into an overall score for each observation (as shown in Appendix B) and contributed to the overall classroom fidelity score as described later in this section.

Extant Data

The Scholastic Achievement Manager (SAM) provides information about the amount of time students spend using the READ 180 computer software. The SAM system is a database that logs how students interact with the READ 180 software, how often they use the software (i.e., number of days per week), and for what duration they use the software (i.e., number of minutes per session). MPS had a system in place for measuring the extent of classroom-level implementation that is based on SAM data (summarized as high, medium, or low implementation). These MPS-calculated SAM scores were used in our fidelity rating system as shown later in this design summary. In addition to SAM data, period attendance records for the READ 180 90-minute block were used to describe the dosage of the intervention for students in the treatment group. Furthermore, classroom enrollment data and attendance data for treatment and control students were collected and examined to ensure that control students were not enrolled in a supplemental reading class.

Implementation Analysis Methodology

Implementation data were analyzed for two purposes. First, implementation data were reviewed and scored according to a priori rubric rating levels to tabulate implementation fidelity scores. Scores were assigned at the teacher/classroom level, and there are separate fidelity scores for the professional development model and the classroom model. Second, implementation data were analyzed to provide contextual and descriptive information about implementation of the program. The following section presents the analytic methodology used for each purpose.

Plan for Measuring Adequacy and Fidelity of Implementation

Professional Development Model Fidelity Scores

AIR developed a rubric for assigning an implementation fidelity score related to professional development and instructional supports. The rubric specifies indicators related to the quantity (i.e., number of sessions attended) and quality (i.e., perceived value added) across a

[6]Classroom, rather than teacher, was our unit of analysis, because one teacher was replaced during the year and another teacher had a long-term substitute during the time of one observation.

measurement scale for the instructional supports and professional development opportunities. Scores were assigned for each item in Table 3 using the scoring rubric shown in Appendix C. The rubric specifies the primary data source to measure each item, and some items have multiple data sources that address the topic. In general, professional development quantity determinations were based on the professional development logs, and quality determinations were based on the teacher and principal interviews. Furthermore, a combination of interviews and classroom observations were used for estimates of fidelity related to the quantity of instructional supports (e.g., classroom materials). This score was calculated at the teacher/classroom level.

Table 3. Professional Development and Instructional Supports Fidelity Scoring Rubric

Items	Quantity Score	Quality Score	Total Item Score
READ 180 orientation training	Range = 1–3	Range = 1–3	Range = 2–6
READ 180 roundtables	Range = 1–3	Range = 1–3	Range = 2–6
READ 180 RED course online	Range = 1–3	Range = 1–3	Range = 2–6
Mentoring support from Scholastic/READ 180 representative	Range = 1–3	Range = 1–3	Range = 2–6
SAM data training	Range = 1–3	Range = 1–3	Range = 2–6
Graduate courses	Range = 1–3	Range = 1–3	Range = 2–6
READ 180 conference **(Year 2 only)**	Range = 1–3	Range = 1–3	Range = 2–6
Materials available/need additional materials	Range = 1–3		Range = 1–3
Quantity of rBooks	Range = 1–3		Range = 1–3
Quantity of READ 180 Paperbacks	Range = 1–3		Range = 1–3
Quantity of READ 180 Audiobooks	Range = 1–3		Range = 1–3
Functional computers and equipment	Range = 1–3		Range = 1–3
Program fidelity score for teacher/classroom *X*			**Y1 range = 17–51** **Y2 range = 19–57**

Classroom Model Fidelity Scores

As with the examination of professional development fidelity, the study of classroom fidelity used multiple data sources (classroom observations, interviews, and extant program data) to examine the extent to which the program provided instruction to students in accordance with the intervention logic model. In particular, Research Question 3 aims to measure the extent to which the intervention teachers are implementing the READ 180 program as intended, and the extent to which students attend class and participate in the designed activities.

AIR developed a rubric to calculate a classroom fidelity score that combined ratings across data sources. The rubric specifies indicators related to how closely to the READ 180 model instruction was implemented as collected in the data sources outlined earlier. This score was be calculated at a teacher/classroom level.

The classroom observation protocol provides a rubric for rating components of the READ 180 model using a 1–3 rating scale. Descriptors for each rating level are shown in the protocol in Appendix B. A similar 1–3 rubric was created to rate responses to interview questions related to READ 180 classroom instruction (see Appendix A).

Ratings for student period attendance were assigned using a 1–3 rating scale on the following criteria:

- A rating of 3 indicates that at least 75 percent of treatment students attended for at least 75 percent of the year.
- A rating of 2 indicates that 50 to 74 percent of treatment students attended for at least 75 percent of the year.
- A rating of 1 indicates that fewer than 50 percent of treatment students attended for at least 75 percent of the year.

Ratings for the SAM data were based on the system that MPS currently has in place for measuring the extent of classroom-level implementation (summarized as high, medium, or low implementation). A low rating will receive a score of 1, a medium rating a score of 2, and a high rating a score of 3.

Table 4 depicts how the scores across data sources will be combined to establish the overall average classroom implementation score for each teacher/classroom. Each data source has a scoring system that results in a different number of possible points. A score and item weighting system combines the data sources, shown in Table 4. In particular, the score from each observation was weighted by a factor of 1.43 to result in an observation score that can range from approximately 50 to 150 total points. In contrast, the single score from the SAM and period attendance data sources will be weighted by 40 (with a low score corresponding to 40, a medium score corresponding to 80, and a high score corresponding to 120). Furthermore, to give equal weight to the observations, interview data, SAM data, and period attendance data, each of the four observations contributes to the overall score only once (whereas the other scores contribute by a weighting factor of five). The overall categorization of classroom implementation was based on dividing the scoring range into thirds, with the lowest third corresponding to low implementation, the middle third corresponding to medium implementation, and the highest third corresponding to high implementation.

Table 4. READ 180 Classroom Implementation Fidelity Scoring Rubric

Item	Score Range	Score Weighting	Item Weighting	Weighted Range
Classroom Observation 1	35–105	×1.43	×1.00	50.1–150.2
Classroom Observation 2	35–105	×1.43	×1.00	50.1–150.2
Classroom Observation 3	35–105	×1.43	×1.00	50.1–150.2
Classroom Observation 4	35–105	×1.43	×1.00	50.1–150.2
Interview Rating	40–120	×1.00	×5.00	200.0–600.0
SAM Data Usage Score	1–3	×40.00	×5.00	200.0–600.0
Period Attendance	1–3	×40.00	×5.00	200.0–600.0
Classroom fidelity score for teacher/classroom *X*				**800.0–2400.0**

Additional Implementation Analyses

Qualitative Interview Coding

NVivo software for qualitative research was used to support coding and data analysis of teacher and administrator interviews. We employed systematic procedures for coding and categorizing the data supports exploration and discovery of categorical relationships that derive directly from the data and inform the overall schematic structure of qualitative research—both within and across sites. An inductive approach to qualitative analysis incorporates systematic methods of managing data through reduction, organization, and connection (Dey, 1993; LeCompte, 2000). In our data interpretation and reporting process, AIR researchers identified the common themes and divergent cases that exemplify characteristics and challenges incurred by participating staff. This process encouraged sensitivity to emergent patterns and regularities, along with contrasts and irregularities within and across sites (Delamont, 1992).

Descriptive Summaries of Quantitative Implementation Data

In addition to using quantitative implementation data (e.g., observations, period attendance) to ascertain the fidelity scores according to the a priori rubrics, AIR researchers also tabulated descriptive summaries of these data. When appropriate, our findings sections present descriptive statistics of central tendency and variation to provide a more robust depict of the extent of program implementation and the extent to which students received the planned intervention.

Professional Development Implementation Findings

Overall, the professional development model was implemented at a medium level of fidelity. As described previously, the professional development fidelity score included a range of 17–51 possible points, using data from multiple sources. As shown in Table 5, five of eight classrooms received a score in the medium range and three classrooms received a score in the high range. The average score across all classrooms was 39 (at the top end of the medium range).

Table 5. Fidelity of Implementation of the Professional Development Model Across Classrooms

Classroom	Low (17-28)	Medium (29-40)	High (41-51)	Total Score
Classroom 1			X	43
Classroom 2		X		40
Classroom 3		X		37
Classroom 4			X	41
Classroom 5			X	41
Classroom 6		X		37
Classroom 7		X		40
Classroom 8		X		34
Total Number of Classrooms	**0**	**5**	**3**	**Average = 39**

A closer look at fidelity scores on particular professional development opportunities and instructional supports provides insight into why the level of implementation of the professional development model fell within the mid range. Some elements of the professional development model received more ratings in the low range than did other items. For example, as shown in Table 6, all classrooms received high ratings for the orientation training and all classrooms received low ratings on the mentoring support.

Table 6. Classroom Score Range for Professional Development and Related Supports

Professional Development and Related Supports	Number of Classrooms (*N* = 8)		
	Low	Medium	High
READ 180 orientation training	0	0	8
READ 180 roundtables	1	4	3
READ 180 RED course online	2	2	4
Mentoring support from Scholastic/READ 180 representative	8	0	0
SAM data training	0	1	7
Graduate courses	0	2	6
Materials available/need additional materials	3	2	3
Quantity of rBooks	0	0	8
Quantity of READ 180 Paperbacks	0	4	4
Quantity of READ 180 Audiobooks	2	4	2
Functional computers and equipment	0	6	2

Key for items on 2–6 scale: L/Low range = 2, 3; M/Mid range = 4, H/High range = 5, 6

Key for items on 1–3 scale: L/Low range = 1; M/Mid range = 2; H/High range = 3

The sections that follow provide additional descriptive information on implementation of the professional development model, which includes access to instructional materials.

Implementation of Group Professional Development Model for READ 180 Teachers

As previously mentioned, the original study design called for four types of group professional development opportunities for reading intervention teachers:

- READ 180 orientation trainings and conferences
- Scholastic RED courses
- Monthly roundtable sessions
- Graduate-level coursework

READ 180 Orientation Trainings

By study design, new READ 180 teachers were required to participate in three days of READ 180 orientation trainings. Days 1 and 2 were to introduce teachers to program components and demonstrate how READ 180 addresses individual needs through small-group instruction, computer software, and high-interest literature. Day 3 was designed to expand teachers' knowledge, review classroom management and goal setting, provide time to learn advanced features of the management system, and focus on using reports to differentiate instruction. Experienced READ 180 intervention teachers had the option to attend these trainings or not. Interviews with teachers indicated that READ 180 start-up trainings were implemented as intended though some additional topics were also covered during these sessions. For instance, the first day of the trainings focused not only on an introduction to the READ 180 program components but also on 21st century assessment theory. On the third day of training, some time was spent on grade-book training (which is not READ 180 content, but training by the district that focused on entering grades in a systemwide database aligned with standards). Scholastic Achievement Monitor (SAM) data training was covered on day 3.

Attendance at the READ 180 start-up trainings was high. All teachers attended at least one of the three days, and all three new teachers attended day 2, set aside solely for new teachers. Although experienced teachers had the option of attending or not, most still attended day 1 (3 of 5) and all attended day 3. In interviews, teachers reported that these trainings were effective in reviewing the READ 180 program and introducing reports in SAM and the grading of students. As one teacher summarized,

> [The READ 180 Start up Trainings] were all day for three days.… we focused on how to go about [implementing] the first three weeks [of the READ 180 program]. We covered some of the reports in SAM, like how to log the kids into SAM and get our classes registered.… we worked on grading, so the ESIS Grade Book…[and] we talked about twenty-first century reading and grading.

Online RED Courses

Fall and spring RED Courses contained separate content and separate requirements for participation—in the fall, experienced teachers were not required to take the RED online courses, but in the spring all reading intervention teachers were required to take RED online courses. As shown in Table 7, only three teachers completed 75 percent or more of required lessons (combining the fall and spring). Although completion of courses was inconsistent (three teachers took less than 50 percent of courses), overall reading intervention teachers reported enjoying their courses and felt they were helpful in reminding them of instructional strategies as well as previous knowledge learned from teacher preparation courses. In fall interviews, two reading intervention teachers had not yet heard of RED online courses. By the spring interviews, however, all teachers had heard of online RED courses and all but two reported participating.

Table 7. Percentage of RED Online Courses Completed (Fall and Spring), PD Logs

Percentage Completed	Number of teachers
Completed 75 percent or more of required sessions	3
Completed 50–74 percent of required sessions	2
Completed less than 50 percent of required sessions	3

Teacher Roundtables

The eight READ 180 teachers hired for the Striving Readers grant attended teacher roundtable sessions with other READ 180 teachers in the district. Professional development logs indicated that only six of the nine originally planned monthly roundtables were offered, which lowered the fidelity score. As shown in Table 8, typically, most teachers attended the offered roundtables.

Table 8. Teacher Roundtable Attendance, PD Logs, *N* = 8

Dates	READ 180 Classroom								Total Number of Classrooms Represented
	1	2	3	4	5	6	7	8	
September 22 and 23	X	X	X	X	X	X	X	X	8
October 12 and 20	X	X	X	X	X		X	X	7
November 13	*CANCELED*								
December 14 and 16	X	X	X	X	X	X	X	X	8
January 26 and 27	*CANCELED*								
February 15 and 16	*CANCELED*								
March 16 and 17		X	X	X	X	X	X	X	7
April 12 and 13	X	X	X	X	X	X	X	X	8
May 17 and 19	X		X		X		X	X	5

In interviews, all READ 180 teachers reported actively participating in the roundtables they attended, and generally they did not miss any except for medical reasons. Teachers also reported taking a lot of information away from the roundtables, and they especially appreciated the opportunity to share ideas with and ask questions of their colleagues. It should be noted that the May 17 and 19 sessions were held after the announcement that the Striving Readers program would no longer continue, which may have contributed to the lower attendance (5 of 8 teachers).

Graduate Courses

The original study design called for teachers without a reading license to take graduate courses to obtain their license through Carroll University. Six READ 180 teachers already held their reading license and therefore were not required to take the courses. The other teachers did not, and Milwaukee Public Schools had no evidence that these teachers completed graduate courses offered through Carroll University. In interviews, three teachers reported being enrolled in courses at Alverno, Concordia, and Marquette University, but courses at those universities were not paid for by the grant and there was no record of course completion.

Teacher Feedback on Group Professional Development

Although teachers were generally satisfied with the professional development they received, when asked during interviews, READ 180 teachers requested additional professional development through additional online RED courses, roundtables, SAM training, and SMART Board Training. Reading intervention teachers also suggested some changes to professional development, including providing opportunities to observe other READ 180 teachers, better differentiating professional development for experienced and inexperienced teachers, and having a greater range of topics from which teachers could pick. For example, one teacher explained how previous experience observing READ 180 teachers was especially helpful:

> At the end of last year when I was first approached about teaching READ 180 I was sent to a school to observe a teacher and that was kind of helpful. It gave me an idea of how [READ 180 is] taught.… [The program] should have READ 180 teachers go to other schools and see other teachers and how they work in their classrooms. That might have been helpful. [As a READ 180 teacher, I] kind of feel like an island. I'm the only one here that teaches [READ 180]. So I don't really have anybody to go to about this program.

Implementation of Instructional Support for READ 180 Teachers

The original study design included instructional support in the form of mentoring of READ 180 teachers from more experienced teachers and coaches: a coach from Scholastic would observe once per month, the project coordinator from the district would give feedback to teachers as needed, and District Identified for Improvement (DIFI) supervisors, literacy coaches, or experienced READ 180 teachers also could provide feedback as needed. Teachers also were to receive instructional materials in a timely manner from the district or their building administrator, and classrooms and students were to be appropriately scheduled.

Mentoring

With the exception of one teacher who reported having an experienced READ 180 teacher observe her classroom, teachers did not receive mentoring in Year 1. In interviews, the vast majority of teachers reported that they did not have any in-school support from a literacy coach or other specialist for Scholastic. Nearly all respondents spoke highly of experiences when Scholastic mentors came to their school in previous years, though it was unclear from interviews whether visits had occurred this year. As one teacher explained, " Every year I'll have a visit from [Scholastic mentors]. And I think the world of [them]. [They are] very helpful. Very constructive in criticisms.… It's usually spot on." No logs of mentoring sessions were available. It is understood that mentoring sessions did not occur as planned because the contract between Scholastic and the district was not finalized.

District and State Support

During interviews, READ 180 teachers indicated that district support consisted primarily of addressing classroom needs through e-mail; often this entailed requests for materials. The majority of teachers (5 of 8) reported that they were receiving frequent district-level support, and the majority of reading intervention teachers (4 of 7) felt the district had affected their instruction to a large extent. As one teacher explained, "Well, our supervisor has been wonderful at providing support, and making sure that she responds to our e-mails and gives us the materials we need." Those who reported lower levels of district support explained that the district often has other obligations. Some teachers elaborated that they do not need much support and very rarely send e-mail questions. Those in more frequent contact reported e-mailing and receiving prompt responses from the district.

Instructional Materials

In interviews, several teachers reported issues with receiving adequate amounts of READ 180 materials. For the majority of teachers (5 of 8), there were delays in receiving materials. The most commonly missing items were headphones (3 teachers) and CD players (2 teachers). Other items missing were furniture, action books, DVD players, speakers, and computers. In the fall, nearly all teachers (6 of 8) felt that the number of READ 180 paperback books were insufficient at one or more levels. By the spring, however, nearly all teachers felt that they had a sufficient number of READ 180 paperbacks at various levels. Those teachers who commented on an inadequate number of paperbacks explained that students in the upper levels needed more books, and some of the topics do not capture the student's interests. Four teachers requested additional materials such as articles and periodicals, a projector or document camera, a larger variety of books, a SMART Board, and headsets.

Implementation of Group Professional Development Model for Building Administrators

Overall, the implementation of the group professional development model for building administrators was relatively low, with less than half the principals participating. According to the study design, the building administrator was required to attend a half-day orientation to the READ 180 model in Year 1.Two of the five principals participated with the READ 180

orientation workshop. According to principal interviews, two principals who did not participate this year had attended in previous years. None of the principals participated in any additional professional development offered by READ 180 this year, though all reported an awareness of READ 180 trainings and described their teacher's participation in professional development as medium to high.

Other Implementation Concerns

The vast majority of teachers and principals reported issues with scheduling. Nearly all (4 of 5) principals reported challenges with student schedules. The challenge came from difficulty scheduling 90 minutes for students while still meeting other course requirements. As one principal stated,

> That was probably the biggest challenge I saw with the program and if there were any drawbacks, we have within the school for special-education students a language program and that lasts for 90 minutes, then we have the READ 180, which also lasts for 90 minutes. So, that was probably the biggest programming, scheduling struggle, to make sure the kids got all of their educational needs met.

