

**Memphis Striving Readers Project
Year 3 Evaluation Report**

by

Research for Better Schools

RMC Corporation

June 11, 2010

Memphis Striving Readers Project Year 3 Evaluation Report

June 2010

Principal Investigator—Research

Jill Feldman
Research for Better Schools

Authors

Allen Schenck
RMC Research Corporation

Debra Coffey
Kelly Feighan
Research for Better Schools

Acknowledgments

This study is the result of strong partnerships forged between staff members at Memphis City Schools (MCS), the University of Memphis, and Research for Better Schools (RBS) and its associates, RMC and Edvantia. The authors represent a small fraction of individuals who contributed to the study's design, implementation, and analysis. The specific contributions of each author are as follows: Kelly Feighan, for her leadership in conducting, analyzing, and writing up the research related to implementation of the whole-school intervention and logistical coordination of project-wide collection of data; Debra Coffey, for her leadership in conducting, analyzing, and writing up research related to implementation of the targeted intervention and for skillful editing of this report; Allen Schenck for his leadership in developing the research design and analytic models used to assess impact for both interventions; and Jill Feldman for her leadership as principal investigator of the research team.

In particular, the authors wish to thank Dr. Elizabeth Heeren, Principal Investigator of the Memphis Striving Readers Project at MCS, for her invaluable guidance in all aspects of the implementation evaluations. Others at MCS whom we wish to thank include Rorie Harris, who prepared MCS data sets for analyses, coordinated the administration of the Iowa Test of Basic Skills twice annually, and helped ensure the integrity of the randomized student assignment; and Coronica Hall, Kenyetta McNeil, Candice Pollan, Jocquell Rodgers, Kamandria Vasser, and Regina Washington, who provided data that were critical to analyses of the implementation and impact of the whole-school intervention. We wish to also thank the Striving Readers school principals, course instructors, and participating teachers, all of whom provided information that is essential to our study.

The chief architect of MCLA, Robert Cooter, formerly of the University of Memphis and now at Bellarmine University, has demonstrated unwavering support and enthusiasm for the evaluation of the whole-school intervention in his genuine interest to improve adolescent literacy. We thank others at the University of Memphis, including Helen Perkins, co-Principal Investigator of MSRP, for her insights and feedback about instruments and other materials used to collect implementation data, and Kathy Cooter for their ongoing contributions. Additionally, we thank Ric Potts of Christian Brothers University, formerly of MCS and Principal Investigator of MSRP for his continued support and commitment.

We wish to acknowledge RBS and Edvantia staff who, in Year 3 of this study, conducted classroom observations, collected survey data, and/or assisted with the analyses. At RBS we would like to thank Ning Rui, Eric Kucharik, Elena Kirtcheva, Pilar Bartlett, and Lindsay Wilhelmi and at Edvantia, we thank Kristine Chadwick, Aaron Butler, Juan D'Brot, Joy Runyan, and Charity Sheffield for their contributions.

Lastly, the authors of this report wish to acknowledge the time and efforts of our technical working group members who convened monthly to guide the study's analyses. In addition to colleagues listed above who participate in this working group, we wish to thank Keith Kershner of RBS and Jim Craig at the School of Education at Virginia Tech. Cris Price and Barbara Goodson from Abt, our technical assistance provider, have also been exceedingly helpful in shaping our analyses and ensuring that we produce work that meets high standards of rigor.

The Authors
March 2010

Table of Contents

Acknowledgments	i
Table of Contents	ii
List of Tables and Figures	iv
List of Appendices	viii
I. Executive Summary	1
Implementation and Impact of the Targeted Intervention in Years 1 through 3.....	2
Implementation and Impact of the Whole-School Intervention in Year 3.....	2
II. Introduction and Study Background	4
Introduction.....	4
Background Context.....	5
Theoretical Rationale for and Description of the Intervention Models.....	5
Description of the Targeted Intervention	5
Students Targeted by the Intervention	6
Logic Model for Targeted Intervention	6
Professional Development Model Components.....	6
Classroom Model Components.....	7
Theoretical Rationale for and Description of Whole-School Intervention Model.....	11
The Innovation Configuration Map	12
Professional Development Model Components.....	13
Classroom Instruction Model Components	14
Changes Made to the Professional Development Model between Cohorts 1 and 2	15
Brief Overview of Key Evaluation Design Features	15
Summary of Year 3 RBS Data-Collection Activities	15
III. Evaluation of the Implementation of the Targeted Intervention, Years 1, 2 and 3	16
Summary of the Design	16
Development of the Ratings and Scale for Years 1 through 3.....	17
Year 3 Implementation Study	19
Supplemental Costs Incurred by MCS to Support Year 3 Implementation.....	19
Professional Development Levels.....	21
Levels and Variability of Implementation at the Classroom Level	22

Conclusions Regarding Implementation of the Targeted Intervention.....	27
Description of the Counterfactual and Development of the Intent-to-Treat Sample for the Targeted Intervention	29
IV. Evaluation of the Impacts of the Targeted Intervention: Years 1 through 3	34
Study Design.....	34
Sample Selection.....	35
Data Collection	38
Data Analysis	39
Selection of Covariates	42
Treatment of Missing Data	42
Description of the Samples of Students for <i>READ 180</i> Impact Analyses in Years 1 through 3	42
Equivalence on Student Demographic Characteristics.....	42
Equivalence on Baseline Achievement.....	46
Impact of <i>READ 180</i> Participation on Student Achievement in Years 1 through 3	51
Immediate Impact of <i>READ 180</i> for Students in Grades 6 through 8 Combined in Year 1	51
Immediate Impact of <i>READ 180</i> for Students in Each Grade in Year 1.....	52
Immediate Impact of <i>READ 180</i> for Students in Sixth Grade in Year 2	53
Immediate Impact of <i>READ 180</i> for Students in Sixth Grade in Year 3	54
Long-term Impact of <i>READ 180</i> for Students in Grades 7 and 8 in Year 2	56
Long-term Impact of <i>READ 180</i> for Students in Grade 7 and for Students in Grade 8 with Two Years of Participation and One Year of Regular Instruction in Year 3.....	57
Differential Attrition in Immediate <i>READ 180</i> Impact Analyses.....	59
Differential Impacts of <i>READ 180</i> in MCLA and Non-MCLA Schools in Years 1 and 2.....	60
Conclusions.....	65
Further Analyses.....	65
<i>READ 180</i> “TOT” Impact Analysis	66
Methods.....	66
V. Evaluation of the Implementation of the Whole-School Intervention, Year 3.....	70
Summary of the Design	70
Contextual Factors in Control and Experimental MSRP Schools	72
Professional development model for teachers as implemented	78
MCLA Course Content.....	78
MCLA Course Participation	80
MCLA Principal Fellowship Course Participation.....	83

Curriculum Resource Center (CRC) Use.....	83
Literacy Coaching Support.....	84
Coach Availability.....	86
Classroom-Level MCLA Implementation.....	88
Evaluator Observations.....	90
Literacy Coach Ratings of Teacher Implementation.....	95
Summary of Level of Implementation Attained for Whole-School Intervention.....	97
VI. Evaluation of the Impacts of the Whole-School Intervention: Years 1 through 3.....	99
References.....	100

List of Tables and Figures

Table 1: Student Enrollments in Schools Participating in the Striving Readers Study.....	4
Table 2: Changes to MCLA Professional Development Model, Years 1 through 3.....	14
Table 3: Years 1 through 3 Data Sources Linked with Implementation Research Questions—Targeted Intervention.....	18
Table 4: Cost Estimates of Supplemental PD and Implementation Support Services Recommended by Scholastic for Districts Similar to MCS.....	19
Table 5: Actual Costs of <i>READ 180</i> “Refresher” Materials, Training, and Support, Including “Premium” Tech Support, in Striving Readers Schools.....	20
Table 6: Teacher Completion of Year 3 <i>READ 180</i> Professional Development Opportunities.....	22
Table 7: Teacher responses related to use of different Scholastic Achievement Manager reports.....	23
Table 8: <i>READ 180</i> teacher responses related to specific challenges to implementation fidelity.....	24
Table 9: Completion of rBook “workshops,” by classroom.....	26
Table 10: Year 3 <i>READ 180</i> Fidelity of Implementation Teacher/Classroom Ratings.....	27
Table 11: Differences Between Ratings of Classrooms from 2007–2008 to 2008–2009.....	28
Table 12: Counterfactual Detail—Numbers of Students in Reading and ELA-Related Courses, by School and Experimental Condition.....	31
Table 13: Analysis of Sample Size for Long-Term (Three-Year) Impact Year 3 of <i>READ</i> <i>180</i> —Grade 8.....	32
Table 14: Analysis of Sample Size for Long-Term (Two-Year) Impact Year 3 of <i>READ</i> <i>180</i> —Grade 7.....	33
Table 15: Analysis of Sample Size for Immediate Year 3 Impact of <i>READ 180</i> — Grade 6.....	34

Table 16: Number of Students Enrolled in Striving Reader Schools in Year 1 by <i>READ 180</i> Design Group.....	36
Table 17: Number of Sixth-Grade Students Enrolled in Striving Reader Schools in Year 2 by <i>READ 180</i> Design Group.....	36
Table 18: Number of Students from Year 1 ITT Analysis Group Remaining in Spring of Year 2 Compared to Number of Students in Year 1 by Grade and Design Group	37
Table 19: Number of Sixth-Grade Students Enrolled in Striving Reader Schools in Year 3 by <i>READ 180</i> Design Group.....	37
Table 20: Number of Students from Year 1 and Year 2 ITT Analysis Groups Remaining in Spring of Year 3 Compared to Number of Students in Years 1 and 2 by Grade and Design Group	38
Table 21: All Variables Included in <i>READ 180</i> Impact Analytical Models for Years 1 through 3	41
Table 22: Demographic Characteristics of the Year 1 <i>READ 180</i> ITT Sample.....	43
Table 23: Demographic Characteristics of the Year 2 Grade 6 <i>READ 180</i> ITT Sample.....	43
Table 24: Demographic Characteristics of the Year 2 “Stayers” and “Leavers” from the Year 1 <i>READ 180</i> ITT Sample	44
Table 25: Demographic Characteristics of the Year 3 Grade 6 <i>READ 180</i> ITT Sample.....	45
Table 26: Demographic Characteristics of the Year 3 Grade 7 “Stayers” and “Leavers” from the Year 2 <i>READ 180</i> ITT Sample.....	45
Table 27: Demographic Characteristics of the Year 3 Grade 8 “Stayers” and “Leavers” from the Year 2 <i>READ 180</i> ITT Sample.....	46
Table 28: Comparison of Year 1 <i>READ 180</i> Treatment and Control Groups on Baseline 2006 Scores on Each Achievement Test.....	47
Table 29: Comparison of Year 2 Grade 6 <i>READ 180</i> Treatment and Control Groups on Baseline 2007 Scores on Each Achievement Test.....	47
Table 30: Comparison of Year 2 “Stayers” from <i>READ 180</i> Treatment and Control Groups on Baseline 2006 Scores on Each Achievement Test.....	48
Table 31: Comparison of Year 3 Grade 6 <i>READ 180</i> Treatment and Control Groups on Baseline 2008 Scores on Each Achievement Test.....	49
Table 32: Comparison of Year 3 Grade 7 “Stayers” from <i>READ 180</i> Treatment and Control Groups on Baseline 2007 Scores on Each Achievement Test.....	50
Table 33: Comparison of Year 3 Grade 8 “Stayers” from <i>READ 180</i> Treatment and Control Groups on Baseline 2006 Scores on Each Achievement Test.....	50
Table 34: Year 1 Impact of <i>READ 180</i> on Spring 2007 Scores on Each Achievement Test—Grades 6 through 8 Combined	52
Table 35: Immediate Year 1 Impact of <i>READ 180</i> on Spring 2007 Scores on Each Achievement Test—Grade 6.....	53
Table 36: Immediate Year 2 Impact of <i>READ 180</i> on Spring 2008 Scores on Each Achievement Test—Grade 6.....	54

Table 37: Immediate Year 3 Impact of <i>READ 180</i> on Spring 2009 Scores on Each Achievement Test—Grade 6.....	55
Table 38: Long-Term Year 2 Impact of <i>READ 180</i> on Spring 2008 Scores on Each Achievement Test—Grades 7 and 8 Combined.....	56
Table 39: Long-Term Year 3 Impact of <i>READ 180</i> on Spring 2009 Scores on Each Achievement Test—Grade 7.....	58
Table 40: Year 3 Impact of <i>READ 180</i> on Spring 2009 Scores on Each Achievement Test after Two Years of Program Participation and One Year of Regular Instruction—Grade 8	59
Table 41: Interaction of <i>READ 180</i> and MCLA Year 1 Impacts on Spring 2007 Scores on Each Achievement Test	62
Table 42: Interaction of Year 1 <i>READ 180</i> and MCLA Impacts on Spring 2007 Scores on Each Achievement Test—Grade 6.....	64
Table 43: Number of Students in <i>READ 180</i> ITT Analyses Samples in Year 3.....	66
Table 44: Number of Sixth-Grade Students in ITT versus TOT Files.....	67
Table 45: Number of Seventh-Grade Students in ITT versus TOT files	67
Table 46: Number of Eighth-Grade Students in ITT versus TOT files	67
Table 47 ITT and TOT Effect Comparison—Immediate Year 3 Impact of <i>READ 180</i> on Sixth-Grade Student Achievement in Spring 2009.....	68
Table 48: ITT and TOT Effect Comparison—Long-Term Year 3 Impact of <i>READ 180</i> on Seventh-Grade Student Achievement in Spring 2009	69
Table 49: ITT and TOT Effect Comparison—Long-Term Year 3 Impact of <i>READ 180</i> on Eighth-Grade Student Achievement in Spring 2009	70
Table 50: Percentage Distribution of Time Spent in Professional Development in the Past School Year among Cohort 1 & 2 Teacher Survey Respondents, May 2009.....	77
Table 51: Percentage of Teachers Reporting Nine or More Hours of Professional Development in Past Year by MCLA Cohort, May 2009	78
Table 52: Number and Percentage of MCLA Participants by School, Year 3	81
Table 53: Number of Course Participants by MCLA Content Area, Year 3	81
Table 54: Percentage Distribution of MCLA Completers by Subject Area Taught, Fall 2008.....	82
Table 55: Percentage of MCLA Teachers with High Attendance* by Content Area, Year 3	83
Table 56: CRC Use in Year 3	84
Table 57: Number of CDALs Submitted in Year 3	85
Table 58: Type of Coaching Task, Year 3	86
Table 59: Number and Percentages of MCLA Teachers with High* Coaching Dosage, Year 3.....	87
Table 60: Numbers and Percentages of Respondents Reporting Engagement in Various Activities in the Past Week, Fall 2008.....	89

Table 61: Mean Scores and ANOVA Results for Significant WILA Items and Total Score	90
Table 62: Literacy Strategy Use in Observed Classrooms, Year 3.....	91
Table 63: Number and Percentage of Strategy Episodes Observed by Literacy Domain in Year 3.....	91
Table 64: Number and Percentage of Classes Observed Using Various Literacy Strategies by Month in Year 3	92
Table 65: Number and Percentage of Teachers Rated at Various Implementation Levels by Literacy Coaches in Year 3.....	96
Table 66: MCLA Implementation Ratings Assigned to Teachers by Coaches at the End of Year 3 by School	97
Table 67: Schoolwide MCLA Participation and Implementation Rankings, Year 3.....	99
Figure 1: Elements of <i>READ 180</i> Professional Development, Years 1 through 3	7
Figure 2: Logic Model of Targeted Intervention.....	9
Figure 3a: <i>READ 180</i> Instructional Model.....	10
Figure 3b: Description of <i>READ 180</i> Rotation Activities	10
Figure 4: Logic Model of the Memphis Striving Readers Whole-School Intervention	12
Figure 5: Characteristics of Year 3 RBS Data-Collection Methods.....	16
Figure 6: Year-by-year averages of the median amount of time (in minutes) that students spent using <i>READ 180</i> software per session in each school.....	23
Figure 7: Year-by-year averages of the number of <i>READ 180</i> software-rotation sessions students completed each week in each school	24
Figure 8: Numbers of Classrooms Rated Adequate in Years 1, 2, and 3	28
Figure 9: <i>READ 180</i> Year 1 Impact in MCLA Treatment and Control Schools.....	63
Figure 10: Data Sources Linked to Research Questions—MCLA, Year 3	73
Figure 11: Counterfactual Context in MCLA Schools, Year 3	75
Figure 12: MCLA Year 3 Course Topics	79
Figure 13: Literacy Strategies Used by Individual Cohort 2 Teachers, January 2009.....	93
Figure 14: Literacy Strategies Used by Individual Cohort 2 Teachers, March 2009.....	94

List of Appendices

Notes: Appendices are presented in alphabetical order and each appendix is numbered internally.

Appendix Y includes the Year 2 Implementation Reports of both the targeted and whole-school interventions, and Appendix Z includes normal curve equivalent conversions for ITBS and TCAP scores.

- Appendix A: MCLA Innovation Configuration Map
- Appendix B-1: *READ 180* Student Survey
- Appendix B-2: *READ 180* Teacher Survey
- Appendix B-3: *READ 180* Classroom Observation Instrument
- Appendix C: Calculations Used to Create Targeted Intervention Classroom Ratings
- Appendix D: Definition of Analytic Samples
- Appendix E: Specification of the Multi-Level (Cross-Sectional) Regression Models Employed to Test the Immediate and Long-Term Impact of the *READ 180* Intervention in Years 1 and 2 and Differences in *READ 180* Impact in MCLA Treatment and Control Schools
- Appendix F: Complete Results of Multi-Level Analyses of *READ 180* Immediate and Long-Term Impacts on Student Achievement in Year 1 through Year 3
- Appendix G: Tests of Differential Attrition in the *READ 180* Impact ITT Student Samples
- Appendix H: Complete Results of Multi-Level Analyses of *READ 180* Impact on Student Achievement in MCLA Treatment and Control Schools in Year 1
- Appendix I: RBS Interview Guide—Guidance Counselor or Designated Representative
- Appendix J: RBS Principal Interview Guide
- Appendix K: RBS—MCLA Teacher Implementation of Strategy Questionnaire (TISQU)
- Appendix L: MCLA Course Syllabi
- Appendix M: Example of MCLA CAP
- Appendix N: MCLA Fall 2008 Instructor Template
- Appendix O: MCLA Coaching Daily Activity Log
- Appendix P: MCLA Participant Focus Group and Survey Report
- Appendix Q-1: MCLA Participant Focus Group Interview Guide
- Appendix Q-2: MCLA Participant Survey
- Appendix R: RBS Weekly Implementation of MCLA Literacy Strategies (WILA) Survey
- Appendix S: MSRP Classroom Observation Protocol and Annotated Guide

- Appendix T: RBS Coaching Rubric for Assessing Implementation Fidelity
- Appendix U: Specification of the Multi-Level (Cross-Sectional) Regression Models Employed to Test the Immediate and Long-Term Impact of the MCLA Intervention on Teacher Outcomes in Years 1 and 2
- Appendix V: Specification of the Multi-Level (Cross-Sectional) Regression Models Employed to Test the Immediate and Long-Term Impact of the MCLA Intervention on Student Achievement in Years 1 and 2
- Appendix W: Complete Results of Multi-Level Analyses of MCLA Impact on Teacher Preparedness to Use and Frequency of Use of Literacy Activities in Years 1 and 2
- Appendix X: Complete Results of Multi-Level Analyses of MCLA Impact on Student Achievement in Years 1 and 2
- Appendix Y: Targeted (Y-1) and Whole-School (Y-2) Implementation Reports from Year 2
- Appendix Z: NCE Conversion Tables for ITBS and TCAP Year 3 Scores

I. Executive Summary

This report presents the results from the evaluation of the third year of the Memphis Striving Readers Project (MSRP) conducted by Research for Better Schools (RBS). MSRP, funded for five years by the United States Department of Education, comprises two interventions aimed at improving adolescent literacy and the quality of literacy instruction across the curriculum. The first intervention component, Scholastic’s *READ 180* program, was implemented for a third year in eight middle schools in the Memphis City Schools (MCS) district. Struggling readers in grades six through eight who met eligibility requirements were randomly selected either to participate in the supplemental program or to serve as control group students. There were 1,531 students in the treatment and control groups at the eight MSRP schools in Year 3.

The second intervention component, the Memphis Content Literacy Academy (MCLA), is a whole-school professional development program that was implemented in Year 3 with a cohort of teachers who taught in those schools that made up the control group during Years 1 and 2 of the study. The program, developed by University of Memphis and MCS staff to improve literacy integration across the content areas, encompassed professional development courses for teachers and principals, literacy coaching assistance, and instructional materials. All teachers were eligible to participate in MCLA, including teachers of English/language arts (ELA), social studies, mathematics, science, special education, and exploratory (i.e., music, art, physical education) courses, as well as counselors and instructional facilitators. In Year 3, the four MCLA schools served 2,872 students.

Researchers collected information about the implementation and impact of the two interventions using a variety of methods, including surveying, observing, and interviewing participating teachers as well as reviewing program documents and student scores on the Tennessee Comprehensive Assessment Program (TCAP) and Iowa Tests of Basic Skills (ITBS). The Year 1 evaluation found considerable variability in the implementation of both interventions due to delays in the delivery of equipment needed to operate the *READ 180* software programs and low participation among teachers in MCLA at two of the four intervention schools. *READ 180* and MCLA were implemented at higher levels in Year 2; however, impact analyses of both interventions failed to show immediate or long-term effects¹ on student achievement (the MCLA impact analysis found that MCLA teachers were more prepared than non-MCLA teachers to use literacy strategies).

Year 3 results showed wide variation in *READ 180* implementation across the eight schools, and there was one slight but statistically significant impact on the TCAP Reading/Language Arts measure. MCLA implementation increased during Year 3 in Cohort 2 schools compared with Year 2 levels in Cohort 1 schools. During Year 3, several models were specified and explored for use as a substitute for the experimental design that was used to estimate MCLA impacts in Years 1 and 2. These explorations will continue, and MCLA impact analyses will be presented in the Year 4 report, following completion of the two-year intervention.

¹ Note to Readers: Throughout this report, the authors have used the term “immediate” to refer to the effects of either of the interventions on students and teachers who are in their first year of the program(s). Similarly, we have used the term “long-term” to refer to effects after a time longer than one year (i.e., after two years or three years). Arguments could be made that “immediate” doesn’t mean after a number of months and that “long-term” certainly means longer than two years. However, these terms are the clearest that we have developed.

Implementation and Impact of the Targeted Intervention in Years 1 through 3

The implementation evaluation of the *READ 180* intervention examined the level and variability of teacher professional development and the extent to which the *READ 180* model was implemented as planned at the classroom level as a supplement to regular ELA classes that all students received. RBS researchers analyzed information about professional development participation; data from the Scholastic Achievement Manager (SAM), which tracks student performance; data from a survey of *READ 180* students administered by MCS; and six waves of classroom observations conducted by RBS, MCS, and Scholastic. To determine the impact of *READ 180* participation on student achievement, researchers analyzed TCAP and ITBS results for a treatment and control group of students who were randomly assigned according to specific criteria identified at the outset of the study (i.e., students who had not previously been exposed to the intervention and who had scored in the bottom 25 percent of their prior year's TCAP). The impact study explored both immediate and long-term effects of *READ 180* on student achievement.

Results from the implementation evaluation show that the professional development, classroom observation, and SAM ratings increased between Years 1 and 3. Fourteen classrooms were rated as adequate or above in Year 3, two more than in Year 2, and there continued to be wide variation in implementation across classrooms in the eight MSRP schools. Overall, nine of thirteen classrooms had improved classroom ratings in Year 3 over Year 2 (because of teacher turnover, direct comparisons could be made with 13 of the original 19 classrooms).

The impact analyses showed a lack of significant immediate impacts of participation in *READ 180* in Years 1 and 2, and one small but significant immediate improvement among sixth-grade treatment students in Year 3—on the TCAP Reading/Language Arts measure. None of the Year 2 or Year 3 long-term impacts was significant. An examination of the interaction between the impacts of *READ 180* and the whole-school intervention in Years 1 and 2 uncovered no clearly interpretable patterns in the differences in the impact of *READ 180* for MCLA treatment and control schools.

Implementation of the Whole-School Intervention in Year 3

The implementation evaluation of the MCLA program examined the type and amount of professional development provided to participants, the content of the MCLA classroom instructional model, the proportion of teachers who participated in different levels of professional development, and the type and intensity of coaching assistance provided. RBS examined contextual factors affecting MCLA implementation; teachers' range of professional development experiences besides MCLA; and course materials, such as syllabi and assignments, that described the developer's intended program model. In order to calculate teacher-level and school-level implementation ratings, researchers analyzed information from the following sources: professional development attendance records, resource center check out logs, literacy coach's daily logs, surveys, interviews, classroom observations, and implementation ratings provided by coaches during a structured evaluation activity.

Results show a medium level of MCLA implementation across the four schools in Year 3. In fact, 62.5 percent ($N = 90$) of all 144 eligible teachers in Year 3 completed a full year of the intervention, and attendance was high among those who participated. Approximately 86 percent ($N = 77$) of the 90 teachers who completed both fall and spring semesters of the MCLA course attended 80 percent or more of the classes offered. Literacy coaches provided a high level of support to teachers at three of the four schools: between 62 percent and 87.5 percent of MCLA teachers at three schools were identified in coaching logs ten or more times as engaged in substantive tasks with a coach.

Teachers' use of the onsite curriculum resource center (CRC) was uneven across the four schools; the percentage of MCLA teachers using the resources ranged from 83 percent at one school to 18.7 percent at another school. The percentage of MCLA teachers reporting that they engaged in various literacy-related activities in the past week rose significantly during the fall semester, and most teachers observed by evaluators used multiple literacy strategies during the observation: 68.8 percent of 32 MCLA teachers observed in January 2009 and 76.5 percent of 17 MCLA teachers observed in March 2009 had used three or more literacy strategies during the observed lesson. Finally, results from an analysis of individual-level teacher implementation fidelity ratings assigned by literacy coaches showed medium levels of MCLA implementation fidelity in two schools and low fidelity in two schools.

In Year 1, impact analyses detected no immediate impact of MCLA on students' achievement as measured by the TCAP and ITBS. Results in Year 2 showed no statistical impact on students in MCLA schools, and a longitudinal analysis of the long-term effect on achievement produced mixed results, with some findings favoring the control group students.

Conclusions

The implementation studies both found that school staff members, including—perhaps most importantly—teachers, have made substantial strides in the implementation of the two interventions. Despite the variations in implementation of READ 180 across the eight schools, most classrooms had adequate levels of fidelity as judged by the researchers (and, as documented in a separate report presented to MCS, by Scholastic). Similarly majorities of MCLA teachers observed used the literacy strategies emphasized by the intervention, and literacy coaches identified majorities of teachers in three MCLA schools who engaged with coaches in substantive tasks.

The lack of impact findings despite higher fidelity implementation begs the questions: What are successful interventions that can help struggling readers more than what MCS and other school districts are already using? How can we better measure the quality, depth, and breadth of interventions to determine whether they are successful? What are the specific contexts and situations in which different interventions help struggling readers learn to read better? The answers to these questions are perhaps beyond this Striving Readers project but must be answered by future research if we are to reach the goals of improving adolescent literacy and the quality of literacy instruction across the curriculum.

II. Introduction and Study Background

Introduction

This report presents the results from an evaluation of the third year of the Memphis Striving Readers Project (MSRP) conducted by Research for Better Schools (RBS). MSRP, funded for five years by the United States Department of Education, comprises two interventions aimed at improving adolescent literacy and the quality of literacy instruction across the curriculum. Eight MCS middle schools were chosen for inclusion in the study. Table 1 summarizes the enrollment figures by schools for the first three years of the MSRP and shows that over time, enrollment at the eight schools has decreased from 5,785 in Year 1 to 5,162 in Year 3.

Table 1: Student Enrollments in Schools Participating in the Striving Readers Study

Memphis Middle Schools Participating in MSRP	Enrollment in 2006–2007 ^a	Enrollment in 2007–2008 ^a	Enrollment in 2008–2009 ^a
1	856	724	774
2	997	1,034	1,021
3	413	374	344
4	635	520	462
5	858	856	968
6	640	603	539
7	471	405	341
8	915	759	713
Total	5,785	5,275	5,162

Data source: MCS website (<http://www.memphis-schools.k12.tn.us/admin/communications/directoryofschools.html>)
Average Daily Membership reported in school report cards on the Tennessee Department of Education website

The first intervention component, Scholastic’s *READ 180* program, has been implemented for three years in the MSRP schools. Students in the sixth through eighth grades who demonstrated the strongest need for reading support (i.e., performed in the bottom reading quartile of a prior Tennessee Comprehensive Assessment Program [TCAP]) were randomly selected to participate in the supplemental program. The *READ 180* intervention served 707² students in the eight schools in Year 1 (2006–2007), and 289 new sixth-grade students were assigned to the intervention in Year 2 (2007–2008). In Year 3, 274 new sixth-grade students were assigned to the *READ 180* intervention.