READ 180 Classroom Model Implementation Findings

The previously discussed, professional development opportunities, combined with the instructional materials and instructional support, are designed to enable teachers to implement the READ 180 program with fidelity. The present section will address the implementation of the READ 180 classroom model, as well as other critical issues to the classroom model, including the actual class size, intensity of the intervention students received (i.e., did students receive the amount of intervention the classroom model is designed to give?), and other critical issues, such as the teachers' use of RED routines and assessment data to guide instructional decisions.

The average classroom implementation fidelity score across the eight classrooms was 1,490, a score in the medium range. As shown in Table 9, seven of eight classrooms received a rating in the medium range and one classroom received a score in the low range.

Table 9. Overall Classroom Fidelity Scores Across Classrooms

Classroom	Low (800–1,333)	Medium (1,334–1,867)	High (1,868–2,400)	Classroom Fidelity Score
Classroom 1	X			1,247
Classroom 2		X		1,545
Classroom 3		X		1,451
Classroom 4		X		1,498
Classroom 5		X		1,510
Classroom 6		X		1,585
Classroom 7		X		1,561
Classroom 8		X		1,525
Total Number of Classrooms	**1**	**7**	**0**	**Average = 1,490**

An examination of ratings on components that make up the classroom fidelity score provides additional information about why the level of fidelity in the implementation of the READ 180 classroom program fell within the medium range. With some exceptions, teachers implemented the READ 180 with high fidelity, but low student attendance reduced the overall classroom fidelity scores.

Class Size

The READ 180 model calls for 15 students per classroom. As seen in Table 10, attendance data revealed that on average, reading intervention teachers in the study had 12 students per classroom. In interviews, teachers reported having between 4 and 20 students enrolled in their READ 180 classrooms. Several teachers indicated that their class size was often low because of attendance issues. For instance, the reading intervention teacher who reported having four students explained that several students in special education were placed in her class and had to be taken out early in the school year.

The majority of teachers (5 of 8) reported that their class size was appropriate for all students, and teachers generally agreed that class sizes are best around 15. Reading intervention teachers with fewer than 10 students wanted more students in their sections to better handle the rotations, and teachers with closer to 20 students expressed that behavior management was a challenge with that many students. One teacher indicated that an accommodation to the READ 180 classroom model that was due to a small class size—this teacher had individual sessions with students and two, instead of three, groups during rotation time.

Table 10. Class Sizes of READ 180 Classes, Attendance Data

Classrooms	Average Class Size Across Three Sections
Classroom 1	11
Classroom 2	12
Classroom 3	12
Classroom 4	13
Classroom 5	7
Classroom 6	10
Classroom 7	16
Classroom 8	16
Overall	**12**

Student Attendance in READ 180

The READ 180 model calls for students to receive 90-minute reading blocks five days a week. As Table 11 displays, on average across the year and across classrooms, 58 percent of their students were present. As shown in Table 11, no READ 180 classrooms received a high level of implementation for attendance, and the majority of classrooms (5 of 8) received a low rating, indicating that fewer than 50 percent of treatment students in these classrooms attended at least 75 percent of the year.

Table 11. Percentage of Students in Attendance by Teacher/Classroom, Attendance Data

Classrooms	Rating for Attendance[1]	Mean Attendance Percentage [2]
Classroom 1	LOW	46.5%
Classroom 2	LOW	46.6%
Classroom 3	MEDIUM	73.9%
Classroom 4	LOW	64.9%
Classroom 5	LOW	45.2%
Classroom 6	LOW	57.1%
Classroom 7	MEDIUM	71.0%
Classroom 8	MEDIUM	61.9%
Total		58.4%

[1]A high rating indicated that at least 75 percent of treatment students attended for at least 75 percent of the year. A medium rating indicated that 50 to 74 percent of treatment students attended for at least 75 percent of the year, and a low rating indicated that fewer than 50 percent of treatment students attended for at least 75 percent of the year.

[2]Mean classroom attendance was obtained from each student's "total attendance days" divided by "total school days in the school year" averaged out by classroom

READ 180 Classroom Model Components

Under the READ 180 classroom model, each day the 90-minute class involves a whole-group instruction and skills lesson (20 minutes), rotations between small-group instruction (computer, small group, and modeled and independent reading rotations each lasting 20 minutes), and the last 10 minutes of each period serves as a wrap-up session during which the teacher facilitates discussion about the day's lesson. Overall, the components were implemented with high fidelity. As shown in Table 12, in observations across the year, classrooms implemented the small-group and computer rotations with the most fidelity: 27 of 32 observations received a high rating; the whole-group wrap-up received the lowest ratings across the year, with 16 of 32 observations receiving a low rating.

Table 12. Classroom Observation Ratings Across Classrooms and Observations Rounds

	Number of Observations That Received the Rating		
	Low (7–11)	**Medium (12–16)**	**High (17–21)**
Whole-group instruction	1	9	22
Small-group instruction	1	4	27
Modeled and independent reading	1	6	25
Computer rotation	2	3	27
Whole-group wrap-up	16	12	4
Overall observation score	**0**	**10**	**22**

Note: Weighted observation component totals ranged from 7 to 21.

Overall, the vast majority of observations (22 of 32) received a high fidelity rating. As seen in Table 13, two classrooms (Classrooms 1 and 7) showed improvement from a medium to high rating.

Table 13. Overall Classroom Fidelity Score by Classroom and Observation Time

	Observation Time			
	1	2	3	4
Classroom 1	Medium	Medium	High	High
Classroom 2	High	High	High	High
Classroom 3	Medium[a]	Medium	Medium	Medium
Classroom 4	High	High	High	High
Classroom 5	High	Medium	Medium[a]	High
Classroom 6	High	High	High	High
Classroom 7	Medium	Medium	High	High
Classroom 8	High	High	High	High

(Low, medium, high ratings were obtained from the classroom fidelity score. Low= 35-58, Medium = 59-82, and High =83-105**)**

[a]Different teacher

Detailed interview and observation data on the components of the classroom model follow.

Whole Group

In interviews, all but one teacher reported using a defined approach for their whole-group instruction. Observation ratings were relatively high for this component, with more than two

thirds (22 of 32) receiving a high rating on whole-group instruction. In interviews, reading intervention teachers typically reported spending 20 minutes in whole group and using the Red Routines and rBook to guide their whole-group instruction. Some teachers also used their own activities.

Small-Group Instruction

Observation data also showed relatively high ratings for teachers on this component (27 of 32 observations received a high rating). In interviews, the majority of teachers described a somewhat defined approach to small group. During interviews, reading intervention teachers most commonly reported using the rBook to guide their small-group instruction.

Computer Rotation

The computer rotation was implemented with high fidelity during most (25 of 32) observations. Teachers generally described an intentional approach to computer rotation that was consistent and planned according to the READ 180 model. During the fall interviews, however, three teachers reported not being able to implement the computer rotation because of technical difficulties, but no teacher reported eliminating this rotation in the spring. Technical difficulties included general issues with computers and headphones (e.g., the microphones not picking up students' voices) and issues with accessing the internet.

Although observations demonstrated a high fidelity of implementing the computer rotation component, SAM usage data did not. SAM usage data reported the number of weekly minutes students spent on the READ 180 instructional software. The minutes are converted into implementation ratings that are based on district specifications. Half the classrooms received a medium rating for SAM usage, and the other half had a low rating.

Modeled and Independent Reading Time

As shown in Table 12, the majority of observations (26 of 32) received a high rating for modeled and independent reading time during most observations. In interviews, teachers generally described an intentional approach that was somewhat consistent and planned according to the READ 180 model for modeled and independent reading time. According to reading intervention teachers, the most common strategy teachers used to engage students was the use of reading logs. Other strategies were reading quizzes, conferences after finishing a book, reports, and worksheets. Two teachers felt strongly that their use of reading quizzes increased the motivation of students to read during independent reading time. As one teacher explained, "Since I started incorporating those printout tests, it's gotten them really interested. In fact, it's gotten to the point where I've got to slow them down."

Whole-Group Wrap-Up

As seen in Table 14, observation data revealed that the whole-group wrap-up was the lowest rated component of the READ 180 model. Half the observations (16 of 32) received a low fidelity rating for this component, and only four observations received a high fidelity rating. In

interviews, the wrap-up was the eliminated component most commonly reported, and time management was the most commonly cited reason for eliminating it. As one teacher explained,

> The wrap-up is really the only one I don't get done. And that's my own time management issue.… So my 20 minutes at the beginning becomes 25. And I don't want to short the kids. I still want them to have their 20, 20, 20 [minute rotations]. I have to short it someplace, so I take it off my 10 minutes at the end.

In interviews, teachers described varied approaches for whole-group wrap-up. Activities used during these times included asking students to answer a question as they exit the class as well as passing a ball around the classroom to engage students in answering questions to written reflections/exit slips. The most common approach mentioned by five of eight teachers was written reflections and exit slips. As shown in Table 14, four classrooms showed improvement in implementing the whole-group wrap-up from the fall to the spring. One of the classrooms that showed improvement on this component used prizes to motivate students to volunteer during whole-group wrap-up.

Table 14. Whole-Group Wrap-Up Observation Rating by Observation Time and Classroom

		Observation Time			
		1	2	3	4
Classroom	1	Low	Low	Medium	High
	2	Medium	Low	Low	Low
	3	Low	Low	Low	Low
	4	Medium	Medium	Medium	Medium
	5	Low	High	Low	Medium
	6	Medium	Medium	High	Low
	7	Low	Low	Medium	High
	8	Low	Medium	Low	Medium

Note. There was a change in teacher for one classroom from the first to second observation. In addition, there was a long-term substitute teacher in one classroom during the third observation. Weighted observation totals ranged from 7 to 21. High = 17–21, medium = 12–16, and low = 7–11.

Writing Instruction

The district included an emphasis on writing instruction in their classroom model. All teachers reported that writing instruction was incorporated in their daily routine through the self-developed activities, worksheets from their rBooks at the end of each workshop, a reading log, and two final projects. Only three teachers mentioned the writing component at the end of each workshop. Several challenges with the incorporation of writing also were mentioned. Teachers reported difficulties working with bilingual students who were unable to write. One teacher explained that conferencing is necessary to properly implement writing instruction, and

behavioral problems in the classroom can make conferencing difficult. Finally, one teacher explained that 90 minutes of a very scripted intervention makes it difficult to incorporate writing.

Assessment Data

One essential component of the READ 180 model is the use of data to guide instructional decisions. As mentioned previously, the teacher must use the progress reports created by the READ 180 software system along with other data sources to identify the individual strengths and weaknesses of students and then tailor difficulty of the text, pacing or skill development to meet their individual needs. READ 180 provides teachers with a variety of assessment resources to inform instruction, including Scholastic Achievement Manager (SAM) Time-on-Task Report, rSkills Test Reports, Scholastic Reading Inventory (SRI) Reports, and Reading Counts! Reports.

All teachers reported using assessment data to inform instruction. As one of the teachers who reported using assessment data more frequently stated, "The SAM data is updated all the time. I look at it all the time. I look at it to see how they're doing in different functions." In interviews, principals also reported that teachers are generating data reports and sharing with them, though some principals were more familiar with the names and contents of the reports. Principals use the data to monitor student progress and have discussions with teachers in staff meetings. By the spring interviews, all teachers reported frequently accessing and reviewing READ 180 reports. The vast majority of teachers (6 of 8) reported no difficulty generating reports, but some issues were identified. For example, one teacher reported that assessment reports are not always accurate, when students' voices are not picked up on computer microphones, for example. One teacher explained that there were challenges with accessing reports through the SAM database:

> Just Friday we had issues with SAM not working and I couldn't print out practice quizzes and the Scholastic Reading [Inaudible] didn't work on the computers.

Perceived Grade-Level Implementation Differences

Teachers noted some differences in age of students and their receptiveness to the READ 180 model, which may have influenced instructional strategies. Some teachers noted that sixth-grade students were more willing to try different things, though they were not always as motivated because they have more time until high school to get proficient. Eighth- and ninth-grade students, in contrast, had a greater urgency and motivation to become proficient, but they can find some aspects of the READ 180 program (big writing, the subjects) to be "babyish." As one teacher noted, "With eighth graders, it's more of an emotional thing where they're more embarrassed to be in READ 180 at the beginning than the other grade levels, and that's just because they're heading into high school and they want to be treated a little differently."

Factors in Fidelity of Implementation

The present section discusses some facilitators and barriers that may have affected the fidelity of implementation.

Possible facilitators

Some possible facilitators in the fidelity of implementation of the READ 180 model were the teachers' prior experience with the program and collaboration with one another. For instance, several of the teachers were experienced in READ 180 before being hired for this program. Those teachers who had another READ 180 teacher at their school, particularly one experienced with the program, reported communicating with them frequently and planning instruction. They said that the close proximity of this teacher provided added support.

Possible barriers

There were also several barriers to the fidelity of implementation. These were difficult–to-manage students, administrator turnover, the absence of school support, tardy receipt of materials, and a lack of coaching from Scholastic.

Several teachers commented that they had students who were especially difficult to manage, and two teachers reported that their students were inappropriately placed in classes. These two teachers felt their students were functioning at too low a level to handle the READ 180 requirements. Further, some students were scheduled for the READ 180 class but were actually attending other classes. Similarly, four of five principals reported challenges with student schedules. Principals reported difficulty finding a 90-minute period to schedule students while still meeting the student's other course requirements. As one principal stated

> [Scheduling] was probably the biggest challenge I saw with the program, and if there were any drawbacks, we have within the school for special-ed students a language program and that lasts for 90 minutes, then we have the READ 180, which also lasts for 90 minutes. So that was probably the biggest programming, scheduling struggle, to make sure the kids got all of their educational needs met.

One administrator was a new principal this year, though he had previous experience as an administrator. This may have served as a barrier because new principals often have other duties to focus on beyond READ 180. Several teachers from other schools reported struggling with the implementation of READ 180 because their principal did not fully understand the program model and time requirements and sometimes interfered with student scheduling.

As mentioned earlier, several teachers did not have their READ 180 materials at the start of the school year. Only three of eight teachers received all their materials on time—the tardy materials were computers, headphones, and rBooks, all of which are necessary for fidelity of implementation.

Experiences for Control Students During Intervention Period

This study was designed to test the effect of READ 180 as a supplemental reading intervention. Treatment students were to attend their regular ELA class plus READ 180. Control students were to attend their regular ELA class plus a nonreading elective or study hall. Table 15 shows the percentage of treatment and control students enrolled in READ 180. Only two control students (less than 1 percent) ended up enrolled in READ 180, and nearly 70 percent of

treatment students were enrolled in READ 180. Thirty percent of treatment students were not enrolled in READ 180 by the schools. In many cases, these students were post–random assignment principal exclusions. For the purposes of calculating the intent-to-treat effect of READ 180, these students are nevertheless considered as treatment students.

Table 15. Enrollment in READ 180 by Treatment Group

Group	Enrolled in READ 180		Not Enrolled in READ 180		Total
	N	%	*N*	%	
Treatment	233	69.6%	102	30.4%	335
Control	2	0.7%	282	99.3%	284

As stated above, control students were to enroll in regular ELA and either a nonreading elective or a study hall. AIR worked with MPS to gather data on student enrollment in ELA and reading courses. Table 16 shows the pattern of course taking by treatment and control students (the average number of courses per semester in four categories). Regular ELA courses are those courses students are required to be enrolled in. Other ELA courses were nonreading ELA courses that were not considered the main ELA course required of students. Other reading courses represent non–READ 180 reading courses in which students were enrolled.

The table indicates that, as expected, treatment students were mostly enrolled in READ 180, and that most treatment and control students had a regular ELA course. The average treatment student was enrolled in 0.82 regular ELA courses, as compared with 0.91 for treatment students. This difference indicates that treatment students were enrolled in regular ELA courses less often than control students, contrary to the design of the study. This result is most likely due to the scheduling concerns expressed by principals elsewhere in this report. Control students also were more likely to be enrolled in other ELA courses. These additional courses most likely represent nonreading elective courses in place of READ 180, which was allowed by the study design. Table 16 also indicates that the average control student was enrolled in 0.13 additional reading courses. This would seem problematic because control students were not to receive supplemental reading instruction, but the average treatment student was enrolled in 0.10 additional reading courses, so it seems to balance somewhat across treatment conditions.

Table 16. Average Number of Courses per Semester by Treatment Group

Group	READ 180	Regular ELA Courses	Other ELA Courses	Other Reading Courses	*N*
Treatment	0.75	0.82	0.46	0.10	335
Control	0.01	0.91	0.79	0.13	284

Ramifications of Implementation Results for Impact Analysis

The preceding sections describe in detail the fidelity of implementation of the READ 180 Striving Readers program in five Milwaukee schools. This section provides a brief summary of these findings and discusses what these findings might imply for the analysis of program impact on student outcomes. Any program, no matter how effective, may not have an effect unless participants actually receive the treatment as intended.

In general, implementation of the READ 180 program was reasonably good. Teachers were observed to be implementing the READ 180 model in the classroom with high fidelity. READ 180 classes tended to follow the designed READ 180 process of whole-part-whole, with students going through rotations during the middle period of the class. Although teachers implemented the model with fidelity, however, student attendance was generally low. To have the full impact, students need to be in class to receive the supplemental instruction. This was often not the case. Beyond the classroom, teachers also were to receive professional development and mentoring. The overall rating for professional development fidelity was medium—implying that teachers did not receive the full level of training and support that was planned.

From these findings, it seems reasonable to expect that there would be a moderate impact of the READ 180 program on student outcomes. Although the model was not implemented perfectly, many students did receive READ 180 supplemental instruction. It seems reasonable to infer that if student attendance had been higher, the impact of the program would be larger than what was observed with this study.

Part III: Impact Study

This study is designed to detect the impact of a two-year READ 180 reading intervention for struggling readers in five Milwaukee Public Schools under a Striving Readers grant from the U.S. Department of Education. This study will use a strong experimental design to produce a rigorous estimate of the impact of the READ 180 intervention on measures of reading achievement for struggling students. The evaluation also will explore implementation fidelity and the contexts and conditions of implementation that may extend or limit the intervention's effects. The primary purpose is to produce a rigorous estimate of the program's causal impact. The secondary purpose is to assess the fidelity of program implementation in the study schools.

Because the Striving Readers grant was discontinued, the impact study will focus only on the one-year impact of the reading intervention. The initial study was designed to test the effect of a two-year READ 180 intervention and was powered on the contingency of being able to pool effect estimates across academic years.

Study Design

This section will present the key research questions, the sampling plan, data collection plan, and the analytic approach to the impact study.

Research Questions for Impact Study

The experimental study is aimed at determining the extent to which treatment students receiving the supplemental READ 180 intervention improved their reading proficiency relative to control students. As initially intended, this study focused on the effect of a two-year READ 180 intervention for struggling students. With the cancellation of funding for the Striving Readers program, however, this report provides analyses of data on a single-year intervention. The primary casual research question and four research subquestions are as follows:

Research Question 1: Does the READ 180 reading intervention improve students' academic performance in reading?

a. What is the impact of the READ 180 intervention on struggling Grade 6–10 students' academic performance in reading? As a secondary analysis, what is the impact of one year of READ 180 participation on struggling Grade 6–9 students' academic performance in reading?
b. Are there differences in the amount of impact of the READ 180 intervention on students' academic performance in reading between middle school students (Grades 6–8) and high school students (Grades 9–10)?
c. Are there differences in the amount of impact of the READ 180 intervention on students' academic performance in reading between students with identified special needs and other struggling readers?
d. Does the READ 180 reading intervention increase student engagement and self-efficacy related to reading?

Sampling Plan

This section describes how students were identified for random assignment and assigned to study conditions for Cohort A[7] (i.e., the 2010–11 school year). In total, two randomizations occurred in which students were assigned to either a treatment condition (participate in their regular ELA course plus the READ 180 supplemental literacy intervention) or a control condition (participate in their regular ELA course plus attend study hall or a nonreading elective), with the second randomization also generating a waitlist of students for the treatment and control groups.

Sample Selection Process

For the 2010–11 school year, students in Grades 6–9 across the five study schools were considered eligible for random assignment if they met the criteria established in the guidelines set forth by Milwaukee Public Schools (MPS) for entrance to the READ 180 program. In general, students were considered eligible for random assignment if they were reading at a below-proficient level on the basis of the Wisconsin Knowledge and Concepts Examination (WKCE), the district benchmark assessment (i.e., ThinkLink), or their teacher-evaluated reading proficiency. In addition, some students were excluded from random assignment based on predetermined exclusionary criteria for students in special education and English Language Learners. Detailed eligibility requirements and exclusionary criteria are described in Part I: Intervention and Logic Model.

MPS research and assessment staff provided AIR with student data on April 29, 2010. MPS provided five data files, one for each study school, containing the names and assessment scores of all students eligible for random assignment according to the established criteria. These files were limited to students enrolled to date in the school for the upcoming year.

In May 2010, AIR provided the study school principals and programmers lists of eligible students and asked them to screen out any students who were ineligible for the study—no longer enrolled in the school, were ineligible because of their special education Language! course level, or other principal-identified exclusion. After allowing a few weeks for their review and providing multiple reminders, AIR received feedback from four of the five schools on the list of eligible students. A total of 45 students were deemed ineligible on the basis of a principal request (for reasons other than their Language! course level). AIR removed these students from the eligibility list as well as other students who did not meet the eligibility criteria of prior test scores or English language proficiency level. AIR then used these cleaned versions of the eligibility lists for the first round of random assignment.

For the first round of random assignment, AIR randomly selected students within each study school to a treatment condition or a control condition. The first randomization for Cohort A was conducted to fill as many of the READ 180 spots as possible (while still maintaining a sufficient sample of control students within each grade and school). A total of 504 READ 180 spots were available (eight intervention teachers, each teaching three sections per day, with a maximum of 21 students per class). The first randomization process used a stratified random sample with

[7]Cohorts B and C were to be randomized prior to school years 2011–12 and 2012–13. Because funding was discontinued, only Cohort A went through the randomization.

control sorting (using proc SURVEYSELECT in SAS 9.1) in July 2010. The sample was stratified by school and grade and controlled for special education status. The number of students receiving treatment in each school was determined by the number of teachers assigned to each school and the breakdown of grades within each school. AIR sent the initial lists of treatment and control students to the study schools in June 2010.

On July 30, 2010, MPS provided AIR with an updated school enrollment data file for each school. These files contained the names, demographics, and assessment scores of all students eligible for random assignment (according to the established criteria) who were enrolled in the school for the upcoming year as of July 30, 2010. From this list, AIR identified study students no longer enrolled in one of the study schools to determine the number of additional study slots by school and grade level available for incoming students who met the eligibility criteria to be randomly assigned to the study.

On August 11, 2010, AIR provided each school principal with another list of eligible students on the basis of the updated file. Principals and programmers were asked to identify any students they deemed ineligible to participate in the study because of the exclusionary criteria. After approximately one week for review and multiple phone and e-mail reminders, only one of the five schools provided feedback on the updated eligibility lists. AIR removed these students (52 students from one school) from the eligibility list as well as other students who did not meet the eligibility criteria for prior test scores or English language proficiency level. AIR then used these cleaned versions of the eligibility lists for the second round of random assignment. AIR sent the updated lists of treatment and control students to the study schools in August 2010.

The second randomization process was conducted differently than the first randomization. For the first randomization, more treatment spots were available than the pool of eligible students could fill. The first randomization did not fill all treatment spots for the purpose of maintaining a sufficient pool of control students (e.g., if there were 28 eligible students in a grade, 16 might be assigned to treatment and 12 to control rather than 21 to treatment and 7 to control). The second enrollment file contained 590 eligible students, but there remained 81 treatment spots to fill. Because the newly eligible students had not been enrolled in the study schools during the first enrollment period (prior to May 2010), these students were suspected to be qualitatively different from students in the first randomization (i.e., they enrolled in school later in the summer rather than in the spring). Placing 509 students of the 590 eligible students into the control group (as would be the case under the sampling plan from the first randomization) would result in an imbalance of the combined (across randomizations) treatment and control groups (both in size and preexisting achievement). Therefore, the second randomization was conducted by assigning each student a random number, sorting students within grade and school, and selecting students for treatment on the basis of this random number. If five students were needed for a school and grade combination, the first five students on the random list were selected as treatment, and the bottom five students were selected as control. This process not only ensured a balanced addition of treatment and control students to the sample but also created a waiting list. In addition, the final impact model for the experiment included not only stratification variables, but also indicator variables that accounted for the different randomization periods (i.e., indicators for each randomization period, grade, and school combination).

The waiting list created by the second randomization provided the schools with a list of eligible students the schools could use to fill vacant spots. To fill vacant spots in READ 180 classrooms, principals and programmers informed AIR of students who did not enroll in the school or were excluded for other reasons identified by the principal (including reasons that met and did not meet the exclusionary criteria). Using the waiting list, AIR staff provided the principal with the next student on the school by grade waitlist to the treatment condition as well as the next from the bottom student on the school by grade waitlist to the control condition. This wait list process continued until the end of September. After this date, the principals and programmers were instructed that they could fill any vacant READ 180 spots with any students not identified for the control condition in the first or second randomization. Students added by the principal or programmers after the randomization periods were not included in the impact study.

Post–Random Assignment Exclusions

After the first and second randomization, principals reported multiple reasons students assigned to a treatment condition were not placed in READ 180. In many cases, students who were randomized into treatment or control conditions did not end up attending the school. These students did not know their treatment status and were excluded from the study (129 treatment students and 112 control students). During the scheduling process, some students were deemed ineligible by principals on the basis of various criteria. Because these students were considered nonrandom exclusions, they are included in the intent-to-treat analysis, even though they did not enroll in READ 180.

Total Sample Size

As Table 17 indicates, 809 students were assigned in the first randomization (434 treatment and 375 control students). The second randomization placed 78 treatment students and 79 control students, and 80 treatment students and 80 control students were selected off the alternate list. A total of 591 students were assigned to treatment, and 531 were assigned to control over the two randomizations and waitlist process. After removing students who never showed up for school at their enrolled school, the final intent-to-treat sample is 462 treatment students and 419 control students. Students who did not show up for school are not included in the intent-to-treat sample as these students did not attrition with any knowledge of their study status.

Table 17. Assigned and IIT Sample Size by Randomization

Study Group	Randomization 1	Randomization 2	Alternates	Overall		
				Assigned	Did Not Enroll	ITT Sample
Treatment	434	78	80	591[a]	129	462
Control	375	79	80	531[a]	112	419

[a] One treatment and three control students attritioned after Randomization 1 (retained in grade or switched schools) and were rerandomized, either during the second randomization, or on the waitlist.

Table 18 shows the number of control (Ctrl) and treatment (Tx) students by grade and school in the baseline sample (expected sample size for the intent-to-treat analysis).

Table 18. Baseline Sample Size by School and Grade

School	Grade 6		Grade 7		Grade 8		Grade 9		Total	
	Ctrl	Tx	Ctrl	Tx	Ctrl	Tx	Ctrl	Tx	Ctrl	Tx
Audubon	32	36	35	42	23	37	0	0	90	115
J-MAC	0	0	0	0	0	0	25	41	25	41
Mitchell	19	21	12	14	8	13	0	0	39	48
Morse	16	22	25	34	32	21	32	40	105	117
NWS	18	25	35	32	42	39	65	45	160	141
Total	**85**	**104**	**107**	**122**	**105**	**110**	**122**	**126**	**419**	**462**

Attrition

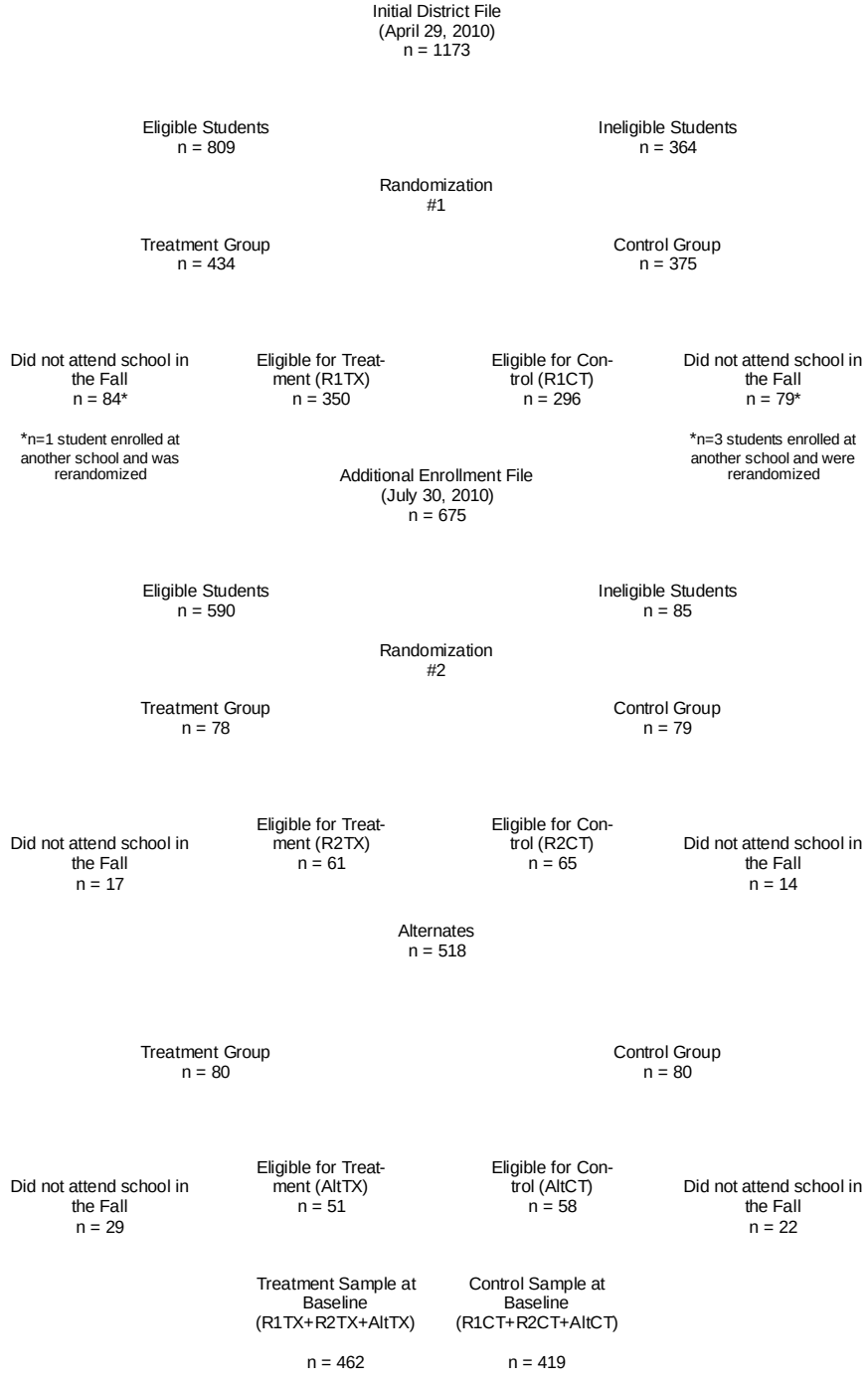
Table 19 reports the number and overall attrition rate of students on the basis of the baseline randomization (i.e., the number of initial intent-to-treat sample students). The overall attrition rate for study students was 30 percent (i.e., students who did not attend school in the district, left the district, or otherwise had no outcome data). For the treatment group, the attrition rate was 28 percent, and for the control group, the attrition rate was 32 percent. The attrition rate for students in the treatment condition (78 percent) was greater than the attrition rate for students in the control condition (57 percent). This attrition rate reflects the number of baseline students with MAP reading assessment data from June 2011. The missing students reflect both those who did not enroll in the school or left the school after randomization, as well as any students who did not complete the MAP reading assessment in June 2011.

Table 19. Attrition Rate Between Baseline Sample and Reading Proficiency Data

Condition	Baseline	MAP Reading Assessment, June 2011	Attrition Rate
Treatment	462	335	27.5%
Control	419	284	32.2%
Total	**881**	**619**	**29.7%**

Figure 2 is a consort diagram of the number of students assigned to the study and the reason students were removed. These numbers reflect students no longer in the study but do not reflect students who did not participate in the June 2011 MAP assessment.

Figure 2. Consort Diagram Showing Randomization Process and Final Intent-to-Treat Sample



Data Collection Plan

This section will describe the data collected for the two primary outcomes of this study: student reading proficiency and student self-efficacy and motivation.

Student Reading Proficiency

The Measures of Academic Progress (MAP) assessment served as the primary outcome measure of student reading proficiency used for the analytic analysis. Developed by the Northwest Evaluation Association, the MAP is a computer-adaptive assessment aligned to state standards that provides the school with immediate feedback on student progress.[8] The scores represent a developmental scale and are comparable across grade-level. Beginning in the 2010–11 school year, Milwaukee Public Schools identified the MAP as the primary assessment measure of student progress, replacing the ThinkLink (which had been identified as the primary outcome of interest in the original proposal). The MAP is administered to all MPS students in mathematics and reading three times a year: October, February, and June. For the purposes of this study, the reading portion on the June MAP assessment will be used as the primary outcome measure for student reading proficiency.

Reading Engagement and Self-Efficacy

American Institutes for Research developed a student survey to determine whether participation in the READ 180 reading intervention had an impact on student engagement and self-efficacy related to reading. The survey asked students to respond to items related to self-efficacy, as well as the constructs of behavioral engagement, emotional engagement, and cognitive engagement with reading.

All school principals in the participating schools were invited in March 2011 to preview the student reading survey and add other questions they would like to include in the analysis. Two principals provided additional survey questions. After finalizing the survey, school schedulers received copies of student surveys to distribute to all ELA classrooms in April 2011. All Grade 6–9 students at the participating schools, regardless of study status, were instructed to receive the survey. Each survey had a unique ID with an attached name page. Students were asked to write their name on the name on the name page and return it to the teacher. Student surveys and names were returned in separate mailings, and American Institutes for Research attached student IDs to the unique IDs for the analysis. Only surveys of students participating in the study were used for the analysis.

Analytic Approach to the Impact Analysis

The primary focus of the study design was to estimate the effect of a two-year supplemental literacy intervention using READ 180. Because the Striving Readers grant was discontinued, however, the study design was revised to estimate the effect of a one-year intervention. This

[8] http://www.nwea.org/products-services/computer-based-adaptive-assessments/map

section will summarize the methods used to measure the impact on students at the end of one year. Additional details of the impact analysis methodology are presented in Appendix D.

Models

To measure the impact of the READ 180 intervention on reading proficiency for students in the five MPS study schools, we will test for both intent-to-treat (ITT) and treatment-on-the-treated (TOT) effects. Although we will consider both models in our analysis, the primary model used for reporting the effectiveness of the READ 180 intervention will be the ITT analysis. The ITT group includes all students randomized to the study who enrolled in the school and grade level at which they were randomized in the 2010–11 school year. The basic models for the ITT estimate of the impact of the intervention are as follows:

$$(1)\ Y_{ij} = \beta_0 + \beta_1 T_{ij} + \Sigma\beta_{ij} SGR_{ij} + \varepsilon_{ij}$$

$$(2)\ Y_{ij} = \beta_0 + \beta_1 T_{ij} + \Sigma\beta_{ij} SGR_{ij} + \Sigma\beta_i P_i + \varepsilon_{ij}$$

$$(3)\ Y_{ij} = \beta_0 + \beta_1 T_{ij} + \Sigma\beta_{ij} SGR_{ij} + \Sigma\beta_i P_i + \Sigma\beta_i D_i + \varepsilon_{ij}$$

In this model, Y_{ij} represents the student-level, postintervention outcome (e.g., reading achievement on the MAP reading assessment completed in June 2011). T_{ij} is an indicator of the treatment status of student *i* in school *j*, P_i represents two pretest standardized test scores (i.e., WCKE and ThinkLink), D_i represents student-level covariates (e.g., gender, ethnicity, economic status, special education status, and ELL status), and SGR_{ij} represents a school-by-grade-by-randomization block for a given student. In addition, models include missing data indicators for prior achievement scores (equaling 1 for students with missing WKCE or ThinkLink scores, respectively). Student-level covariates to include in the models will be selected using backward selection criteria with a critical value of 0.2 (*t*-statistic significance) for inclusion.

The TOT analysis will be conducted to account for the possibility of treatment crossover and other forms of treatment noncompliance. The TOT estimate will account for that noncompliance through the use of a two-stage least-squares approach, using random assignment as an instrumental variable for treatment receipt (Angrist, Imbens, & Rubin, 1996). The second stage model for the TOT analysis is

$$(4)\ Y_{i\,j} = \beta_0 + \beta_1 R'_{ij} + \Sigma\beta_{ij} SGR_{ij} + \Sigma\beta_i P_i + \Sigma\beta_i D_i + \varepsilon_{ij}$$

In this model B_1 is the estimated impact of READ 180 for a student *i* who enrolled in READ 180 (R′) based on their assignment to the treatment group.