The second intervention component, the Memphis Content Literacy Academy (MCLA), is a whole-school professional development program. The experimental research design in Years 1 and 2 was a randomized matched-pairs design, with MCLA implemented in four of the eight schools. After the second year, MCLA ended in the experimental treatment schools and moved to the four schools that initially served as control schools. Year 3 operations thus represent the first year of the whole-school intervention at the former control schools (and half of the intended two-year program “dose”). The program, developed by University of Memphis and MCS staff, was originally designed for teachers in the English/language arts (ELA), social studies,

² Data source: School enrollment files provided by MCS.

mathematics, or science content areas or special education teachers, but the program was expanded in Year 3 to include any teacher who provided instruction to students (e.g., writing, foreign language, and exploratory teachers, guidance counselors, and instructional facilitators). In Year 3, a total of 144 full-time school staff were eligible to participate in MCLA.

Background Context

The United States Department of Education awarded MCS a five-year Striving Readers grant to help address the city's significant educational needs. In Year 3 of this study, MCS served more than 105,000 students and ranked as the nation's 23rd-largest K–12 school district, although the total number of students served dropped by 5,000 from the year before. Over 95 percent of the 196 MCS schools are Title I schools, and 71 percent of students qualify for free or reduced-price meals (The Urban Child Institute, 2008). Approximately 86 percent of MCS students are African American, 8 percent are white, and 6 percent are other races and/or ethnicities (MCS, 2009). The number of English Language Learners doubled between the 2000–2001 school year and the 2006–2007 school year, although numbers of students in this category remained relatively low among Striving Readers schools (MCS, 2009). Other data show that 71 percent of students in the sixth through eighth grades scored below the 50th percentile on the Reading/Language Arts portion of TCAP (Potts, Perkins, Heeren, Harris, & Feldman, 2008). It appears that no progress has been made with raising the Reading/Language Arts portion of the TCAP because the same percentage of students scored below proficient in 2008 as in 2005 (The Urban Child Institute, 2009). Research has shown that approximately 66.9 percent of MCS students graduate from high school within four years (The Urban Child Institute, 2009; Heart, 2008).

Theoretical Rationale for and Description of the Intervention Models

Description of the Targeted Intervention

READ 180 is a commercially available reading intervention program from Scholastic that targets struggling readers in the fourth through twelfth grades. The Enterprise Edition is the most recent version, and it combines a software program, teacher-directed instruction using a textbook and similar resources, and independent or modeled reading (i.e., reading while listening to audiobooks). Close adherence to the structure of the program requires 90 minutes divided into four 20-minute and one 10-minute blocks. The first 20 minutes and a final 10-minute wrap-up involve whole-group instruction. The other three 20-minute blocks require students to rotate between teacher-led small-group instruction, individual use of the proprietary *READ 180* software, and reading leveled fiction and nonfiction texts provided with the program.

During Years 1, through 3, there were two or three teachers (19 in total) teaching *READ 180* at each of the eight MSRP schools. Almost all of the teachers were licensed, experienced ELA teachers; however one provisionally licensed teacher with one previous year of teaching experience taught *READ 180* during Year 2. Several schools offered *READ 180* prior to the

Striving Readers project, and in those instances, teachers with previous *READ 180* experience were assigned to teach *READ 180* as part of the targeted intervention. There were no criteria for assignment other than this.

Students Targeted by the Intervention

MCS created a pool of struggling readers by identifying students at all eight MSRP schools who scored in the lowest quartile on the Reading/Language Arts section of the TCAP exam. In fall of 2006, all identified students were randomly assigned to the control or treatment condition, and in fall 2007, treatment students who were still enrolled in MSRP schools (that is, students who moved from sixth to seventh grade or seventh to eighth grade) were again enrolled in *READ 180*. Also, during the fall of 2007, incoming sixth-grade students who were identified as struggling readers were randomly assigned to the control or experimental condition. In fall 2008, seventh-grade treatment students who remained in MSRP schools were again enrolled in *READ 180*. Because *READ 180* is considered a two-year intervention by MCS and this study design, eighth-grade students who had been assigned to the treatment condition and had already completed two years of *READ 180* were not again enrolled. During the 2007–2008 school year, 480 students in the sixth, seventh, and eighth grades were enrolled in *READ 180* for the majority of the school year, and 942 students comprised the control group. During the 2008–2009 school year, 487 students in the sixth, seventh, and eighth grades were enrolled in *READ 180* for the majority of the school year, and 843 students comprised the control group³

Students assigned to *READ 180* experience the intervention in addition to their regular language arts classes and other courses related to language arts (e.g., reading, creative writing) that are offered at their schools. Control students experience the same language arts classes, reading classes, and/or other classes related to language arts that would be offered in their schools if MSRP did not exist.

Logic Model for Targeted Intervention

The logic model for the targeted intervention, as published in Scholastic’s *READ 180 Enterprise Edition Research Protocol and Tools* (2007), appears as Figure 2. The *READ 180* “package” purchased for the 2008–2009 school year is detailed in the Section III subsection “Supplemental Costs Incurred by MCS to Support Year 3 Implementation.”

Graphics illustrating the instructional model and detailing the rotation activities appear as Figures 3a and 3b.

Professional Development Model Components

Years 1 through 3, new *READ 180* teachers were expected to attend two all-day training sessions (experienced teachers were expected to attend at least one). Additionally, the district

³ There was some attrition and a few instances in which students were opted out of the intervention; these are detailed in the “Sample Selection” section of part IV—tables in Appendix D. These enrollment numbers differ from those in the section describing the impact of *READ 180* because the impact numbers include all students who were in the original design, and the numbers in this section include only those students who were actually enrolled for most of the school year.

hosted after-school, two-hour “networking meetings” (four during Year 1, seven during Year 2, and four during Year 3) in which Scholastic representatives taught teachers how to use or improve different components of *READ 180*, such as using the data generated by the *READ 180* software to differentiate instruction or using supplemental *READ 180* teaching materials for strategic vocabulary instruction. During Year 2, MCS encouraged teachers to complete Scholastic’s “Best Practices for Reading Intervention,” a seven-part online course designed for *READ 180* classroom teachers (in Year 2, MCS provided a small monetary stipend to teachers who did complete the online course). In Years 2 and 3, Scholastic representatives conducted at least one classroom observation per teacher and provided feedback to help improve the teaching of *READ 180*.⁴ During Year 3, MCS began strongly encouraging school administrators to attend a half-day *READ 180* training presented by Scholastic and designed for school leaders and administrators.

Figure 1: Elements of *READ 180* Professional Development, Years 1 through 3

Element	Year 1	Year 2	Year 3
All-day training* (seven hours)	2 / 1	2 / 1	2 / 1
Networking sessions (two hours)	4	7	4
Online course	available	incentivized	not offered
Formative observation and feedback	not offered	at least 1 per year	at least 1 per year
Administrator training (four hours)	not offered	not offered	1

*Note: New *READ 180* teachers were asked to attend two days of training; teachers who had experience teaching *READ 180* were asked to attend one day of training.

Classroom Model Components

The planned instruction model was to follow the published and recommended *READ 180* model. According to the *Leadership Implementation Guide: Supporting READ 180 in Your District* (2005) published by Scholastic, the recommended class size for *READ 180* is 21 or fewer students (MCS strives for these classes to be 18 or fewer students). Scholastic recommends that students be divided into three homogenous groups according to diagnostic assessments and regrouped as assessments indicate. (According to Scholastic’s *READ 180* training materials, Scholastic allows for alternate grouping strategies, such as purposefully creating heterogeneous groups or considering behavioral issues to guide grouping.) Students are to be in *READ 180* class for 90 minutes during every school day. Figures 3a and 3b detail Scholastic’s recommendation for use of instructional time and provide some details about the targeted areas of reading and instructional approaches.

READ 180 software provides instruction in decoding and word recognition, spelling, fluency, vocabulary, and comprehension. Whole-group and small-group instruction include a variety of instructional approaches, including fluency exercises, question stems, use of graphic organizers, activation of prior knowledge, and cooperative group work (among others). The Scholastic

⁴ Scholastic provides detailed descriptions of the all-day implementation training sessions and the online courses at, respectively, http://teacher.scholastic.com/products/read180/prof/implement_train.htm and <http://teacher.scholastic.com/products/read180/prof/bestpractices.htm>

Achievement Manager (SAM) automatically generates student-level data based on work students have done and assessments they have completed using the *READ 180* software.

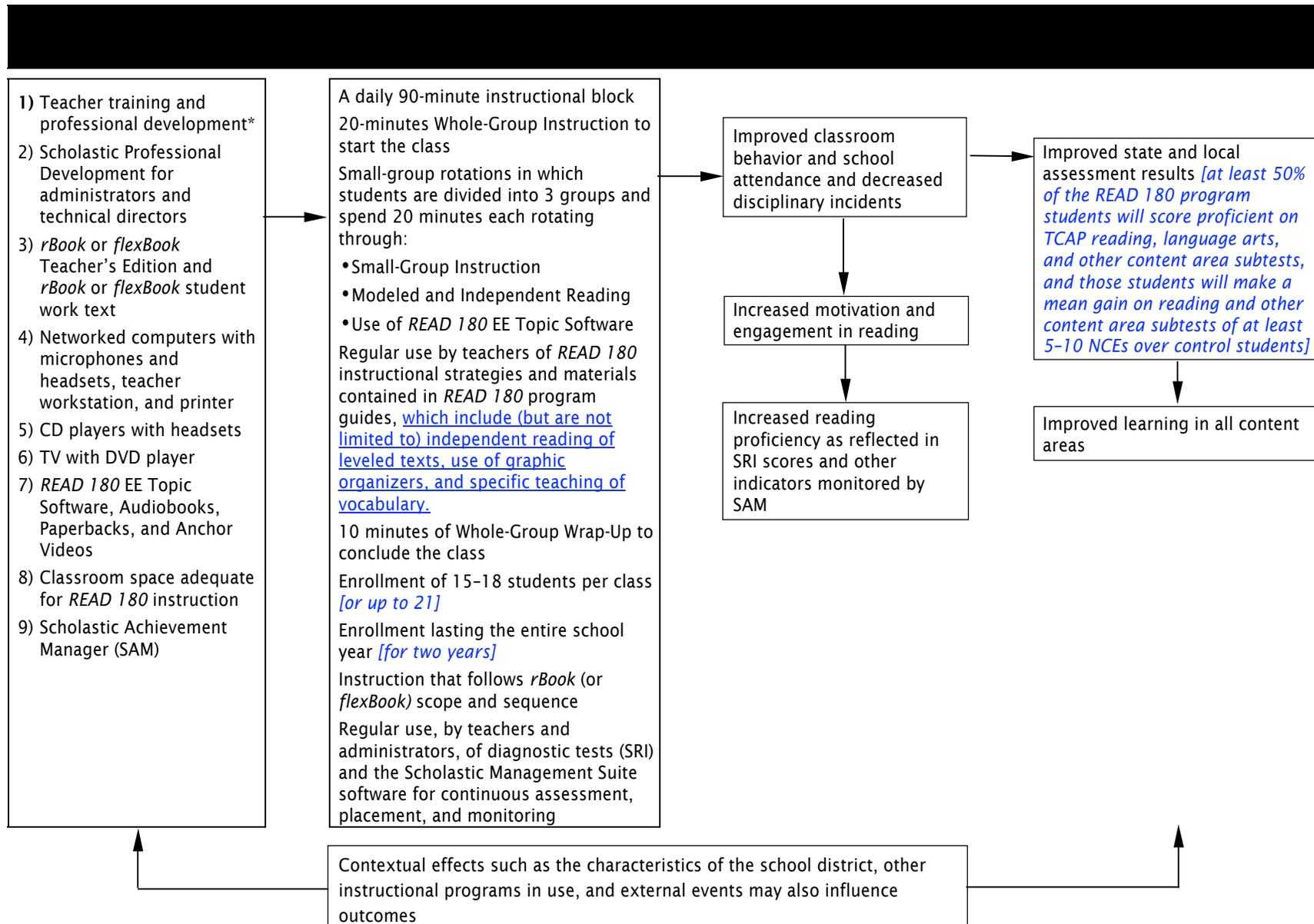
All students in *READ 180* classes are provided with an *rBook*,⁵ the course textbook. All *READ 180* classrooms have libraries with a variety of fiction and nonfiction leveled texts provided for the modeled and independent reading rotation of *READ 180*. During the *READ 180* software rotation, each student has individual access to a computer to complete the exercises. Teachers use their dedicated computers for recordkeeping and for tracking student progress through the instructional software.

READ 180 includes a number of assessment tools in its software. Regular reports of student progress through the instructional software are available to teachers through the networked computers using SAM and the Scholastic Management Suite (SMS) software. Teachers are expected to administer the Scholastic Reading Inventory (SRI) at least three times per school year; MCS established date “windows” within which the SRIs should be administered. Additionally, the teachers are expected to use the data from SAM and SMS, the SRIs, and other assessments that might be chosen by the teacher to determine whether lessons are working, to differentiate instruction, and to regroup the students.

⁵ During the 2007–2008 school year, students used the *flexBook*. The *rBook* and the *flexBook* are two versions of the same text, with similar lessons, exercises, strategies, etc. The versions have different reading selections so students who are in *READ 180* for two years do not experience identical readings over those two years; MCS alternates these texts each year.

Figure 2: Logic Model of Targeted Intervention

The READ 180 Enterprise Edition Logic Model



Logic Model copyright © 2007 Scholastic Inc. *Text in blue italics is specific to MSRP. Blue underlined text was added for clarity by RBS.*

*The only differences in the targeted intervention between years 1 and 3 were related to professional development. These differences are described in Figure 1 (page 7)

Figure 3a: *READ 180* Instructional Model

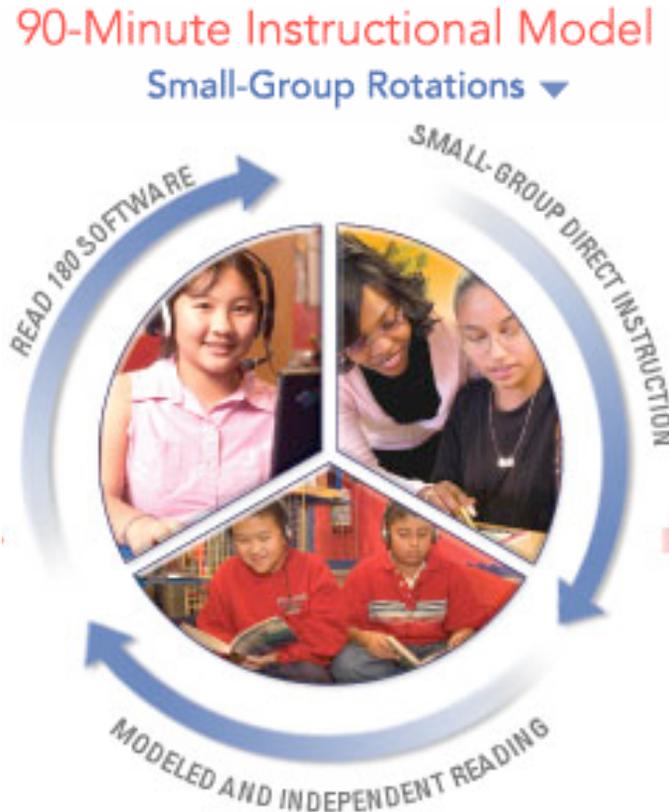


Figure 3b: Description of *READ 180* Rotation Activities

Small-Group Rotations				
Whole-Group Direct Instruction	Small-Group Direct Instruction	<i>READ 180</i> Software	Modeled and Independent Reading	Whole-Group Wrap-Up
Using the <i>READ 180</i> instructional materials, the teacher begins the day by providing systematic instruction in reading, writing, and vocabulary to the whole class.	Using the <i>rBook</i> and <i>Resources for Differentiated Instruction</i> , the teacher works closely with students so that individual needs can be met.	Students use the software independently, providing them with intensive, individualized skills practice.	Students build reading comprehension skills through modeled and independent reading of the <i>READ 180</i> paperbacks and audiobooks.	The session ends with 10 more minutes of whole-group instruction.

The above graphic and table were copied on November 8, 2007, from <http://teacher.scholastic.com/products/read180/overview/instrmodel.htm#small-group>

Theoretical Rationale for and Description of Whole-School Intervention Model

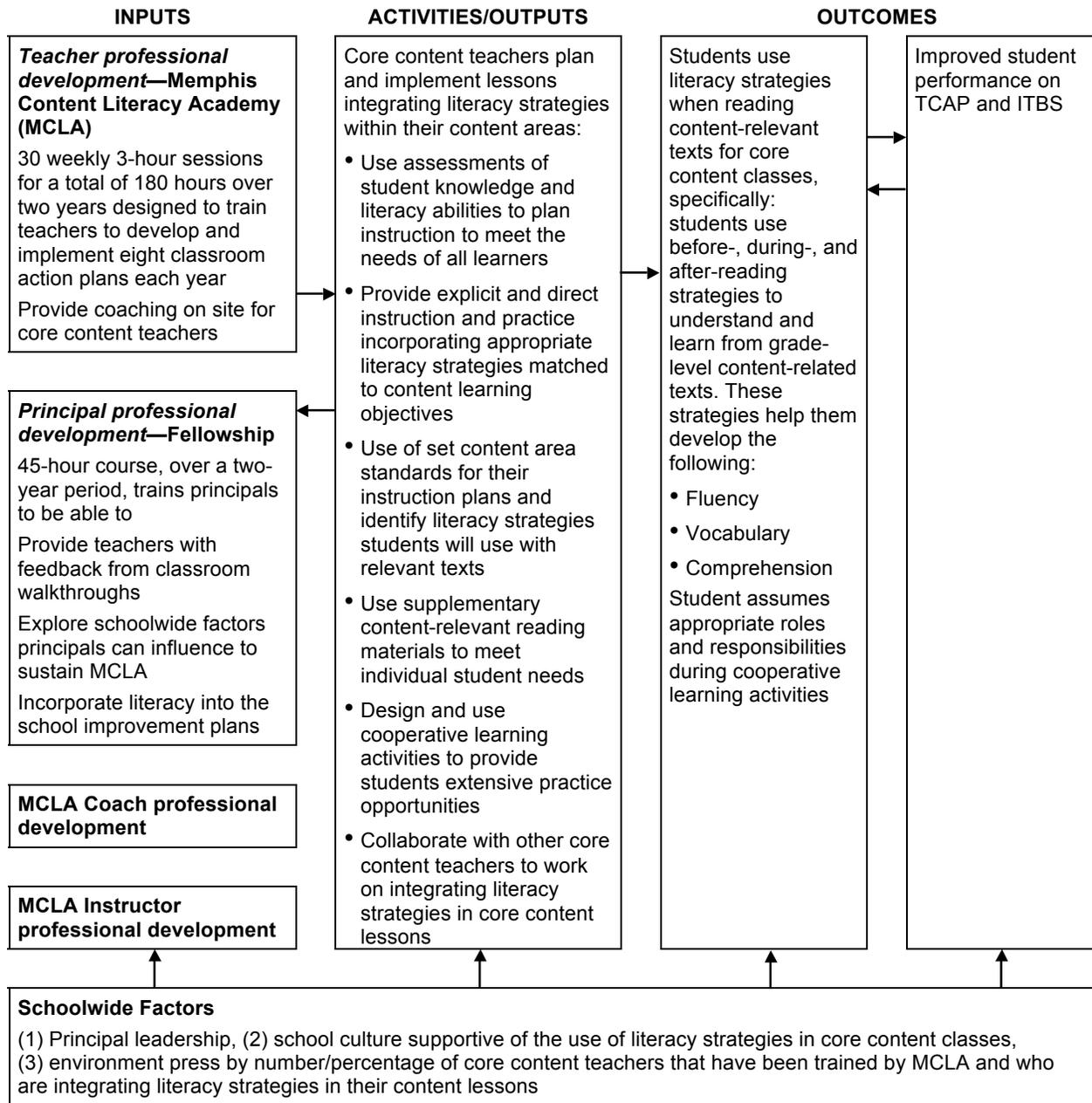
MCLA is a whole-school intervention designed to improve teaching and learning through intensive professional development and onsite literacy coaching assistance for teachers, a seminar for principals and other school leaders, and classroom use of grant-funded curricular resources. In the first two years of MSRP, four of the eight participating middle schools (hereafter referred to as “Cohort 1” schools) were randomly assigned to receive the whole-school intervention, while four schools serving as research controls (hereafter designated as the “Cohort 2” schools) did not participate in MCLA. In Year 3, the MCLA intervention moved from the Cohort 1 to the Cohort 2 schools, and developers invited all Cohort 2 teachers to participate in two years of professional development that would focus on infusing literacy into the core academic content areas English/language arts (ELA), mathematics, science, and social studies. Special education and “exploratory” teachers (e.g., those teaching art, music, or computers), school counselors, librarians, and others who provide instruction to groups of students were also encouraged to join MCLA in Year 3. A total of 144 full-time school staff at the four Cohort 2 schools were eligible to participate in MCLA in fall 2008.

Developers hypothesized that greater and more effective integration of literacy strategies by teachers would lead to student performance improvements in reading and the core academic content areas. The intervention was designed so that teachers with no prior knowledge of or experience with literacy integration had opportunities to practice strategies in the MCLA course and then, with coaching support, gradually assume responsibility for helping their students learn how and when to internalize those techniques. Two tools designed for the evaluation elaborate on this theory of action: the first is a logic model of intervention activities (Figure 4), outputs, and anticipated outcomes; the second (included as Appendix A) is a significantly more comprehensive and in-depth rendering of the intervention, an “Innovation Configuration (IC) Map,” created by a partnership of evaluators, program developers, and project implementation leaders and staff.

As Figure 4 shows, developers planned to offer content-related materials on literacy integration in the MCLA evening course and, in each school, a \$40,000 curriculum resource center (CRC) stocked with content-rich, multi-leveled materials and an onsite literacy coach to assist and support teachers with strategy implementation. Developers anticipated that teachers would, as a result of participation, gain a deeper understanding of the need for literacy integration into the content areas and use a series of research-based literacy integration skills with increased frequency and confidence.

Developers also hoped that the intervention would create a sharpened schoolwide focus on adolescent literacy as teachers shared techniques and experiences and assessed the program’s impact on their students. Ultimately, developers anticipated that the transformed literacy-saturated middle-school environment would boost student achievement in reading as well as in core content-area classes.

Figure 4: Logic Model of the Memphis Striving Readers Whole-School Intervention



Note: The logic model describes the two-year intervention as originally planned. Details about the intervention as implemented in Year 3 are presented in section V (e.g., developers provided 49 hours of MCLA course-related professional development in Year 3).

The Innovation Configuration Map

In Year 3, the team of university, school district, and evaluation partners finalized the IC Map (Hall and Hord, 2006) that they had developed in Years 1 and 2 to explicate the intervention’s main constructs. The IC Map describes the “ideal” implementation of specific intervention components and the variations that detail a range of levels of implementation fidelity. The IC map can be used to reflect on teacher practice, monitor classroom

implementation, identify the areas of the program in most need of attention, and develop evaluation instruments. In Year 3, evaluators used part of the IC map with five of six literacy coaches to rate individual teachers on classroom MCLA implementation levels. The literacy coaches will repeat the rating activity in Year 4 so that RBS can expand its analysis of MCLA implementation fidelity using selected dimensions of the map. Findings from the baseline implementation rating activity are presented in section V of this report. Ultimately, IC Map ratings will be correlated with student outcomes to empirically establish which MCLA components, if any, are most strongly associated with targeted improvements.

Professional Development Model Components

The MCLA teacher and principal course syllabi, coach job descriptions, and an inventory of instructional materials together provide the best description of the intervention's four main components. The teacher course was designed to meet weekly for three hours over two years, for a total of 180 hours of professional development. According to the original proposal, planners had hoped to enroll 80 percent of approximately 120 eligible content-area teachers who would select one of four evening content courses (mathematics, science, ELA, and social studies) according to their primary teaching assignment. Table 2 provides details about the PD model as planned and as implemented in Years 1 through 3.

To ensure consistency across classes, developers prepared templates for instructors who were highly qualified reading and content-area specialists to follow when teaching the course; these templates were similar structurally across the content areas. Developers also provided discipline-specific materials for teachers. The developers' goal was for each participant to observe strategies modeled during the evening course and then, with a coach's guidance, practice using those strategies in his or her own classroom. By issuing approximately ten "classroom action plan" (CAP) course assignments over two semesters, designers hoped that teachers would be compelled to work with coaches in school on a weekly basis. Finally, the grant team also proposed supplementing MCLA training by recording and sharing videotapes of participants to allow teachers to observe common issues encountered in implementing the literacy strategies in MCS classrooms.

Developers aimed to apprise school principals of MCLA and provide them with opportunities to brainstorm possible solutions to commonly experienced problems. In Year 3, developers invited building principals, assistant principals and instructional facilitators as a team to attend seven sessions between September 2008 and March 2009; this expansion to include assistant principals and instructional facilitators was designed to mitigate erosion of support resulting from principal turnover.

Assistance provided by onsite literacy coaches is the third component of MCLA. In Year 3, the six literacy coaches—individuals with at least five years of teaching experience, a Master's degree, and a strong literacy background—were responsible for observing, monitoring, and assisting teachers with meeting the weekly objectives of the CAPs; monitoring *READ 180* program delivery; visiting with principals to keep them informed of teachers' needs; and maintaining the CRC. The coaches also were expected to participate in a wide range of

professional development activities provided by MCLA developers in the areas of mentorship, urban education, adolescent literacy, and in Scholastic’s *READ 180* program.

The CRC is the fourth and final component of MCLA. Housed in each of the participating schools, the CRC contains leveled books, kits, reference books, and other materials to assist teachers with integrating literacy into their content area classes. Evening course instructors and onsite literacy coaches promoted the use of CRC materials, which remain in the schools when MCLA ends.

Table 2: Changes to MCLA Professional Development Model, Years 1 through 3

	Changes to PD Model	Total Hours Teacher Course PD	Total Hours Principal PD
Planned		90 per year for two years (total 180 hours)	45 over two years
Actual			
Year 1	n/a	85.0	20
Year 2	Assistant principals and Instructional Facilitators were invited to attend the principal training. All staff who provide instruction were invited to attend the teacher trainings. Course format changed to rely more heavily on small-group activities and class presentations.	56.5	18 (six 3-hour sessions)
Year 3	Teacher course offered to all staff who provide instruction. Nonparticipants permitted to use CRC materials.	49.0	21 (seven 3-hour sessions)

Data sources: University of Memphis and MCS attendance records

Classroom Instruction Model Components

Prior to implementation, MCLA designers identified twelve key instructional strategies as the primary foci of the evening course, including the use of graphic organizers, comprehension monitoring techniques, question generation, repeated oral reading, preteaching vocabulary, and direct, explicit instruction. Year 3 course assignments required teachers to use strategies aimed at improving students’ vocabulary, fluency, and comprehension and to meet with coaches to plan lessons designed to bolster strategy implementation. The MCLA course instructional model was designed to provide opportunities for teachers to practice modeling the literacy strategies among colleagues as part of training before implementing them with their students. Participants were then expected to model the strategies for their students and help the students adopt and use the strategies with increasing independence. Developers hoped that teachers would integrate the strategies into existing class activities rather than view them as separate and distinct lessons. Although developers did not plan a formal system for using student data to inform decision-making in MCLA, they built into the CAP assignments an informal student assessment procedure.

Changes Made to the Professional Development Model between Cohorts 1 and 2

During the first two years of MCLA, developers fine-tuned service delivery based on experience gained from implementation, the feedback of participants, and data collected by evaluators. MCLA was administered to Cohort 1 teachers during the first two years, while Cohort 2 teachers served as a control group. In Year 3, developers provided staff development and support to Cohort 2 teachers, and the program ended in Cohort 1 schools. In preparation for rolling out the Year 3 intervention, developers and school district staff made the following changes: (1) allowing all school staff who provide instruction to students to participate in MCLA and (2) permitting nonparticipants to borrow resources from the CRC.

Activities in the Year 3 teacher course continued to be organized into three-week cycles: the first week focused on an explication of key strategies, the second week allowed teachers to model the strategies through presentations, and the third week offered them opportunities to work collaboratively with colleagues to develop their classroom action plans (CAPs).