Subgroup Analyses

In addition to the one-year ITT analysis, analyses were conducted to look at how different student subgroups perform the outcome measures. These subgroup analyses were as follows:

Special Education Status. This subgroup analysis examined the impact of a one-year READ 180 intervention on students identified prior to randomization for special education. The subgroup

analysis will follow the empirical structure for model (3) plus add an additional interaction term between treatment status and special education status:

$$(5)\ Y_{i\,j} = \beta_0 + \beta_1 T_{ij} + \beta_2 T^{*} SPED_{ij} + \Sigma\beta_{ij} SGR_{ij} + \Sigma\beta_i P_i + \Sigma\beta_i D_i + \varepsilon_{ij}$$

The value of the coefficient β_2 will reflect the average treatment effect on special education student assigned to treatment.

English Language Learner (ELL) Status. This subgroup analysis will examine the impact of a one-year READ 180 intervention on students identified prior to randomization as an ELL. The subgroup analysis will follow the empirical structure for model (3) and add an interaction term between treatment status and ELL status:

$$(6)\ Y_{i\,j} = \beta_0 + \beta_1 T_{ij} + \beta_2 T^{*} ELL_{ij} + \Sigma\beta_{ij} SGR_{ij} + \Sigma\beta_i P_i + \Sigma\beta_i D_i + \varepsilon_{ij}$$

The value of the coefficient β_2 will reflect the average treatment effect on ELLs assigned to treatment.

Middle School Versus High School Students. This subgroup analysis will examine separately the impact of a one-year READ 180 intervention on middle school (Grades 6–8) and high school (Grade 9) students. The subgroup analysis will follow the empirical structure for model (3).

Description of the First-Year Sample

The following sections provide an overview of the numbers and basic characteristics of schools, teachers, classrooms, and students involved in the study.

Schools

The characteristics of the five study schools varied in size, as well as in the proportion of the student populations receiving special education services, classified as English language learners, and receiving free or reduced-price meals. Student populations within the five study schools ranged in size from 625 to 1,201 students, with a mean student population of 931 students per building. Demographics for each of the five study schools are presented in Table 20.

Table 20. Characteristics of Wisconsin (Milwaukee) Striving Readers Schools, 2010–11[9]

School Name	Grade Span	Total Enrollment	% Special Education	% English Language Learners	% Free or Reduced-Priced Meals
Audubon	***6–8***	***625***	***20.6%***	***24.2%***	***83.4%***
James Madison Academic Campus	***9–12***	***1,081***	***21.6%***	***2.1%***	***75.6%***
Mitchell	***K–8***	***730***	***18.1%***	***34.8%***	***94.8%***
Morse Marshall	***6–11***	***1,201***	***22.2%***	***3.2%***	***67.4%***
Northwest Secondary School	***6–12***	***1,019***	***28.5%***	***0.5%***	***81.4%***

Teachers

MPS hired eight reading intervention teachers for the start of the 2010–11 academic year as called for in the original study design. Seven of the eight teachers were to be assigned to a single school, with one teacher splitting time between JMAC and Northwest Secondary School, as shown in Table 21.

In December 2010, the full-time reading intervention teacher serving JMAC and Northwest Secondary transitioned to a new role at which point a new reading intervention teacher was hired, also splitting time between the two schools. Additionally, one reading intervention teacher at Morse was replaced by a long-term substitute in November of 2011.

Table 21. Distribution of READ 180 Teachers by School

School	Number of Teachers
Audubon	2
James Madison Academic Campus	2/3
Mitchell	1
Morse Marshall	2
Northwest Secondary School	2 1/3
Total	***8***

[9] Demographic and enrollment information was obtained from the Wisconsin Department of Public Instruction website's WINNS system: http://data.dpi.state.wi.us/data/GroupEnroll.aspx?OrgLevel=st&GraphFile=BlankPageUrl&S4orALL=1&SRegion=1&SCounty=47&SAthleticConf=45&SCESA=05&Qquad=demographics.aspx (accessed on December 22, 2011).

Of the eight intervention teachers working in the study schools in spring 2011, four of the eight indicated that they had prior experience with the READ 180 model. In addition, five of the eight instructors reported previous experience with programs that focused on struggling readers, including the Direct Instruction reading program, Pebble Creek, and Soar to Success.

For the majority of the teachers interviewed in fall 2011 (five of nine), it was their first year teaching at their respective schools, with the total years of teaching experience ranging from 3 to 30 years. All but one teacher reported holding a reading license, though two of the eight teachers who indicated that they held a reading license in spring 2011 specified that they held an emergency reading license.

Classrooms

Originally, the study called for each reading intervention teacher to teach three to six 90-minute reading blocks daily. As shown in Table 22, in practice, each teacher taught three sections of READ 180 during the 2010–11 academic year, with the shared reading intervention teacher leading two sections of READ 180 at JMAC and one section at Northwest Secondary. Northwest Secondary had the most available sections of READ 180, with seven, and Audubon and Morse each had six available sections of READ 180 for treatment students. Mitchell and JMAC had the fewest sections, with three and two sections, respectively.

Table 22. Number of READ 180 Sections by School

School	Teacher	Number of Sections
Audubon	Teacher 1	3
	Teacher 2	3
James Madison Academic Campus	Teacher 1[a]	2
Mitchell	Teacher 1	3
Morse Marshall	Teacher 1	3
	Teacher 2	3
Northwest Secondary School	Teacher 1	3
	Teacher 2	3
	Teacher 3[a]	1
Total	***8***	***24***

[a]Shared teacher between JMAC and Northwest Secondary, as of December 2010.

According to the READ 180 program model, all sections were 90 minutes in length and students in the treatment group were expected to receive a minimum of 90 minutes of intervention instruction daily, or 450 minutes per week.

Students

Within the study group, as shown in Table 23, the characteristics of students in the treatment and control conditions were similar in most areas. Overall, as shown in Table 23, the study sample consisted of more males than females and the majority of students received free or reduced-price meals, an indicator of low socioeconomic status. Slightly more than one third of study students received special education services during the 2010–11 academic year and less than 10 percent were considered to be English language learners (ELL). In terms of ethnicity, the majority of students in the sample were African American (70 percent).

Table 23. Characteristics of Treatment and Control Students

Demographics	Control (*N* = 377)	Treatment (*N* = 392)	Overall Study Group (*N* = 769)
Special education	37.4%	33.7%	35.5%
English language learner	7.4%	8.2%	7.8%
Free or reduced-priced meals	85.9%	89.5%	87.8%
Female	40.3%	37.2%	38.8%
African American	71.6%	68.6%	70.1%
Hispanic	4.0%	2.0%	18.9%
White	17.5%	20.2%	7.2%
Other[a]	0.8%	1.0%	3.9%

[a]Other includes students that identified as being of Asian or Native American descent.

Note: Table reports percentage of students who fall into specified category. Students may be classified under multiple categories, and thus percentages do not sum to 100.

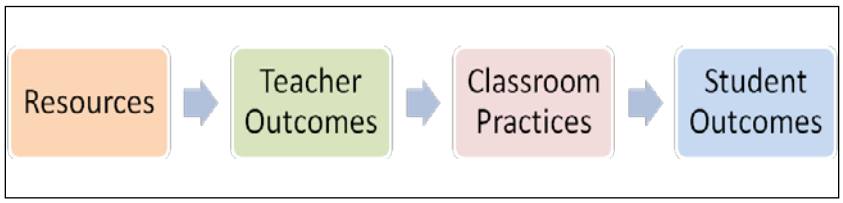
Pearson's chi-square was used to test the hypothesis that students in intervention and control groups were similar for each demographic group. No group was found to be significantly different at the 0.05 level.

Impacts on Teachers and Classroom Practices at the End of One Year

As introduced in the overview of the intervention and logic model, the READ 180 program was designed to provide the participating schools with a series of resources, including instructional materials, newly hired literacy intervention teachers, and professional development opportunities. In the event that these resources were provided as planned, the logic model predicts that the intervention teachers will become knowledgeable about the READ 180 classroom model as a supplemental literacy class for struggling readers and become comfortable implementing it. In addition, READ 180 resources and supports are expected to enhance intervention teachers' knowledge and use of effective instructional practices. Ultimately, the use of effective classroom practices should lead to changes in students' behavior and academic

performance. This theory of change is depicted within the simplified logic model in Figure 3. A more detailed logic model can be found in Part I (Figure 1) of this report.

Figure 3. Simplified Logic Model



As previously described, four types of professional development opportunities were available to reading intervention teachers:

- READ 180 orientation trainings and conferences
- Scholastic RED courses
- Monthly roundtable sessions
- Graduate-level coursework, including the following courses Emergent Literacy, Issues in Children's and Adolescent Literature, Reading Assessment in the K–12 Classroom, and Practicum in Assessing and Teaching Reading (as needed)

Based on the logic model, reading intervention teachers participating in the professional development were expected to see increases in knowledge of the READ 180 classroom model, comfort in implementing the READ 180 classroom model, knowledge of instructional practices, and comfort in implementing appropriate instructional practices such as student engagement activities, progress monitoring through formative assessment, and data-based differentiated instruction.

Measures of Teacher Outcomes

In order to determine the extent of teacher outcomes related to participation in the READ 180 program and subsequent professional development, AIR used data from both classroom observations and teacher interviews.

Interview Questions

Interviews with teachers were conducted in fall 2010 and spring 2011 to gather more detailed information about how the intervention affected teachers' attitudes, knowledge, and instructional practices. The research team and literacy staff from MPS developed interview protocols, with questions specifically designed to gain targeted information on teacher outcomes, including their typical approach to instruction and the READ 180 model and any changes in their approach from the beginning of the school year; use of READ 180 reports and data; and modifications to teaching practices as a result of participation in professional development.

In addition, reading intervention teachers were asked to rate the following questions on a scale of high, moderate, or low:

- How would you rate your familiarity with the READ 180 program model?
- How would you rate your comfort level with the READ 180 program model?

Observations

Each of the nine intervention teachers was observed up to four times during the 2010–11 academic year. Observations focused on key characteristics of the READ 180 classroom model and teacher instructional practices. As previously described, classroom instruction was rated as high, medium, or low implementing on the following aspects of the intervention model.

Impacts on Teacher Characteristics

In interviews, reading intervention teachers reported an overall increase in their familiarity with and knowledge of the READ 180 program model, as well as increased comfort in using the program model. Teachers also indicated knowledge of instructional strategies related to READ 180 and felt comfortable implementing these strategies.

In spring interviews, when asked to rate their familiarity with the READ 180 program model, all eight reading intervention teachers reported high familiarity, whereas in the fall interviews only five teachers rated their familiarity as high and three indicated moderate familiarity. In addition, seven of the eight teachers reported a high comfort level with the READ 180 program model in spring interviews and one indicated moderate. In comparison, in fall interviews, five reading intervention teachers reported a high comfort level and three a moderate comfort level.

Teachers also reported making changes to the rotation block once they became more familiar and comfortable with the program model. For example, in spring interviews, six teachers reported changes in whole-group instruction from the beginning of the year. These changes included the use of new resources and strategies, such as incorporating the Red Routines, and some teachers reported incorporating their own activities, such as writing prompts. Three teachers specifically mentioned that as the academic year progressed that they became calmer and more comfortable with the READ 180 program model.

Through interviews, teachers also reported increases in knowledge related to instructional strategies, as well as comfort in implementing these strategies as the year progressed. At various points in each interview, all teachers reported using student engagement activities such as reading quizzes to keep students engaged in the independent reading rotation or reflection circles to help students make connections from their readings in the whole-group wrap-up. In spring interviews, all teachers reported frequently accessing and reviewing READ 180 reports as well as using assessment data to inform instruction. Specifically, teachers reported using assessment data, including SAM data and SRI lexile scores to help inform their student groupings for small-group instruction. For example, in spring interviews, one teacher explained

> I plan like if I look on what they're doing on the computer I notice most of these students are struggling in main idea and detail, I group those kids together and that's what our focus will be. I may group them together based on their SRI scores, these are the basic minimal proficient, I'll put those students together.

Impacts on Teacher Instructional Practices

Not only were there impacts on the teacher's attitudes toward READ 180, observation data and interviews show some changes in teacher's instructional practices throughout the year. For instance, three of the classrooms improved from a low/medium READ 180 observation score to high across the year. Seven of eight classrooms scored in the high range during the last observation.

In interviews, reading intervention teachers reported several positive changes to their instructional practices. By the spring, nearly all (seven of eight) teachers reported that they were able to incorporate all components of the READ 180 model, as compared with only five of eight teachers in the fall. Observation data further revealed that four teachers showed improvement in their transitions, which may have led to teachers' ability to incorporate all components.

Teachers also reported frequently accessing and reviewing READ 180 reports to plan instructional strategies and group their students, and an increase in their ability and understanding of interpreting results. One teacher reflected on her improvement in use of data:

> Yes, because I now know what's important on the data.… [T]ypically, you just look for who's struggling and who's not, but now I know how to read in between the lines too.… [SAM and SRI data] help me with instructional strategies because then I can go in and instead of just saying, I need to re-teach, I know exactly what to reteach or what I may have missed altogether. What I don't need to bother with anymore because they've got it. How to group the students accordingly.

Two teachers mentioned that the use of a reading quiz helped in the effectiveness of independent reading time. As one teacher explained, "Since I started incorporating those printout tests, it's gotten them really interested. In fact, it's gotten to the point where I've got to slow them down."

Nearly all teachers noted some changes in their whole-group instruction pertaining to their flexibility with activities, and using appropriate activities for different groups of students. As one teacher stated,

> Yes. I have one class who really doesn't like to get up and move a lot, so I allow them to do more seatwork. But then I have two blocks that like to do the different activities, so we do more up and around. I think having small class sizes, I can adjust for their needs and how they learn best. At the beginning of the year I didn't know that, so I had to figure that out during the course of the year.

Other changes noted throughout the year included better differentiation of students, granting more freedom to students as the year progressed, and creating groups consisting of higher level students in the reading rotation. All teachers reported using instructional software in the spring, as compared with the fall, when three reading intervention teachers reported frequently eliminated the instructional software rotation as a result of malfunctions or not having enough equipment.

Six of eight teachers reported changes specific to the whole-group wrap-up; these included having a drawing at the end of the day, varying approaches to the whole group (writing one day, having students summarize verbally another day), and tossing around a ball with summarizing questions.

Perceptions of Student Behavior Changes in the Classroom

Interviews and observations teachers provide some details about perceived changes in student behavior in the classroom, though there was some variation in perceptions of READ 180's impact on student behavior. In interviews, the majority of teachers mentioned that their students had more confidence as a result of the READ 180 program and showed a greater motivation to read. Further, the majority of teachers, in spring interviews, reported that the READ 180 program has been helpful for keeping students on task. As one teacher stated, "It has an effect on student behavior. They feel better about themselves and they behave more consistently. It has all to do with self-confidence. Now they are learning that they can read and I think it makes them feel better about themselves." Principals also agreed that READ 180 positively affected student behavior, as one stated,

> I think it has a tremendous impact in a positive manner because it reduces the number of incidents that you have because students are on task, time on task. If students are busy, you don't have time to be messing around, getting into extra negative curricular activities, if you will. So the students are engaged and that's a positive.

Still, three teachers felt the READ 180 program did not make a difference in their students' behavior and explained that the kids would show the same behavior no matter what. As one explained,

> If you were to go to other classes and observe them, they're doing much the same thing. They're running around, they're loud. They're inappropriate. It's just the nature I guess of a city school and struggles they have with getting kids in their school that understand their role. They just don't understand their role. It's like they're being punished. Especially the eighth graders, they come in here very resentful that their friends are playing basketball in gym and they're here.

In general, observation items on behavior were consistent across the year at a medium to high level, with one exception. For smooth transitions between all models, four classrooms showed improvement from low or medium to high ratings by the last observation, suggesting better behavior of students during transitions. Still observation data on effectiveness in addressing behavioral issues, clear instructions and outline of expectations, mutual respect among teachers, and disrespectful behaviors between teacher and students remained consistent at a medium to high level.

Impacts on Students at the End of One Year

The statistical analysis of student outcomes focused on the impact of READ 180 on students' reading achievement and engagement. The original study focused on measuring the impact of a

two-year reading intervention on students in Grades 6–10. Because the Striving Readers grant was discontinued, this study will focus on the impact of a one-year reading intervention on students in Grades 6–9. After the main impact modeling, the impact of READ 180 will be broken down by both school level—middle school (Grades 6–8) versus high school (Grades 9–10)—and by student subgroup. The two main subgroup of interest for this study are special education students. These analyses can be found under the heading Additional Analyses.

Measures of Student Achievement Outcomes

This section will summarize the student outcomes measures collected for this study—the Northwest Evaluation Association Measures of Academic Progress (MAP) and the student survey.

Student Reading Proficiency

The Measures of Academic Progress (MAP) assessment served as the primary outcome measure of student reading proficiency for the analytic analysis. Developed by the Northwest Evaluation Association, the MAP is a computer-adaptive assessment aligned to state standards that provides the school with immediate feedback on student progress.[10] Student scores across grade levels are on a developmental metric, allowing schools to follow student progress from one grade to the next. In the 2010–11 school year, Milwaukee Public Schools began to identify the MAP as the primary assessment measure of student progress, replacing the ThinkLink identified as the primary outcome of interest in the original proposal. The MAP is administered to all MPS students in mathematics and reading three times a year, October, February, and June. For the purposes of this study, the reading portion on the June MAP assessment will be used as the primary outcome measure for student reading proficiency.

Reading Engagement and Self-Efficacy

American Institutes for Research developed a student survey to determine whether participation in the READ 180 reading intervention had an impact on student engagement and self-efficacy related to reading. The survey asked students to respond to items related to self-efficacy and the constructs of behavioral engagement, emotional engagement, and cognitive engagement with reading.

Impacts on Student Reading Proficiency

Table 24 shows the estimated intent-to-treat (ITT) impact of one year of a READ 180 intervention on student reading proficiency. All models include the randomization stratification variables (i.e., all combinations of randomization period, school, and grade). The first model (1) includes only treatment status as a predictor, the second model adds a pretest and indicator variables for missing pretests, and the third model includes student covariates. Using a backward selection criterion with a critical value $p < 0.20$ to select covariates, only special education status and other race/ethnicity (i.e., Native American and Asian American) remained in the model. As

[10] http://www.nwea.org/products-services/computer-based-adaptive-assessments/map

shown, treatment students scored approximately 1.8 points higher than control students when controlling for pretest scores and student-level covariates. This represents an effect size of $d = 0.138$ (calculated as the treatment effect divided by the standard deviation of the control group scores).