Brief Overview of Key Evaluation Design Features

The evaluation design for the MSRP study addresses the impacts of *READ 180* and MCLA on student and (in the case of MCLA) teacher outcomes. The assessments of student outcomes are the Iowa Tests of Basic Skills (ITBS) to measure reading achievement, and the TCAP, which measures achievement in reading/language arts, mathematics, science, and social studies. Outcomes from the ITBS include the total reading standard score and the vocabulary and comprehension standard subscores. Outcomes from the TCAP include scale scores in the four content areas.

There are two teacher outcome measures: an index of the teacher's perceived preparation to employ literacy strategies in the classroom and an index of the teacher's perception of how frequently these strategies are employed. Each index is based on ratings of preparation or frequency for 24 literacy strategies.

Summary of Year 3 RBS Data-Collection Activities

Figure 5 summarizes the implementation and impact data collection activities conducted in Year 3. Information presented here was culled from various sources, including surveys; individual and focus group interviews; classroom observations; and reviews of *READ 180* documentation, coaching logs, and MCLA curricular resources.

Figure 5: Characteristics of Year 3 RBS Data-Collection Methods

Data Collection Method and Topic	Date Conducted	Sample size*
Surveys		
Characteristics and content knowledge—all content teachers	August 2008	<i>N</i> = 169 (68.9%)
Follow-up characteristics and content knowledge—all content teachers	May 2009	<i>N</i> = 232 (92.4%)**
WILA Survey	Fall 2008	<i>N</i> = 54 who completed at weeks 3, 7, and 10
Pre-focus group survey	Spring 2009	<i>N</i> = 24
Interviews		
Striving Readers School Principals	October 2008	<i>N</i> = 8 (100%)
Striving Readers School Counselors	Spring 2008	<i>N</i> = 8 (100%)
Literacy coaches	May 2008	<i>N</i> = 6 (100%)
MCLA semester focus group sessions	Spring 2009	<i>N</i> = 7 groups, 42 teachers
Observations		
<i>READ 180</i> classrooms—baseline	October 2008	<i>N</i> = 19
<i>READ 180</i> classrooms—midyear	January 2009	<i>N</i> = 16
<i>READ 180</i> classrooms—follow-up	March 2009	<i>N</i> = 19
MCLA evening course sessions	Spring 2009	<i>N</i> = 4
Student assessment		
Baseline ITBS	September 2008	<i>N</i> = 1,485
Follow-up ITBS	May 2009	<i>N</i> = 4,989
Secondary Data		
MCLA attendance rosters, <i>READ 180</i> meeting attendance sheets	Year 3	All available data
Coaching calendar and log entries	Year 3	<i>N</i> = 6 coaches (100%)
TCAP	Spring 2009	<i>N</i> = 8,734

*Where possible, response rates are provided in parentheses.

**Response rate calculated using MCS data file that lists all MSRP content, exploratory, and special education teachers (October 2008) where total *N* = 251 teachers (not classified under “homeroom, lunch, or other”) is the denominator used to calculate percentages.

III. Evaluation of the Implementation of the Targeted Intervention, Years 1, 2 and 3

Summary of the Design

Evaluators from RBS conducted many activities examining implementation of *READ 180* in MCS Striving Readers schools during Year 1 (the 2007–2008 school year); however, the requirement for creating a more in-depth analysis of implementation was not instituted until Year 2. In response to this requirement, a plan to study implementation more closely and develop classroom implementation ratings was created during Year 2 (the 2007–2008 school year), and the efforts and procedures for this close study and the development of implementation continued

during Year 3 (2008–2009)—and is being continued in Year 4 (2009–2010). The research questions created to evaluate the implementation of the targeted intervention are as follows:

1. What were the levels and variability of implementation of teacher professional development in Years 1 through 3?
2. What were the levels and variability of implementation at the classroom level in Years 1 through 3?

Table 3 lists the research questions and indicates the relevant data that are available from the three completed years of implementation. As in Year 1, data from attendance records and developer materials were used to inform professional development (PD) implementation, and Scholastic Achievement Manager (SAM) and observation data were used in the calculation of classroom implementation ratings. In Year 3, as in Year 2, classroom observations were conducted in six rounds (improving on the two times in Year 1): thrice by the evaluator, twice by MCS, and at least once by Scholastic. Also, student surveys were administered by MCS during Years 2 and 3, and those data were made available to the evaluator. Unfortunately, the response rate for the teacher surveys was again low in Year 3 (13 of 19 teachers), so these data were not used to calculate implementation ratings, although they have been analyzed and some of the responses are presented in this report. Additionally, open-text responses from classroom observations and brief interviews with teachers conducted immediately after evaluator observations were analyzed and used as background and explanatory information in discussions of the implementation ratings. All data continue to be available at the classroom level, but not at the individual class period level.

Development of the Ratings and Scale for Years 1 through 3

As noted in Table 4, the sources of data for rating the implementation fidelity of *READ 180* included student surveys, classroom observations (copies of the survey and observation instruments can be found in Appendix B), data generated by SAM, and district documentation related to professional development. Findings from all of these sources were translated to a 4-point scale ranging from 1 to 4.⁶ For all ratings, “adequate” is defined as 3 or above—the “moderate” or “high” level (on this scale, 2 is defined as “low,” and 1 is defined as “minimal”). The “Professional Development Scales” and “Levels and variability of implementation at the classroom level” sections each include more detailed descriptions of the specific data sources used for those areas.

⁶ The Year 1 Executive Summary of Implementation submitted in August 2008 presented classroom ratings on a four-point scale that ranged from 0 to 3. These numbers have been changed to match the scales of Years 2 and 3 and of the whole-school implementation ratings.

Table 3: Years 1 through 3 Data Sources Linked with Implementation Research Questions—Targeted Intervention

Research Questions	Measures/Data Sources							
	Surveys		SAM	Observations			Record Review	
	Teacher	Student	Developer/ District	Evaluator	Developer	District staff	MCS—PD Attendance & online course completion records	Developer documentation and handouts
What were the levels and variability of implementation of teacher professional development in Years 1 and 2?								
Types/amount of professional development provided to teachers							Yrs. 1–3	Y2
Proportion of teachers at different levels of professional development	Y1						Yrs. 1–3	
Proportion of teachers at adequate level of professional development	Y1						Yrs. 1–3	
Types/amount of professional development provided to district leaders							Y3	
Proportion of leaders at different levels of professional development							Y3	
What were the levels and variability of implementation at the classroom level in Years 1 and 2?								
Proportion of classrooms supplied with materials, resources, and technology	Y1	Yrs. 2&3		Yrs. 1–3	Yrs. 2&3	Yrs. 2&3		
Classrooms in which model was implemented at different levels	Y1	Yrs. 2&3	Yrs. 1–3	Yrs. 1–3	Yrs. 2&3	Yrs. 2&3		
Classrooms in which model was implemented at adequate level or above	Y1	Yrs. 2&3	Yrs. 1–3	Yrs. 1–3	Yrs. 2&3	Yrs. 2&3		

Note: Teachers do not always control whether a class they are teaching is on model. For example, if the *READ 180* computer server is down or students are taking the TCAP, the average number of sessions per week that students log on to the computers will drop. Therefore, it is important not to consider these simply as “teacher” ratings. Also, students can be linked with their teachers; however, students of any one teacher cannot be further divided into the class sections that the teacher leads. Therefore, the ratings are most appropriately considered to be at the classroom level.

Year 3 Implementation Study⁷

Examination of implementation fidelity in Year 3 followed the same procedures established for the report of fidelity in Year 2. There were many differences in emphasis on and recognition of *READ 180* program components in the district in Year 3, but these do not seem to have affected the implementation ratings to any substantial degree. In 2008, as part of its efforts to serve students who were expected (by the district) to benefit from extra instruction to improve their reading skills, MCS began offering more *READ 180* classes in more middle and high schools in the district. This effort substantially increased the number of schools that offer *READ 180* in the district and reflected a districtwide emphasis on the program.

The new emphasis was not specific to Striving Readers schools; however, they were affected and involved. For example, school administrators were strongly encouraged to attend *READ 180* training specific to administrators, and school administrators were exhorted by district administrators to continually improve and keep up their attention to *READ 180* implementation schoolwide, especially SAM reports of the median number of minutes students spend using *READ 180* software each day.

Supplemental Costs Incurred by MCS to Support Year 3 Implementation

In fall 2008, MCS purchased a *READ 180* “Refresher” package, which includes expanded materials, training, and tech support. The cost of the supplemental package of professional development and implementation support (only) recommended by Scholastic to districts similar to MCS is presented in Table 4. As indicated in the table, recommended expenditures for Year 3 implementation support and online PD (less discounts) equaled \$123,225.

It is important for readers to note that the recommended expenditures are *in addition to* standard costs related to the program and do not include costs borne by MCS to launch initial implementation (e.g., additional staff, computer hardware, dedicated servers) or costs of other types of supports (technical support, data services) and consumables (student workbooks, maintenance and replacement of necessary equipment and materials). The *READ 180* Implementation Plan for MCS dated August 14, 2007, includes descriptive (but not cost) information about services provided in each of four implementation phases: (1) planning, (2) start-up, (3) in-classroom, and (4) results. RBS will continue to review available documents in an effort to provide a more accurate and inclusive estimate of actual total program costs.

Table 4: Cost Estimates of Supplemental PD and Implementation Support Services Recommended by Scholastic for Districts Similar to MCS

	Implementation Support and PD	On-line PD for School Leaders & Teachers	Subtotal	Discount Amount	Total
Year 1	\$240,000	\$63,375	\$303,375	\$73,625	\$229,750
Year 2	\$167,000	\$33,625	\$200,625	\$24,000	\$176,625
Year 3	\$107,500	\$31,725	\$139,225	\$16,000	\$123,225
Total	\$514,500	\$128,725	\$643,225	\$113,625	\$529,600

Data Source: Scholastic’s documentation of suggestions provided to MCS.

⁷ The Year 1 and Year 2 implementation study sections are repeated in their entirety as Appendix Y-1.

A summary of additional costs borne by MCS, not included in the base rate, is presented in Table 5. This information is intended by RBS to provide districts similar to MCS with detailed information about what they might expect if they chose to implement the program. As the title of the table indicates, information presented here represents the actual costs incurred by MCS to implement *READ 180* in the eight Striving Readers schools during Year 3.

Note: in fall 2008, Scholastic recommended and MCS purchased the services of a full-time Program Manager, a Scholastic employee dedicated to serving the 47 MCS public schools that implemented *READ 180* during the year. The Program Manager began work in January 2009. Estimates of the pro-rated cost to provide five months of support received during Year 3 are based upon Scholastic’s suggested allocation to support such a position and will be revised in the Year 4 Implementation Report using MCS data detailing actual (versus estimated) costs. As noted in the paragraph above, the rationale for including the estimated costs of hiring a dedicated Program Manager is to provide the most complete and accurate accounting for others to use in evaluating the appropriateness of adopting *READ 180* for use in other contexts.

As presented Table 5, during Year 3 MCS spent \$245,852 to support *READ 180* implementation in the eight Striving Readers schools **in addition to** standard costs related to the program such as purchases made before fall 2008 or the costs borne by MCS such personnel, classroom equipment, or computer hardware. Additional expenditures calculated per classroom totaled \$12,940 during 2008–2009; on a per pupil basis, the additional costs for program implementation equaled \$414.

Table 5: Actual Costs of *READ 180* “Refresher” Materials, Training, and Support, Including “Premium” Tech Support, in Striving Readers Schools

Item	Unit Cost		Total Cost
Dedicated Scholastic Program Manager (Jan.–May; estimated*)	\$1,815	8	\$14,520
Leadership Training Day/half day session	\$1,000	3	\$3,000
Day 1 Implementation Training (new teachers)	\$2,500	1	\$2,500
Day 2 Implementation Training (new teachers)	\$2,500	1	\$2,500
In-School Training and Coaching (3 visits x 19 teachers)	\$1,280	57	\$72,960
In-Classroom Support Training (for max. 2 teachers)	\$1,050	10	\$10,500
Data Services	\$425	8	\$3,400
Technical Support Services (Premium Plan)/school	\$1,915	8	\$15,320
Additional Instructional Materials (Stage B)	\$6,900	5	\$34,500
Additional Audiobook Collection (Stage B)	\$899	19	\$17,081
Additional Nonfiction Collection (Stage B)	\$399	19	\$7,581
Allotment/teacher to maintain hardware/classroom environment	\$2,000	19	\$38,000
Student Workbooks (120 students/school)	\$25	960	\$23,990
Total Estimated Y3 “Refresher” Costs for SR schools[†]			\$245,852
Total Estimated Y3 “Refresher” Costs/SR Classroom (N = 19)[†]			\$12,940
Total Estimated Y3 “Refresher” Costs/student (N = 594)[†]			\$414[†]

Data Source: MCS Document “2008-2009 Refresher Project Pricing (Actual)”

*Scholastic’s documentation of suggestions provided to MCS.

[†]Note: costs are for supplemental materials and support and are in addition to the base price

Professional Development Levels

In Year 3, the professional development participation score again was developed by combining the number of points assigned to different types of professional development. During the 2008–2009 school year, MCS began emphasizing training for administrators in schools that offered *READ 180*. Therefore, in addition to the same four types of professional development recognized in Year 2, the PD ratings for Year 3 included an extra point if an administrator (or someone serving in a PD-related or coaching position) attended a half-day administrator training. MCS did not emphasize the Scholastic online course in Year 3; however, many teachers had completed the course in Year 2, and this was recognized in the calculations of Year 3 ratings. Similarly, *READ 180* teachers who attended networking meetings and/or full-day trainings in Year 2 were awarded additional points toward the Year 3 ratings as noted below. Evaluators theorized that new information was presented alongside existing material during the trainings. Therefore, teachers were awarded half of the number of points for attendance at Year 2 than at Year 3 trainings. Further theorizing that teachers who are more familiar with the materials and procedures of *READ 180* are better prepared to teach it, RBS evaluators awarded teachers who had taught *READ 180* in previous years additional points as follows:

1. attendance at each (of two) all-day session earned 2 points (attendance at each all-day session in 2007–2008 earned 1)
2. attendance at each (of four) networking meeting earned 1 point (attendance at each networking meeting in 2007–2008 earned 0.5)
3. the first year of experience teaching *READ 180* earned 2 points, and any number of years of experience beyond that earned 3
4. completion of Scholastic’s online course earned 3 points
5. attendance at administrator training earned the relevant school’s teachers 1 point

This resulted in a possible total of 18.5 points. Evaluators used in Year 3 the same equation of raw score to ratings as in Year 2: professional development scale scores greater than or equal to ten are considered “high,” those seven or higher are considered “moderate,” those four or higher are “low,” and scores three and below are “minimal.” These ratings are included in the second column of Table 6. In order to receive a “high” rating, a teacher would have to participate in at least three types of professional development or at least two types if someone from his or her school attended administrator training. Table 6 indicates the number and type of professional development opportunities completed by the Year 3 teachers.

Table 6: Teacher Completion of Year 3 *READ 180* Professional Development Opportunities
(*N* = 19)

Unique ID	Full Days	Net Mtgs.	Yrs. Exp.	Online RED	Score	Rating
5224	1	2	3	Y	14.5	4
4781	1	2	3	Y	13	4
8348	1	2	3	Y	13	4
2109	1	4	3	N	11	4
6033	1	2	3	N	10.5	4
3566	0	0	3	Y	10	4
5546	0	2	2	Y	10	4
4420	1	1	3	Y	9.5	4
3973	1	1	3	N	9	3
3328	1	1	2	N	8.5	3
4536	2	0	0	N	8.5	3
6410	1	0	3	N	8.5	3
1988	2	0	0	N	7.5	3
6135	2	0	0	N	7.5	3
9631	2	0	0	N	6.5	3
2918	0	0	3	N	6	2
5535	0	0	2	N	6	2
5541	0	0	3	Y	6	2
6684	1	0	3	Y	2.2	1

Data source: Training sign-in sheets provided by MCS.

Notes: Ratings defined as “adequate” are in bold. ID numbers were randomly generated and are used only to identify classrooms from year to year.

Levels and Variability of Implementation at the Classroom Level

Implementation fidelity and variability were monitored through classroom observations, student surveys, and data generated by the Scholastic Achievement Manager. In Year 3, as in Years 1 and 2, the focus for assessment of implementation was the resources and instruction that was made available to or completed by students, not how well students performed on tasks or assessments.

The Scholastic Achievement Manager captures data as students use the *READ 180* software during the computer rotation. Teachers also have the option of entering additional data, and as part of the model teachers are encouraged to pull automated reports about student progress from SAM on a regular basis (the actual time between reports varies from weekly to about quarterly depending on the report). Table 7 presents the numbers and percentages of teachers who report using some of these reports. The 13 teachers who responded to the survey reported using an average of 3.4 different types of reports.

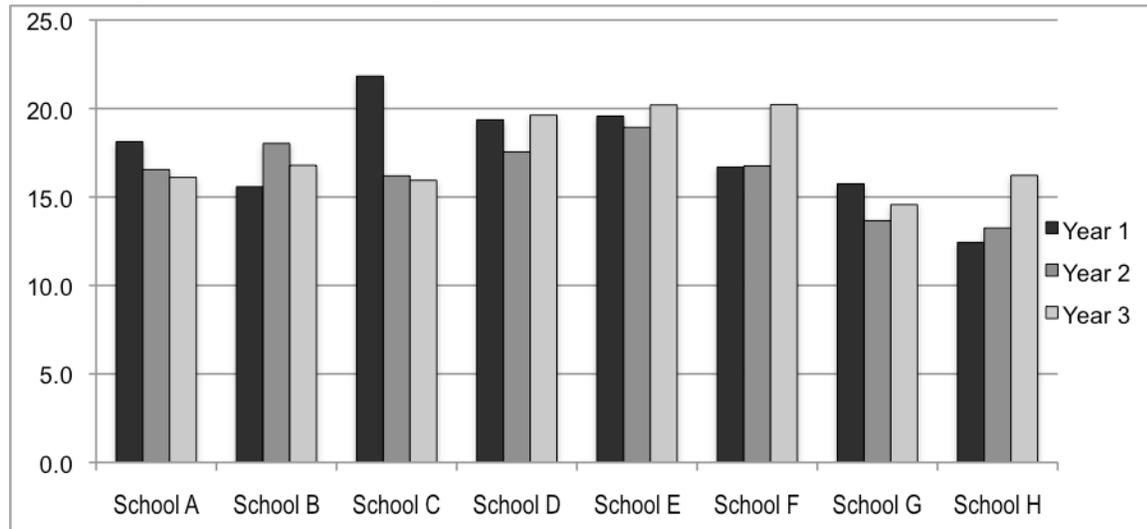
Table 7: Teacher responses related to use of different Scholastic Achievement Manager reports (N = 13)

Report name	Number	Percentage
Reading Progress Report	12	92.3
Time-on-Task Report	11	84.6
Participation Report	9	69.2
Student Segment Report	7	53.8
Other SAM Report(s)	5	38.5
Average number of reports used	3.4	--

Data source: Surveys of READ 180 teachers administered by MCS

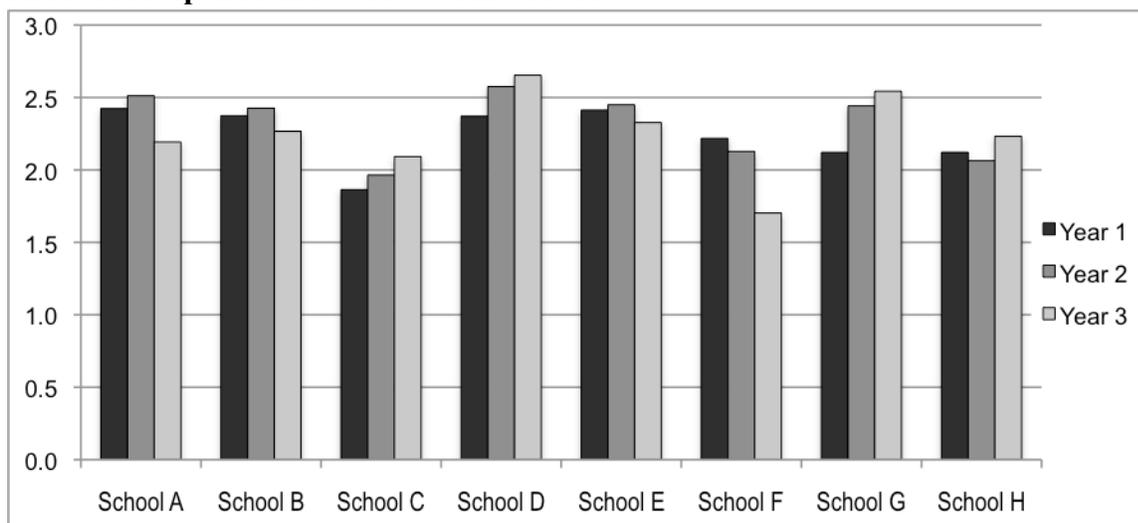
As part of creating the classroom ratings, RBS evaluators included two SAM variables related to student use of the software: the median amount of time students spending using the software each day they sign in and the average number of times per week that students use the software. Perfect implementation of *READ 180* involves students working in the computer rotation for 20 minutes every school day. Recognizing that students need time to move from rotation to rotation during class and that school schedules often fluctuate, Scholastic has identified adequate implementation at 15 minutes per day at least 3 days per week. Figures 6 and 7 provide cross-year comparisons of the median number of minutes per day and the average number of sessions per week. As can be seen in Figure 6, most schools had, in Year 3, at least very close to an average of 14 minutes per student per day using *READ 180* software. However, as shown in Figure 6, the average number of days per week was closer to two than to three.

Figure 6: Year-by-year averages of the median amount of time (in minutes) that students spent using *READ 180* software per session in each school



Data source: SAM (from years 1, 2, and 3)

Figure 7: Year-by-year averages of the number of *READ 180* software-rotation sessions students completed each week in each school



Data source: SAM (from years 1, 2, and 3)

Survey data may help to explain the low number of days of computer use. Of the 13 teachers who completed surveys, 8 (61.5%) reported that students participate in group rotations five days each week, another 4 (30.8%) reported that students participated in group rotations four days each week, and the remaining teacher reported that students participated in group rotations three days each week. However, teacher survey responses also indicated that there were several issues that interfered with implementation. Table 8 presents the numbers and percentages of teachers who affirmed that they encountered the barriers listed. Of special note is the 69.2 percent of respondents (nine teachers) who indicated that they had problems with the computers in their classrooms. Observational data underscored these assertions; observers frequently noted that computers appeared slow or that the *READ 180* software did not appear to be working.

Table 8: *READ 180* teacher responses related to specific challenges to implementation fidelity (N = 13)

Type of challenge	Number	Percentage
Problems with computers	9	69.2
Students routinely missed <i>READ 180</i> due to other school-based programs/activities	4	30.8
Class size too large	2	15.4
Classroom management issues	1	7.7
Not enough class time allowed	0	0.0

Data source: Surveys of READ 180 teachers administered by MCS

As in Year 3, evaluators examined all included variables and created an equation for translating each survey, SAM, or observational variable to the four-point scale. Second, an equation was created that encompassed the data from within each source of data (surveys, SAM, observations, and professional development). All of the 19 classrooms had SAM and survey data; each classroom again was observed at least four times. All of the 19 classrooms had SAM

and survey data; each classroom was observed at least four times. (The equation that was used to create the classroom observation ratings appears as Appendix C.)

Implementation fidelity and variability were monitored through classroom observations, student surveys, and data generated by the Scholastic Achievement Manager. In Year 2, as in Year 1, the variables used focused on what was made available to or completed by students, not how well students performed on tasks or assessments. For example, the student survey administered in the spring of 2008 asked students how many books they read in *READ 180* class during the past year, but not how well they did on the quizzes they took.

Whole-group instruction and independent reading are activities that, according to interviews with school staff members, occur in many regular language arts classes. Therefore, data related to the small-group instruction and computer rotations were weighed more heavily because they are components of the *READ 180* program that distinguish the program from the regular language arts classes offered. Also, in the calculations of overall classroom implementation level, observations were weighed the most heavily because they addressed all components of *READ 180*. Student surveys were weighted the second most heavily because they addressed two components: small-group instruction and independent reading. SAM data and the professional development scale followed these.

During the 2007–2008 school year, members of the evaluation team completed classroom observations ($N = 54$) during October ($n = 19$), January ($n = 16$), and March ($n = 19$). MCS staff members completed observations ($N = 34$) during October ($n = 19$) and during February and March ($n = 15$), and Scholastic representatives completed observations ($N = 40$) during January, February, and March. Observers from the different organizations used different observation protocols. Therefore, evaluators identified items that were similar across the three protocols and used those to calculate the observation ratings. The items used related to the following:

- the timing of the class (that is, whether the class had four 20-minute and one 10-minute segments)
- the number of students (seven or fewer) in each small group
- the layout of the room
- content and student engagement in whole-group instruction and the small-group instruction, computer, and independent reading rotations
- use of the Scholastic *flexBook* and/or other *READ 180* materials for instruction

Student surveys, which were based on a *READ 180* survey developed by Scholastic, again were administered by MCS during the spring of 2009. Survey items used for calculating the classroom implementation rating asked about the number of books students read during the independent reading rotation and the “workshops” (or chapters) that the students read as part of their classes. Workshops are generally related to small-group instruction, and the workshop item, when averaged across all of a teacher’s students, indicates how much of the textbook was covered. Table 9 shows the number of workshops (out of nine) that evaluators calculated had been covered based on student survey responses.

Table 9: Completion of *rBook* “workshops,” by classroom

Classroom ID	Number of Workshops Completed	Classroom ID	Number of Workshops Completed
6132	9.0	5535	8.0
1988	9.0	2918	8.0
5224	9.0	6033	8.0
4536	9.0	5541	7.7
3973	9.0	4781	7.7
6410	9.0	8348	7.3
2109	8.7	5546	7.0
3566	8.7	6684	6.7
3328	8.3	4420	4.0
9631	8.3		

Data source: READ 180 student surveys administered by MCS

Note: ID numbers were randomly generated and are used only to identify classrooms from year to year.

This year, evaluators also included students’ responses about whether they felt their teachers’ instruction was helpful during whole-group instruction and small-group instruction. Following the logic that whole-group instruction and independent reading are widespread teaching methods, while small-group instruction and the Scholastic *rBook* workshops are specific to *READ 180*, scores related to the latter two were weighted twice as heavily as those related to the first two.

To create ratings for the computer rotation, RBS evaluators linked as many students as possible to their *READ 180* teachers and averaged the data from all students taught by each teacher. As noted above, the SAM variables used for this report included the following:

- average number of *READ 180* computer software sessions per week
- median daily number of minutes spent in these sessions

Table 10 presents the completed Year 3 ratings for all *READ 180* teachers in Striving Readers Schools. The ratings on professional development, from observations, from student surveys, and from SAM were averaged to create the overall rating for each teacher.

Table 10: Year 3 *READ 180* Fidelity of Implementation Teacher/Classroom Ratings

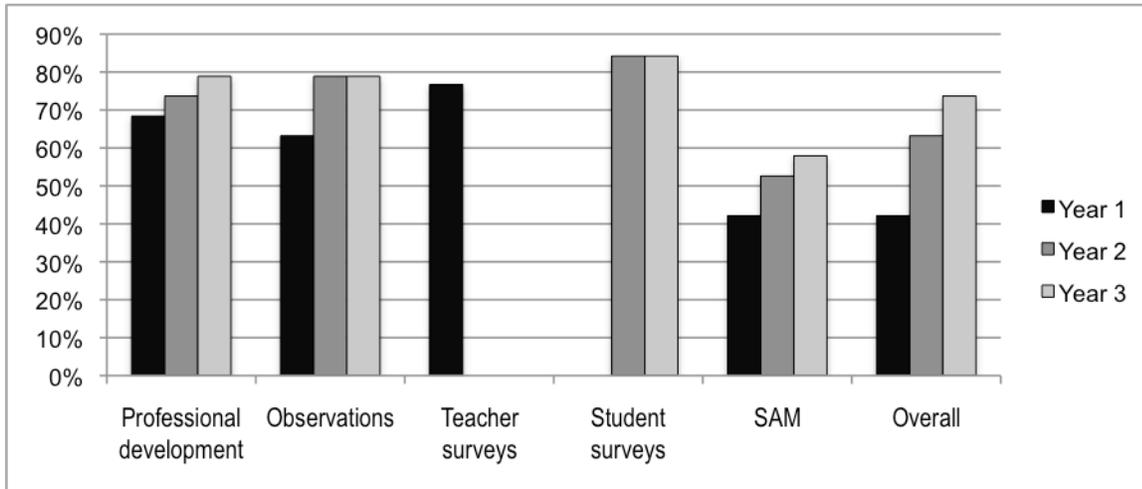
Classroom ID	Professional Development	Observations	Student Surveys	SAM	Overall Rating
3566	4	3.6	3.6	3.5	3.7
8348	4	3.6	3.3	3.0	3.5
6033	4	3.3	3.4	3.0	3.4
4420	4	3.2	2.6	3.5	3.3
4781	4	3.4	2.9	3.0	3.3
2109	4	3.4	3.2	2.5	3.3
5224	4	3.1	3.4	2.5	3.3
6410	3	3.5	3.3	3.0	3.2
5546	4	3.1	3.1	2.5	3.2
3973	3	2.9	3.7	3.0	3.2
6135	3	3.2	3.4	3.0	3.2
3328	3	3.1	3.4	3.0	3.1
4536	3	3.2	3.7	2.5	3.1
9631	3	3.4	3.1	2.5	3.0
2918	2	3.3	3.5	3.0	3.0
1988	3	2.9	3.3	2.5	2.9
5535	2	2.6	2.9	3.5	2.8
5541	2	3.4	3.1	2.5	2.8
6684	1	2.8	3.0	2.5	2.3
Number "Adequate"	15	15	16	11	14
Percent "Adequate"	79	79	84	58	74

Note: ID numbers were randomly generated and are used only to identify classrooms from year to year.