Table 24. ITT Estimates on Reading Proficiency

	(1)	(2)	(3)
Intercept	193.02** (2.77)	113.26** (7.99)	137.78** (8.16)
Treatment	1.37 (1.01)	1.83* (0.91)	1.78* (0.88)
Pretest: WKCE		0.10** (0.01)	0.07** (0.01)
Pretest: BM		0.15 (0.02	0.11** (0.02)
Other[a]			2.94 (1.70)
SPED			–7.78** (1.14)
N	619	619	619
R^2	0.20	0.37	0.43

Note: Parentheses show robust standard errors. All school-by-grade-by-randomization blocks and missing variable indicators were included in the models.

[a] "Other" student ethnic groups were Native American and Asian American students.

** $p < 0.01$

* $p < 0.05$

Treatment on Treated (TOT) Estimate

Table 25 shows the estimated impact of one year of READ 180 intervention on student reading proficiency. The TOT estimate is a locale average treatment effect that identifies the impact of READ 180 for students who enrolled in READ 180 on the basis of their treatment status. As shown, treatment students who attended READ 180 scored approximately 2.4 points higher than control students who did not attend READ 180 when controlling for pretest scores and student-level covariates selected for the ITT analysis. This represents an effect size of $d = 0.184$. These results suggest that the effect of treatment is somewhat diluted in the ITT analysis in that many students assigned to enroll in READ 180 did not end up receiving treatment.

Table 25. Treatment on the Treated Estimates on Reading Proficiency

	(1)	(2)	(3)
Intercept	192.39** (2.78)	113.80** (7.66)	137.87** (7.92)
In READ 180	1.80 (1.34)	2.47* (1.20)	2.38* (1.15)
Pretest: WKCE		0.10** (0.01)	0.07** (0.01)
Pretest: BM		0.15** (0.02)	0.11** (0.02)
Other[a]			2.79 (1.69)
SPED			–7.61** (1.11)
N	617	617	617
R^2	0.21	0.38	0.43

Note: Parentheses show robust standard errors. All school-by-grade-by-randomization blocks and missing variable indicators were included in the models.

[a] "Other" student ethnic groups were Native American and Asian American students.

** $p < 0.01$

*$p < 0.05$

Impacts on Student Self-Efficacy and Motivation

In addition to achievement outcomes, the study sought to determine if participation in the READ 180 reading intervention had an impact on student engagement and self-efficacy related to reading.

Overall, results of the student survey were non-conclusive, with students from the control and treatment groups responding similarly to the majority of survey items, though treatment students did indicate slightly higher self-efficacy related to reading as well as higher levels of behavioral engagement. For example, treatment students had more positive perceptions of their reading ability than students in the control group and treatment students seemed to indicate an increased desire to read. Treatment students' responses to the survey also indicate that they are better able to apply strategies to understand what they are reading than those students in the control group. The complete results of the Student Engagement Survey can be found in Appendix E.

Self-Efficacy

Students responding to the Student Engagement survey were asked to rate their level of agreement with six statements related to self-efficacy and reading, shown in Table 26. Their responses to the six survey items addressing this construct were then combined into a single scale score. These scale scores where then translated to an overall level of agreement with the

items in the scale.[11] Students were categorized according to their typical response to these six items.

Table 26. Self-Efficacy Survey Items

Self-efficacy Survey Items
1. I can read difficult material.
10. I have the reading skills I need to complete my school work
15. My reading ability is above average.
20. I am becoming a better reader.
24. I will be a good reader when I graduate from high school.
28. I am a good reader.

As summarized in Table 27, students in the treatment group were more likely to either agree with items related to self-efficacy and reading than students in the control group.

Table 27. Overall Ratings Across Self-Efficacy Survey Items

Group	Disagree/ Somewhat Disagree	Somewhat Agree	Agree	*N*
Control	11.0%	53.4%	35.6%	118
Treatment	8.4%	46.6%	45.0%	131

Students' responses to each of the individual items within the construct of self-efficacy also were analyzed (see Appendix E). Pearson's chi-square was used to assess whether differences between the responses of students in the control group and treatment group to each item were statistically significant. A summary of responses that were significantly different at the 0.05 level follows.

As shown in Table 28, although both treatment and control students were confident that they will be good readers when they graduate from high school, significantly more treatment students (95 percent) indicated that they agreed or somewhat agreed with this statement than control students (87 percent).

Table 28. I will be a good reader when I graduate from high school, *N* = 241

	N	Disagree or Somewhat Disagree	Somewhat Agree or Agree
Control	116	12.9%	87.1%
Treatment	125	4.8%	95.2%

[11] The categories of disagree and somewhat disagree were collapsed on the basis of the psychometric analysis of the survey.

Differences between the control and treatment groups in students' agreement with the statement "I am a good reader" also were found to be statistically significant. As shown in Table 29, treatment students more frequently agreed or somewhat agreed that they were good readers.

Table 29. I am a good reader, *N* = 243

	N	Disagree or Somewhat Disagree	Somewhat Agree or Agree
Control	116	18.1%	81.9%
Treatment	127	8.7%	91.3%

Motivation and Engagement

Through the survey, students also were asked to rate their agreement with items that related to three subcategories of motivation and engagement in reading: behavioral engagement, emotional engagement, and cognitive engagement.

Table 30. Student Engagement and Motivation Survey Items

Behavioral Engagement Survey Items
2. I usually finish books that I start.
5. I sometimes seek out books or articles to read on my own time.
11. I usually complete reading assignments for school.
16. I tend to read during my free time.
21. I usually try to read carefully to understand what I am reading.
25. If I am reading an interesting book or article I sometimes lose track of time.
Emotional Engagement Survey Items
3. I feel comfortable reading aloud in front of other classmates.
6. If my teacher told me I was a good reader, I would feel proud.
8. I enjoy reading in my free time.
12. If my parents told me I was a good reader, I would feel proud.
13. Reading information online is fun.
17. My friends or family are interested in what I am reading.
18. Reading fiction is fun (for example: novels and fantasy).
22. I enjoy reading nonfiction (for example: biographies and history).
26. Reading for school assignments can sometimes be interesting.

Cognitive Engagement Survey Items
4. I sometimes summarize what I've read to help me better understand important information in the reading material.
7. If what I am reading becomes difficult, sometimes I try to pay closer attention so I can better understand what it means.
9. Reading is important for getting good grades.
14. Being a good reader will be important after I graduate from high school.
19. Sometimes I discuss what I read with others to check my understanding.
23. I know how to try to better understand what I am reading.
27. I sometimes look over the reading material to see what it is about before reading.

As with responses to items for the construct of self-efficacy, students' responses to the survey items addressing each construct presented in Table 30 were then combined into a single scale score for each and students were categorized according to their typical response to the items within the construct.

Behavioral Engagement

As summarized in Table 31, students in the treatment group were more likely to either agree with items related to their behavioral engagement in reading than students in the control group.

Table 31. Overall Ratings Across Behavioral Engagement Survey Items

Group	Disagree/ Somewhat Disagree	Somewhat Agree	Agree	*N*
Control	30.5%	38.1%	31.4%	118
Treatment	26.0%	30.5%	43.5%	131

Overall, when students' responses to each of the individual items within the construct of behavioral engagement were analyzed, responses of the students from the treatment group were similar to those of students in the control group (see Appendix E). Both treatment and control students agreed that they tend to read carefully to understand what they are reading—90 percent of control students and 84 percent of treatment students reported that they agreed or somewhat agreed with this item—and the majority of students within both groups agreed that they usually complete reading assignments for school.

As shown in Table 32, a higher percentage of students from the treatment group indicated that they either agreed or somewhat agreed that they sometimes seek out books or articles to read on their own time. The differences in responses between the two groups were found to be significant and seem to indicate a greater desire to read among treatment students than among control students.

Table 32. I sometimes seek out books or articles to read on my own time, *N* = 247

	N	Disagree or Somewhat Disagree	Somewhat Agree or Agree
Control	116	37.9%	62.1%
Treatment	131	22.1%	77.9%

Emotional Engagement

As summarized in Table 33, students in the treatment group were more likely to either agree or somewhat agree with items related to their emotional engagement in reading than students in the control group.

Table 33. Overall Ratings Across Emotional Engagement Survey Items

Group	Disagree/ Somewhat Disagree	Somewhat Agree	Agree	*N*
Control	31.7%	28.8%	39.4%	104
Treatment	24.2%	32.3%	43.5%	124

When individual items within the construct of emotional engagement were analyzed, no significant differences were found. It is interesting to note that both treatment and control students agreed that if their teachers told them they were good readers, they would feel proud. Similarly, the majority of both groups of students indicated that they either agreed or somewhat agreed that they would feel proud if their parents told them they were good readers.

Cognitive Engagement

As summarized in Table 34, students in the treatment group were more likely to either agree or somewhat agree with items related to their cognitive engagement in reading than students in the control group.

Table 34. Overall Ratings Across Cognitive Engagement Survey Items

Group	Disagree/ Somewhat Disagree	Somewhat Agree	Agree	*N*
Control	11.0%	47.5%	41.5%	118
Treatment	11.5%	33.6%	55.0%	131

Overall, students responded most positively to items on the survey related to cognitive engagement— two thirds or more of treatment students and at least 60 percent of students from the control group either agreed or somewhat agreed with each of the individual items within the construct.

Teachers' Perceptions of Student Development in Reading Skills

In interviews, teachers and principals asserted that READ 180 had an impact on students' reading skills, including their self-efficacy, motivation, and level of achievement. All teachers perceived that they observed increases in student confidence and greater motivation to read in their READ 180 student. In the words of one teacher,

> It has an effect on student behavior. They feel better about themselves and they behave more consistently. It has all to do with self-confidence. Now they are learning that they can read and I think it makes them feel better about themselves.

Interviews with principals of the study schools also indicated increased motivation to read, with one principal explaining, "I think that some students did develop more confidence and therefore became a little more motivated because they saw the progress."

Each of the five study school principals also reported that READ 180 positively affected student achievement; as one stated,

> We've seen a number of students who eventually worked their way out of the program and transitioned into a regular reading program. We've seen some significant gains not only from the READ 180 data, but it actually aligned to the data that we were using for our benchmark assessments at the district and school level. So we were seeing those same groups of students making gains on those assessments.

Discussion/Conclusions

Overall, there is some quantitative and qualitative evidence that a one-year READ 180 intervention improves students reading proficiency as well as self-efficacy and motivation. Results from the ITT analysis found that students assigned to the treatment condition scored on average two points higher than students assigned to the control condition when controlling for pretest scores and student-level covariates. In addition, some statistical differences were found on student surveys: a greater percentage of treatment students than control students reported having greater self-efficacy and behavior, emotional, and cognitive motivation to read. Last, in interviews, all teachers and principals confirmed assessment and survey data that READ 180 had an impact on students' reading skills and had impact of the program on students' self-efficacy, motivation, and achievement.

Additional Analyses

This section includes experimental analyses on special education students, ELL learners, and middle school versus high school students; the treatment on the treated analysis; and dosage study.

Experimental Analyses

Special Education Status

An experimental analysis was run on special education students assigned to treatment using an interaction term between special education and treatment status. As shown in Table 35, no statistical differences were found in reading proficiency between special education students assigned to READ 180 and special education students not assigned to READ 180 when controlling for pretest scores and other student-level covariates determined by the backward selection criteria used for the ITT analysis.

Table 35. ITT Estimates for Special Education Students in READ 180

	(3)
Intercept	138.14** (8.23)
Treatment	2.30* (1.04)
Treatment*SPED	–1.45 (1.84)
Pretest: WKCE	0.07** (0.01)
Pretest: BM	0.11** (0.02)
Other[a]	3.06 (1.75)
SPED	–7.02** (1.54)
N	619
R^2	0.43

Note: Parentheses show robust standard errors. All school-by-grade-by-randomization blocks and missing variable indicators were included in the models.

[a] "Other" student ethnic groups include Native American and Asian American students.

** $p < 0.01$

*$p < 0.05$

English Language Learner Status

An experimental analysis was run on ELLs assigned to a treatment condition relative to ELLs assigned to the control condition using an interaction term between ELL and treatment status. As shown in Table 36, no statistical differences were found in reading proficiency between ELL students assigned to READ 180 and ELL students not assigned to READ 180 when controlling for pretest scores and other student-level covariates determined by the backward selection criteria used for the ITT analysis.

Table 36. ITT Estimates for English Language Learner Students in READ 180

	(3)
Intercept	137.42** (8.22)
Treatment	2.17* (0.96)
Treatment*ELL	–2.61 (2.39)
Pretest: WKCE	0.07** (0.01)
Pretest: BM	0.11** (0.02)
Other[a]	2.90 (1.73)
SPED	–7.81** (1.13)
ELL	1.35 (2.08)
N	619
R^2	0.43

Note: Parentheses show robust standard errors. All school-by-grade-by-randomization blocks and missing variable indicators were included in the models.

[a] "Other" student ethnic groups include Native American and Asian American students.

** $p < 0.01$

* $p < 0.05$

Middle School Versus High School Students

Table 37 shows the ITT estimates for middle school (Grades 6–8) and high school (Grade 9) students who participated in the study. As shown, no significant differences were found between students in the treatment and those in the control condition in either the middle school or the high school sample. In addition, although not significant, both middle school and high school students in the treatment condition scored approximately two points higher than students in the control condition. The nonsignificance of these results is likely due to a lack of statistical power for this test because only one year of data was collected (instead of the three planned for the study).

Table 37. ITT Estimates for Middle School Versus High School Students, Model 3

	Middle School	High School
Intercept	137.82** (9.40)	1247.70** (19.231)
Treatment	1.61 (1.01)	2.27 (1.83)
Pretest: WKCE	0.06** (0.02)	0.07* (0.03)
Pretest: BM	0.12** (0.03)	0.16** (0.05)
Other[a]	2.68 (2.03)	4.99 (3.39)
SPED	–7.52** (1.3`)	–7.73** (2.15)
N	480	139
R^2	0.40	0.53

Note: Parentheses show robust standard errors. All school-by-grade-by-randomization blocks and missing variable indicators were included in the models.

[a] "Other" student ethnic groups include Native American and Asian American students.

** $p < 0.01$

*$p < 0.05$

Dosage Study

The dosage study examined whether attendance and fidelity of SAM usage affected the reading proficiency of treatment students. As shown in Table 38, students with medium and high attendance in READ 180 did not score significantly higher than students with low attendance (although the effect for high attendance is close to being significantly different from low use). Nevertheless, it appears that scores for students who attended more were higher on average than those for students who attended less (conditional on prior achievement). Likewise, as shown in Table 39, students with medium and high SAM usage did not score significantly higher than students with low SAM usage.

Table 38. Treatment Students Attendance and Reading Proficiency

	(3)
Intercept	138.06** (12.90)
Medium Attendance	1.21 (1.45)
High Attendance	5.36 (2.92)
Pretest: WKCE	0.05** (0.02)
Pretest: BM	0.12** (0.03)
Other[a]	2.21 (2.55)
SPED	–8.02** (1.47)
N	326
R^2	0.56

Note: Parentheses show robust standard errors. All school-by-grade-by-randomization blocks and missing variable indicators were included in the models.

[a] "Other" student ethnic groups include Native American and Asian American students.

** $p < 0.01$

*$p < 0.05$

Table 39. Treatment Students Fidelity With SAM Usage and Reading Proficiency

	(3)
Intercept	137.63** (12.41)
Medium SAM Use	1.17 (1.23)
High SAM Use	0.22 (1.91)
Pretest: WKCE	0.06** (0.02)
Pretest: BM	0.12** (0.03)
Other[a]	3.09 (2.54)
SPED	-8.31** (1.44)
N	326
R^2	0.55

Note: Parentheses show blocks and missing variable indicators were included in the models.

[a] "Other" student ethnic groups include Native American and Asian American students.

** $p < 0.01$

*$p < 0.05$

Conclusion

This report provides the details of Milwaukee Public Schools' Striving Readers program, the fidelity of its implementation, and results of that implementation. As part of their Striving Readers grant, Milwaukee provided supplemental instruction to treatment students using READ 180, a comprehensive reading intervention program developed by Scholastic. This program is designed to address individual student needs through adaptive instructional software, high-interest literature, and direct instruction in reading and writing skills.

This study was designed with two main research objectives: (1) examine the fidelity of implementation of the classroom and professional development model; and (2) identify any impact of the program on student outcomes, including student reading achievement. To accomplish this research, AIR implemented a student-randomized trial of READ 180 in five Milwaukee schools. Treatment students were to receive the regular ELA course plus supplemental reading instruction in a 90-minute READ 180 course. Control students were to receive regular ELA instruction plus an elective or study hall period.

AIR's study found that READ 180 teachers in the five schools implemented the classroom model with high fidelity. Student attendance was an issue, however. Although good instruction was happening in the classroom, many treatment students were not in class to receive that instruction. Teachers also did not receive all the professional development and mentoring whose implementation was intended.

Although implementation fidelity was not perfect, the study still found a statistically significant improvement for the treatment students in reading achievement on the NWEA MAP assessment. Furthermore, there seem to be slight indications that students who received READ 180 instruction may self-report higher engagement with reading activities, and higher motivation to read.