Conclusions Regarding Implementation of the Targeted Intervention

Analyses of data related to *READ 180* implementation indicated that there continues to be wide variation in implementation across classrooms in the eight Striving Readers schools. The data show that implementation improved from Year 1 to Year 2 and remained substantially the same during Year 3. Figure 8 shows the numbers of classrooms, out of 19 in all three years, that were rated as adequate in Years 1, 2 and 3: the ratings of professional development, classroom observations, and SAM increased by one point each. Overall, two more classrooms were rated as adequate or above in Year 3 than in Year 2.

Figure 8: Numbers of Classrooms Rated Adequate in Years 1, 2, and 3 (N = 19)



Note: Readers are cautioned against inferring too much from the comparisons between Years 1 and 2 because of differences in PD implementation and in the amounts of data available.

Comparisons between Years 2 and 3 are likely to be more meaningful than those to Year 1 because the data collected and analyzed were substantially similar during Years 2 and 3 (although there were slight changes in the classroom observation protocols). Direct comparisons within 13 classrooms are possible, and those comparisons are presented in Table 11 (because of teacher turnover, direct comparisons in the remaining classes are not possible). As shown in the “Overall Rating” column in Table 11, nine of thirteen classrooms had improved classroom ratings in Year 3 over Year 2.

Table 11: Differences Between Ratings of Classrooms from 2007–2008 to 2008–2009 (N = 13)

Classroom ID	Professional Development			Observation Ratings			Student Surveys			SAM			Overall Rating		
	Y2	Y3	Δ	Y2	Y3	Δ	Y2	Y3	Δ	Y2	Y3	Δ	Y2	Y3	Δ
2109	4.00	4.00	0.00	3.13	3.40	0.27	3.00	3.20	0.20	2.50	2.50	0.00	2.78	3.28	0.50
6033	4.00	4.00	0.00	3.38	3.30	-0.08	3.50	3.40	-0.10	3.00	3.00	0.00	3.11	3.43	0.32
6410	3.00	3.00	0.00	3.23	3.50	0.27	3.00	3.30	0.30	3.00	3.00	0.00	2.94	3.20	0.26
4420	2.00	4.00	2.00	3.36	3.20	-0.16	2.00	2.60	0.60	3.50	3.50	0.00	3.09	3.33	0.24
4781	2.00	4.00	2.00	3.25	3.40	0.15	3.00	2.90	-0.10	2.50	3.00	0.50	3.10	3.33	0.23
3973	3.00	3.00	0.00	2.75	2.90	0.15	3.00	3.70	0.70	3.00	3.00	0.00	2.95	3.15	0.20
2918	3.00	2.00	-1.00	2.94	3.30	0.36	3.00	3.50	0.50	2.50	3.00	0.50	2.90	2.95	0.05
3566	3.00	4.00	1.00	3.70	3.60	-0.10	3.50	3.60	0.10	3.50	3.50	0.00	3.63	3.68	0.04
8348	3.00	4.00	1.00	3.71	3.60	-0.11	3.50	3.30	-0.20	3.00	3.00	0.00	3.45	3.48	0.02
5546	3.00	4.00	1.00	3.58	3.10	-0.48	3.50	3.10	-0.40	2.50	2.50	0.00	3.28	3.18	-0.11
5224	2.00	4.00	2.00	3.52	3.10	-0.42	3.50	3.40	-0.10	2.50	2.50	0.00	3.43	3.25	-0.18
3328	2.00	3.00	1.00	3.41	3.10	-0.31	3.50	3.40	-0.10	3.50	3.00	-0.50	3.39	3.13	-0.27
5541	3.00	2.00	-1.00	3.49	3.40	-0.09	3.50	3.10	-0.40	3.50	2.50	-1.00	3.31	2.75	-0.56
Average Δ, Y2 to Y3			0.62			-0.04			0.08			-0.04			0.06

The data and analyses in this report indicate that most of the classes that make up the targeted intervention had fairly high levels of fidelity to the *READ 180* model. This conclusion is supported by Scholastic’s presentation of a report to MCS, which also indicated that, according to Scholastic’s observations and metrics, almost all classes are at least 90 percent on model. There are at least three inferences that can be drawn from this:

1. Improvements need to be made in recognizing and assigning those students who can benefit from *READ 180* (i.e., following revised Scholastic guidelines that students should score above the “Below Reading” level on the SRI in order to be enrolled).
2. Improvements are needed in measuring the quality and level of implementation (for example, increasing the number and breadth of observations, teacher self-reports, and other data sources and/or exploring the use of new statistical models for attributing fidelity to achievement).
3. One and/or two years of participation in the *READ 180* program does not help struggling readers more than other interventions currently being used by MCS.

Description of the Counterfactual and Development of the Intent-to-Treat Sample for the Targeted Intervention

The targeted intervention is *supplemental*, so all students identified as the target population should also have been enrolled in a “regular” language arts class, whether or not they were selected to be enrolled in *READ 180*. Treatment students in three schools receive a truncated period for language arts: they are enrolled in a two-hour class that combines 90 minutes of *READ 180* with 30 minutes of language arts instruction, while control students in these schools are enrolled in “regular” language arts classes that last 45 to 55 minutes.

Students in both the treatment and control groups might also participate in additional classes related to language arts. Some of these are reading classes, and this is made clear in the class name. Table 12 provides a list of all of the classes related to reading and ELA offered by each of the MSRP schools, sorted by grade. Class registration data were collected to detail how many treatment and control students were assigned to these classes.

The highlighted rows show the enrollment of students, by experimental condition, in *READ 180* during Year 3: in sixth and seventh grades, only one control student in each grade was enrolled in a *READ 180* class. Twenty eighth-grade control students were enrolled in *READ 180* classes. This may have been because in Year 3, students in eighth grade had already completed two years in the experiment. Recognizing this fact, school staff likely assigned students to *READ 180* based on their professional judgment rather than on the random assignment.

Tables 13 through 15 describe the steps that evaluators took to arrive at the samples used for the Intent-to-Treat (ITT) analyses that are included in Section IV. As shown in the tables, all students in the enrollment files provided by MCS who had enrolled by a specific date early in the school year were included in the overall sample (for example, students who were enrolled by August 28, 2008, were included in the Year 3 analyses). Of these students, those who had valid

pretest and posttest scores and about whom evaluators received demographic data were included in the final analyses. (Similar tables related detailing the creation of samples used in Year 1 and Year 2 analyses are included as Appendix D.)

The numbers in the counterfactual table (Table 12) differ from the numbers in the flow chart tables describing ITT samples because of the more specific nature of the counterfactual information. The ITT samples include all students that have pretest and posttest scores and the demographic variables. However, the counterfactual numbers only include those students whom RBS can link (via course registration files) to a specific *READ 180*, reading, or ELA teacher for at least half of the school days between pre- and posttest. Finally, the counterfactual numbers should not be added together because students might take more than one of these classes.

Table 12: Counterfactual Detail—Numbers of Students in Reading and ELA-Related Courses, by School and Experimental Condition

Course Name	Grades Offered	School A		School B		School C		School D		School E		School F		School G		School H	
		Control	READ 180														
Content Area Reading 6-180	6									0	29						
Content Area Reading 6-90	6					7	3										
Creative Writing 6-90	6					4	10										
Fail Free Read Lab 7-8/180	6																4
Word Bldg Expl 6-90	6					3	17										
Word Study Skills 6-180	6													5			
READ 180	6, 7	0	30	1	33	0	23	0	32	0	29	0	19	0	25	0	30
Reading 6-180	6, 7	21	8	57	3	25	4	28	18					3	0	38	0
Writing 6-90	6, 7															21	0
Comm Skills 09	6, 7, 8									1	1						
Comp ELA 7-12	6, 7, 8					0	1	2	1	1	1						1
Comp Reading	6, 7, 8							2									1
English Skills 4-6	6, 7, 8	1															
Language Arts 06	6, 7, 8	21	38	52	36	10	28	8	32	46	27	7	11	10	25	51	30
Language Arts 07	6, 7, 8	47	38	63	29	8	15	15	19	42	5	21	3	16	29	46	24
Reading 7-180	6, 7, 8	51	8							0	26			3	15	37	4
Word Bldg Exp 6-8/180	6, 7, 8			1	1					18	2						
Content Area Reading 7-90	7					12	1										
Creative Writing 7-90	7															3	19
Reading 7-90	7			71	10												
Creative Writing 7-180	7, 8									43	25						
Creative Writing 8-180	7, 8	47	15			4				31	17						
Lang Arts Lab 7-8/180	7, 8							5	9								
Language Arts 07 Honors	7, 8	4	2	5	2	6	2	4	3	3	3	3	1				
READ 180	7, 8	0	32	0	24	0	13	0	17	0	26	1	16	0	27	0	18
Creative Writing 8-90	8			52	27											9	3
Language Arts 08	8	44	26	52	28	5	12	22	26	27	16	16	9	15	16	39	13
Language Arts 08 Honors	8	4	0	4	2	3	0	0	1	2	0	7	3				
READ 180	8	1	11	5	3	1	10			3	3	1	9	8	2	1	2
Reading 8-180	8									2	0			7	2	32	11
Tutorial English 8	8					2	2	1	0					6	2		

Data source: Year 3 enrollment data, Year 3 course enrollment data, and READ 180 random assignment data.

Table 13: Analysis of Sample Size for Long-Term (Three-Year) Impact Year 3 of READ 180—Grade 8

	TCAP								ITBS					
	Reading/LA		Mathematics		Science		Soc. Studies		Total Reading		Comprehension		Vocabulary	
	Trt	Cnt	Trt	Cnt	Trt	Cnt	Trt	Cnt	Trt	Cnt	Trt	Cnt	Trt	Cnt
Total randomized	163	256	163	256	163	256	163	256	163	256	163	256	163	256
(A) Valid outcome measure obtained	139	221	139	221	139	219	138	222	108	160	109	161	110	162
Valid outcome measure not obtained:														
Student left before TCAP/ITBS	24	35	24	35	24	37	25	34	55	96	54	95	53	94
Student in high school	15	21	15	21	15	21	15	21	30	56	30	56	30	56
Enrolled, but no TCAP/ITBS score	9	13	9	13	9	13	9	13	9	13	9	13	9	13
Absent	0	0	0	0	0	0	0	0	3	3	2	2	1	1
Non-consent	0	0	0	0	0	0	0	0	10	14	10	14	10	14
Unknown	0	0	0	0	0	0	0	0	1	7	1	7	1	7
(B) Valid pretest measure obtained ^a	0	1	0	1	0	3	1	0	2	3	2	3	2	3
Valid pretest measure not obtained:														
Unknown	151	248	151	248	151	240	151	239	146	235	146	236	147	237
(C) Demographic Characteristics Obtained	12	8	12	8	12	16	12	17	17	21	17	20	16	19
Total with (A), (B), and (C) ^b	12	8	12	8	12	16	12	17	17	21	17	20	16	19
	163	256	163	256	163	256	163	256	163	256	163	256	163	256
	128	214	128	214	128	206	127	208	99	146	100	148	101	150

^aFor each outcome measure (e.g., TCAP Reading/LA, the same type of pretest measure was used as a covariate, i.e., TCAP Reading/LA)

^bThe numbers shown in this row indicate the number of records that were used in the impact models.

**Table 14: Analysis of Sample Size for Long-Term (Two-Year) Impact Year 3 of
READ 180—Grade 7**

	TCAP								ITBS					
	Reading/LA		Mathematics		Science		Soc. Studies		Total Reading		Comprehension		Vocabulary	
	Trt	Cnt	Trt	Cnt	Trt	Cnt	Trt	Cnt	Trt	Cnt	Trt	Cnt	Trt	Cnt
Total randomized	251	364	251	364	251	364	251	364	251	364	251	364	251	364
(A) Valid outcome measure obtained	233	343	233	343	233	342	232	341	171	234	171	234	177	248
Valid outcome measure not obtained:	18	21	18	21	18	22	19	23	80	130	80	130	74	116
Student left before TCAP/ITBS	15	19	15	19	15	19	15	19	54	83	54	83	54	83
Student in high school	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Enrolled, but no TCAP score	2	0	2	0	2	0	2	0	5	11	5	11	0	0
Unknown	0	0	0	0	0	1	1	2	6	14	6	14	5	11
Absent	0	0	0	0	0	0	0	0	7	17	7	17	7	17
Non-consenter	0	0	0	0	0	0	0	0	7	3	7	3	7	3
(B) Valid pretest measure obtained ^a	251	363	251	363	247	360	247	359	213	314	213	315	217	315
Valid pretest measure not obtained:	0	1	0	1	4	4	4	5	38	50	38	49	34	49
Unknown	0	1	0	1	4	4	4	5	38	50	38	49	34	49
(C) Demographic Characteristics Obtained	251	364	251	364	251	364	251	364	251	364	251	364	251	364
Total with (A), (B), and (C) ^b	233	342	233	342	229	338	228	336	145	207	145	208	155	221

^aFor each outcome measure (e.g., TCAP Reading/LA, the same type of pretest measure was used as a covariate, i.e., TCAP Reading/LA)

^bThe numbers shown in this row indicate the number of records that were used in the impact models.

**Table 15: Analysis of Sample Size for Immediate Year 3 Impact of *READ 180*—
Grade 6**

	TCAP								ITBS					
	Reading/LA		Mathematics		Science		Soc. Studies		Total Reading		Comprehension		Vocabulary	
	Trt	Cnt	Trt	Cnt	Trt	Cnt	Trt	Cnt	Trt	Cnt	Trt	Cnt	Trt	Cnt
Total randomized	274	223	274	223	274	223	274	223	274	223	274	223	274	223
(A) Valid outcome measure obtained	270	217	270	217	269	216	269	217	230	189	230	190	231	189
Valid outcome measure not obtained:														
Student left before TCAP/ITBS	4	6	4	6	5	7	5	6	44	34	44	33	43	34
Absent	0	0	0	0	0	0	0	0	12	6	12	6	12	6
Enrolled, but no TCAP score	0	0	0	0	0	0	0	0	4	1	4	0	3	1
Non-consent	0	0	0	0	0	0	0	0	3	4	3	4	3	4
Unknown (Other reason)	0	0	0	0	1	1	1	0	0	0	0	0	0	0
(B) Valid pretest measure obtained ^a	273	222	273	222	273	222	273	219	237	205	263	215	238	205
Valid pretest measure not obtained:														
Unknown	1	1	1	1	1	1	1	4	37	18	11	8	36	18
(C) Demographic Characteristics Obtained	274	223	274	223	274	223	274	223	274	223	274	223	274	223
Total with (A), (B), and (C) ^b	269	216	269	216	268	215	268	213	204	176	225	187	205	176

^aFor each outcome measure (e.g., TCAP Reading/LA, the same type of pretest measure was used as a covariate, i.e., TCAP Reading/LA)

^bThe numbers shown in this row indicate the number of records that were used in the impact models.

IV. Evaluation of the Impacts of the Targeted Intervention: Years 1 through 3

This section includes descriptions of the study design, the student samples used, and the impacts of the targeted intervention—*READ 180*—on student outcomes. Each subsection includes information for all three years in chronological order.

Study Design

This subsection describes the design of the evaluation of the impacts in Years 1 through 3 of *READ 180* on the quantitative outcome measures, the TCAP and ITBS, described in Section II. It includes descriptions of the study design, the student samples used, and the impacts of the targeted *READ 180* intervention on student outcomes.

Sample Selection

Year 1. At the beginning of Year 1, students who were struggling readers were identified in the sixth to eighth grades in each participating school. The intent was to randomly assign approximately 40 struggling readers in each grade in each school to receive *READ 180* services. Students scoring in lowest quartile on the state reading test were considered struggling readers and were eligible to be assigned to either the treatment or the control group. Before random assignment, the participating schools were given the opportunity to opt out students from being eligible (e.g., due to parent objections, assignment to self-contained classrooms for special education services, or teacher judgments that TCAP scores were not representative of students' higher achievement levels).⁸

Struggling readers who were not opted out and who had not received *READ 180* services in the previous two school years were deemed eligible for random assignment to *READ 180*. Within each grade at each school, 40 students were randomly selected from this eligible pool to receive *READ 180* services. These 40 students were assigned by the school to one of two or three *READ 180* classes in each grade. The students who were not randomly selected to receive *READ 180* services were assigned to the control group.

Due to significant variations in the way each school would or would not permit students receiving special education services to be assigned to *READ 180*, it was decided to base the *READ 180* impact analyses on treatment and control students not receiving special education services. Students assigned to either condition that were enrolled in a striving readers school for more than 50 percent of instructional days between fall and spring ITBS administration constituted the intent-to-treat (ITT) group for the analyses of *READ 180* impact on student outcomes in Year 1. Table 16 describes the number of treatment, control, and non-eligible students enrolled in the eight MSRP schools at the time of random assignment (September 18, 2006).

Year 2. At the beginning of Year 2, struggling readers were identified in sixth grade in each participating school. As in Year 1, the intent was to randomly assign approximately 40 struggling readers in sixth grade in each school to receive *READ 180* services. Before random assignment, the participating schools were again given the opportunity to opt out students from being eligible and students who had received *READ 180* services in the previous two years also were excluded.

⁸ Most opt-outs occurred prior to random assignment. There were a few treatment group students who were opted out after random assignment. Since the control group counterparts for those students could not be identified, the treatment group students who were opted out after random assignment were retained in the treatment group for the ITT analyses.

Table 16: Number of Students Enrolled in Striving Reader Schools in Year 1 by *READ 180* Design Group

Grade	<i>READ 180</i> Treatment Group ^b	<i>READ 180</i> Control Group ^b	Non-Eligible Students	Total MSRP School Enrollment ^a
6	239	392	903	1540
7	233	370	1270	1880
8	226	280	1253	1767
All	698	1042	3426	5187

Data source: MCS enrollment files, 2006–2007

^aEnrollment as of 9/18/06

^bThese two groups constitute the ITT group (N = 1,740) for *READ 180* immediate impact analyses in Year 1.

Within sixth grade at each school, between 30 and 40 students were randomly selected from this eligible pool to receive *READ 180* services.⁹ These students were assigned by the school to one of two or three *READ 180* classes in each grade. The students who were not randomly selected to receive *READ 180* services were assigned to the control group. These sixth-grade students constitute the intent to treat (ITT) group for the analyses of the immediate impact of *READ 180* on student outcomes in Year 2. (As in Year 1, students receiving special education services were excluded from the impact analyses.) Table 17 shows the number of treatment, control, and non-eligible sixth-grade students enrolled in the eight MSRP schools at the time of random assignment in Year 2 (September 7, 2007).

Table 17: Number of Sixth-Grade Students Enrolled in Striving Reader Schools in Year 2 by *READ 180* Design Group

Grade	<i>READ 180</i> Treatment Group ^b	<i>READ 180</i> Control Group ^b	Non-Eligible Students	Total Striving Reader School Enrollment ^a
6	289	404	734	1427

Data source: MCS enrollment files, 2007–2008

^aEnrollment as of 9/7/07

^bThese two groups constitute the ITT group (N = 693) for *READ 180* immediate impact analyses in Year 2.

In order to evaluate the long-term (two-year) impact of *READ 180* services, students from the Year 1 ITT analysis group who were enrolled in the seventh and eighth grades in a participating school more than 50 percent of instructional days between fall and spring ITBS administration in Year 2 were identified.¹⁰ Table 18 describes the number of these students compared to the original number assigned to *READ 180* treatment and control groups in Year 1. The amount of attrition is relatively consistent across experimental groups and grades.

⁹ Due to declining enrollments in several of the schools, it was not possible to assign 40 students to *READ 180* and still have a reasonable number of control students (at least half the number of *READ 180* students).

¹⁰ This identification process was consistent with an earlier procedural decision to include in the ITT analyses only those students who were enrolled in participating schools at the time of the spring administration of the ITBS.

Table 18: Number of Students from Year 1 ITT Analysis Group Remaining in Spring of Year 2 Compared to Number of Students in Year 1 by Grade and Design Group

Grade		Design Group	Year 1 ^a	Year 2 ^b	Attrition Rate
During Year 1	During Year 2				
6	7	READ 180	239	160	33%
		Control	392	260	34%
7	8	READ 180	233	159	32%
		Control	370	241	35%

Data source: MCS enrollment files, 2006–2007 and 2007–2008

^aEnrollment as of 9/18/06; ^bEnrollment as of 5/12/08

Year 3. At the beginning of Year 3, struggling readers were again identified in sixth grade in each participating school using the same criteria and procedures as in previous years. As in Years 1 and 2, the intent was to randomly assign approximately 40 struggling readers in sixth grade in each school to receive *READ 180* services. Before random assignment, the participating schools were again given the opportunity to opt out students from being eligible and students who had received *READ 180* services in the previous two years also were excluded.

Within sixth grade at each school, between 30 and 40 students were randomly selected from this eligible pool to receive *READ 180* services.¹¹ These students were assigned by the school to one of two or three *READ 180* classes in each grade. The students who were not randomly selected to receive *READ 180* services were assigned to the control group. These sixth-grade students constitute the ITT group for the analyses of the immediate impact of *READ 180* on student outcomes in Year 3. (As in Years 1 and 2, students receiving special education services were excluded from the impact analyses.) Table 19 shows the number of treatment, control, and non-eligible sixth-grade students enrolled in the eight MSRP schools at the time of random assignment in Year 3 (August 28, 2008).

Table 19: Number of Sixth-Grade Students Enrolled in Striving Reader Schools in Year 3 by *READ 180* Design Group

Grade	<i>READ 180</i> Treatment Group ^b	<i>READ 180</i> Control Group ^b	Non-Eligible Students	Total Striving Reader School Enrollment ^a
6	274	223	1095	1592

Data source: MCS enrollment files, 2006–2007, 2007–2008, and 2008–2009

^aEnrollment as of 8/28/08

^bThese two groups constitute the ITT group (N = 497) for *READ 180* immediate impact analyses in Year 3.

In order to evaluate the long-term impact of *READ 180* services, seventh- and eighth-grade students who were enrolled in a participating school when the ITBS was administered in the spring of Year 3¹² and who were originally assigned to *READ 180* or control groups when they were in sixth grade were identified. Both seventh- and eighth-grade students would have

¹¹ As in Year 2, declining enrollments in several of the schools prevented assignment of 40 students to *READ 180* because insufficient numbers of control students (at least half the number of *READ 180* students) would remain.

¹² This identification process was consistent with an earlier procedural decision to include in the ITT analyses only those students who were enrolled in participating schools at the time of the spring administration of the ITBS.

received two years of *READ 180* services since eighth-grade students in the Year 1 ITT analysis group were not enrolled in *READ 180* for a third year. Table 20 describes the number of these students compared to the original number of sixth-grade students assigned to *READ 180* treatment and control groups in Years 1 and 2. The amount of attrition occurring across two years was three times as high for Year 3 eighth-grade students compared to immediate rates of attrition among Year 3 seventh-grade students

Table 20: Number of Students from Year 1 and Year 2 ITT Analysis Groups Remaining in Spring of Year 3 Compared to Number of Students in Years 1 and 2 by Grade and Design Group

Grade During			Design Group				Attrition Rate
Year 1	Year 2	Year 3		Year 1 ^a	Year 2 ^b	Year 3 ^c	
	6	7	<i>READ 180</i>		289	251	13%
			Control		404	364	10%
6	7	8	<i>READ 180</i>	239		163	32%
			Control	392		256	35%

Data source: MCS enrollment files, 2006–2007, 2007–2008, and 2008–2009

^aEnrollment as of 9/18/06; ^bEnrollment as of 9/25/08; ^cEnrollment as of 5/6/09

Data Collection

As described in Section II, the measures of student outcomes for determining the impact of *READ 180* on struggling readers are the ITBS and the TCAP. Standard scores were used to measure reading comprehension, vocabulary, and total reading on the ITBS. These scores are vertically equated across grade levels so that students in higher grades achieve higher scores on average. The reported internal consistency measures of reliability for these three scores for test levels administered to students in grades six to eight are high: 0.87 – 0.88 for vocabulary, 0.90 – 0.92 for comprehension, and 0.94 for total reading.¹³ Scale scores were used to measure student achievement in reading/language arts, mathematics, science, and social studies on the TCAP. The reading/language arts and mathematics scale scores are vertically equated. However, the science and social studies scale scores are not (the distribution of scores in grades six to eight have similar means and standard deviations). Efforts to obtain information on the psychometric properties of the TCAP were unsuccessful.

The ITBS was administered twice in Year 1—during the week beginning September 18, 2006, and during the week beginning April 30, 2007—by classroom teachers to all students in the MSRP schools, except those in self-contained special education classrooms and a very small number whose parents did not consent to the student’s participation in the testing. The spring 2007 test scores measured treatment and control student reading achievement levels at the end of Year 1. The fall 2006 test scores were used to control for random differences in reading achievement levels between treatment and control students at the beginning of the year, as well as reduce the within-school error variance in the spring 2007 test scores.

¹³ See the ITBS Guide to Research and Development (2003), pp. 71-73.

The ITBS was also administered twice in Year 2—during the weeks beginning September 17, 2007, and May 12, 2008—by classroom teachers in MSRP schools. The fall administration was only for students in sixth grade; all students in MSRP schools took the spring administration. The spring 2008 test scores measured treatment and control student reading achievement levels at the end of Year 2. The fall 2007 test scores were used as control variables for immediate (immediate) impact analyses of Year 2 achievement for sixth-grade students. The fall 2006 test scores were used as control variables for long-term impact analyses of Year 2 achievement for seventh- and eighth-grade students.

The ITBS again was administered twice in Year 3—during the weeks beginning September 8, 2008, and May 4, 2009—by classroom teachers in MSRP schools. As in Year 2, the fall administration was only for students in sixth grade; all students in MSRP schools took the spring administration. The spring 2009 test scores measured treatment and control student reading achievement levels at the end of Year 3. The fall 2008 test scores were used as control variables for immediate impact analyses of Year 3 achievement for sixth- grade students. The fall 2007 and 2006 test scores were used as control variables for long-term impact analyses of Year 2 achievement for seventh- and eighth-grade students, respectively.

The TCAP is administered by MCS for the state on or about the first week in April each year. The spring 2007 test scores measured treatment and control student achievement levels in the four core content areas at the end of Year 1. The spring 2006 scores in the same content area were used to control for random treatment-control differences and reduce within-school error variance in spring 2007 scores. The spring 2007 and spring 2008 test scores, respectively, were used as control variables for immediate impact analyses of Year 2 and Year 3 achievement for sixth-grade students. Spring 2008 test scores were used as control variables for immediate impact analyses of Year 3 achievement for sixth-grade students. The spring 2006 test scores were used as control variables for long-term impact analyses of Year 2 achievement for seventh- and eighth-grade students. The spring 2007 and 2006 test scores were used as control variables for long-term impact analyses of Year 3 achievement for seventh- and eighth-grade students, respectively.

Data Analysis

ITT impact analyses of student achievement in reading and the four core content areas were conducted to assess the immediate effects of first-year participation in *READ 180* on student outcomes for the 1,740 eligible struggling readers in the sixth, seventh, and eighth grades in Year 1. Also, to investigate any suggestions of interactions of *READ 180* impact and grade level, separate analyses were conducted for students in the sixth, seventh, and eighth grades. Separate analyses of the 693 eligible students in sixth grade in Year 2 and the 497 in Year 3 were conducted to determine whether the immediate impact of *READ 180* varied in Years 1 through 3.

Similar analyses were conducted to assess the long-term effects of participating in *READ 180* for two years on student achievement at the end of Year 2 for the remaining 820 ITT students in the seventh and eighth grades and at the end of Year 3 for the remaining 1,034 ITT students in seventh and eighth grades.

Multi-level regression analysis models were used to estimate and test the statistical significance of the difference between the achievement of students receiving *READ 180* and the control group. Two-level models were employed for the Year 1 analyses that express the spring ITBS and TCAP scores as a function of student and school variables.¹⁴ The spring 2007 ITBS and TCAP scores were the dependent variables. The 2006 ITBS and TCAP scores—representing the same test or subject as the dependent variable—were included as the principal student-level covariate. Other control variables at the student and school level were tested for inclusion as covariates in these analyses. The *READ 180* treatment variable was included at the student level of these models.

Similar two-level models were employed for the cross-sectional analyses of student achievement at the end of Years 2 and 3. The only differences were the use of spring 2008 (Year 2) or 2009 (Year 3) ITBS and TCAP test scores as the dependent variables and, for the sixth-grade students, the use of fall 2007 (Year 2) or 2008 (Year 3) ITBS and TCAP test scores as one of the student covariates. The complete specification of the multi-level regression models employed to determine the immediate and long-term impacts of the *READ 180* intervention is provided in Appendix E.

Table 21 summarizes the dependent and independent variables and the covariates included in these analyses.

¹⁴ Three-level models employing school, teacher, and student variables were explored. These analyses proved to be relatively complex and equivocal due to each student's having different teachers for the core content areas and significant amounts of missing teacher data. Also, the results did not vary noticeably from the results of the two-level models. The evaluation team decided to omit three-level models from future impact analyses.

Table 21: All Variables Included in *READ 180* Impact Analytical Models for Years 1 through 3

Variable	Level	Coding / Range
Dependent		
Spring 2007/2008/2009 ITBS Total Reading*	Student	Standard Score 100–350
Spring 2007/2008/2009 ITBS Comprehension*	Student	Standard Score 100–350
Spring 2007/2008/2009 ITBS Vocabulary*	Student	Standard Score 100–350
Spring 2007/2008/2009 TCAP Reading/LA*	Student	Scale Score 300–750
Spring 2007/2008/2009 TCAP Mathematics*	Student	Scale Score 300–750
Spring 2007/2008/2009 TCAP Science*	Student	Scale Score 100–300
Spring 2007/2008/2009 TCAP Social Studies*	Student	Scale Score 100–300
Independent		
<i>READ 180</i> Participation	Student	Yes = 1; No = 0
Covariates		
Fall 2006/2007/2008 ITBS Total Reading**	Student	Standard Score 100–350
Fall 2006/2007/2008 ITBS Comprehension**	Student	Standard Score 100–350
Fall 2006/2007/2008 ITBS Vocabulary**	Student	Standard Score 100–350
Spring 2006/2007/2008 TCAP Reading/LA**	Student	Scale Score 300–750
Spring 2006/2007/2008 TCAP Mathematics**	Student	Scale Score 300–750
Spring 2006/2007/2008 TCAP Science**	Student	Scale Score 100–300
Spring 2006/2007/2008 TCAP Social Studies**	Student	Scale Score 100–300
Gender	Student	Female = 1; Male = 0
African American	Student	Yes = 1; No = 0
Hispanic	Student	Yes = 1; No = 0
Free/Reduced Lunch (Fall 2006/2007/2008)**	Student	Yes = 1; No = 0
English Language Learner (Fall 2006/2007/2008)**	Student	Yes = 1; No = 0
Enrolled in Grade 7 in Year 1	Student	Yes = 1; No = 0
Enrolled in Grade 8 in Year 1/Year 2	Student	Yes = 1; No = 0
Percentage Female (Fall 2006)	School	0–100
Percentage African American (Fall 2006)	School	0–100
Percentage Special Ed (Fall 2006)	School	0–100
Percentage FRL [†] (Fall 2006)	School	0–100
Percentage ELL ^{††} (Fall 2006)	School	0–100
School Enrollment (Fall 2006)	School	400–1200

Data source: ITBS and TCAP files, school enrollment and demographic data files, and READ 180 random assignment files, 2006 through 2009

*Second and third dates apply for analyses in Years 2 and 3

**Second and third dates apply for Grade 6 analyses in Years 2 and 3

[†]Students receiving free or reduced-priced meals

^{††}English Language Learners

Selection of Covariates

There are different approaches to including and/or excluding covariates in multi-level regression, as there are in single-level regression analyses. The approach that was used in these analyses was to (1) include all student- and school-level covariates in the model, (2) run the model, (3) eliminate the school covariate with the lowest significance level (highest p -value) not less than 0.2, (4) repeat steps two and three until the remaining covariates had p -values less than 0.2, and (5) repeat steps two to four for the student covariates.

Treatment of Missing Data

The only variables in these analyses that contained missing data were the ITBS and TCAP standard and scale scores. The number of students for whom test scores were missing in any analysis was small relative to the total number of students; therefore, simply omitting these students would not significantly compromise the power of these analyses. Thus, procedures for imputing missing values were not employed. The amount of attrition due to missing test scores and possible differential attrition between treatment and control groups were studied. The results of this study are presented in the discussion of the results of the *READ 180* impact analyses below.

Description of the Samples of Students for *READ 180* Impact Analyses in Years 1 through 3

Equivalence on Student Demographic Characteristics

Year 1. As described above, 1,740 eligible struggling readers were randomly assigned to the *READ 180* treatment or control groups in Year 1 of the MSRP study. The grade level and other demographic characteristics of these students are presented in Table 22.

The number of students decreases as the enrollment grade increases, and this difference is reflected more strongly in the control group since approximately equal numbers were randomly assigned to the treatment group in each grade. These differences in grade enrollment between treatment and control groups emphasize the importance of treating the student's enrollment grade as a covariate in the analyses of *READ 180* impact for students from more than one grade. Also, all but two students were either African American or Hispanic, which supported the creation of two dichotomous covariates to represent membership in these two race/ethnicity groups. Finally, the differences in demographic composition of the treatment and control groups were relatively minor, although some were statistically significant given the large number of students overall. Including these characteristics as student-level covariates in the analytical models helps to control for these small differences, as well as reduce the within-school error variance in the dependent variables.

Table 22: Demographic Characteristics of the Year 1 *READ 180* ITT Sample

Student Characteristic	Control ^a		<i>READ 180</i> ^a		Signif. Level	Total ^a	
Enrolled in Grade 6	392	37.6%	239	34.2%	0.05	631	36.3%
Enrolled in Grade 7	370	35.5%	233	33.4%		603	34.7%
Enrolled in Grade 8	280	26.9%	226	32.4%		506	29.1%
Female	465	44.6%	286	41.0%	0.13	751	43.2%
Male	577	55.4%	412	59.0%		989	56.8%
African American	955	91.6%	657	94.1%	0.05	1612	92.6%
Hispanic	86	8.2%	40	5.7%	0.05	126	7.2%
Free or Reduced Lunch	931	89.3%	619	88.7%	0.66	1550	89.1%
English Language Learner	83	8.0%	34	4.9%	0.01	117	6.7%
Total	1042		698			1740	

Data source: MCS enrollment files, 2006–2007

^aPercentages are based on the total number of students in the control, treatment, or total group.

Year 2. In Year 2, 693 eligible struggling readers in sixth grade were randomly assigned to the *READ 180* treatment or control groups. The demographic characteristics of these students are presented in Table 23. Other than gender, where the control group has significantly more males, the treatment and control groups are quite similar.

Table 23: Demographic Characteristics of the Year 2 Grade 6 *READ 180* ITT Sample

Student Characteristic	Control ^a		<i>READ 180</i> ^a		Signif. Level	Total ^a	
Female	169	41.8%	143	49.5%	0.05	312	45.0%
Male	235	58.2%	146	50.5%		381	55.0%
African American	382	94.6%	274	94.8%	0.88	656	94.7%
Hispanic	21	5.2%	15	5.2%	1.00	36	5.2%
Free or Reduced Lunch	382	94.6%	276	95.5%	0.57	658	94.9%
English Language Learner	17	4.2%	14	4.8%	0.69	31	4.5%
Total	404		289			693	

Data source: MCS enrollment files, 2007–2008

^a Percentages are based on the total number of students in the control, treatment, or total group.

Also in Year 2, 820 students in the seventh and eighth grades remained enrolled in a participating school out of the 1,234 eligible struggling readers in the sixth and seventh grades in the Year 1 *READ 180* ITT group. The demographic characteristics of these “stayers,” compared with the 414 “leavers” who were not in a participating school on May 13, 2008, are presented in Table 24.

Table 24: Demographic Characteristics of the Year 2 “Stayers” and “Leavers” from the Year 1 *READ 180* ITT Sample

	Control ^a			Read 180 ^a		
	“Stayers”	“Leavers”	Signif. Level	“Stayers”	“Leavers”	Signif. Level
Enrolled in Grade 6 → 7	260 -51.90%	132 -50.60%	0.73	160 -50.20%	79 -51.60%	0.76
Enrolled in Grade 7 → 8	241 -48.10%	129 -49.40%		159 -49.80%	74 -48.40%	
Female	236 -47.10%	118 -45.20%	0.62	139 -43.60%	61 -39.90%	0.45
Male	265 -52.90%	143 -54.80%		180 -56.40%	92 -60.10%	
African American	457 -91.20%	238 -91.20%	0.89	297 -93.10%	144 -94.10%	0.68
Hispanic	43 -8.60%	22 -8.40%	1.00	21 -6.60%	9 -5.90%	0.76
Free or Reduced Lunch	440 -87.80%	240 -92.00%	0.08	287 -90.00%	137 -89.50%	0.37
English Language Learner	46 -9.20%	19 -7.30%	0.37	18 -5.60%	7 (%)	0.63
Total	501	261		319	153	

Data source: MCS enrollment and demographic files, 2007–2008

^aPercentages are based on the total for the control and treatment groups for each type of student.

Differences between treatment and control groups for the 820 seventh- and eighth-grade students in Year 2 who remained in the *READ 180* ITT sample are relatively small. There are higher percentages of males, African Americans, and students receiving free or reduced-price meals in the treatment group and higher percentages of Hispanic and English Language Learner (ELL) students in the control group. Also, the differences between treatment and control groups for the “stayers” appear similar to the differences between treatment and control groups for the 414 “leavers,” with two exceptions. The difference between treatment and control percentages of male students was larger for the 414 “leavers,” and the percentage of treatment students receiving free or reduced-price meals was a few points higher than it was for the controls in the “stayers,” while it was a few points lower for treatment students in the “leavers.” Overall, however, differences in treatment and control groups are very similar for those who remained and those who did not.

Year 3. In Year 3, 497 eligible struggling readers in sixth grade were randomly assigned to the *READ 180* treatment or control groups. The demographic characteristics of these students are presented in Table 25. The treatment and control groups are similar in terms of gender and free or reduced lunch status composition. The groups differ in terms of race/ethnicity and ELL status, however, with the control group having significantly fewer African-American students and more Hispanic and ELL students.

Table 25: Demographic Characteristics of the Year 3 Grade 6 *READ 180* ITT Sample

Student Characteristic	Control ^a		<i>READ 180</i> ^a		Signif. Level	Total ^a	
Female	102	45.7%	131	47.8%	0.65	233	46.9%
Male	121	54.3%	143	52.2%		264	53.1%
African American	204	91.5%	265	96.7%	0.01	469	94.4%
Hispanic	18	8.1%	9	3.3%	0.02	27	5.4%
Free or Reduced Lunch	209	93.7%	265	96.7%	0.11	497	95.4%
English Language Learner	16	7.2%	7	2.6%	0.02	23	4.6%
Total	223		274			497	

Data source: MCS enrollment and demographic files, 2008–2009

^aPercentages are based on the total number of students in the control, treatment, or total group.

In Year 3, 475 seventh-grade students remained enrolled in a participating school out of the 693 eligible struggling readers in the sixth grade in the Year 2 *READ 180* ITT group. The demographic characteristics of these “stayers,” compared with the 140 “leavers” who were not in a participating school on May 6, 2009, are presented in Table 26.

Table 26: Demographic Characteristics of the Year 3 Grade 7 “Stayers” and “Leavers” from the Year 2 *READ 180* ITT Sample

	Control ^a				Signif. Level	Read 180 ^a				Signif. Level
	“Stayers”		“Leavers”			“Stayers”		“Leavers”		
Female	127	45.50%	31	36.50%	0.14	105	53.60%	21	38.20%	0.04
Male	152	54.50%	54	63.50%		91	46.40%	34	61.80%	
African American	264	94.60%	81	95.30%	0.81	185	94.40%	55	100%	0.07
Hispanic	15	5.40%	4	4.70%	0.81	11	5.60%	0	0%	0.07
Free or Reduced Lunch	262	93.90%	80	94.10%	0.94	189	96.40%	50	90.90%	0.09
English Language Learner	13	4.70%	3	3.50%	0.66	11	5.60%	0	0%	0.07
Total	279		85			196		55		

Data source: MCS enrollment file, 2008–2009

^aPercentages are based on the total for the control and treatment groups for each type of student.

Differences between treatment and control groups for the 475 seventh-grade students in Year 3 who remained in the *READ 180* ITT sample are not statically significant. The largest disparity between the groups is in the gender composition, but even these differences have a significance level greater than 0.05. Among the 140 “leavers,” there are no significant differences between the treatment and control groups’ demographic characteristics.

In addition, 311 eighth-grade students remained enrolled in a participating school out of the 419 eligible struggling readers in seventh grade in the Year 2 *READ 180* ITT group. The demographic characteristics of these “stayers,” compared with the 108 “leavers” who were not in a participating school on May 6, 2009, are presented in Table 27.

Table 27: Demographic Characteristics of the Year 3 Grade 8 “Stayers” and “Leavers” from the Year 2 *READ 180* ITT Sample

	Control ^a				Signif. Level	Read 180 ^a				Signif. Level
	“Stayers”		“Leavers”			“Stayers”		“Leavers”		
Female	84	44.90%	28	40.60%	0.54	56	45.20%	13	33.30%	0.19
Male	103	55.10%	41	59.40%		68	54.80%	26	66.70%	
African American	172	92.00%	63	91.30%	0.86	117	94.40%	37	94.90%	0.90
Hispanic	15	8.00%	6	8.70%	0.86	6	4.80%	2	5.10%	0.94
Free or Reduced Lunch	171	91.40%	57	82.60%	0.04	108	87.10%	39	100%	0.02
English Language Learner	15	8.00%	6	8.70%	0.86	5	4.00%	1	2.60%	0.67
Total	187		69			124		39		

Data source: MCS enrollment file, 2008–2009

^aPercentages are based on the total for the control and treatment groups for each type of student.

The demographic characteristics of the 311 treatment and control students in the “stayers” group do not vary significantly. Among the 108 “leavers,” the demographic characteristics of treatment and control group students are also very similar. The only difference between the two groups is that the control group has fewer students receiving free or reduced-priced meals (FRL). The “leavers” are more predominantly male and show a greater difference between treatment and control on the percentage of FRL students.

Equivalence on Baseline Achievement

Year 1. Comparisons between treatment and control groups on the baseline 2006 ITBS and TCAP test scores were carried out for the 1,740 students in the Year 1 ITT sample and the 820 Year 2 “stayers.” Treatment and control comparisons were made on the baseline 2007 ITBS and TCAP test scores for the Year 2 sixth-grade ITT sample and on the baseline 2008 ITBS and TCAP test scores for the Year 3 sixth-grade ITT sample.

Table 28 describes the differences between Year 1 *READ 180* treatment and control groups on baseline 2006 test scores for the three ITBS standard scores and the four TCAP content area assessments. With random assignment, the treatment and control groups should be very similar on all seven test scores.

The treatment group performed higher on all seven tests. However, the significance level for each estimated difference is greater than 0.05, allowing one to conclude that the treatment and control groups are statistically equivalent in terms of their baseline 2006 ITBS and TCAP test scores.

Table 28: Comparison of Year 1 *READ 180* Treatment and Control Groups on Baseline 2006 Scores on Each Achievement Test

Test Score	Means		Signif. Level
	Control	<i>READ 180</i>	
ITBS Total Reading Standard Score	190.2 (940) ^a	191.5 (656)	0.097
ITBS Comprehension Standard Score	186.2 (944)	188.0 (660)	0.059
ITBS Vocabulary Standard Score	194.1 (950)	195.1 (658)	0.354
TCAP Reading/LA Scale Score	474.8 (1042)	476.5 (698)	0.188
TCAP Mathematics Scale Score	484.4 (1040)	487.4 (697)	0.062
TCAP Science Scale Score	179.1 (1006)	180.5 (686)	0.116
TCAP Social Studies Scale Score	184.0 (1007)	184.5 (685)	0.593

Data source: ITBS and TCAP, 2006

^aNumbers in parentheses are the numbers of students in each group having a valid test score.

Year 2. Table 29 describes the differences between Year 2 sixth-grade *READ 180* treatment and control groups on baseline 2007 tests. Again, with random assignment, the 693 students in the treatment and control groups should be very similar on all seven test scores.

Table 29: Comparison of Year 2 Grade 6 *READ 180* Treatment and Control Groups on Baseline 2007 Scores on Each Achievement Test

Test Score	Means		Signif. Level
	Control	<i>READ 180</i>	
ITBS Total Reading Standard Score	184.9 (364) ^a	182.0 (247)	0.007
ITBS Comprehension Standard Score	182.8 (365)	179.7 (247)	0.014
ITBS Vocabulary Standard Score	186.9 (365)	184.7 (252)	0.104
TCAP Reading/LA Scale Score	487.8 (403)	482.4 (289)	0.004
TCAP Mathematics Scale Score	489.8 (403)	487.3 (289)	0.208
TCAP Science Scale Score	184.4 (400)	182.8 (283)	0.204
TCAP Social Studies Scale Score	189.5 (399)	188.9 (283)	0.551

Data source: ITBS and TCAP, 2007

^aNumbers in parentheses are the numbers of students in each group having a valid test score.

The control group performed higher on all seven test scores. This advantage was statistically significant for the ITBS Comprehension and Total Reading standard scores and for the TCAP Reading/LA scale score. Thus, even though students were assigned to treatment and control groups randomly, the control group scored significantly higher on most of the baseline reading measures. Treating the 2007 test scores as covariates in the analyses of the impact of *READ 180* on 2008 test scores allows some adjustment to be made for these differences.

Table 30 describes the 2006 baseline test score differences between the treatment and control students from the Year 1 *READ 180* ITT sample of 820 who “stayed” in a participating school in Year 2 in seventh and eighth grade.

Table 30: Comparison of Year 2 “Stayers” from *READ 180* Treatment and Control Groups on Baseline 2006 Scores on Each Achievement Test

Test Score	Means		Signif. Level
	Control	<i>READ 180</i>	
ITBS Total Reading Standard Score	186.7 (472) ^a	188.1 (305)	0.217
ITBS Comprehension Standard Score	183.0 (474)	185.1 (305)	0.096
ITBS Vocabulary Standard Score	190.4 (476)	190.0 (306)	0.674
TCAP Reading/LA Scale Score	472.7 (501)	471.6 (319)	0.558
TCAP Mathematics Scale Score	484.2 (501)	487.0 (318)	0.183
TCAP Science Scale Score	180.9 (482)	182.1 (315)	0.290
TCAP Social Studies Scale Score	185.3 (482)	186.1 (316)	0.542

Data source: ITBS and TCAP, 2006

^aNumbers in parentheses are the numbers of students in each group having a valid test score.

These treatment-control differences are all small and not significant. They also appear very similar to, if slightly lower than, the treatment-control differences for the entire Year 1 ITT sample. Two-way ANOVAs were used to test for an interactive effect of “staying” and treatment/control group membership on 2006 test scores. No significant interactions were found.

Year 3. Table 31 describes the differences between Year 3 sixth-grade *READ 180* treatment and control groups on baseline 2008 test scores. The two groups have the same initial achievement level; there are no statistically significant differences in their baselines ITBS and TCAP test scores.

Table 31: Comparison of Year 3 Grade 6 *READ 180* Treatment and Control Groups on Baseline 2008 Scores on Each Achievement Test

Test Score	Means		Signif. Level
	Control	<i>READ 180</i>	
ITBS Total Reading Standard Score	183.0 (205) ^a	183.1 (237)	0.886
ITBS Comprehension Standard Score	178.6 (215)	179.0 (263)	0.827
ITBS Vocabulary Standard Score	187.5 (205)	187.3 (238)	0.929
TCAP Reading/LA Scale Score	482.2 (222)	482.1 (273)	0.950
TCAP Mathematics Scale Score	482.8 (222)	482.2 (273)	0.804
TCAP Science Scale Score	180.2 (222)	180.6 (273)	0.762
TCAP Social Studies Scale Score	187.3 (219)	187.1 (273)	0.873

Data source: ITBS and TCAP, 2008

^aNumbers in parentheses are the numbers of students in each group having a valid test score.

Table 32 describes the 2007 baseline test score differences between the 475 treatment and control students from the Year 2 *READ 180* ITT sample who “stayed” in a participating school in Year 3 in seventh grade. The control group students scored higher than the treatment students on the baseline ITBS measures. These are generally the same differences reflected in Table 29 for these students when they were in sixth grade. As mentioned previously, treating the 2007 baseline test scores as covariates in the analyses allows some adjustment to be made for these differences.

Table 32: Comparison of Year 3 Grade 7 “Stayers” from *READ 180* Treatment and Control Groups on Baseline 2007 Scores on Each Achievement Test

Test Score	Means		Signif. Level
	Control	<i>READ 180</i>	
ITBS Total Reading Standard Score	184.8 (248)	181.2 (169)	0.005
ITBS Comprehension Standard Score	182.4 (249)	179.4 (169)	0.048
ITBS Vocabulary Standard Score	187.0 (249)	183.5 (173)	0.032
TCAP Reading/LA Scale Score	487.1 (279)	482.9 (196)	0.064
TCAP Mathematics Scale Score	489.9 (279)	488.8 (196)	0.662
TCAP Science Scale Score	184.2 (276)	182.6 (192)	0.299
TCAP Social Studies Scale Score	189.8 (275)	189.9 (467)	0.909

Data source: ITBS and TCAP, 2007

^aNumbers in parentheses are the numbers of students in each group having a valid test score.

Table 33 describes the 2006 baseline test score differences between the 311 treatment and control students from the Year 2 *READ 180* ITT sample who “stayed” in a participating school in Year 3 in eighth grade. There are no significant differences between the baseline test scores of the treatment and control students.

Table 33: Comparison of Year 3 Grade 8 “Stayers” from *READ 180* Treatment and Control Groups on Baseline 2006 Scores on Each Achievement Test

Test Score	Means		Signif. Level
	Control	<i>READ 180</i>	
ITBS Total Reading Standard Score	183.0 (171)	184.3 (112)	0.362
ITBS Comprehension Standard Score	181.2 (172)	183.0 (112)	0.284
ITBS Vocabulary Standard Score	184.9 (173)	185.6 (112)	0.743
TCAP Reading/LA Scale Score	471.8 (180)	472.6 (113)	0.797
TCAP Mathematics Scale Score	481.7 (180)	482.8 (113)	0.697
TCAP Science Scale Score	182.5 (174)	184.4 (113)	0.297
TCAP Social Studies Scale Score	189.6 (173)	189.7 (113)	0.939

Data source: ITBS and TCAP, 2006

^aNumbers in parentheses are the numbers of students in each group having a valid test score.

Impact of *READ 180* Participation on Student Achievement in Years 1 through 3

Immediate Impact of *READ 180* for Students in Grades 6 through 8 Combined in Year 1

The multi-level regression model described in Appendix E was used to estimate the immediate impact of *READ 180* on the reading and content area achievement of the 1,740 eligible struggling readers in the Year 1 *READ 180* ITT sample. Table 34 summarizes the results of these analyses for student reading achievement measured by the ITBS and student achievement in the four core content areas measured by the TCAP. (The complete results of the multi-level analyses of the *READ 180* impact on these seven test scores can be found in Appendix F in Tables F1–F7.)

Table 34 displays several statistical parameters. The **unadjusted means** show the actual mean 2007 test scores for the treatment and control groups. The numbers in parentheses at the bottom of these cells is the number of students in the respective group with a valid test score. The **adjusted means** are the average scores controlling for all covariates retained in the analytical model—the variable indicating treatment/control group membership and all “significant” covariates ($p < 0.2$). The **estimated impact** is the difference between the treatment and control group adjusted means (treatment minus control). A positive impact means the *READ 180* treatment group averaged higher achievement on the particular test than the control group, controlling for covariates included in the final analytical model (see Appendix F, Tables F1–F7). A negative impact means the control group averaged higher than the treatment group. The **significance level** and **effect size** are two indicators of the importance of the estimated difference. Conventionally, a significance level less than 0.05 is an acceptable indication that the estimated difference is not due to chance, i.e., that it is “statistically significant.” Conventionally, an effect size between 0.2 and 0.5 is considered small, between 0.5 and 0.8 is medium, and greater than 0.8 is large.

**Table 34: Year 1 Impact of *READ 180* on Spring 2007 Scores on Each Achievement Test—
Grades 6 through 8 Combined**

Test Score	Unadjusted Means		Adjusted Means		Est. Impact	Effect Size ^a	Signif. Level
	Control	<i>READ 180</i>	Control	<i>READ 180</i>			
ITBS Total Reading Standard Score	191.8 (712) ^b	192.9 (511)	192.6	192.1	-0.5	0.03	0.532
ITBS Comprehension Standard Score	186.7 (718)	187.6 (517)	187.0	187.0	0.0	0.00	0.976
ITBS Vocabulary Standard Score	197.0 (726)	198.3 (519)	197.5	197.6	0.1	0.01	0.937
TCAP Reading/LA Scale Score	495.8 (972)	498.0 (664)	496.9	497.1	0.2	0.01	0.882
TCAP Mathematics Scale Score	500.0 (971)	501.8 (661)	500.0	500.2	0.2	0.01	0.904
TCAP Science Scale Score	185.1 (915)	185.6 (643)	185.6	185.1	-0.5	0.03	0.573
TCAP Social Studies Scale Score	185.1 (906)	186.1 (644)	185.0	185.8	0.8	0.05	0.323

Data source: ITBS and TCAP, 2006–2007

^aThe method used to calculate effect size was Glass's Δ , the difference between treatment and control groups' adjusted mean test scores divided by the control group's test score standard deviation.

^bNumbers in parentheses are the numbers of students in each group having valid test scores from the baseline 2006 administrations and the spring 2007 administrations.

The estimated *READ 180* impacts for all seven test scores are quite small—less than one standard/scale score unit. None are statistically significant ($p < 0.05$); and all effect sizes are quite small. There is no reason, therefore, to reject the hypothesis that the average achievement of the treatment and control groups was the same at the end of Year 1. In other words, participation in *READ 180* did not have a significant impact on student achievement levels in reading or in the four core content areas at the end of the first year of the study.

Immediate Impact of *READ 180* for Students in Each Grade in Year 1

The analyses of *READ 180* impact reported above were based on the total ITT sample of students in sixth through eighth grades. The same analyses were also carried out separately for students in each of these three grades. In the Year 4 report, Year 1 sixth-grade results can be compared with results for sixth graders in the Years 2–4 to see if there are any changes over time in the impact of *READ 180*. The results for seventh- and eighth-grade students in Year 1 allow a comparison of the impact of this targeted intervention across grades. The calculation of the immediate impact of *READ 180* for seventh- and eighth-grade students in Years 2 through 4 is not possible due to their previous participation in *READ 180*. Table 35 presents the results of the analyses of the immediate impact of *READ 180* on students in sixth grade.

Table 35: Immediate Year 1 Impact of *READ 180* on Spring 2007 Scores on Each Achievement Test—Grade 6

Test Score	Unadjusted Means		Adjusted Means		Est. Impact	Effect Size ^a	Signif. Level
	Control	<i>READ 180</i>	Control	<i>READ 180</i>			
ITBS Total Reading Standard Score	183.3 (287) ^b	184.9 (178)	183.8	184.3	0.5	0.04	0.665
ITBS Comprehension Standard Score	179.7 (288)	180.0 (179)	180.3	186.9	-1.0	0.07	0.441
ITBS Vocabulary Standard Score	187.1 (290)	190.0 (180)	186.8	189.5	2.7	0.17	0.056
TCAP Reading/LA Scale Score	487.9 (372)	489.6 (228)	488.9	488.9	0.0	0.00	0.996
TCAP Mathematics Scale Score	494.4 (372)	494.9 (227)	492.3	494.7	2.4	0.08	0.279
TCAP Science Scale Score	185.9 (352)	187.9 (221)	186.6	187.6	1.0	0.07	0.423
TCAP Social Studies Scale Score	186.0 (349)	187.2 (222)	186.7	187.5	0.8	0.04	0.615

Data source: ITBS and TCAP, 2007

^aThe method used to calculate effect size was Glass's Δ , the difference between treatment and control groups' adjusted mean test scores divided by the control group's test score standard deviation.