References

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Appendix A
WDPI/MPS Striving Readers Interview Rubric

General Information

	Rating Level			Interview Questions
	High	**Medium**	**Low**	
Length of time at school, school experience	*Note length of time at school* *Note length of time as teacher/administrator*			Fall Tchr: 1,1a, 2 Spring Tchr:1, 2 Principal: 1,1a
Previous experience with other struggling readers programs	*Note level of experience with previous programs related to struggling readers.* *Note how that previous experience relates to the Read 180 program.*			Fall Tchr: 3, 3a Principal: 4, 4a
Familiarity with Read 180 program model	*Teachers report that they have a high extent of familiarity with the Read 180 program model.*	*Teachers report that they have a moderate extent of familiarity with the Read 180 program model.*	*Teachers report that they have a low extent or no familiarity with the Read 180 program model.*	Fall Tchr: 2a Spring Tchr: 2a
Comfort with Read 180 program model	*Teachers report that they have a high extent of comfort with the Read 180 program model.*	*Teachers report that they have a moderate extent of comfort with the Read 180 program model.*	*Teachers report that they have a low extent or no comfort with the Read 180 program model.*	Fall Tchr: 2b Spring Tchr: 2b
School vision related to Read 180 program	*The Read 180 program is a primary focus of the school vision*	*The Read 180 program is a minor focus of the school vision*	*The Read 180 program is not integrated into or runs counter to the school vision*	Principal: 2
Other current literacy programs for struggling readers (Could be N/A)	*The Read 180 program is fully integrated with other literacy programs and/or successfully serves complimentary purposes*	*The Read 180 program is somewhat integrated with other literacy programs and/or moderately serves complimentary purposes*	*The Read 180 program runs counter to other literacy programs at the school and/or has conflicting purposes*	Principal: 3

Program Setup

	Rating Level			Interview Questions
	High	**Medium**	**Low**	
Class size and distribution	*The class size is appropriate for all students and grade levels*	*The class size is appropriate for some students and grade levels but not others*	*The class size is not appropriate for the number of students and different grade levels*	Fall Tchr: 4, 4a, 4b, 5, 6 Spring Tchr: 3, 3a, 3b, 4, 5 Principal: 5, 5a
Student schedules and classroom space	*There were few if any challenges with student schedules and classroom space, and/or the school was very successful in addressing these issues*	*There were some challenges with student schedules and classroom space, and the school was moderately successful in addressing these issues*	*There were many challenges with student schedules and classroom space, and/or the school did not address these issues*	Principal: 6, 6a
Implement full Read 180 three-part structure	*Teachers are consistently able to incorporate all 3 sections of the full Read 180 structure. Note successful strategies.*	*Teachers are inconsistently able to incorporate all 3 sections of the full Read 180 structure. Note successful strategies and challenges faced.*	*Teachers are not able to incorporate all 3 sections of the full Read 180 structure. Note challenges faced.*	Fall Tchr: 7, 7a, 7b Spring Tchr: 6, 6a, 6b Principal: 7, 7a, 7b
Smooth transitions between all models (e.g. Timer, two-minute warning)	*Teachers report that there are smooth transitions during all activity rotations.* *The teacher always uses a timer, two minute warning, and/or other method to indicate to students of a rotation change.*	*Teachers report that there are some smooth transitions during the activity rotations and/or transitions vary from class to class.* *The teacher sometimes uses a timer, two minute warning, and/or other method to indicate to students of a rotation change.*	*Teachers report that transitions are difficult during the activity rotations.* *The teacher never uses a timer, two minute warning, and/or other method to indicate to students of a rotation change.*	Fall Tchr: 8 Spring Tchr: 7

	Rating Level			Interview Questions
	High	**Medium**	**Low**	
Structure students on task (i.e. Students are involved and engaged in the task at hand as expected)	*Teachers successfully use the Read 180 structure to keep the majority of students on task for the majority of the time*	*Teachers are sometimes successful using the Read 180 structure to keep the majority of students on task for the majority of the time*	*Teachers report having difficulty with the Read 180 structure to keep students on task for the majority of the time.*	Fall Tchr: 9 Spring Tchr: 8 Principal: 8

Materials/Technology

	Rating Level			Interview Questions
	High	**Medium**	**Low**	
Materials Available / Need additional materials	*All materials are available and were available on time. There is a clear process to acquire more materials.*	*All materials are available, but there was a delay in materials. There is a somewhat clear process to acquire more materials.*	*Materials are missing, there was a delay in materials, and/or there is not a clear process to acquire more materials.*	Fall Tchr: 10, 16 Spring Tchr: 14 Principal: 9, 10, 13
Quantity of rBooks	*The majority of students have their own rBook*	*Some students have their own rBook, while other students do not*	*Few students or none have their own rBook*	Fall Tchr: 11 Spring Tchr: 9, 15 Principal: 10
Quantity of READ 180 Paperbacks	*There are a sufficient number of READ 180 paperback books at various levels available and accessible to students.*	*READ 180 paperback books at various levels are available and accessible to students; however, the number of books at one or more levels is insufficient*	*READ 180 paperback books at various levels are not available and accessible to students.*	Fall Tchr: 12, 13 Spring Tchr: 10, 11, 15 Principal: 10
Quantity of READ 180 Audiobooks	*There are a sufficient number of Audiobooks available and accessible to students.*	*Audiobooks are available and accessible; however, the number is insufficient*	*There are no Audiobooks available and accessible to students.*	Fall Tchr: 12 Spring Tchr: 10, 15 Principal: 10

	Rating Level			Interview Questions
	High	**Medium**	**Low**	
Functional Computers and Equipment	*The majority of computers and other technology are functional with headsets and headphones. Teacher has clear alternative plans if technology fails.*	*Some of the computers and other technology are functional. Some headsets may be broken or missing. Teacher has some alternative plans if technology fails.*	*Very few (less than half) of the computers are functional. Accessories are missing. Students have difficulty using the computer. Teacher does not have alternative plans if technology fails.*	Fall Tchr: 14, 14a Spring Tchr: 12, 12a Principal: 10, 11
Use of SMART Board	*Teacher successfully integrates the SMART Board with the Read 180 materials. Teacher reports feeling comfortable and knowledgeable about the use of the SMART Board.*	*Teacher sometimes integrates the SMART Board with the Read 180 materials. Teacher reports feeling somewhat comfortable and knowledgeable about the use of the SMART Board.*	*Teacher does not integrate the SMART Board with the Read 180 materials. Teacher reports feeling uncomfortable and has little knowledge about the use of the SMART Board.*	Fall Tchr: 15 Spring Tchr: 13, 15 Principal: 10, 12

Whole-Group Instruction

	Rating Level			Interview Questions
	High	**Medium**	**Low**	
Teacher approach to whole group (change from fall to spring)	*Teacher reports a clearly defined approach that follows the Read 180 program model.*	*Teacher reports a somewhat defined approach that partially follows the Read 180 program model.*	*Teacher does not have a clear approach that follows the Read 180 program model.*	Fall Tchr: 17 Spring Tchr: 16, 19
Teacher use of materials	*Teacher reports frequent use of a variety of Read 180 materials for whole-group instruction.*	*Teacher reports some use of Read 180 materials for whole-group instruction. Lacks variety of materials.*	*Teacher reports not using Read 180 materials for whole-group instruction.*	Fall Tchr: 18 Spring Tchr: 17

	Rating Level			Interview Questions
	High	**Medium**	**Low**	
Teachers use of instructional strategies / Use of Red Routines	*Teacher incorporates instructional strategies to effectively engage the majority of students.* *Teacher frequently uses Red Routines.* ❑ Teaching Vocabulary ❑ Oral Cloze ❑ Think (Write)-Pair-Share ❑ Idea Wave ❑ Numbered Heads ❑ Writing Process ❑ Peer Feedback	*Teacher tries to incorporate instructional strategies, but it does not effectively engage the majority of students.* *Teacher sometimes uses Red Routines.* ❑ Teaching Vocabulary ❑ Oral Cloze ❑ Think (Write)-Pair-Share ❑ Idea Wave ❑ Numbered Heads ❑ Writing Process ❑ Peer Feedback	*Teacher does not incorporate instructional strategies and does not use Red Routines.*	Fall Tchr: 19, 19a Spring Tchr: 18, 18a

Rotation Block

	Rating Level			Interview Questions
	High	**Medium**	**Low**	
Teacher approach to small group instruction (change from fall to spring)	*Teacher reports a clearly defined approach that follows the Read 180 program model.*	*Teacher reports a somewhat defined approach that partially follows the Read 180 program model.*	*Teacher does not have a clear approach that follows the Read 180 program model.*	Fall Tchr: 20, 20a Spring Tchr: 20, 20a, 21
Teacher approach to independent reading (change from fall to spring)	*Teacher reports a clearly defined approach that follows the Read 180 program model.*	*Teacher reports a somewhat defined approach that partially follows the Read 180 program model.*	*Teacher does not have a clear approach that follows the Read 180 program model.*	Fall Tchr: 20, 20b Spring Tchr: 20, 20b, 21
Teacher approach to Read 180 software time (change from fall to spring)	*Teacher reports a clearly defined approach that follows the Read 180 program model.*	*Teacher reports a somewhat defined approach that partially follows the Read 180 program model.*	*Teacher does not have a clear approach that follows the Read 180 program model.*	Fall Tchr: 20, 20c Spring Tchr: 20, 20c, 21

	Rating Level			Interview Questions
	High	**Medium**	**Low**	
Student grouping	*Teacher has clearly defined criteria for creating student groups and uses several data sources as input.*	*Teacher has some defined criteria for creating student groups and uses one data source as input.*	*Teacher has no defined criteria for creating student groups and does not use any data source as input.*	Fall Tchr: 21, 21a Spring Tchr: 22, 22a
Differentiated instruction	*Teacher frequently provides differentiated instruction to individual students or groups of students based on RDI books and other Read 180 materials.*	*Teacher sometimes provides differentiated instruction to individual students or groups of students based on RDI books and other Read 180 materials.*	*Teacher rarely provides differentiated instruction to individual students or groups of students based on RDI books and other Read180 materials.*	Fall Tchr: 22, 22a Spring Tchr: 23, 23a
Effective independent reading	*Teacher reports that they successfully manage the independent reading time and that all students use this time effectively.*	*Teacher reports that they somewhat successfully manage the independent reading time and that most students use this time effectively.*	*Teacher reports that they do not successfully manage the independent reading time and that few students use this time effectively.*	Fall Tchr: 23 Spring Tchr: 24
Effective use of Read 180 software	*Teacher reports little to no challenges with the Read 180 software and/or all students use this time effectively.*	*Teacher reports some challenges with the Read 180 software and/or most students use this time effectively.*	*Teacher reports frequent challenges with the Read 180 software and/or few students use this time effectively.*	Fall Tchr: 24, 24a Spring Tchr: 25, 25a
Effectiveness in addressing behavioral issues	*Teacher is consistently effective in addressing behavioral issues.* *Or no behavioral issues are encountered.*	*Teacher is sometimes effective at addressing behavioral issues.*	*Teacher is rarely or not at all effective in addressing behavioral issues.*	Fall Tchr: 25, 25a Spring Tchr: 26, 26a

Whole-Group Wrap-Up

	Rating Level			Interview Questions
	High	**Medium**	**Low**	
Teacher approach to wrap-up activity (change from fall to spring)	*Teacher reports a clearly defined approach that follows the Read 180 program model.*	*Teacher reports a somewhat defined approach that partially follows the Read 180 program model.*	*Teacher does not have a clear approach that follows the Read 180 program model.*	Fall Tchr: 26 Spring Tchr: 27, 28
Whole Group Reflections	*Teacher reports that the majority of students summarize and share skills from the day's activities*	*Teacher reports that some students summarize and share skills from the day's activities*	*Teacher reports that few or no students summarize and share skills from the activities*	Fall Tchr: 26a Spring Tchr: 27a
Writing Reflections	*Teacher reports that the majority of students complete writing assignments covering the day's reading activities (such as Exit Slips or Daily Reflection Journals)*	*Teacher reports that some students complete writing assignments covering the day's reading activities*	*Teacher reports that few or no students not complete writing assignments covering the day's reading activities*	Fall Tchr: 26a Spring Tchr: 27a

Data and Reports

	Rating Level			Interview Questions
	High	**Medium**	**Low**	
Teacher use of assessment data	*Teachers frequently access student data, review this information, and use it for planning.*	*Teachers sometimes access student data, review this information, and use it for planning.*	*Teachers rarely access student data, review this information, and use it for planning.*	Spring Tchr: 29, 29a Principal: 14, 14a, 14b
Teacher use of Read 180 reports	*Teachers frequently access Read 180 generated reports, review this information, and use it for planning.*	*Teachers sometimes access Read 180 generated reports, review this information, and use it for planning.*	*Teachers rarely access Read 180 generated reports, review this information, and use it for planning.*	Spring Tchr: 30, 30a Principal: 14, 14a, 14b
Share data, teacher meetings about data	*Teachers frequently share student progress data with administrators, coaches, core teachers, and parents.*	*Teachers sometimes share student progress data with administrators, coaches, core teachers, and parents.*	*Teachers rarely share student progress data with administrators, coaches, core teachers, and parents.*	Spring Tchr: 31, 31a, 32 Principal: 15, 16, 17

Instructional Support

Note: Any support could be N/A if not available to the teacher.	Rating Level			Interview Questions
	High	**Medium**	**Low**	
Principal support—Quantity	*The administrator provides frequent support for the Read 180 program.*	*The administrator provides some support for the Read 180 program.*	*The administrator provides little support for the Read 180 program.*	Fall Tchr: 27, 32 Spring Tchr: 33, 38, 39 Principal: 18, 23, 24
Principal support—Quality	*The administrator has affected Read 180 instruction to a large extent.*	*The administrator has affected Read 180 instruction to a moderate extent.*	*The administrator has affected Read 180 instruction to a small extent or not at all.*	Fall Tchr: 27, 32 Spring Tchr: 33, 38, 39 Principal: 18, 23, 24

Note: Any support could be N/A if not available to the teacher.	**Rating Level**			**Interview Questions**
	High	**Medium**	**Low**	
In-school support (e.g. Instructional coach)—Quantity	*The in-school support person provides frequent support for the Read 180 program.*	*The in-school support person provides some support for the Read 180 program.*	*The in-school support person provides little support for the Read 180 program.*	Fall Tchr: 28, 32 Spring Tchr: 34, 38, 39 Principal: 19, 23, 24
In-school support (e.g. Instructional coach)—Quality	*The in-school support person has affected Read 180 instruction to a large extent.*	*The in-school support person has affected Read 180 instruction to a moderate extent.*	*The in-school support person has affected Read 180 instruction to a small extent or not at all.*	Fall Tchr: 28, 32 Spring Tchr: 34, 38, 39 Principal: 19, 23, 24
District support (e.g. coordinator)—Quantity	*The district support person provides frequent support for the Read 180 program.*	*The district support person provides some support for the Read 180 program.*	*The district support person provides little support for the Read 180 program.*	Fall Tchr: 29, 32 Spring Tchr: 35, 38, 39 Principal: 20, 23, 24
District support (e.g. coordinator)—Quality	*The district support person has affected Read 180 instruction to a large extent.*	*The district support person has affected Read 180 instruction to a moderate extent.*	*The district support person has affected Read 180 instruction to a small extent or not at all.*	Fall Tchr: 29, 32 Spring Tchr: 35, 38, 39 Principal: 20, 23, 24
Scholastic/Read 180 representative—Quantity	*The Scholastic/Read 180 representative provides frequent support for the Read 180 program.*	*The Scholastic/Read 180 representative provides some support for the Read 180 program.*	*The Scholastic/Read 180 representative provides little support for the Read 180 program .*	Fall Tchr: 30, 32 Spring Tchr: 36, 38, 39 Principal: 21, 23, 24
Scholastic/Read 180 representative—Quality	*The Scholastic/Read 180 representative has affected Read 180 instruction to a large extent.*	*The Scholastic/Read 180 representative has affected Read 180 instruction to a moderate extent.*	*The Scholastic/Read 180 representative has affected Read 180 instruction to a small extent or not at all.*	Fall Tchr: 30, 32 Spring Tchr: 36, 38, 39 Principal: 21, 23, 24
Other support—Quantity	*Other staff members provide frequent support for the Read 180 program.*	*Other staff members provide some support for the Read 180 program.*	*Other staff members provide little support for the Read 180 program .*	Fall Tchr: 31, 32 Spring Tchr: 37, 38, 39 Principal: 22, 23, 24

Note: Any support could be N/A if not available to the teacher.	Rating Level			Interview Questions
	High	**Medium**	**Low**	
Other support—Quality	*Other staff members have affected Read 180 instruction to a large extent.*	*Other staff members have affected Read 180 instruction to a moderate extent.*	*Other staff members have affected Read 180 instruction to a small extent or not at all.*	Fall Tchr: 31, 32 Spring Tchr: 37, 38, 39 Principal: 22, 23, 24

Professional Development

Note: Any PD could be N/A if not offered to teachers.	Rating Level			Interview Questions
	High	**Medium**	**Low**	
Day 1 / Day 2 Training—Quantity	*Teachers fully participated in the initial Read 180 training.*	*Teachers participated in some of the initial Read 180 training.*	*Teachers did not participate in the initial Read 180 training.*	Fall Tchr: 33, 33a, 41, 42 Principal: 25, 25a, 26, 26a
Day 1 / Day 2 Training—Quality	*Teachers took a lot of information away from the initial Read 180 training, and/or reported that it was of good or excellent quality.*	*Teachers took some information away from the initial Read 180 training, and /or reported that it was of fair quality.*	*Teachers took little information away from the initial Read 180 training, and/or reported that it was of poor quality.*	Fall Tchr: 33, 33a, 41, 42 Principal: 25, 25a, 26, 26a
RED online courses—Quantity	*Teachers fully participated in offered RED online courses.*	*Teachers participated in some offered RED online courses.*	*Teachers did not participate in any offered RED online courses.*	Fall Tchr: 34, 34a, 41, 42 Spring Tchr: 40, 40a, 47, 48 Principal: 25, 25a, 26, 26a
RED online courses—Quality	*Teachers took a lot of information away from the online courses, and/or reported that it was of good or excellent quality.*	*Teachers took some information away from the courses, and /or reported that it was of fair quality.*	*Teachers took little information away from the courses, and/or reported that it was of poor quality.*	Fall Tchr: 34, 34a, 41, 42 Spring Tchr: 40, 40a, 47, 48 Principal: 25, 25a, 26, 26a

Note: Any PD could be N/A if not offered to teachers.	**Rating Level**			**Interview Questions**
	High	**Medium**	**Low**	
Seminars / conferences—Quantity	*Teachers fully participated in offered Read 180 seminars or conferences.*	*Teachers participated in offered Read 180 seminars or conferences.*	*Teachers did not participate in offered Read 180 seminars or conferences.*	Fall Tchr: 35, 35a, 41, 42 Spring Tchr: 41, 41a, 47, 48 Principal: 25, 25a, 26, 26a
Seminars / conferences—Quality	*Teachers took a lot of information away from the seminars/conferences, and/or reported that it was of good or excellent quality.*	*Teachers took some information away from the seminars/conferences, and /or reported that it was of fair quality.*	*Teachers took little information away from the seminars/conferences, and/or reported that it was of poor quality.*	Fall Tchr: 35, 35a, 41, 42 Spring Tchr: 41, 41a, 47, 48 Principal: 25, 25a, 26, 26a
Teacher roundtables—Quantity	*Teachers fully participated in offered teacher roundtables.*	*Teachers participated in some offered teacher roundtables.*	*Teachers did not participate in any offered teacher roundtables.*	Fall Tchr: 36, 36a, 41, 42 Spring Tchr: 42, 42a, 47, 48 Principal: 25, 25a, 26, 26a, 27
Teacher roundtables—Quality	*Teachers took a lot of information away from the teacher roundtables, and/or reported that they were of good or excellent quality.*	*Teachers took some information away from the teacher roundtables, and /or reported that they were of fair quality.*	*Teachers took little information away from the teacher roundtables, and/or reported that they were of poor quality.*	Fall Tchr: 36, 36a, 41, 42 Spring Tchr: 42, 42a, 47, 48 Principal: 25, 25a, 26, 26a, 27
SAM Data training—Quantity	*Teachers fully participated in offered SAM data training.*	*Teachers participated in offered SAM data training.*	*Teachers did not participate in offered SAM data training.*	Fall Tchr: 37, 37a, 41, 42 Spring Tchr: 43, 43a, 47, 48 Principal: 25, 25a, 26, 26a
SAM Data training—Quality	*Teachers took a lot of information away from the training, and/or reported that it was of good or excellent quality.*	*Teachers took some information away from the training, and /or reported that it was of fair quality.*	*Teachers took little information away from the training, and/or reported that it was of poor quality.*	Fall Tchr: 37, 37a, 41, 42 Spring Tchr: 43, 43a, 47, 48 Principal: 25, 25a, 26, 26a