^bNumbers in parentheses are the numbers of students in each group having valid test scores from the baseline 2006 administrations and the spring 2007 administrations.

The estimated *READ 180* impacts in the sixth grade in Year 1 were not as small as they were for all grades. The impacts on the ITBS vocabulary subtest and TCAP mathematics were greater than two standard/scale score units. Again, however, none of the impacts are statistically significant ($p < 0.05$), although the impact on ITBS vocabulary approaches this level and the associated effect size, 0.17, is close to the small range of 0.2–0.5. Overall for sixth grade, there is no reason to reject the hypothesis that the average achievement of the treatment and control groups was the same at the end of Year 1. Participation in *READ 180* did not have a significant impact on student achievement levels in reading or in the four core content areas in the sixth grade in Year 1.

Similar analyses carried out for seventh- and eighth-grade students yielded non-significant estimated impacts with effect sizes under 0.2. The complete results of the multi-level analyses of the Year 1 *READ 180* impact on these seven test scores for each grade can be found in Appendix F in Tables F8–F28.

Immediate Impact of *READ 180* for Students in Sixth Grade in Year 2

The immediate impact of *READ 180* on ITBS and TCAP test scores for sixth-grade students in Year 2 was determined using the same multi-level model (see Appendix E) for the 693 sixth-

grade students in the Year 2 ITT sample. The only differences were that the dependent variables were the 2008 ITBS and TCAP test scores and the respective test score covariate was from the 2007 administrations. The results of these analyses are summarized in Table 36. The complete results of the multi-level analyses of the Year 2 *READ 180* impact on these seven test scores for sixth grade can be found in Appendix F in Tables F29–F35.

The estimated *READ 180* impacts in the sixth grade in Year 2 were of a similar size as they were in Year 1. There were more negative impacts favoring the control group. However, even the largest estimated impact, for TCAP mathematics, was not statistically significant ($p < 0.05$). Overall for sixth grade, there is no reason to reject the hypothesis that the average achievement of the treatment and control groups was the same at the end of Year 2. Participation in *READ 180* did not have a significant impact on student achievement levels in reading or in the four core content areas in the sixth grade in Year 2.

Table 36: Immediate Year 2 Impact of *READ 180* on Spring 2008 Scores on Each Achievement Test—Grade 6

Test Score	Unadjusted Means		Adjusted Means		Est. Impact	Effect Size ^a	Signif. Level
	Control	<i>READ 180</i>	Control	<i>READ 180</i>			
ITBS Total Reading Standard Score	185.4 (295) ^b	182.9 (204)	184.4	183.7	-0.7	0.06	0.468
ITBS Comprehension Standard Score	182.3 (299)	179.4 (204)	181.8	180.0	-1.8	0.12	0.170
ITBS Vocabulary Standard Score	185.5 (299)	186.3 (210)	187.4	186.8	-0.6	0.04	0.639
TCAP Reading/LA Scale Score	497.1 (390)	495.6 (278)	494.7	496.5	1.9	0.06	0.407
TCAP Mathematics Scale Score	499.2 (390)	495.6 (278)	500.0	495.8	-4.2	0.15	0.070
TCAP Science Scale Score	187.0 (387)	185.9 (272)	186.5	186.3	-0.2	0.01	0.876
TCAP Social Studies Scale Score	186.7 (380)	182.8 (272)	185.8	183.5	-2.3	0.15	0.087

Data source: ITBS and TCAP, 2007–2008

^aThe method used to calculate effect size was Glass's Δ , the difference between treatment and control groups' adjusted mean test scores divided by the control group's test score standard deviation.

^bNumbers in parentheses are the numbers of students in each group having valid test scores from the baseline 2007 administrations and the spring 2008 administrations.

Immediate Impact of *READ 180* for Students in Sixth Grade in Year 3

The immediate impact of *READ 180* on ITBS and TCAP test scores for sixth-grade students in Year 3 was determined using the same multi-level model (see Appendix A) for the 497 sixth-

grade students in the Year 3 ITT sample. The only differences were that the dependent variables were the 2009 ITBS and TCAP test scores and the respective test score covariate was from the 2008 administrations. The results of these analyses are summarized in Table 37. The complete results of the multi-level analyses of the Year 3 *READ 180* impact on these seven test scores for sixth-grade students can be found in Appendix F in Tables F36–F42.

The estimated *READ 180* impacts in the sixth grade in Year 3 were of a similar size as they were in Years 1 and 2 with one exception. The impact on TCAP Reading/LA scale scores was larger, favoring the *READ 180* group, and statistically significant ($p < 0.05$). The effect size was in the small range, however, and there appears to be an unusually large adjustment downward of the control group mean (from 479.5 to 473.8). Although no explanation for this uncharacteristically large adjustment could be found, one should use caution in interpreting this significant impact. The other six impacts favored the control group and were not statistically significant. With the one tentative exception, there is again no reason to reject the hypothesis that the average achievement of the sixth grade treatment and control groups was the same at the end of Year 3.

Table 37: Immediate Year 3 Impact of *READ 180* on Spring 2009 Scores on Each Achievement Test—Grade 6

Test Score	Unadjusted Means		Adjusted Means		Est. Impact	Effect Size ^a	Signif. Level
	Control	<i>READ 180</i>	Control	<i>READ 180</i>			
ITBS Total Reading Standard Score	184.4 (176) ^b	182.5 (204)	184.2	182.2	-2.0	0.18	0.081
ITBS Comprehension Standard Score	179.5 (187)	178.5 (225)	179.6	178.2	-1.4	0.09	0.314
ITBS Vocabulary Standard Score	189.2 (176)	186.8 (205)	188.9	186.6	-2.3	0.16	0.111
TCAP Reading/LA Scale Score	479.5 (216)	480.6 (269)	473.8	480.7	6.9	0.21	0.030
TCAP Mathematics Scale Score	490.8 (216)	488.1 (269)	491.7	488.5	-3.2	0.11	0.215
TCAP Science Scale Score	183.9 (215)	182.3 (268)	183.3	182.4	-0.9	0.06	0.550
TCAP Social Studies Scale Score	185.0 (213)	183.3 (268)	183.6	183.0	-0.6	0.04	0.714

Data source: ITBS and TCAP, 2008–2009

^aThe method used to calculate effect size was Glass's Δ , the difference between treatment and control groups' adjusted mean test scores divided by the control group's test score standard deviation.

^bNumbers in parentheses are the numbers of students in each group having valid test scores from the baseline 2008 administrations and the spring 2009 administrations.

Long-term Impact of *READ 180* for Students in Grades 7 and 8 in Year 2

In order to determine the long-term impact of participating in *READ 180* for two years, a two-level model similar to the model described in Appendix E was used to estimate the difference between treatment and control students on spring 2008 ITBS and TCAP test scores, controlling for their 2006 baseline scores, along with other student-level covariates. Since the students in these analyses were the 820 “stayers” in the seventh and eighth grades in Year 2, only one dummy variable indicating which students were in eighth grade was employed to control for within-school differences attributable to the student’s grade level. The school-level covariates remained the same. Table 38 presents the results of these analyses of the long-term impact of *READ 180*. The results of these analyses are summarized in Table 37. The complete results of the multi-level analyses of the Year 2 *READ 180* impact on these seven test scores for seventh- and eighth-grade students can be found in Appendix F in Tables F43–F49.

Table 38: Long-Term Year 2 Impact of *READ 180* on Spring 2008 Scores on Each Achievement Test—Grades 7 and 8 Combined

Test Score	Unadjusted Means		Adjusted Means		Est. Impact	Effect Size ^a	Signif. Level
	Control	<i>READ 180</i>	Control	<i>READ 180</i>			
ITBS Total Reading Standard Score	197.9 (398) ^b	198.4 (262)	198.0	198.1	0.1	0.01	0.967
ITBS Comprehension Standard Score	193.5 (405)	193.3 (260)	193.7	193.0	-0.7	0.03	0.639
ITBS Vocabulary Standard Score	201.8 (407)	203.3 (266)	201.5	203.3	1.8	0.08	0.280
TCAP Reading/LA Scale Score	505.8 (498)	507.5 (316)	505.3	506.7	1.4	0.05	0.446
TCAP Mathematics Scale Score	511.0 (498)	512.3 (315)	511.9	511.5	-0.4	0.01	0.871
TCAP Science Scale Score	184.0 (478)	185.0 (312)	184.4	184.7	0.3	0.02	0.782
TCAP Social Studies Scale Score	186.3 (474)	185.0 (310)	186.5	185.1	-1.4	0.11	0.129

Data sources: ITBS and TCAP, 2006 and 2008

^aThe method used to calculate effect size was Glass’s Δ , the difference between treatment and control groups’ adjusted mean test scores divided by the control group’s test score standard deviation.

^bNumbers in parentheses are the numbers of students in each group having valid test scores from the baseline 2006 administrations and the spring 2008 administrations.

The estimated impacts of two years of participation in *READ 180* on the “stayers” in the seventh and eighth grades in Year 2 were not statistically significant ($p < 0.05$). There is no reason to reject the hypothesis that the average achievement of the treatment and control groups was the same at the end of Year 2. Participation in *READ 180* for two years did not have a

significant impact on student achievement levels in reading or in the four core content areas in Year 2.

Similar analyses carried out separately for each of the two grades yielded similar non-significant estimated impacts with one exception. In seventh grade, there was one significant difference in favor of the treatment group for ITBS vocabulary test scores. However, at a significance level of 0.05, this result may have also been due to chance since one would expect five percent of all hypothesis tests to reject the null hypothesis of no difference when the null hypothesis is true. The complete results of the multi-level analyses of the *READ 180* impact on these seven test scores for the “stayers” in the seventh and eighth grades, by grade, can be found in Appendix F in Tables F50–F63.

Long-term Impact of *READ 180* for Students in Grade 7 and for Students in Grade 8 with Two Years of Participation and One Year of Regular Instruction in Year 3

The long-term impact of participating in *READ 180* was examined again in Year 3, looking at students in seventh and eighth grade. The same two-level model was used to estimate the difference between treatment and control students on spring 2009 ITBS and TCAP test scores, controlling for the 2006 baseline scores of the eighth-grade students and the 2007 baseline scores of the seventh-grade students, along with the other student-level covariates. In addition to baseline scores in different years, the students in these two grades had different histories. The eighth-grade students received two years of *READ 180* in sixth and seventh grade, but did not receive the intervention in eighth grade. Thus, the impact of two years of *READ 180* would be mixed in with one year of “regular” instruction, whereas the impact for seventh-grade students would consist of just two years of *READ 180*. Consequently, the data for two grades were analyzed separately. Tables 39 and 40 present the results of these analyses of the long-term impact of *READ 180* for seventh- and eighth-grade students, respectively. The complete results of the multi-level analyses of the *READ 180* impact on these seven test scores for the “stayers” in the seventh and eighth grades, by grade, can be found in Appendix F in Tables F64–F77.

Table 39: Long-Term Year 3 Impact of *READ 180* on Spring 2009 Scores on Each Achievement Test—Grade 7

Test Score	Unadjusted Means		Adjusted Means		Est. Impact	Effect Size ^a	Signif. Level
	Control	<i>READ 180</i>	Control	<i>READ 180</i>			
ITBS Total Reading Standard Score	196.4 (207) ^b	193.5 (145)	194.9	194.7	-0.2	0.01	0.910
ITBS Comprehension Standard Score	192.5 (208)	188.2 (145)	191.0	188.6	-2.4	0.11	0.266
ITBS Vocabulary Standard Score	199.9 (221)	198.8 (155)	198.6	199.9	1.3	0.07	0.487
TCAP Reading/LA Scale Score	498.0 (342)	494.7 (233)	497.0	495.8	-1.2	0.04	0.629
TCAP Mathematics Scale Score	508.6 (342)	504.6 (233)	508.2	505.5	-2.7	0.08	0.281
TCAP Science Scale Score	185.2 (338)	182.4 (229)	185.2	183.0	-2.2	0.13	0.149
TCAP Social Studies Scale Score	186.0 (336)	185.2 (228)	186.8	185.5	-1.3	0.11	0.202

Data sources: ITBS and TCAP, 2007 and 2009

^aThe method used to calculate effect size was Glass's Δ , the difference between treatment and control groups' adjusted mean test scores divided by the control group's test score standard deviation.

^bNumbers in parentheses are the numbers of students in each group having valid test scores from the baseline 2007 administrations and the spring 2009 administrations.

Table 40: Year 3 Impact of *READ 180* on Spring 2009 Scores on Each Achievement Test after Two Years of Program Participation and One Year of Regular Instruction—Grade 8

Test Score	Unadjusted Means		Adjusted Means		Est. Impact	Effect Size ^a	Signif. Level
	Control	<i>READ 180</i>	Control	<i>READ 180</i>			
ITBS Total Reading Standard Score	203.6 (146) ^b	203.0 (99)	203.6	201.7	-1.9	0.10	0.416
ITBS Comprehension Standard Score	198.7 (148)	197.2 (100)	199.3	195.6	-3.7	0.16	0.190
ITBS Vocabulary Standard Score	208.6 (150)	209.3 (101)	208.6	208.7	0.1	0.00	0.978
TCAP Reading/LA Scale Score	507.8 (214)	507.0 (128)	508.1	507.5	-0.6	0.02	0.824
TCAP Mathematics Scale Score	514.7 (214)	512.5 (128)	512.6	512.0	-0.6	0.02	0.852
TCAP Science Scale Score	179.9 (206)	178.0 (128)	179.7	177.5	-2.2	0.13	0.261
TCAP Social Studies Scale Score	183.9 (208)	184.3 (127)	183.2	184.2	1.0	0.06	0.541

Data source: ITBS and TCAP, 2009

^aThe method used to calculate effect size was Glass's Δ , the difference between treatment and control groups' adjusted mean test scores divided by the control group's test score standard deviation.

^bNumbers in parentheses are the numbers of students in each group having valid test scores from the baseline 2006 administrations and the spring 2009 administrations.

The estimated impacts of two years of participation in *READ 180* on the “stayers” in the seventh and eighth grades in Year 3 were not statistically significant ($p < 0.05$). There is no reason to reject the hypothesis that the average achievement of the treatment and control groups was the same at the end of Year 3. Participation in *READ 180* for two years did not have a significant impact on student achievement levels in reading or in the four core content areas in Year 3.

Differential Attrition in Immediate *READ 180* Impact Analyses

The numbers of students in the treatment and control groups in the analyses of immediate and longer-term impact analyses are smaller than the numbers in the corresponding comparisons of baseline achievement levels. This is because not all of the students with valid baseline scores also had valid scores from the spring 2007, 2008, and 2009 administrations at the end of Years 1, 2, and 3, respectively. Although the level of attrition for both the treatment and control groups might or might not be similar, the important issue is whether the same types of students, especially in terms of their achievement levels, were lost from both groups. If not, one could argue that the estimated impacts were biased. That is, the treatment group may have lost students that would have scored higher (or lower) than the students lost from the control group.

This potential differential attrition was studied for the Year 1 ITT sample by comparing the average baseline 2006 test scores of the students who also had a spring 2007 score to the average baseline 2006 test scores of students without a spring 2007 score. This comparison was done for both the treatment and control groups.¹⁵ If this attrition effect were higher or lower in one group, this differential attrition would have to be acknowledged as possibly biasing the estimated impact of participation in *READ 180*.

The results of the study of differential attrition for the estimated Year 1 immediate impacts may be found in Appendix G in Table G1.¹⁶ In summary, Table G1 shows that the effects of attrition in both treatment and control groups on baseline 2006 test scores did not exceed one standard or scale score point, and no differential treatment effects were statistically significant ($p < 0.05$). It seems reasonable to conclude that differential attrition was not a biasing factor affecting the interpretation of the estimated Year 1 immediate impacts of *READ 180*.

The potential for differential attrition was also studied for the Year 2 ITT sample of sixth-grade students by comparing the average baseline 2007 test scores of the students with and without spring 2008 test scores. Similarly, possible differential attrition was examined for the Year 3 ITT sixth grade sample, comparing baseline 2008 test scores of students with and without spring 2009 test scores. For both years the interaction of experimental group and having spring test scores was insignificant, indicating no differential attrition between treatment and control groups.

Differential Impacts of *READ 180* in MCLA and Non-MCLA Schools in Years 1 and 2

The impact of MCLA on teacher and student outcomes is described later in this report. However, separate analyses were carried out with the *READ 180* ITT samples to determine whether the immediate and long-term impacts of *READ 180* in Years 1 and 2 were different in the MCLA treatment schools than in the MCLA control schools. (Analyses of the combined effects of MCLA and *READ 180* ended after Year 2 because the MCLA experimental research condition ended when the whole-school intervention moved from Cohort 1 to Cohort 2 schools.)

The dependent and independent variables and the covariates for addressing the research questions about the interaction of *READ 180* and MCLA are the same as those described in the above analyses of *READ 180* impacts, with one exception. An independent variable representing the participation of schools in the MCLA treatment was included in the analytical models for these analyses. This variable was included at the school level since schools were randomly assigned to the MCLA treatment or control condition. This model is specified in Appendix E.

The results of the analyses of the seven spring 2007 test scores for the *READ 180* ITT sample in Year 1 are presented in Table 41. The unadjusted and adjusted means are presented for the four combinations of *READ 180* treatment/control and MCLA treatment/control conditions. The

¹⁵ The analytical method was a univariate ANOVA of baseline 2006 test scores, employing a 2x2 factorial design crossing the *READ 180* treatment/control condition with possession (yes/no) of a spring 2007 test score. The interaction of these two factors was tested for significance to determine whether or not there was a differential attrition effect.

¹⁶ Attrition effects are reported only for one of the ITBS test scores—Total Reading—since the other two subtest scores are very highly correlated with the Total Reading score, and results would be expected to be very similar.

estimated interaction effect is the difference between the estimated *READ 180* impact in MCLA treatment and control schools. A positive interaction effect means that the *READ 180* impact was larger in MCLA control schools; a negative one means the *READ 180* impact was larger in MCLA treatment schools.

Table 41: Interaction of *READ 180* and MCLA Year 1 Impacts on Spring 2007 Scores on Each Achievement Test

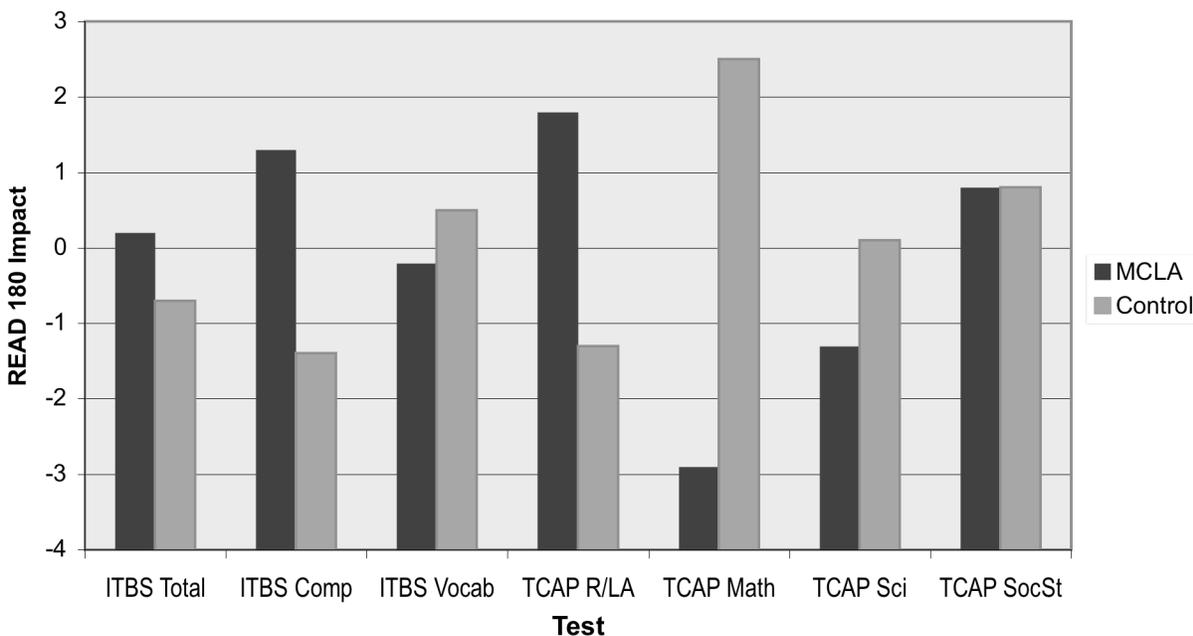
Test Score	Unadjusted Means				Adjusted Means				Est. Interaction Effect ^a (A-C)-(B-D)	Effect Size	Signif. Level
	<i>READ 180</i>		Control		<i>READ 180</i>		Control				
	MCLA	Control	MCLA	Control	MCLA (A)	Control (B)	MCLA (C)	Control (D)			
ITBS Total Reading Standard Score	191.2 (231)	193.7 (280)	191.0 (371)	192.7 (341)	193.6	190.6	193.4	191.3	0.9	0.06	0.518
ITBS Comprehension Standard Score	187.8 (236)	187.5 (281)	185.9 (374)	187.5 (344)	189.7	184.3	188.4	185.7	2.7	0.14	0.168
ITBS Vocabulary Standard Score	196.1 (234)	200.2 (285)	196.3 (381)	197.8 (345)	197.4	197.7	197.6	197.2	-0.7	0.03	0.753
TCAP Reading/LA Scale Score	499.1 (311)	497.0 (353)	496.0 (512)	495.6 (460)	496.6	497.7	494.8	499.0	3.1	0.13	0.245
TCAP Mathematics Scale Score	496.1 (310)	506.8 (351)	498.4 (511)	501.7 (460)	495.9	504.4	498.8	501.9	-5.4	0.15	0.058
TCAP Science Scale Score	184.9 (305)	186.2 (338)	185.3 (503)	184.9 (412)	184.2	186.0	185.5	185.9	-1.4	0.09	0.388
TCAP Social Studies Scale Score	185.1 (306)	186.9 (338)	184.6 (495)	185.7 (411)	185.2	186.5	184.4	185.7	0.0	0.01	0.958

Data source: ITBS and TCAP, 2006 and 2007

^aThe formula for the estimated interaction effect reads, “The difference between the *READ 180* impact in MCLA schools and the *READ 180* impact in non-MCLA schools.”

Figure 9 illustrates the magnitude and direction of these interactions. For example, on the ITBS Total Reading measure, the *READ 180* impact for the MCLA schools is 0.9 points higher (0.2– (-0.7)) in the MCLA schools than it is in the non-MCLA or control schools.

Figure 9: *READ 180* Year 1 Impact in MCLA Treatment and Control Schools



Data source: ITBS and TCAP, 2006 and 2007

These interaction effects range between -5.4 and 3.1, an impact that was slightly more than five scale-score points larger on spring 2007 TCAP mathematics scores in the MCLA control schools and three-scale score points larger on TCAP reading/language arts scores in MCLA treatment schools. Clearly these results are mixed, although the *READ 180* impact is larger in MCLA treatment schools on reading measures (except vocabulary) and larger in MCLA control schools in the other content areas. However, none of the interaction effects are statistically significant ($p < 0.05$), although the effect for the TCAP mathematics scores approached this level. Also, all of the effect sizes are less than 0.2. In summary, it seems reasonable to conclude that the *READ 180* impact on student achievement did not vary significantly between MCLA treatment and control schools in Year 1.

The interaction of the *READ 180* and MCLA impacts was also analyzed for each grade separately. The results for the sixth grade are presented in Table 42. Again, the results were mixed and non-significant for the most part. The *READ 180* impact on the spring 2007 TCAP science scores was significantly larger in MCLA control schools than in MCLA treatment schools ($p < 0.05$), and the effect size was 0.32. The larger *READ 180* impact on ITBS vocabulary scores in MCLA treatment schools was not statistically significant, but the effect size was 0.21. It is interesting to note that the pattern of (non-significant) larger *READ 180* impacts in the MCLA treatment schools for reading measures and larger impacts in the control schools for non-reading measures was also present in the sixth-grade results.

Table 42: Interaction of Year 1 *READ 180* and MCLA Impacts on Spring 2007 Scores on Each Achievement Test—Grade 6

Test Score	Unadjusted Means				Adjusted Means				Est. Interaction Effect ^a (A-C)-(B-D)	Effect Size	Signif. Level
	<i>READ 180</i>		Control		<i>READ 180</i>		Control				
	MCLA	Control	MCLA	Control	MCLA (A)	Control (B)	MCLA (C)	Control (D)			
ITBS Tot Reading	185.7 (79)	184.3 (99)	183.4 (145)	183.3 (142)	185.0	183.7	183.8	183.8	1.3	0.11	0.529
ITBS Comprehension	181.4 (80)	178.9 (99)	181.2 (146)	178.2 (142)	180.4	178.4	181.2	179.4	0.2	0.01	0.947
ITBS Vocabulary	190.3 (80)	189.7 (100)	185.6 (146)	188.6 (144)	191.2	188.0	186.7	186.7	3.2	0.21	0.258
TCAP Reading	491.3 (110)	488.0 (118)	489.4 (189)	486.4 (183)	488.4	489.5	487.8	490.2	1.3	0.05	0.781
TCAP Mathematics	493.6 (110)	496.1 (117)	497.2 (189)	491.4 (183)	493.6	495.4	494.3	490.1	-6.0	0.19	0.166
TCAP Science	186.2 (108)	189.5 (113)	187.0 (187)	184.8 (165)	188.3	186.9	189.9	183.1	-5.4	0.32	0.037
TCAP Social Studies	186.9 (109)	187.6 (113)	187.4 (184)	184.5 (165)	186.7	187.6	187.6	185.0	-3.5	0.19	0.240

Data source: ITBS and TCAP, 2006 and 2007

^aThe formula for the estimated interaction effect reads, “The difference between the *READ 180* impact in MCLA schools and the *READ 180* impact in non-MCLA schools.”

Separate analyses conducted for the seventh- and eighth-grades also yielded only a few interactions worth noting, but they did all favor the *READ 180* impact in MCLA treatment schools. Two statistically significant ($p < 0.05$) interactions were found that supported a larger *READ 180* impact in MCLA treatment schools on ITBS comprehension scores for eighth-grade students (effect size = 0.33) and on TCAP reading/LA scores for seventh-grade students (effect size = 0.40). Another two interactions had

effect sizes slightly above 0.20, but were not statistically significant ($p < 0.05$). These two suggested a larger *READ 180* impact in MCLA treatment schools on TCAP reading/LA scores for eighth-grade students and on TCAP science scores for seventh-grade students. The complete results of the multi-level analyses of the Year 1 *READ 180* impact for MCLA treatment and control schools for students in all three grades and each grade separately can be found in Appendix H in Tables H1–H28.

Additional analyses of the interaction between *READ 180* and MCLA were carried out on student outcome measures obtained at the end of Year 2. One set of seven analyses examined the interaction of the immediate impact of *READ 180* and MCLA for the Year 2 sixth-grade ITT sample, looking at the spring 2008 ITBS and TCAP scores and controlling for the fall 2007 ITBS and spring 2007 TCAP scores. A second set examined the interaction of the long-term impact of *READ 180* and MCLA for the Year 2 seventh and eighth-grade “stayers,” looking at the 2008 Spring ITBS and TCAP scores controlling for the fall 2006 ITBS and spring 2006 TCAP scores. None of the interaction effects in these 14 analyses were statistically significant ($p < 0.05$). The complete results of these additional multi-level analyses can be found in Appendix H in Tables H29–H42.

There do not appear to be any clearly interpretable patterns in the differences in *READ 180* impact for MCLA treatment and control schools. In Year 1 there was a suggestion of larger *READ 180* impacts on reading measures in MCLA treatment schools versus larger impacts on non-reading measures in control schools in the sixth and seventh grade analyses as well as the analyses based on all grades. However, of the 42 interaction effects tested for Years 1 and 2, only three (7%) were statistically significant. Using a significance criterion of $p < 0.05$, five percent (or 2) of the 42 tests would be expected to be found significant by chance.

Analyses of the interaction of *READ 180* and MCLA impacts were not carried out in Year 3 since the MCLA control schools are receiving the MCLA treatment in Years 3 and 4, thus making it impossible to estimate an MCLA impact.

Conclusions

There was a lack of significant immediate impacts of participation in *READ 180* in Years 1 and 2. There was one small but significant immediate impact on sixth-grade students in Year 3—on the TCAP Reading/Language Arts measure. The lack of significant long-term impacts of participation in *READ 180* was consistent in Years 2 and 3. Only one of the Year 2 long-term impacts was significant for students in the seventh and eighth grades, and none of the Year 3 long-term impacts was significant. Finally, the examination of the interaction between the impacts of *READ 180* and the whole-school intervention in Years 1 and 2 yielded no clearly interpretable patterns in the differences in the impact of *READ 180* for MCLA treatment and control schools.

Further Analyses

In an earlier footnote, it was noted that three-level regression models were explored to include the characteristics of teachers linked to students for each core content area. These analyses were sufficiently complex and the results sufficiently equivocal to lead to the decision to omit their results from any further reporting. In addition, they did not result in different estimates of *READ 180* impact. Therefore, it was also decided to omit analyses designed to determine if *READ 180* impacts are moderated by teacher characteristics. (Moderation by school characteristics was not investigated in the two-level models due to the very low levels of between-school variation.) “Treatment on the Treated” analyses were conducted to clarify

further the results of the Year 3 analyses, and findings from these analyses are included in the following subsection.

READ 180 “TOT” Impact Analysis

Evaluators conducted analyses of the *READ 180* impact findings using Bloom’s procedure of “Treatment-On-the-Treated.” As noted in section IV, there are 497 sixth-grade students, 615 seventh-grade students, and 419 eighth-grade students used for the ITT analyses of impact of *READ 180* on student achievement in Year 3. Table 43 shows the frequency distribution of these students by grade level.

Table 43: Number of Students in *READ 180* ITT Analyses Samples in Year 3

Grade	Treatment	Control	Total
6	274	223	497
7	251	364	615
8	163	256	419

Data source: MCS school enrollment files, 2008–2009.

The ITT analyses are based on those students whose test scores are available for both baseline and spring 2009 administration. In particular, only the sixth-grade students who had valid test scores in fall 2008 and spring 2009, the seventh-grade students who had valid scores in fall 2007 and spring 2009, and the eighth-grade students who had valid scores in fall 2006 and spring 2009 were included in the *READ 180* impact analysis. The subsamples with valid test scores vary depending on the type of test (as is shown in Table 47, 48, and 49).

Methods

Following Bloom’s definition, we estimated the Intention-to-treat (ITT) effects as the differences between treatment and control group averages, which is explained by the following formula:

$$ITT = E(Y|Z = 1) - E(Y|Z = 0)$$

where Y denotes outcome and Z assigned treatment, i.e., *READ 180*.

Similarly, we estimated the effect of Treatment on the Treated (TOT) as the difference between treatment and control group means divided by the difference in compliance rate for treatment and control groups, as shown by the following formula:

$$TOT = \frac{E(Y|Z = 1) - E(Y|Z = 0)}{E(D|Z = 1) - E(D|Z = 0)} = \frac{ITT}{\Delta D}$$

where Y = outcome

Z = assigned treatment

D = actual treatment (i.e. compliance)

To estimate how many students in the treatment and control groups actually received the *READ 180* treatment, we looked at the class enrollment files and SAM data. Students who were in a *READ 180* class for more than half of the school year or had spent more than 200 minutes on computer activities related to *READ 180* were considered to be treatment receivers regardless of prior assigned condition. For example, as shown in Table 44, which is a cross-tabulation table of the original assignment condition and actual treatment receipt status for the new sixth-grade students, there are only three control students who were actually in a *READ 180* class. We consider these students as crossovers.

There are 53 treatment students who are considered non-receivers. These students were not linked to a *READ 180* class and had not spent more than 200 minutes on *READ 180*-related computer activities. Furthermore, we also found that none of them had taken an Scholastic Reading Inventory (SRI) test after November 1, 2008. The same approach was also applied to seventh-grade and eighth-grade student samples, and these numbers are presented in Tables 45 and 46.

Note: the numbers in the TOT analyses differ from the numbers in the counterfactual table because students could be included in a TOT analysis if they were enrolled in any *READ 180* class for at least half of the year or if SAM recorded at least 200 minutes completed by the student; these students might have changed classes or not conclusively be linked to a specific teacher. The numbers of students in the counterfactual table have been linked to a single teacher for at least half of the school year.

Table 44: Number of Sixth-Grade Students in ITT versus TOT Files

<i>ITT</i> \ <i>TOT</i>	Not in <i>READ 180</i>	<i>READ 180</i>	Total
Not in <i>READ 180</i>	220	3	223
<i>READ 180</i>	53	221	274
Total	273	224	497

Data source: MCS course enrollment files and SAM files, 2008–2009

Table 45: Number of Seventh-Grade Students in ITT versus TOT files

<i>ITT</i> \ <i>TOT</i>	Not in <i>READ 180</i>	<i>READ 180</i>	Total
Not in <i>READ 180</i>	345	19	364
<i>READ 180</i>	76	175	251
Total	421	194	615

Data source: MCS course enrollment and SAM files, 2008–2009

Table 46: Number of Eighth-Grade Students in ITT versus TOT files

<i>ITT</i> \ <i>TOT</i>	Not in <i>READ 180</i>	<i>READ 180</i>	Total
Not in <i>READ 180</i>	244	12	256
<i>READ 180</i>	125	38	163
Total	369	50	419

Data source: MCS course enrollment and SAM files, 2008–2009

RBS evaluators used Bloom’s adjustment (2006) to calculate the Local Average Treatment Effect (LATE), which equals the difference in mean outcomes for the treatment group and the control group divided by the difference in treatment-receipt rates for the two groups. The receipt rates were computed based on those whose baseline and spring 2009 ITBS and TCAP scores are available.

$$\text{LATE} = \frac{E(Y|Z = 1) - E(Y|Z = 0)}{E(D|Z = 1) - E(D|Z = 0)} = \frac{ITT}{\Delta D} \quad (1)$$

where $E(Y|Z = 1)$ denotes the mean outcome for the treatment students, $E(Y|Z = 0)$ the mean outcome for the control students, $E(D|Z = 1)$ the treatment-receipt rate for the treatment students, and $E(D|Z = 0)$ the treatment-receipt rate for the control students.

Tables 47, 48, and 49 show the comparisons of ITT and TOT effects of *READ 180* on student performance on ITBS and TCAP for students in grades six, seven, and eight, respectively. Since the treatment-receipt rate for the *READ 180* students is always higher than that for the control students and none of the experimental ITT impacts are statistically significant, the TOT results agree with ITT in terms of statistical significance and direction of effect but differ in magnitude.

Table 47 ITT and TOT Effect Comparison—Immediate Year 3 Impact of *READ 180* on Sixth-Grade Student Achievement in Spring 2009

Test Score	Mean Scores		ITT Effect	Treatment Receipt Rate		TOT Effect	Sig. Level
	<i>READ 180</i>	Control		<i>READ 180</i>	Control		
ITBS Total Reading Standard Score	182.5 (204) ^a	184.4 (176)	-1.86	86.76%	1.70%	-2.19	.142
ITBS Comprehension Standard Score	178.5 (225)	179.5 (187)	-1.05	86.67%	1.60%	-1.23	.486
ITBS Vocabulary Standard Score	186.8 (205)	189.2 (176)	-2.34	86.83%	1.70%	-2.75	.126
TCAP Reading/LA Scale Score	480.6 (269)	479.5 (216)	1.07	81.41%	1.39%	1.34	.748
TCAP Mathematics Scale Score	488.1 (269)	490.8 (216)	-2.67	81.41%	1.39%	-3.34	.334
TCAP Science Scale Score	182.3 (268)	183.9 (215)	-1.59	81.72%	1.40%	-1.98	.281
TCAP Social Studies Scale Score	183.3 (268)	185.0 (213)	-1.75	81.72%	1.41%	-2.18	.267

Data sources: MCS course enrollment, SAM, and ITBS and TCAP files, 2008–2009

^a Numbers in parentheses are the numbers of students in each group having valid test scores from the baseline administrations in Fall 2008 and the Spring 2009 administrations.

Table 48: ITT and TOT Effect Comparison—Long-Term Year 3 Impact of *READ 180* on Seventh-Grade Student Achievement in Spring 2009

Test Score	Mean Scores		ITT Effect	Treatment Receipt Rate		TOT Effect	Sig. Level
	<i>READ 180</i>	Control		<i>READ 180</i>	Control		
ITBS Total Reading Standard Score	193.5 (145) ^a	196.4 (207)	-2.85	88.28%	8.21%	-3.56	.106
ITBS Comprehension Standard Score	188.2 (145)	192.5 (208)	-4.27	88.28%	8.65%	-5.36	.059
ITBS Vocabulary Standard Score	198.8 (155)	199.9 (221)	-1.05	88.39%	7.69%	-1.30	.581
TCAP Reading/LA Scale Score	494.7 (233)	498.0 (342)	-3.30	73.82%	5.56%	-4.83	.205
TCAP Mathematics Scale Score	504.6 (233)	508.6 (342)	1.48	73.82%	5.56%	2.17	.152
TCAP Science Scale Score	182.4 (229)	185.2 (338)	-2.86	73.80%	5.62%	-4.19	.070
TCAP Social Studies Scale Score	185.2 (228)	186.0 (336)	1.35	73.68%	5.36%	1.98	.465

Data sources: MCS course enrollment, SAM, and ITBS and TCAP files, 2007–2008 and 2008–2009

^a*Numbers in parentheses are the numbers of students in each group having valid test scores from the baseline administrations in Fall 2007 and the Spring 2009 administrations.*

Table 49: ITT and TOT Effect Comparison—Long-Term Year 3 Impact of *READ 180* on Eighth-Grade Student Achievement in Spring 2009

Test Score	Mean Scores		ITT Effect	Treatment Receipt Rate		TOT Effect	Sig. Level
	<i>READ 180</i>	Control		<i>READ 180</i>	Control		
ITBS Total Reading Standard Score	203.0 (99) ^a	203.6 (146)	-.58	27.27%	5.48%	-2.66	.813
ITBS Comprehension Standard Score	197.2 (100)	198.7 (148)	-1.51	27.00%	5.41%	-6.99	.614
ITBS Vocabulary Standard Score	209.3 (101)	208.6 (150)	.67	26.73%	5.33%	3.13	.814
TCAP Reading/LA Scale Score	507.0 (128)	507.8 (214)	-.74	22.66%	5.14%	-4.22	.783
TCAP Mathematics Scale Score	512.5 (128)	514.7 (214)	-2.18	22.66%	5.14%	-12.44	.562
TCAP Science Scale Score	178.0 (128)	179.9 (206)	-1.94	22.66%	4.85%	-10.89	.330
TCAP Social Studies Scale Score	184.3 (127)	183.9 (208)	.39	22.83%	5.29%	2.22	.815

Data sources: MCS course enrollment files, SAM files, and ITBS and TCAP files, 2006–2007 and 2008–2009

^a Numbers in parentheses are the numbers of students in each group having valid test scores from the baseline administrations in Fall 2006 and the Spring 2009 administrations.

V. Evaluation of the Implementation of the Whole-School Intervention, Year 3

Summary of the Design

Unlike the evaluation of the three-year *READ 180* implementation described in Section III of this report, this subsection examines the implementation of the MCLA whole-school intervention during Year 3 operations only because in Year 3 the intervention moved from schools that had served as treatment schools in Years 1 and 2 (Cohort 1 schools) to schools that had previously served as research controls (Cohort 2). Providing treatment to control schools in Year 3 prevented any further experimental analyses that could be conducted on the whole-school intervention; however, RBS conducted an evaluation of Year 3 activities in the Cohort 2 schools to determine the level of implementation fidelity to the original MCLA model designed by developers. The following subsections detail the research questions addressed in the Year 3 implementation evaluation of the whole-school intervention, contextual factors affecting teachers and students in all eight Striving Readers schools, and the information used to calculate ratings of implementation fidelity at the four Cohort 2 schools.

The implementation evaluation of the MCLA whole-school intervention in Year 3 addressed two overarching research questions:

1. What contextual district and school-level factors influenced the implementation of the MCLA program?
2. To what degree did the implemented MCLA treatment match the intended program standards and features?

Specific research questions about the implementation of the whole-school intervention in Cohort 2 schools include the following:

- What was the Year 3 MCLA classroom instructional model?
- What types and amount of professional development were provided to teachers, principals, and literacy coaches?
- What proportion of teachers received and participated at different levels of professional development (e.g., how many used program materials or completed the evening MCLA course)?
- What types of coaching support was provided to teachers?
- What was teachers' level of program implementation?

First, RBS conducted interviews with eight principals and eight guidance counselors at the Striving Readers schools and collected survey data from 232 teachers to provide insight into factors influencing MCLA implementation and for information about related professional development events offered in the Cohort 2 schools. Second, RBS reviewed information contained in course syllabi, MCLA instructor templates, focus group interview transcripts, and CRC inventory lists to address the research question about the extent to which the MCLA treatment matched its design. Third, evaluators examined MCLA course attendance sheets, coaching logs, CRC checkout logs, and information collected through MCLA course observations for answers about the types of professional development provided and level of program participation. Fourth, RBS measured classroom implementation in Year 3 among Cohort 2 teachers through a teacher survey, focus group interviews, analysis of daily logs maintained by the literacy coaches, and direct observation. Finally, RBS analyzed the coaching logs, focus group interviews, and responses on two additional teacher surveys for further details about the type of coaching services that were provided to participants.

In Year 3, RBS also engaged MCLA literacy coaches (who provided frequent, in-class support to teachers) in rating teachers' baseline level of implementation with respect to the following five components from the IC Map (Cooter et al, 2008): introducing literacy strategies to students, modeling how to use the strategies, providing instruction that is explicit, direct, and differentiated; enabling students to use strategies independently; and revisiting strategies consistently during lessons. Throughout the school year, coaches collected evidence about teacher implementation, such as observation notes, student work products, and class handouts. Before using the IC Map, RBS asked the coaches to assign global ratings (i.e., low, medium, high) for individual teachers on each of the five aforementioned domains. Next, coaches drew upon their professional experience with teachers and/or data sources in each teacher's portfolio

and issued local ratings for each of the IC Map domains. A cluster analysis conducted by RBS showed significant agreement between coaches' initial global ratings assigned to teachers and computer-generated clusters based on the more specific IC Map local ratings that they issued for individual teachers' specific practices. Clusters indicated that the IC Map was useful in describing observable aspects of teaching and learning and in distinguishing between different levels of implementation fidelity. The IC Map will be used again in Year 4 with the literacy coaching team to update teachers' implementation ratings after MCLA ends and will expand the analysis to include a more comprehensive set of program components. Figure 10 summarizes the relevant sources of data used in assessing the Year 3 implementation of MCLA.

Contextual Factors in Control and Experimental MSRP Schools

In Year 3, evaluators collected information about the schools' literacy initiatives other than MCLA and *READ 180* through interviews with school counselors, principals/assistant principals, and teacher surveys. Initiatives included teacher-level professional development and student-level reading programs such as tutoring services, computer software, and established enrichment programs. Results below describe the range of literacy programs to which students were exposed and types of literacy-related professional development offered to teachers other than MCLA in Year 3.

In March 2009, RBS conducted a formal interview with a counselor or designated representative at all eight Striving Readers schools. (See Appendix I for the instrument.) Asked about literacy instruction besides traditional ELA classes and the *READ 180* targeted Striving Readers intervention, respondents described the type and duration of tutoring services, reading classes, and initiatives offered at their schools in Year 3. The modal response was that schools provided afterschool tutoring in reading: all eight schools appeared to have provided some afterschool tutoring. Seven of eight interview respondents described specific afterschool tutoring services, and a respondent from the eighth school cited "before, during, and after reading initiatives," which likely included afterschool tutoring.

Figure 10: Data Sources Linked to Research Questions—MCLA, Year 3

Research Questions	Measures/Data Sources										
	Surveys/Logs			Interviews				Class/ PD Obs.	Record Review		
	Teacher	Coach	District	Teacher	Coach	Principal	Other Staff	Evaluator	PD Attendance Records	Coach (IC Map)	CRC Records
What was the level of implementation and variability of MCLA professional development for teachers, coaches, and principals in Year 3?											
Type/amount of PD provided to <i>teachers</i>	X	X		X				X	X		
Proportion of <i>teachers</i> at different levels of PD	X	X									X
Proportion of <i>teachers</i> at adequate level of PD	X	X									X
Types/amount of coaching provided to <i>teachers</i>	X	X		X		X					
Proportion of <i>teachers</i> at different levels of coaching	X	X		X							
Proportion of <i>teachers</i> at adequate level of coaching	X	X		X							
Type/amount of PD provided to <i>coaches</i>		X	X			X					
Proportion of <i>coaches</i> at different levels of PD						X					
Type/amount of PD provided to school <i>principals</i>			X		X						
Proportion of school <i>principals</i> at different levels of PD			X		X	X			X		
What was the level of implementation and variability of classroom instruction in Year 3?											
Proportion of <i>teachers</i> with access to materials and resources	X	X		X							X
Proportion of <i>teachers</i> who implemented literacy strategies (CAPs)	X			X							
Proportion of <i>teachers</i> who implemented the model at adequate level	X	X		X				X	X	X	
What did the counterfactual look like in Year 3?											
Proportion of <i>teachers</i> at control schools reporting literacy-related PD at follow-up	X			X	X	X	X				

It is difficult to compare and contrast the breadth and depth of reading initiatives offered at Cohort 1 and 2 schools because of the range of interview responses and the varied duration and intensity of “dosage” associated with specific initiatives. For example, two Cohort 1 schools and one Cohort 2 school offered Saturday classes to students, while three schools (one from Cohort 1 and two from Cohort 2) provided Reading is Fundamental (RIF) resources. In general, respondents from Cohort 1 schools cited a greater number of reading initiatives offered; however, one Cohort 2 school offered an entire semester of reading for all sixth- and seventh-grade students. Teachers in two Cohort 2 schools taught reading during homeroom, and classroom SRA reading kits were provided in three of the eight schools. Overall, differences in reading initiatives across the schools seemed to be very minor. See Figure 11 for a summary of

respondents' reported type and duration of Year 3 reading initiatives, eligibility criteria for participation, and the approximate number of students served.

In addition to collecting information from school counselors about reading programs that occurred concurrently with the MCLA whole-school intervention, RBS asked each of the eight building principals in fall 2008 about any school district initiatives that might affect MCLA implementation. (See Appendix J for the instrument.) The feedback from principals suggested that the districtwide promotion of literacy, which accelerated in Year 3 and took the form of multiple schoolwide exhibitions of student work, might actually detract from the teachers' ability to fully incorporate the use of MCLA literacy strategies. Only two of the principals directly connected the district literacy initiatives to MCLA or included literacy strategies in their school improvement plans. Principals also cited teacher turnover and reduction of teaching staff resulting from district budget cuts, and school-level enrollment changes as important contextual factors affecting- and possibly impinging on- MCLA implementation.

In fall 2008, MCS launched a districtwide initiative aimed at improving students' literacy proficiency through project-based learning rather than state performance indicators (SPIs), and required schools to implement different instructional strategies to meet district goals for demonstrating literacy proficiency. During interviews conducted in fall 2008 (immediately after MCLA had ended at their schools), Cohort 1 principals had expressed concern that the emphasis on project-based learning might divert attention away from maintaining the MCLA strategies acquired by teachers. At the time of the interviews, the schools were focused on preparation for a publicly adjudicated exhibition of student work. Principals' feedback to teachers following observations shifted from MCLA strategy use to full class participation in the exhibitions. One principal commented, "We've got a new [district] administration, and things have changed, and I don't know how well-versed they are in MCLA and ... the purpose of ... the Striving Readers grant." Conversely, another Cohort 1 principal stated that MCLA had prepared teachers well to integrate literacy into the content classes and indicated that the emphasis on literacy at the district level helped to motivate teachers to continue using the strategies: "It's really important that the district continue to push literacy because then it doesn't seem [to teachers] like something the principal is giving them to do [as an add-on]."

Figure 11: Counterfactual Context in MCLA Schools, Year 3

		Reading Initiative besides MCLA and READ 180	Eligibility Criteria	# of Students Served	Duration
Cohort 2	School A	Afterschool tutoring; all 6 & 7th graders take reading for a semester; RIF; word of the day	Based on grades and flagged as needing extra help (not mandatory)	unknown	Reading class: one semester; afterschool tutoring: all year
	School C	Before, during, and after reading initiatives	Based on TCAP, assigned and voluntary	100	Year long
	School H	Afterschool tutoring in reading; RIF; Saturday school; pull out; THINK LINK; SRA reading kits in classrooms	Unknown	112 (afterschool); 150 on Saturday	Unknown
	School L	Afterschool tutoring twice per week; pull outs; Title 1 tutoring twice week	Afterschool tutoring twice per week; pull outs; Title 1 tutoring twice week	> 50 (afterschool)	One semester
	School A	Weekly two-day reading intervention during exploratory classes; Failure-Free Reading; computer lab software; pull out; afterschool tutoring; regular reading teacher	Teachers identify students with problems	Unknown	One semester
Cohort 1	School H	Saturday and afterschool tutoring; “double-dose” classes; Study Island software, RIF; homeroom teachers teach reading	TCAP; STAR reports	65 in Saturday classes; 1/3 of 480 (N = 160) in afterschool tutoring	Six weeks
	School R	Afterschool tutoring; “some” supplemental reading classes separate from ELA; some Sat classes; pull out; RIF; some SRA kits	Voluntary, parents sign up	Unknown	At least one semester
	School S	Think Link lab for struggling students; afterschool tutor; all homerooms teach section of reading; reading class separate from ELA; Discovery; Benchmark; SRA kits in all classes	At risk of failure	40 to 50 depends on day of week	Six weeks

Data source: RBS counselor interviews, fall 2008.

All principals at Cohort 1 and 2 schools reported reductions in teaching staff because of lower Year 3 enrollment levels and budget cuts. The size and potential impact of these reductions on the schools’ ability to fully implement the MCLA program varied by school. For one of the Cohort 1 schools, the loss of five teachers who had completed the MCLA program likely had a significant impact on sustaining schoolwide MCLA implementation. Another

school experienced increased class sizes at all grade levels and content areas in response to staff reductions, which necessitated reorganizing the school from a team concept within grade levels to having teachers instruct within their content area across multiple grades.

Finally, survey information collected from teachers at the eight MSRP schools in May 2009 reveals the extent to which teachers participated in other professional development in Year 3 besides MCLA that may have complemented or “competed” with the intervention. (See Appendix K for the instrument.) Teachers were asked to think about the 2008–2009 school year when responding to questions about the following:

- How many hours of professional development in specific topic areas they had received
- How prepared they felt to engage in a set of 24 specific literacy activities
- How often they had implemented the 24 literacy strategies

A total of 232 teachers completed the Teacher Implementation of Strategies Questionnaire (TISQU) in May 2009: 102 (43.9%) respondents worked in Cohort 1 schools and 130 (56%) respondents were from Cohort 2 schools. Among the Cohort 2 teachers, 77 (59.2%) had participated in MCLA and 53 (40.8%) had not. No differences were found between cohorts with regard to the amount of time they reported participating in staff development in the following areas: (1) their subject discipline; (2) new teaching methods; (3) state or district curricular standards; (4) technology integration; (5) class management; or (6) addressing the needs of students with disabilities. Three differences emerged in the amount of time spent in staff development in the past year between cohorts: Cohort I teachers tended to report higher levels of staff development in the area of student performance assessment ($F = 6.68, df = 1, p < .05$), while Cohort 2 teachers reported more time spent in staff development that focused on addressing the needs of ELL students ($F = 5.69, df = 1, p < .05$) and integrating literacy into classroom ($F = 6.25, df = 1, p < .05$). The last finding is not surprising since 59.2 percent of survey respondents participated in MCLA during the 2008–2009 school year.

As Table 50 shows, 63.2 percent of Cohort 1 teachers and 43.5 percent of Cohort 2 teachers reported participating in one to eight hours of staff development on student performance assessment. By contrast, more than half (50.5%) of Cohort 1 teachers reported receiving no staff development in the past school year in addressing the needs of ELL students, compared with 32 percent of Cohort 2 teachers (likely reflecting the higher proportions of Latino students at two of the Cohort 2 schools). Although Cohort 2 teachers reported spending more time participating in professional development that focused on literacy integration, the percentage of teachers reporting that they received nine or more hours underestimates Year 3 MCLA participation.

Table 50: Percentage Distribution of Time Spent in Professional Development in the Past School Year among Cohort 1 & 2 Teacher Survey Respondents, May 2009

Participated in professional development in the area of...	None	1 to 8 Hours	9 to 32 Hours	32+ hours
Student performance assessment				
Cohort 1 (N = 102)	5.3	63.2*	20.0	11.6
Cohort 2 (N = 130)	9.7	43.5*	29.0	17.7
Addressing the needs of ELL students				
Cohort 1 (N = 102)	50.5*	37.9	8.4	3.2
Cohort 2 (N = 130)	32.0*	45.9	18.0	4.1
Integrating literacy in the classroom				
Cohort 1 (N = 102)	9.5	61.1*	29.0	17.2
Cohort 2 (N = 130)	5.6	35.7*	34.9	23.8

Data Source: RBS TISQU Survey, May 2009

**Indicates p < .05.*

RBS also matched analyzed the responses of Cohort 1 and 2 teachers who provided matched TISQu survey responses in Years 2 and 3 to gauge differences in self-reported preparation and frequency of literacy strategy implementation by the end of Year 3. A total of 101 teachers completed surveys in Year 2 (May 2008) and Year 3 (May 2009), respectively. Table 51 shows that Cohort 2 respondents were more likely than Cohort 1 respondents to report receiving nine or more hours of professional development in their discipline, new teaching methods, student performance assessment, addressing ELL needs, and literacy integration.

Table 51: Percentage of Teachers Reporting *Nine or More Hours* of Professional Development in Past Year by MCLA Cohort, May 2009 (N = 101)

		Cohort 1 Schools (N = 38)	Cohort 2 Schools (N = 63)	Total (N = 101)
1.	In-depth study in the subject area taught	25.4*	55.8*	46.9
2.	New methods of teaching (e.g. cooperative learning)	33.4*	53.4*	45.9
3.	State or district curriculum and performance standards	32.3	49.2	43.0
4.	Integration of educational technology into the classroom	20.0	30.5	26.6
5.	Student performance assessment (e.g. methods of testing, applying results to modify instruction)	25.0*	55.0*	43.7
6.	Class management including student discipline	22.3	40.7	33.7
7.	Addressing the needs of English language learners or students from diverse cultural backgrounds	16.7*	23.7*	21.0
8.	Addressing the needs of students with disabilities	31.4	35.6	34.0
9.	Integrating literacy in the classroom	27.8*	73.1*	56.5

Data Source: RBS TISQU Survey, May 2009

* $p \leq 0.05$

Professional development model for teachers as implemented

The following section first explores the extent to which the implementation of the teacher and principal professional development courses approximated the intended MCLA design through a review of Year 3 content and assignments. Next, the report presents the results of the analyses of teachers' participation and retention rates, use of CRC materials, and collaboration with literacy coaches. RBS then provides the results from analyses of teacher implementation ratings provided by literacy coaches and classroom observations conducted by evaluators. Finally, RBS summarizes the implementation ratings it calculated for each of the four participating Cohort 2 schools during Year 3.

MCLA Course Content

Figure 12 summarizes the topics addressed in the MCLA teacher course offered to Cohort 2 teachers in Year 3. Although the fall and spring semesters of the long-term course followed a similar arc and structure to the broad topics covered with Cohort 1 in their first year, developers retained some strategies, such as question-and-answer relationships (QAR) and Bloom's question stems, while placing less emphasis on others (i.e., retelling). Course topics reflected the developers' goal of promoting strategies aimed at building students' vocabulary, fluency, and comprehension skills before, during, and after instruction.

In Year 3, Cohort 2 teachers were required to complete six classroom action plans (CAPs), which is two fewer than in the first year of MCLA, but identical to the number of assignments

required of Cohort 1 teachers in Year 2. Assignments in the fall 2008 semester focused on using academic word walls, choral reading strategies, and written learning summaries with students; spring assignments incorporated student-generated questions or question-answer-relationships (QAR), semantic features analysis, the Frayer model, and readers’ theatre strategies. (See Appendix L for course syllabi and Appendix M for an example of a CAP).