Note: Any PD could be N/A if not offered to teachers.	**Rating Level**			**Interview Questions**
	High	**Medium**	**Low**	
Graduate courses—Quantity	*Teachers participated in graduate courses related to Read 180 instruction.*	*Teachers participated in graduate courses related to Read 180 instruction.*	*Teachers did not participate in any graduate courses related to Read 180 instruction.*	Fall Tchr: 38, 38a, 41, 42 Spring Tchr: 44, 44a, 47, 48 Principal: 25, 25a, 26, 26a
Graduate courses—Quality	*Teachers took a lot of information away from the graduate courses, and/or reported that they were of good or excellent quality.*	*Teachers took some information away from the graduate courses, and /or reported that they were of fair quality.*	*Teachers took little information away from the graduate courses, and/or reported that they were of poor quality.*	Fall Tchr: 38, 38a, 41, 42 Spring Tchr: 44, 44a, 47, 48 Principal: 25, 25a, 26, 26a
Other PD—Quantity	*Teachers participated in other professional development opportunities related to Read 180 instruction.*	*Teachers participated in other professional development opportunities related to Read 180 instruction.*	*Teachers did not participate in any other professional development opportunities related to Read 180 instruction.*	Fall Tchr: 39, 39a, 41, 42 Spring Tchr: 45, 45a, 47, 48 Principal: 25, 25a, 26, 26a
Other PD—Quality	*Teachers took a lot of information away from this other professional development, and/or reported that it was of good or excellent quality.*	*Teachers took some information away from other professional development, and /or reported that it was of fair quality.*	*Teachers took little information away from other professional development, and/or reported that it was of poor quality.*	Fall Tchr: 39, 39a, 41, 42 Spring Tchr: 45, 45a, 47, 48 Principal: 25, 25a, 26, 26a
Additional Training	*Note areas where respondents indicate additional training is needed.*			Fall Tchr: 40 Spring Tchr: 46 Principal: 28

Student Outcomes

	Rating Level			Interview Questions
	High	**Medium**	**Low**	
Student achievement	*Respondent states that there was a noticeable achievement gain made for all or almost all students.*	*Respondent states that there was a noticeable achievement gain made for some of the students, but not other students.*	*Respondent states that there was a noticeable achievement gain made for few or none of the students.*	Spring Tchr: 49a Principal: 29a
Student behavior	*Respondent states that there was a noticeable improvement in behavior/lack of misbehavior by all or almost all students.*	*Respondent states that there was a noticeable improvement in behavior/lack of misbehavior by some of the students, but not other students.*	*Respondent states that there was a noticeable improvement in behavior/lack of misbehavior by few or none of the students.*	Spring Tchr: 49b Principal: 29b
Student self-efficacy	*Respondent states that there was positive attitude and confidence in reading expressed by all or almost all students.*	*Respondent states that there was positive attitude and confidence in reading expressed by some of the students, but not other students.*	*Respondent states that there was positive attitude and confidence in reading expressed by few or none of the students.*	Spring Tchr: 49c Principal: 29c
Other student changes	*Note any other noticeable student changes*			Spring Tchr: 49d Principal: 29d

Overall Information

	Rating Level			Interview Questions
	High	**Medium**	**Low**	
Benefits	*Note benefits of Read 180*			Fall Tchr: 43 Spring Tchr: 50 Principal: 30
Challenges	*Note challenges of Read 180*			Fall Tchr: 44 Spring Tchr: 51 Principal: 31
Recent issues	*Note recent school issues that impacted Read 180*			Fall Tchr: 45 Spring Tchr: 52 Principal: 32

Classroom Fidelity Score Weighting From Interview Protocols

	Min. Score	Max. Score	Weighting	Weighted Minimum Score	Weighted Maximum Score
Program setup	5	15	x1.60	8	24
Whole-group instruction	3	9	x2.67	8	24
Rotation block	8	24	x1.00	8	24
Whole-group wrap-up	3	9	x2.67	8	24
Data and reports	3	9	x2.67	8	24
Classroom fidelity score				40	120

Appendix B
WDPI/MPS READ 180 Classroom Observation Protocol[12]

Whole-Group Instruction
(Score Range 7–21)

	Level of Proficiency		
	High	**Medium**	**Low**
A. Whole-group instruction time[a]	*Whole-group instruction is observed for 18-22 minutes at the beginning of the class period.*	*Whole-group instruction is observed; however, it is outside the time allotment and/or does not take place at the beginning of the class period.*	*Whole-group instruction is not observed.*
B. Instructional lesson on language and literacy skills[b]	*The teacher provides explicit instruction or a lesson focused on developing students' language and literacy skills (e.g., vocabulary, writing, grammar, usage, mechanics). In addition, the information is clearly communicates it to students*	*The teacher provides explicit instruction or a lesson focused on developing students' language and literacy skills, but does not clearly communicate it to students*	*Teacher does not provides explicit instruction or a lesson focused on developing students' language and literacy skills during this time*
C. Teacher's use of general language modeling strategies	*Teacher provides many language modeling strategies (e.g. models fluent reading, models reading skills and strategies)*	*Teacher provides some language modeling strategies*	*Teacher rarely or never uses language modeling strategies.*
D. Student Engagement	*Teacher uses structured engagement routines and the majority of students are actively engaged and are participating.*	*Teacher uses structured engagement routines; however, some of the students participate and are actively engaged.*	*Teacher does not use structured engagement routines. Few students participate or are engaged.*

[12] Observation questions were incorporated information from the Scholastic READ 180 Teacher Implementation Guide, CLASS Observation Protocol (Pianta, R. C., La Paro, K. M., & Hamre, B. K., 2008). Classroom Assessment Scoring System Manual K–3, Baltimore, MD: Paul H. Brookes), input from the Milwaukee Public Schools READ 180 Project Coordinator, and previous READ 180 classroom observations by Learning Point Associates prior to its merger with AIR.

	Level of Proficiency		
	High	**Medium**	**Low**
E. Teacher Feedback	*Teacher consistently provides explicit feedback as opportunities arise.*	*Teacher sometimes provides explicit feedback, but misses some opportunities to provide feedback.* *Or, feedback teacher provides is superficial/not specific to student behavior or performance.*	*Teacher rarely or never provides feedback.*
F. Learning Connections to Rotations	*Teacher makes clear connections between whole-group learning activities and rotational activities.*	*Teacher makes connections between whole-group learning activities and rotational activities, but discussion of connections are brief or unclear.*	*Teacher does not make connections between whole-group learning activities and rotational activities.*
G. Learning Connections to Real World	*Teacher makes clear connections between whole-group learning activities and real life experiences*	*Teacher makes connections between whole-group learning activities and real life experiences, but discussion of connections are brief or unclear.*	*Teacher does not make connections between whole-group learning activities and real life experiences.*

[a] If whole-group instruction is not observed, the classroom should receive low ratings for each of the additional items under Whole-Group Instruction.

[b] Teacher may also use this time to prepare students for tests, address district standards, discuss goals, and review classroom procedures. Therefore, you may score this item High if these activities are observed in place of a lesson.

Small-Group Instruction
(Score Range = 7–21)

	Level of Proficiency		
	High	**Medium**	**Low**
H. Small-Group Instruction Time [c]	*All students participate in one 18-22 minute small-group session.*	*Small-group sessions are provided; though the amount of time for all sessions may be outside of the specified minutes, or some students in the classroom do not participate in a small-group time at all.*	*No students participate in a small-group session.*
I. Small Group Size	*All small-group sessions include 8 or fewer students.*	*Some small-group sessions include more than 8 students.*	*All small-group sessions include more than 8 students.*
J. Planned and structured activity G1:____ G2:____ G3:____ [d] Overall:____	*The teacher implements a planned and structured activity and clearly communicates it to students.*	*The teacher implements a planned and structured activity, but does not clearly communicate it to students.*	*Teacher does not implement a planned and structured activity for this time.*
K. Teacher's use of general language modeling strategies G1:____ G2:____ G3:____ [d] Overall:____	*Teacher provides many language modeling strategies (e.g. models fluent reading, models reading skills and strategies)*	*Teacher provides some language modeling strategies*	*Teacher rarely or never uses language modeling strategies.*
L. Teacher's use of differentiated instruction [e]	*Teacher frequently differentiates instruction either within or between small groups (e.g., students working on different skills, using different modalities, teacher directs specific questions to specific students.)*	*Teacher sometimes differentiates instruction either within or between small groups.*	*Teacher rarely or never differentiates instruction either within or between small groups.*

	Level of Proficiency		
	High	**Medium**	**Low**
M. Student Engagement G1:____ G2:____ G3:____ [d] Overall:____	*Teacher uses structured engagement routines and the majority of students are actively engaged and are participating.*	*Teacher uses structured engagement routines; however, some of the students participate and are actively engaged.*	*Teacher does not use structured engagement routines. Few students participate or are engaged.*
N. Teacher Feedback G1:____ G2:____ G3:____ [d] Overall:____	*Teacher consistently provides explicit feedback as opportunities arise.* *(e.g. teacher verbally responds to student responses; teacher provides information to class on their progress; teacher adjusts lesson to meet student needs)*	*Teacher sometimes provides explicit feedback, but misses some opportunities to provide feedback.* *Or, feedback teacher provides is superficial/not specific to student behavior or performance.*	*Teacher rarely or never provides feedback.*

[c] If small-group instruction is not observed, the classroom should receive low ratings for each of the additional items under Small-Group Instruction.

[d] The overall rating should be determined as follows: High = 3 Highs, or 2 Highs and 1 Medium; Medium = at least 2 Mediums, or a combination of Highs and Lows; Low = 2 Lows and 1 Medium, or 3 Lows. If only two small-group rotations are observed, the rating should be assigned based on the lowest scoring rotation.

[e] Following the class period, you may ask the teacher, "How did you plan for your (small group) lessons today?" to further inform your rating for this item.

Modeled and Independent Reading
(Score Range =5–15)

	Level of Proficiency		
	High	**Medium**	**Low**
O. Modeled and Independent Reading Time [f]	*All students participate in 18-22 minutes of modeled and independent reading time (includes time for writing in logs).*	*Time for modeled and independent reading is provided; though the amount of time may be outside of the specified minutes, or some students in the classroom do not have the opportunity to participate in modeled and independent reading.*	*No students are given the opportunity to participate in modeled and independent reading.*
P. Student on-task behavior using *READ 180* Audiobooks or Paperbacks G1:____ G2:____ G3:____ [g] Overall:____	*The majority of students appear to be listening and following along with Audiobooks or independently reading for the majority of the time.*	*Some of the students appear to be listening and following along with Audiobooks or independently reading for the majority of the time, but other students are off task at times.*	*Few or none of the students appear to be listening and following along with Audiobooks or independently reading for the majority of the time.*
Q. Student reflections on text G1:____ G2:____ G3:____ [g] Overall:____	*The majority of students respond to reading in writing (e.g., use of logs or journals).*	*Some of the students participate respond to reading in writing*	*Few or none of the students respond to reading in writing.*
R. Teacher Awareness	*The teacher demonstrates proactive behaviors to stay aware of students' activities and needs in the independent reading area the majority of the time, even when working with a small group. The teacher anticipates problems and plans accordingly.*	*The teacher demonstrates some proactive behaviors to stay of students' activities and needs the independent reading area while working with a small group, but may miss some events occurring in the independent reading area.*	*The teacher fails to indicate an awareness of students' activities and needs in the independent reading area while working with the small group.*

	Level of Proficiency		
	High	**Medium**	**Low**
S. Teacher responsiveness to questions/problems	*Teacher responds to independent reading group questions or equipment problems.* *Or, no instances where teacher needed to respond.* *(e.g. teacher quickly addresses any activity or equipment problems at an appropriate time in regards to the small-group activities group activities)*	*Teacher sometimes responds to independent reading group questions or equipment problems, but fails to respond to other issues or responds in a manner that interrupts the activities of the small group substantially.*	*Teacher does not respond to independent reading group questions or equipment problems.*

[f] If modeled and independent reading is not observed, the classroom should receive low ratings for each of the additional items under Modeled and Independent Reading.

[g] The overall rating should be determined as follows: High = 3 Highs, or 2 Highs and 1 Medium; Medium = at least 2 Mediums, or a combination of Highs and Lows; Low = 2 Lows and 1 Medium, or 3 Lows. If only two Modeled and Independent Reading rotations are observed, the rating should be assigned based on the lowest scoring rotation.

Computer Rotations
(Score Range = 5–15)

	Level of Proficiency		
	High	**Medium**	**Low**
T. Instructional Software Time [h]	*All students are given the opportunity to participate in 18-22 minutes on the computer using the READ 180 instructional software.*	*Time for using the READ 180 instructional software is provided; though the amount of time may be outside of the specified minutes, or some students in the classroom do not have the opportunity to use the READ 180 instructional software.*	*No students are given the opportunity to use the READ 180 instructional software*
U. Student on-task behavior using READ 180 instructional software G1:____ G2:____ G3:____ [i] Overall:____	*The majority of students appear to use the READ 180 instructional software throughout their rotation.*	*Some of the students appear to use the READ 180 instructional software, although other students may not use the software throughout the entire rotation.*	*Few or none of the students appear to use the READ 180 instructional software throughout the entire rotation.*
V. Use of multiple zones G1:____ G2:____ G3:____ [i] Overall:____	*The majority of students appear to be utilizing more than one zone at the computers.*	*Some of the students appear to be utilizing more than on zone.*	*Few or none of the students are working on more than one zone.*
W. Teacher Awareness G1:____ G2:____ G3:____ [i] Overall:____	*The teacher demonstrates proactive behaviors to stay aware of students' activities and needs in the computer area the majority of the time, even when working with a small group. The teacher anticipates problems and plans accordingly.*	*The teacher demonstrates some proactive behaviors to stay of students' activities and needs the computer area while working with a small group, but may miss some events occurring in the independent reading area.*	*The teacher fails to indicate an awareness of students' activities and needs in the computer area while working with the small group.*

	Level of Proficiency		
	High	**Medium**	**Low**
X. Teacher responsiveness to questions/problems G1:____ G2:____ G3:____ [i] Overall:____	*Teacher responds to computer group questions or equipment problems.* *Or, no instances where teacher needed to respond* *(e.g. teacher quickly addresses any activity or equipment problems at an appropriate time in regards to the small-group activities)*	*Teacher sometimes responds to computer group questions or equipment problem, but fails to respond to other issues or responds in a manner that interrupts the activities of the small group substantially.*	*Teacher does not respond to computer group questions or equipment problems*

[h] If the computer rotation is not observed, the classroom should receive low ratings for each of the additional items under Computer Rotations.

[i] The overall rating should be determined as follows: High = 3 Highs, or 2 Highs and 1 Medium; Medium = at least 2 Mediums, or a combination of Highs and Lows; Low = 2 Lows and 1 Medium, or 3 Lows. If only two computer rotations are observed, the rating should be assigned based on the lowest scoring rotation.

Whole-Group Wrap-Up
(Score range = 3–9)

	Level of Proficiency		
	High	**Medium**	**Low**
Y. Wrap-Up Time	*Whole-group wrap-up time is observed for 8–12 minutes at the end of the class period.*	*Whole-group wrap-up time is observed; however, it is outside the time allotment and/or does not take place at the end of the class period.*	*Whole-group wrap-up time is not observed.*
Z. Teacher Summary	*Teacher reviews key points covered in the lessons or readings in a clear, concise manner.*	*Teacher reviews key points covered in the lessons or readings but summary is unclear or not concise.*	*Teacher does not review key points covered in the lessons or readings.*

	Level of Proficiency		
	High	**Medium**	**Low**
AA. Student Reflections	*The majority of students reflect on the day's activities, skills learned, or material read (e.g., students summarize their activities from the day and/or students reflect in writing, such as an Exit Slip or in a Daily Reflection Journal).*	*Some students reflect on the days' activities, skills learned, or material read.*	*Few or none of the students reflect on the days' activities, skills learned, or material read.*

Classroom Management and Climate

(Score Range = 5–15; not part of classroom fidelity score)

	Level of Proficiency		
	High	**Medium**	**Low**
BB. Effectiveness in addressing behavioral issues	*The teacher consistently addresses behavioral issues. Behavior management does not take time away from learning. No behavioral issues are observed.*	*The teacher inconsistently addresses behavioral issues. Few times when misbehavior continues, escalates, or takes time away from learning.*	*The teacher rarely, it ever, addresses behavioral issues.* *Frequent instances of misbehavior continuing, escalating, or taking time away from learning.*
CC. Smooth transitions between all models[a]	*The teacher consistently uses a timer, two minute warning, and/or other method to indicate to students of a rotation change.* *All transitions are quick and efficient. Students know what to do and there is minimal wasted instructional time.*	*The teacher sometimes uses a timer, two minute warning, and/or other method to indicate to students of a rotation change.* *Some instructional time may be wasted and some students seem confused about how to transition into a new activity.*	*The teacher never uses a timer, two minute warning, and/or other method to indicate to students of a rotation change.* *Few or none of the transitions are quick and efficient. Instructional time is lost during most or all transitions.*

	Level of Proficiency		
	High	**Medium**	**Low**
DD. Clear instructions and outline of expectations	*Instructions are consistently outlined and clarified.* *The majority of students appear to understand expectations the majority of the time.*	*Instructions are sometimes outlined and clarified.* *The majority of students appear to understand expectations some of the time; or, some students appear to understand expectations the majority of the time.*	*Instructions are rarely or never outlined and clarified.* *Student behavioral expectations are not posted.* *The majority of students look confused as to expectations for the majority of the time.*
EE. Mutual Respect among teacher and students	*Teacher and students demonstrate respect for one another the majority of the time.(e.g., using respectful language, eye contact, cooperation)*	*Teacher and students demonstrate respect for one another some of the time.*	*Teacher and students rarely or never demonstrate respect for one another.*
FF. Disrespectful behaviors among teacher and students	*No instances, or very mild instances, of disrespect are observed.*	*Some instances of disrespect between teacher and/or students.*	*Frequent instances of disrespect between teacher and/or students are observed. (e.g. sarcastic remarks, teasing, humiliation)*

[a] If the teacher does not implement READ 180 rotations, this item should rated based on other transitional times (e.g., beginning of class period).

Materials *(Score Range = 7–21; not part of classroom fidelity score)*

	Level of Proficiency		
	High	**Medium**	**Low**
GG. Quantity of READ 180 Paperbacks[2]	*There are a sufficient number of READ 180 paperback books at various levels available and accessible to students.*	*READ 180 paperback books at various levels are available and accessible to students; the number of books at one or more levels is insufficient.*	*READ 180 paperback books at various levels are not available and accessible to students.*

	Level of Proficiency		
	High	**Medium**	**Low**
HH. Quality/ Organization of Books	*The majority of READ 180 paperback and Audiobooks are in useable condition and are organized in a way that is appealing to students (e.g. arranged by reading level and on shelf with spine facing out).*	*The majority of the READ 180 paperback books and Audiobooks are in useable condition, but are poorly organized and not accessible or appealing to students.*	*The majority of the READ 180 paperback books and Audiobooks are in poor or unusable condition and are not organized to encourage student use.*
II. Quantity of READ 180 Audiobooks[2]	*There are a sufficient number of Audiobooks available and accessible to the majority of students.*	*Some Audiobooks are available and accessible to students; however, the number is insufficient.*	*Few/no students have access to Audiobooks because they are either damaged or the number is insufficient.*
JJ. Quantity of rBooks[2]	*The majority of students have an rBook.*	*Some students have an rBook, while other students do not (students w/o rBook have a notebook).*	*Few students or none have an rBook or notebook.*
KK. Functional Computers and READ 180 Software	*The majority of students have access to a functional computer with headphones, microphone, and working software.*	*Some students have access to a functional computer with headphones, microphone, and working software; other students do not.*	*Few or none of the students have access to a functional computer with headphones, microphone, and working software.*
LL. Functioning CD players[b]	*All students that would like access to a CD player, have access.*	*Some students have access to a CD player; at least one student does not have access that would like access.*	*Few or none of the students have access to a CD player that would like access.*
MM. Comfortable Seating	*There is a sufficient amount of comfortable seating in the reading area.*	*There is some comfortable seating in the reading area.*	*There is no comfortable seating in the reading area.*

[b] Students may need to ask teachers for CD player or other listening device.

Classroom Fidelity Score Weighting From Observation Protocol

	Min. Score	Max. Score	Weighting	Weighted Minimum Score	Weighted Maximum Score
Whole-Group Instruction	7	21	x1.00	7	21
Small-Group Instruction	7	21	x1.00	7	21
Modeled and Independent Reading	5	15	x1.40	7	21
Computer Rotation	5	15	x1.40	7	21
Whole-Group Wrap-up	3	9	x2.33	7	21
Classroom Fidelity Score				35	105

Appendix C
WDPI/MPS Program Implementation Fidelity Key
(Professional Development and Instructional Supports)

	Quantity Source	Quantity Ratings			Quality Source	Quality Ratings		
		High (3)	Medium (2)	Low (1)		High (3)	Medium (2)	Low (1)
READ 180 Training	PD Logs	Attended 2 days (Or, experienced READ 180 teacher)	Attended 1 day	Attended 0 days	Interviews: Fall Tchr: 33, 33a, 41, 42 Principal: 25, 25a, 26, 26a	Teachers took a lot of information away from the trainings, and/or reported that it was of good or excellent quality. (Or, experienced READ 180 teacher)	Teachers took some information away from the trainings and/or reported that it was of fair quality.	Teachers took little information away from the trainings and/or reported that it was of poor quality.
READ 180 Roundtables	PD Logs	Attended 75% or more sessions	Attended 50-74% of sessions	Attended less than 50% of sessions	Interviews: Fall Tchr: 36, 36a, 41, 42 Spring Tchr: 42, 42a, 47, 48 Principal: 25, 25a, 26, 26a, 27	Teachers took a lot of information away from the teacher roundtables, and/or reported that they were of good or excellent quality.	Teachers took some information away from the teacher roundtables, and /or reported that they were of fair quality.	Teachers took little information away from the teacher roundtables, and/or reported that they were of poor quality.
READ 180 RED Course online	PD Logs	Completed 75% or more of required lessons	Completed 50-74% of required lessons	Completed less than 50% of required lessons	Interviews: Fall Tchr: 34, 34a, 41, 42 Spring Tchr: 40, 40a, 47, 48 Principal: 25, 25a, 26, 26a	Teachers took a lot of information away from the online courses, and/or reported that it was of good or excellent quality.	Teachers took some information away from the courses, and /or reported that it was of fair quality.	Teachers took little information away from the courses, and/or reported that it was of poor quality.

	Quantity Source	Quantity Ratings			Quality Source	Quality Ratings		
		High (3)	**Medium (2)**	**Low (1)**		**High (3)**	**Medium (2)**	**Low (1)**
Mentoring Support from Scholastic/ READ 180 representative	Coach Logs	Received 7-9 coaching sessions	Received 6-4 coaching sessions	Received 0-3 coaching sessions	Interviews: Fall Tchr: 30, 32 Spring Tchr: 36, 38, 39 Principal: 21, 23, 24	The Scholastic/Read 180 representative has affected Read 180 instruction to a large extent.	The Scholastic/Read 180 representative has affected Read 180 instruction to a moderate extent.	The Scholastic/Read 180 representative has affected Read 180 instruction to a small extent or not at all.
SAM Data training	PD logs	Attended (Or, experienced READ 180 teacher)	———	Did not attend	Interviews: Fall Tchr: 37, 37a, 41, 42 Spring Tchr: 43, 43a, 47, 48 Principal: 25, 25a, 26, 26a	Teachers fully participated in offered SAM data training, took a lot of information away from the training, and/or reported that it was of good or excellent quality.	Teachers participated in offered SAM data training, took some information away from the training, and /or reported that it was of fair quality.	Teachers did not participate in offered SAM data training, took little information away from the training, and/or reported that it was of poor quality.
Graduate courses	Project Coordinator Records	Completed (Or, already licensed)	Enrolled but not completed	Not enrolled and needed	Interviews: Fall Tchr: 38, 38a, 41, 42 Spring Tchr: 44, 44a, 47, 48 Principal: 25, 25a, 26, 26a	Teachers participated in graduate courses related to Read 180 instruction, took a lot of information away from the graduate courses, and/or reported that they were of good or excellent quality. (Or, already licensed)	Teachers participated in graduate courses related to Read 180 instruction, took some information away from the graduate courses, and /or reported that they were of fair quality.	Teachers did not participate in any graduate courses related to Read 180 instruction, took little information away from the graduate courses, and/or reported that they were of poor quality.

	Quantity Source	Quantity Ratings			Quality Source	Quality Ratings		
		High (3)	**Medium (2)**	**Low (1)**		**High (3)**	**Medium (2)**	**Low (1)**
READ 180 conference **(Year 2 only)**	PD logs	Attended	———	Did not attend	Interviews: Fall Tchr: 35, 35a, 41, 42 Spring Tchr: 41, 41a, 47, 48 Principal: 25, 25a, 26, 26a	Teachers fully participated in offered Read 180 seminars or conferences, took a lot of information away from the seminars/conferences, and/or reported that it was of good or excellent quality.	Teachers participated in offered Read 180 seminars or conferences, took some information away from the seminars/conferences, and /or reported that it was of fair quality.	Teachers did not participate in offered Read 180 seminars or conferences, took little information away from the seminars/conferences, and/or reported that it was of poor quality.
Materials Available / Need additional materials	Interviews: Fall Tchr: 10, 15 Spring Tchr: 13, 14 Principal: 9, 10, 13	All materials are available and were available on time. There is a clear process to acquire more materials.	All materials are available, but there was a delay in materials. There is a somewhat clear process to acquire more materials.	Materials are missing, there was a delay in materials, and/or there is not a clear process to acquire more materials.				
Quantity of rBooks	Interviews: Fall Tchr: 11, 16 Spring Tchr: 9, 14, 15 Principal: 10	The majority of students have their own rBook	Some students have their own rBook, while other students do not	Few students or none have their own rBook				

	Quantity Source	Quantity Ratings			Quality Source	Quality Ratings		
		High (3)	Medium (2)	Low (1)		High (3)	Medium (2)	Low (1)
Quantity of READ 180 Paperbacks	Interviews: Fall Tchr: 12, 12a, 16 Spring Tchr: 10, 10a, 14, 15 Principal: 10	There are a sufficient number of READ 180 paperback books at various levels available and accessible to students.	READ 180 paperback books at various levels are available and accessible to students; however, the number of books at one or more levels is insufficient	READ 180 paperback books at various levels are not available and accessible to students.				
Quantity of READ 180 Audiobooks	Interviews: Fall Tchr: 12, 16 Spring Tchr: 10, 14, 15 Principal: 10	There are a sufficient number of Audiobooks available and accessible to students.	Audiobooks are available and accessible; however, the number is insufficient	There are no Audiobooks available and accessible to students.				

Appendix D
Impact Analysis Methods

The statistical analysis of student outcomes focuses on the impact of READ 180 on students' reading achievement and engagement. The intervention targeted students in Grades 6–10 and focused primarily on the impact of one year of READ 180 for the treatment group students. The initial study (prior to the cancelation of the Striving Readers grant) was to assess the overall impact of a two-year READ 180 intervention, with statistical power gained through the pooling of effects across grades and cohorts (i.e., the samples will be combined by standardizing the outcome score for each grade). In addition to the main impact estimate (across all grades), we also fit models to study the impact of READ 180 by both school level—middle school (Grades 6–8) versus high school (Grades 9–10)—and by student subgroup (ELL and special education students).

Model Specifications: Cross-Sectional Model

To measure the impact of the READ 180 intervention on reading proficiency for students in the five MPS study schools, we tested for both intent-to-treat (ITT) and treatment-on-the-treated (TOT) effects. Although both models are considered in our analysis, the primary model used for reporting the effectiveness of the READ 180 intervention is the ITT analysis. The ITT group includes all students randomized to the study who enrolled in the school and grade level at which they were randomized in the 2010–11 school year. We examined and presented three ITT models, defined as follows:

$$(1)\ Y_{ij} = \beta_0 + \beta_1 T_{ij} + \Sigma\beta_{ij} SGR_{ij} + \varepsilon_{ij}$$

$$(2)\ Y_{ij} = \beta_0 + \beta_1 T_{ij} + \Sigma\beta_{ij} SGR_{ij} + \Sigma\beta_i P_i + \varepsilon_{ij}$$

$$(3)\ Y_{ij} = \beta_0 + \beta_1 T_{ij} + \Sigma\beta_{ij} SGR_{ij} + \Sigma\beta_i P_i + \Sigma\beta_i D_i + \varepsilon_{ij}$$

In these models, Y_{ij} represents the student-level, postintervention outcome (e.g., reading achievement on the MAP reading assessment completed in June 2011). T_{ij} is an indicator of the treatment status of student i in school j, P_i represents two pretest standardized test scores (i.e., WCKE and ThinkLink), D_i represents student-level covariates (e.g., gender, ethnicity, economic status, special education status, and ELL status), and SGR_{ij} represents a school-by-grade-by-randomization block for a given student (to account for the stratified random sampling procedures). In addition, models include missing data indicators for prior achievement scores (equaling 1 for students with missing WKCE or ThinkLink scores, respectively).

The TOT analysis was conducted to account for the possibility of treatment crossover and other forms of treatment noncompliance. The TOT estimate accounts for that noncompliance through the use of a two-stage least-squares approach, using random assignment as an instrumental variable for treatment receipt (Angrist, Imbens, & Rubin, 1996). The second-stage model for the TOT analysis is

$$(4)\ Y_{i\,j} = \beta_0 + \beta_1 R'_{ij} + \Sigma\beta_{ij} SGR_{ij} + \Sigma\beta_i P_i + \Sigma\beta_i D_i + \varepsilon_{ij}$$

In this model B_1 is the estimated impact of READ 180 for a student *i* who enrolled in READ 180 (R′) based on their assignment to the treatment group.

Selection of Covariates

Several student-level covariates were be available for inclusion in the impact models. The power analysis was conducted using an assumption that included covariates would explain 50 percent of the variance in student scores. This variance reduction assumption was based primarily on the inclusion of student pretest scores in the impact model. Several additional student covariates, however—measured prior to randomization—were considered for model inclusion. These covariates were gender, ethnicity, economic status, ELL status, and special education status.

The impact models were fit from three perspectives. First, a basic model including treatment status as the only independent variable (the pure experiment) was considered. Second, pretest was added to the model to increase precision and adjust for any baseline differences in student ability. Third, a full model with all possible covariates was fit. The decision criteria for including covariates for the third model utilized a backward selection criterion with a critical value of 0.2 (*t*-statistic significance) for inclusion.

Although a series of statistical models was fit to the data, the evaluators understand the U.S. Department of Education is interested in a single treatment effect estimate. Therefore, since the results do not vary dramatically among the three modeling approaches, the estimate of the ITT treatment effect from the covariates-included model (the third modeling approach) will be used as the estimate of the effect of two years of READ 180 treatment.

Treatment of Missing Data

There were two types of missing data that occurred during our analysis of program impact: missing outcome data and missing covariate data. Missing outcome data was not imputed and therefore all models fit only those cases where students had a posttest score for the NWEA MAP assessment. Missing covariates were treated differently. In particular, some students did not have either a WKCE reading score or a ThinkLink benchmark score (the two assessments used to determine eligibility for random assignment). To account for this missingness in the data, we created indicator variables that were coded as 1 if the student was missing the prescore and 0 otherwise. In addition, the missing value for the prescore was coded to 0. This procedure keeps all cases in the analysis (i.e., no exclusions due to missing data), and does not lead to biased results because students were randomized into the treatment conditions. All three impact models include the same number of students in the analysis.

Appendix E
Student Engagement Survey

Student Responses to Self Efficacy Survey Items

1. I can read difficult material.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	118	4.2%	16.9%	53.4%	25.4%
Treatment	129	7.0%	21.7%	55.0%	16.3%

10. I have the reading skills I need to complete my school work.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	116	3.4%	11.2%	36.2%	49.1%
Treatment	127	4.7%	7.9%	36.2%	51.2%

15. My reading ability is above average.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	117	14.5%	27.4%	37.6%	20.5%
Treatment	128	11.7%	23.4%	43.0%	21.9%

20. I am becoming a better reader.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	117	3.4%	10.3%	36.8%	49.6%
Treatment	127	2.4%	9.4%	33.9%	54.3%

24. I will be a good reader when I graduate from high school.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	116	0.9%	12.1%	23.3%	63.8%
Treatment	125	3.2%	1.6%	28.0%	67.2%

28. I am a good reader.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	116	8.6%	9.5%	43.1%	38.8%
Treatment	127	3.1%	5.5%	34.6%	56.7%

Student Responses to Behavioral Engagement Survey Items

2. I usually finish books that I start.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	118	21.2%	18.6%	37.3%	22.9%
Treatment	129	14.7%	20.9%	34.1%	30.2%

5. I sometimes seek out books or articles to read on my own time.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	116	22.4%	15.5%	34.5%	27.6%
Treatment	131	11.5%	10.7%	44.3%	33.6%

11. I usually complete reading assignments for school.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	116	3.4%	10.3%	50.0%	36.2%
Treatment	129	6.2%	13.2%	38.0%	42.6%

16. I tend to read during my free time.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	116	27.6%	26.7%	28.4%	17.2%
Treatment	129	24.8%	20.2%	34.9%	20.2%

21. I usually try to read carefully to understand what I am reading.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	117	6.0%	4.3%	34.2%	55.6%
Treatment	127	5.5%	11.0%	27.6%	55.9%

25. If I am reading an interesting book or article I sometimes lose track of time.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	115	13.0%	19.1%	33.9%	33.9%
Treatment	127	10.2%	14.2%	30.7%	44.9%

Student Responses to Emotional Engagement Survey Items

3. I feel comfortable reading aloud in front of other classmates.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	117	33.3%	18.8%	23.1%	24.8%
Treatment	130	30.0%	13.8%	23.8%	32.3%

6. If my teacher told me I was a good reader, I would feel proud.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	116	4.3%	6.9%	20.7%	68.1%
Treatment	130	3.1%	4.6%	22.3%	70.0%

8. I enjoy reading in my free time.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	117	25.6%	31.6%	28.2%	14.5%
Treatment	130	26.9%	23.8%	34.6%	14.6%

12. If my parents told me I was a good reader, I would feel proud.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	116	5.2%	2.6%	27.6%	64.7%
Treatment	128	3.9%	8.6%	21.1%	66.4%

13. Reading information online is fun.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	117	17.1%	23.1%	37.6%	22.2%
Treatment	129	16.3%	20.2%	35.7%	27.9%

17. My friends or family are interested in what I am reading.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	117	23.1%	23.1%	35.9%	17.9%
Treatment	128	24.2%	15.6%	40.6%	19.5%

18. Reading fiction is fun (for example: novels and fantasy).	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	116	10.3%	8.6%	41.4%	39.7%
Treatment	128	9.4%	10.9%	35.2%	44.5%

22. I enjoy reading non-fiction (for example: biographies and history).	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	117	19.7%	23.1%	34.2%	23.1%
Treatment	126	23.8%	14.3%	31.7%	30.2%

26. Reading for school assignments can sometimes be interesting.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	117	10.3%	20.5%	44.4%	24.8%
Treatment	126	9.5%	17.5%	42.9%	30.2%

Student Responses to Cognitive Engagement Survey Items

4. I sometimes summarize what I've read to help me better understand important information in the reading material.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	117	16.2%	23.9%	33.3%	26.5%
Treatment	129	17.8%	15.5%	31.8%	34.9%

7. If what I am reading becomes difficult, sometimes I try to pay closer attention so I can better understand what it means.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	118	6.8%	6.8%	36.4%	50.0%
Treatment	130	8.5%	6.2%	29.2%	56.2%

9. Reading is important for getting good grades.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	116	0.0%	6.9%	33.6%	59.5%
Treatment	128	1.6%	4.7%	31.3%	62.5%

14. Being a good reader will be important after I graduate from high school.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	116	0.9%	5.2%	22.4%	71.6%
Treatment	128	3.9%	4.7%	18.8%	72.7%

19. Sometimes I discuss what I read with others to check my understanding.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	113	19.5%	14.2%	38.1%	28.3%
Treatment	126	19.8%	12.7%	40.5%	27.0%

23. I know how to try to better understand what I am reading.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	115	4.3%	11.3%	49.6%	34.8%
Treatment	126	5.6%	12.7%	40.5%	41.3%

27. I sometimes look over the reading material to see what it is about before reading.	*N*	Disagree	Somewhat Disagree	Somewhat Agree	Agree
Control	117	11.1%	14.5%	32.5%	41.9%
Treatment	126	7.1%	11.1%	33.3%	48.4%

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1647_01/12