Figure 12: MCLA Year 3 Course Topics

Fall 2008	Spring 2009
<ul style="list-style-type: none"> • Gradual release of responsibility: Vygotsky’s zone of proximal development (direct instruction) • Improving vocabulary learning in your subject area • Whole class choral reading applied in your subject area • Written academic learning summaries 	<ul style="list-style-type: none"> • Helping students succeed in academic literacy review of strategies • Improving comprehension: student- generated questions • QAR and Bloom’s question stems applied in your subject area • Improving vocabulary knowledge: semantic features analysis and the Frayer model • Improving students’ reading fluency of content reading assignments: reader’s theater, buddy reading, and radio reading

Data source: MCLA syllabi, 2008–09 School Year

MCLA developers and their team of content-specialist writers created a template for instructors to follow during each session of the evening course. The templates included a rubric to guide the activity, a scoring sheet, an out-of-class assignment, and the CAP. (See Appendix N for an example of a fall 2008 instructor template on the topic of using academic word walls to improve vocabulary.) According to developers, these templates were constructed during Years 1 and 2 of the project and fine-tuned in Year 3.

In Year 3, all four of the MCLA instructors had taught the course during the previous year (one MCLA instructor had previously co-taught the mathematics section). Instructor templates across the four content areas followed the same general pattern in both the fall and spring; however, activities, articles, and presentations were content-specific. For example, fall scripts contained identical “non-negotiable core” topics across all content areas (e.g., small-group activities), but also included at least an hour of time devoted to applying literacy strategies to a particular content area. The templates integrated components of a pedagogical model developed by the Center for Research in Education, Diversity & Excellence (CREDE) at the University of California, Berkeley, that emphasized small-group “joint-productive activities” (JPAs), rather than whole-group instruction or lecture and time for reflection.

Four MCLA course observations were conducted over a two-week period over the nine weekly sessions that were held in spring 2009. More specifically, an evaluator observed an MCLA content class on the following dates:

- February 24, 2009 (science)
- February 26, 2009 (social studies)

- March 3, 2009 (mathematics)
- March 12, 2009 (ELA)

All of the classes included in a joint productive activity that involved the use of one or more literacy strategies included in the teachers' CAP assignments. At no time was a textbook used in the class. In two of the classes, instructors explicitly demonstrated the use of a strategy and guided the teachers through its use during a participatory dialogue characterized by the exchange of ideas. In the other two classes, teachers broke into small groups and demonstrated to one another how the strategy could be implemented with students. In all four classes, the instructor walked around the room and provided individualized feedback to teachers during the joint productive activity, and teachers completed a reflection about the class content before adjourning. Teachers in all four class shared examples of how they might use a strategy (or had already used it) with students to gauge what students already know, must still learn, or have learned during the unit.

The following section describes attendance in the MCLA teacher course and principal fellowship, use of the CRC, and extent to which teachers worked with a literacy coach in Year 3. Readers should bear in mind that Year 3 constitutes the first year of schoolwide MCLA implementation for Cohort 2.

MCLA Course Participation

In Year 3, MCLA professional development was expanded to include all full-time school personnel who provided instruction to students, including content and exploratory teachers, counselors who occasionally taught a class, and those teaching in special education self-contained classrooms. The program began officially on August 6, 2008, when 154 school staff from the four Cohort 2 schools attended a daylong kickoff event. MCS District files show that 144 teachers and school counselors were eligible for MCLA in fall 2008. As shown in Table 52, the number of teachers completing the fall semester was 107, which represents 73.6 percent of the 144 eligible staff at Cohort 2 schools. Seventeen (16.0%) of the 107 teachers discontinued MCLA after the fall semester, and 90 (83.9%) completed both fall and spring semesters. Three new teachers joined MCLA between semesters. MCS files show an increase in school staff eligible for MCLA in the spring ($N = 157$), and 92 eligible individuals (59.2%) completed MCLA during the spring semester. The percentage of eligible teachers at each school who enrolled in MCLA ranged from 52 percent at one school to 88 percent at another school in fall 2008; participation levels at these schools in the spring were 35.7 percent and 72.7 percent, respectively.

Table 52: Number and Percentage of MCLA Participants by School, Year 3

School	Fall 2008				Spring 2009			
	# of Eligible Teachers in School	# of Eligible Teachers Who Completed MCLA	% of Eligible Teachers Who Completed MCLA	% of all MCLA Completers	# of Eligible Teachers in School	# of Eligible Teachers Who Completed MCLA	% of Eligible Teachers Who Completed MCLA	% of all MCLA Completers
A	52	46	88.4	43.0	57	36	63.2	39.1
C	22	16	72.7	15.0	22	16	72.7	17.4
H	45	32	71.1	29.9	50	30	60.0	32.6
L	25	13	52.0	12.1	28	10	35.7	10.9
Total	144	107		100%	157	92		100%

Data source: MCS district files and MCLA Attendance Sheets, 2008–2009 School Year

In Year 3, developers provided 49 hours of MCLA course-related professional development to participants. As in previous years, program staff provided a daylong introductory session (six hours), 10 fall semester evening course sessions (22.5 hours), and nine spring semester classes¹⁷ (approximately 20.5 hours). As in previous years, evening sessions typically ran from 4:15 to 6:30 p.m., and the kickoff ceremony lasted in duration from approximately 9 a.m. to 3 p.m. As Table 53 shows, the ELA course had the greatest percentage of MCLA participants (32.7%), while 17.8 percent of all MCLA participants attended the science course.

Table 53: Number of Course Participants by MCLA Content Area, Year 3

Content area	Fall 2008		Spring 2009	
	Number of MCLA completers in fall 2008 (N = 107)	Percentage of all MCLA Participants	Number of MCLA completers in spring 2009 (N = 92)	Percentage of all MCLA Participants
ELA/READ 180	35	32.7	31	33.7
Mathematics	26	24.3	23	25.0
Social Studies	20	18.7	19	20.6
Science	19	17.8	19	20.6
Unknown	7	6.5	0	
Total	107	100%	92	99.9%

Data source: MCLA stipend lists.

Table 54 summarizes participants' primary subject area taught in Year 3 and shows that content area (ELA, mathematics, social studies, and science) teachers constituted the majority (60.7%) of teachers in MCLA. Approximately 17 percent taught special education, 11.2 percent taught exploratory courses, and the remaining 13.9 percent taught in other capacities.

¹⁷ In spring 2009, the mathematics MCLA section met eight times.

Table 54: Percentage Distribution of MCLA Completers by Subject Area Taught, Fall 2008 (N = 107)

	# of Participants	% of All Participants		# of Participants	% of All Participants
Content Area	65	60.7	Exploratory	12	11.2
ELA/READ 180	16		Art	3	
Mathematics	16		Band	1	
Science	12		Drama	2	
Social studies	17		PE/Health	3	
ELL/ESL	4		Computer	2	
			Spanish	1	
Special Education	18	16.8			
CDC	3		Other	4	3.7
Resource	6		Instructional facilitator	1	
Resource Office	1		Teen Living	1	
Special. Ed	8		Guidance Counseling	2	
Other Content Area	8	7.5			
Reading	2				
Creative Writing	3				
Writing	1				
Laboratory	2				

Data source: RBS Teacher Surveys, 2008

Attendance at the course sessions among Cohort 2 participants was high: Nine out of ten (90.6%) of the 107 fall participants attended at least 80 percent of the sessions offered in that semester. Specifically, 97 (90.6%) of the 107 teachers who completed the fall course attended eight or more of the ten total sessions, seven (6.5%) attended seven sessions, two teachers attended six sessions, and one teacher who attrited after the semester ended attended one-quarter of the (25%) sessions. Overall, 34 participants (representing 31.7 percent of all fall course completers) had “perfect attendance” during fall 2008. Attendance among Cohort 2 teachers declined slightly in the spring: 21 (22.8%) of all participants had perfect attendance, and 84 (91.3%) of the 92 spring completers attended seven or more (77.8%) of the nine sessions (or at least six of the eight total mathematics sessions). Eight teachers attended less regularly: six teachers attended 66.7 percent of classes (six of nine science classes or five of the eight mathematics classes), and two teachers attended less than half the sessions (a mathematics and a science teacher).

Table 55 summarizes the percentage of participants by content area with high MCLA attendance, defined as having attended 80 percent or more of the total number of sessions offered in the fall and spring semesters, and then for the full year among teachers who completed both semesters. As the table indicates, the percentage of all teachers with high attendance dropped from fall to spring among all content teachers; however, the difference was most striking among science and mathematics course participants. The percentage of science course completers with high attendance decreased from 95.4 percent in the fall to 47.4 percent in the spring, and the proportion of mathematics course completers with high attendance dropped from 85.2 percent to 45.4 percent over time. RBS averaged individual-level attendance rates for fall and spring for the 90 teachers who completed the full-year course and found that 90 percent of ELA and social

studies course completers achieved high attendance in Year 3. Despite the drop in spring attendance rates, 86.4 percent of mathematics teachers and 72.2 percent of science teachers achieved high attendance for the full-year when individual-level attendance rates for fall and spring were averaged together.

Table 55: Percentage of MCLA Teachers with High Attendance* by Content Area, Year 3

School	Fall 2008			Spring 2009			Both Semesters		
	Total Completing Content Classes	High Attendance		Total Completing Content Classes	High Attendance		Total Completing Both Semesters	High Attendance for Full Year**	
		#	%		#	%		#	%
ELA/READ 180	36	33	91.7	30	23	76.7	30	27	90.0
Mathematics	27	23	85.2	22	10	45.4	22	19	86.4
Science	21	20	95.4	19	10	47.4	18	13	72.2
Social Studies	23	21	91.3	21	16	76.2	20	18	90.0
Total	107	97	90.6	92	59	64.1	90	77	85.6

Data source: MCLA course attendance sheets provided by instructors.

**Defined as attending 80 percent or more of the sessions.*

***Attendance rates for fall and spring semester combined.*

MCLA Principal Fellowship Course Participation

In Year 3, MCLA developers invited building principals and other school staff leaders to participate in the graduate level course, “Directed Readings in Reading Education: MCLA Principals’ Fellowship.” According to developers, non-principals were encouraged to enroll in the fellowship in order to distribute MCLA leadership responsibility across the school and to sustain buy-in during periods of leadership turnover. The class met for seven sessions: four in fall 2008 and three in spring 2009. Ten individuals attended the course: a principal from each of the four schools, three assistant principals (each from separate schools), two instructional facilitators, and an exploratory (theater/dance) teacher. Attendance data provided by the developer indicate that eight (80%) of the ten participants achieved perfect fall and spring semester attendance. Two individuals each missed one fall session.

Interviews with each of the Cohort 2 school principals conducted in fall 2008 indicated that the respondents’ first priority for course participation was to become familiar with the literacy strategies being provided to teachers in MCLA so that they could encourage and support teachers’ integration of the strategies into their classrooms. The principals also expected to learn approaches for measuring the impact of the MCLA strategies on student achievement. Each respondent identified the personal benefits of meeting with other principals and fellowship leaders to gain insights into ways for promoting the use of the MCLA strategies with teachers, as well as receiving peer support for dealing with problems and challenges.

Curriculum Resource Center (CRC) Use

In addition to funding the professional development course and literacy coaching services, the MSRP grant provided participants with a CRC that housed an array of reading materials and themed resources for use with their students. The repository included resources such as *National*

Geographic leveled text thematic sets, readers’ theatre sets, *TIME* Secondary Science series, and Hampton Brown’s *Picture It!* In Year 3, the CRC was largely operational on the first day of classes. Unlike previous years during which only MCLA participants could use CRC materials (this was intended to be an enticement for teachers to join MCLA), program staff permitted all teachers within the schools to use the resources.

Table 56 summarizes the number of CRC items checked out in Year 3, the number of teachers checking out those items, and the total number of individual resources checked in the school. Results show that in fall 2008, 60 of the 107 (56.1%) MCLA participants borrowed resources at least once. The percentage of teachers using CRC materials exceeded 80 percent at Schools A and C in the fall, and was lowest at Schools H and L (18.7% and 23%, respectively).

Table 56: CRC Use in Year 3

School	Fall 2008			Spring 2009		
	MCLA Teachers in Fall 2008 (N = 107)	Teachers Checking Out Resources (N = 60)	Individual Resources Checked Out (N = 152)	MCLA Teachers in Spring 2009 (N = 92)	Teachers Checking Out Resources (N = 15)	Individual Resources Checked Out (N = 68)
	n	n (%)	n (%)	n	n (%)	n (%)
School A	46	38 (83.0%)	60 (39.4%)	36	12 (33.0%)	52 (76.5%)
School C	16	13 (81.0%)	15 (9.8%)	16	N/A*	N/A
School H	32	6 (18.7%)	61 (40.1%)	30	3 (10.0%)	16 (23.5%)
School L	13	3 (23.0%)	16 (10.5%)	10	N/A	N/A

Data source: CRC Checkout Logs, Year 3

*N/A logs were not available for evaluator analysis.

Overall, usage was uneven across the four Cohort 2 middle schools and confined to a relatively small group of the same individual teachers. Of all the materials borrowed over the fall semester, one teacher at each school was responsible for checking out one-fifth (or more) of the items. (Readers should note that a “resource” might include a set of materials rather than an individual educational item. For example, RBS counted a teacher’s use of six *National Geographic Money and Time* books and the related disc and transparency as one item.)

Teachers were most likely to select **science books** from the CRC; however, teachers also borrowed the following materials for use in the classroom: *Reading Expeditions*, *Active Algebra*, *Exploring Non-Fiction*, and *Animals and the Habitats*. *Picture It!*, a large book of laminated graphic organizers, was the most commonly borrowed item at three of the four schools.

Literacy Coaching Support

In Year 3, the team of six literacy coaches continued to record daily tasks in logs that were designed jointly with RBS and the grant director. The coaching daily activity sheet (CDAL) included twelve categories of tasks that coaches might typically perform, such as conducting observations or meeting with teachers. During the 2008–2009 school year, coaches recorded tasks completed using the sheet, and RBS entered and coded the information. (See the Appendix O for the CDAL instrument). Table 57 shows the number of CDALs submitted by each coach and the corresponding percentage of total working days that the number of logs represents. The

percentage is based on a 190-day year, or the number of days in the school year and an intense period of activity before the start of the school year. Only logs containing specific tasks were counted; logs indicating leave time (i.e., sick, vacation, or personal time) were excluded from the analysis. In all, coaches submitted a total of 730 daily logs in Year 3.

Table 57: Number of CDALs Submitted in Year 3 (N = 730)

	Number	% of Work Days
School A		
Coach 1	168	88.4
Coach 2	149	78.4
School C		
Coach	89	46.8
School H		
Coach 1	140	73.7
Coach 2	85	44.7
School L		
Coach	99	52.1

Data Source: MCLA Literacy Coach's CDALs, School Year 2008–2009

RBS entered 5,038 individual task items from the 730 CDALs submitted by coaches. Table 58 summarizes the types of activities logged. Administrative tasks (N = 1,195) accounted for 23.7 percent of the 5,038 tasks logged, followed by activities related to training or meeting with teachers (19.7%), MCLA school-related tasks (9.7%), and teacher observations (9.5%). It is important to note that for every interaction “of substance” between coach and teacher, there are corresponding administrative tasks. Professional development for the literacy coaches in Year 3 included, but was not limited to, the following: *READ 180* network meetings, an all-day session about teacher-created supplemental instructional materials, a technology training, and sessions with the MCLA developer to review classroom action plans. (Data provided separately by the Principal Investigator on the professional development opportunities offered to coaches corroborates the information in the coaches’ daily logs). In all, MCS documents show that 42 hours of professional development were provided to the literacy coaches in the aforementioned subject areas.

Table 58: Type of Coaching Task, Year 3

Type of Task	Year 3 (N = 5,038)	
	Frequency	Percent
Coach administrative task	1,195	23.7
Trained or met with teachers	990	19.7
Coach professional development	103	2.0
Helped teacher prepare for class	380	7.6
Observed teacher	480	9.5
Non-MCLA school tasks	832	16.5
SR Evaluation tasks	182	3.6
Evening course & U of M related	81	1.6
MCLA-related school tasks	490	9.7
Assisted teacher in other ways during class	231	4.6
Modeled lesson	57	1.1
Videotaped	17	0.3
Total	5,038	99.9

Data source: Coaching daily logs, school year 2008–2009

Coach Availability

RBS assessed coaching dosage and availability in Year 3 using four methods: (1) a review of entries in the coaching logs that referenced specific teachers’ names, (2) weekly surveys administered during the fall semester, (3) a survey administered at the end of the spring semester, and (4) focus group interviews conducted in spring 2009.

First, RBS calculated the number of times each MCLA teacher appeared by name in the Year 3 coaches’ logs and the number of times they were referenced in a substantive or meaningful way (e.g., working with the coach on lesson plans rather than on administrative tasks). It is important to note that 3,340 of the 5,038 (or 66.3%) tasks logged did not include an individual teacher name in the log entry, and since evaluators could not locate an identification number for a handful of teachers in the dataset, the analysis underestimates the number of teachers whom coaches served. The proportion of tasks associated with a specific teacher represents only one-third of all tasks logged; however, analyzing entries that describe identified teacher participants nevertheless yields rich insight into the “dosage” of coaching provided.

Table 59 summarizes the number of MCLA teachers by school who appeared in the coaching logs 10 or more times, considered by RBS to represent adequate or “high” coaching dosage as part of the whole-school intervention. In addition, the table summarizes the mean, and median numbers of teachers whom coaches served in Year 3. The percentage of teachers receiving a high coaching dosage was highest in schools each with two coaches (Schools A and H) at 87.5 percent and 65.2 percent, respectively. Approximately 62 percent of teachers at a third school and 18.2 percent of teachers at the fourth school received high levels coaching assistance, according to the coaches’ log entries and RBS criteria.

Readers should know that while coaches encouraged teachers to collaborate, the level of participation/involvement was the teachers' prerogative; some teachers may not have accepted coaching assistance and therefore received a low level dosage of coaching support. Moreover, the coach's record-keeping style or level of specificity in of documenting teacher-level interactions affected the analysis because tasks described without teacher names in the logs were not included in the teacher-level frequencies reported. As a result, the number of participants reported to have received high levels of coaching is likely to be understated. Nevertheless, the mean number of times that identified teachers were documented in the CDALS was as high as 19.3 at School A and lowest at School C (5.3 times).

Table 59: Number and Percentages of MCLA Teachers with High* Coaching Dosage, Year 3

	# of MCLA Spring 2009 Completers at School	# of Teachers in Coach Log	# of Teachers Identified in Log 10 or More Times		# of Times Teachers Were Recorded by Name in Log		
			#	%	Mean	Range	Median
School A	36	40	35	87.5	19.3	2 to 41	18
School C	16	22	4	18.2	5.3	1 to 12	5
School H	30	46	30	65.2	13.2	1 to 33	15
School L	10	21	13	61.9	9.2	1 to 16	10

Data Source: MCLA Literacy Coach's CDALS, School Year 2008–2009

In fall 2008, RBS collaborated with MCLA instructors to administer a Weekly Implementation of Literacy Activities (WILA) survey to teacher participants that provides additional information about coach accessibility and dosage. The five-minute survey asked respondents each week for eight weeks whether or not they worked with the literacy coach in the past seven days. An analysis of responses by 54 teachers with matching surveys at weeks three (baseline), seven (midterm), and 10 (follow-up), showed that a majority of respondents reported meeting with their literacy coach in the prior seven days: the percentage of respondents reporting at baseline that they had met with the coach was 67.7 percent (36 of 54 teachers), 88.9 percent at midterm (or 48 of the 54 teachers), and 77.8 percent at follow-up (42 of 54 teachers).

In spring 2009, RBS conducted seven focus group discussions with 42 MCLA teachers and collected surveys from a subset of the teachers ($N = 27$). Survey and focus group respondents were asked a series of questions, including how often they had worked with the literacy coach during the school year, the extent to which the coach's advice was helpful, and the extent to which respondents needed the coach's help implementing strategies they had learned in MCLA. Results from the survey analysis show that 81.4 percent of the 27 respondents reported working with the coach seven or more times during the school year. (The term "working with" was defined on the survey as having a meeting, discussing/creating a classroom action plan together, having the coach model a lesson or participate in the classroom, or collaborating in some other way.) Virtually all survey respondents (96%) also agreed that the coach was willing to help when asked, had a deep understanding of MCLA material, and was someone in whom they could

confide. Three-quarters (77.8%) of respondents agreed that they did not need a coach to help them implement the classroom action plans.

The number of participants in each of the seven focus groups ranged from five to eight. (See Appendix P for an expanded report that includes the survey; the focus group interview guide is Appendix Q.) Participants in all seven groups expressed very positive remarks about the literacy coaches and characterized them as accessible and supportive. One teacher appreciated that the literacy coach stopped by her classroom in the morning before school “even before she takes her bags out” to see if the teacher needed assistance. Others valued what they described as an “open-door policy” that coaches practiced that enabled teachers to visit the coach’s office or curriculum resource center when they preferred. Participants in five of the seven groups were asked specifically how often they collaborated with the literacy coach; respondents typically suggested frequent interactions. Many participants reported working with the coach multiple times a week, and several reported daily interactions. Each participant who had the coach model a lesson found it helpful; one teacher found that lesson modeling showed her that generating excitement from the students was important pedagogically. Several respondents in two focus groups, however, had not invited the coach to model a lesson and explained that they preferred to “figure things out” alone or were “overwhelmed” by occupational responsibilities and felt that more time was needed to incorporate the strategies before receiving a classroom visitor. In sum, focus group and survey responses suggest a high level of teacher-coach interaction in Year 3, even if certain tasks such as modeling were not performed as frequently as less formal support.

Classroom-Level MCLA Implementation

In addition to capturing data about relationships with literacy coaches, the WILA surveys offer insight into teachers’ self-reported classroom-level implementation of MCLA strategies. Survey items were aligned with dimensions described in the IC Map and reflected key activities that MCLA developers identified as crucial to successful classroom literacy integration. (See Appendix R for the WILA instrument and expanded summary report). The survey asked teachers if in the past seven days they had met with a literacy coach, received feedback from an administrator regarding literacy integration, and had used any specific literacy strategies they learned in the professional development course. Respondents were also asked the extent to which they had assisted students during implementation of any of those strategies. Finally, each week, teachers were asked if they had engaged in any of the six activities, including assigning students to cooperative groups, pre-assessing students’ content knowledge, and meeting with grade-level colleagues during the school day to integrate literacy into lessons. The six activities are presented in Table 60.

The baseline WILA survey was administered during the third week of MCLA class to allow time for exposure to, and adoption of, new strategies. Participants completed the weekly survey six additional times during MCLA class. Instructors collected surveys and returned them to RBS for data entry and analysis. In all, a total of 110 teachers completed at least one survey over the 10-week period; however, most respondents completed five (20%), six (33.6%), or seven (23.7%) surveys, while 19 percent completed four or fewer surveys, and 3.6 percent of teachers completed an eighth survey when they attended more than one course in the same week. Results

below are from an analysis of the 54 respondents who completed the WILA survey at baseline (week three), mid-point (week seven), and at follow-up (week 10). A total of 17 (31.4%) of these teachers participated in the ELA content class, 16 (29.6%) were in the mathematics class, 13 (24.2%) were from social studies, and eight (14.8%) attended the science class.

Table 60 shows the percentage of all 54 respondents who reported that they had performed the selected item in the past seven days, over time. Baseline results show that teachers were most likely to report that they had pre-assessed their students' use of an MCLA strategy (77.8%) and more than two-thirds (68.5%) indicated that they had put students into cooperative groups with assigned roles in the past week. Over time, the proportion of respondents putting students in those groups increased to 88.9 percent at follow-up, while the percentage reporting that they pre-assessed their students' strategy use remained the same (79.6%). Baseline to follow-up increases were noted in the percentage of teachers who reported that they formally assessed strategy use (a change from 22.2% to 61.1%), put students in groups (a change from 68.5% to 88.9%), and met with grade-level colleagues (a change from 57.4% to 77.8%). The percentage of respondents who identified at least one specific MCLA strategy that they had used in the past week also increased (from 46.3% to 79.6%). Teachers were least likely to report having received feedback from an administrator about literacy strategy implementation at each point in time (35.2% at baseline and midterm, and 33.3% at follow-up).

Table 60: Numbers and Percentages of Respondents Reporting Engagement in Various Activities in the Past Week, Fall 2008 (N = 54)

	Week 3		Week 7		Week 10	
	#	%	#	%	#	%
Put Students into Cooperative Groups	37	68.5	40	74.1	48	88.9
Informally Assessed Students' Strategy Use	25	46.3	47	87.0	41	75.9
Pre-Assessed Students' Content Knowledge	42	77.8	42	77.8	43	79.6
Formally Assessed Students' Strategy Use	12	22.2	30	55.6	33	61.1
Identified a Specific MCLA Strategy Used in Class	25	46.3	45	83.3	43	79.6
Met with Grade-Level Colleagues	31	57.4	41	75.9	42	77.8
Received Feedback from Administrator about Literacy Strategies	19	35.2	19	35.2	18	33.3

Data Source: RBS WILA Survey, Fall 2008

RBS created an overall WILA score based on whether or not a respondent reported being engaged in the six activities over which they had control in the past week: putting students in cooperative groups, informally and formally assessing students' use of MCLA strategies, meeting with a literacy coach and grade-level colleagues, and using a specific MCLA strategy in the last week. (Since teachers could not control whether the administrator provided feedback, this component was removed from the analyses.) Respondents were given a "0" on an item if they did not report that they had engaged in the activity or a "1" if they had reported it. At the group level, the mean score per item thus fell between 0 and 1, and the highest possible total score that an individual teacher could earn was a "6" for the six total items. Researchers calculated a mean WILA score for the group that fell between 0 and 6 and ran a comparison of means and Analysis of Variance (ANOVA), which showed that differences for all teachers at

each wave were statistically significant below the .05 level. Table 61 summarizes the means, standard deviations, and ANOVA results for the group of respondents at baseline, midterm, and follow-up.

Table 61: Mean Scores and ANOVA Results for Significant WILA Items and Total Score (N = 54)

	Means (Standard Deviation)			df	F	Sig.
	Baseline	Midterm	Follow-up			
Used Cooperative groups	.69 (.46)	.74 (.44)	.89 (.31)	2, 159	3.481	0.033
Assessed informally	.46 (.50)	.87 (.33)	.76 (.43)	2, 159	12.958	0.000
Assessed formally	.22 (.42)	.56 (.50)	.61 (.49)	2, 159	10.700	0.000
Met coach	.67 (.47)	.89 (.31)	.78 (.42)	2, 159	3.975	0.021
Met colleagues	.57 (.49)	.76 (.43)	.78 (.42)	2, 159	3.362	0.037
Used specific strategy	.46 (.50)	.83 (.37)	.80 (.40)	2, 159	12.03	0.000
WILA score	3.39 (1.39)	4.59 (1.44)	4.61 (1.39)	2, 159	13.298	0.000

Data Source: RBS Weekly Implementation of Literacy Activity (WILA) Survey, Fall 2008

Evaluator Observations

In addition to collecting teachers' self-reported perceptions about implementation, RBS conducted observations of MCLA classrooms in January ($N = 32$) and March ($N = 17$) of 2009 to determine the extent to which teachers used strategies with students. Observers had been trained in prior years using videos featuring MCLA teachers implementing literacy strategies with students as well as a set of exercises that offered practice in note-taking, coding, and protocol completion. At both waves of data collection, observers conducted a pre- and post-observation interview with selected teachers to ascertain the context of lessons and extent to which teachers perceived that lesson objectives had been met and to discuss next steps for class instruction. The observers used the RBS MSRP Classroom Observation Protocol (Feldman and Feighan, 2007) to document basic classroom characteristics (i.e., number of students, grade level, and content area) and the instructional and literacy strategies observed in ten-minute intervals. (See Appendix S for the instrument and annotated guide, which includes definitions and explanations of all MCLA strategies).

Results indicate that a majority of observed classes used three or more literacy strategies during the observation. As Table 62 shows, 68.8 percent of the 32 classes observed in January and 76.5 percent of the 17 classes observed in March used multiple literacy strategies, while only four (8.2%) of the total 49 classes were observed using no literacy strategies. Teachers used a variety of 23 different strategies, ranging from reading aloud to previewing text with students.

Table 62: Literacy Strategy Use in Observed Classrooms, Year 3

	January 2009 (n = 32)		March 2009 (n = 17)	
	#	%	#	%
Used no literacy strategies	2	6.3	2	11.7
Used one strategy	3	9.3	1	5.9
Used two strategies	5	15.6	1	5.9
Used three or more strategies	22	68.8	13	76.5
Total	32	100.0	17	100.0

Data Source: RBS classroom observations, 2008–2009 school year

Observers recorded a total of 116 strategies, or “episodes” of literacy, across the January observations and 66 total episodes in March. Table 63 summarizes the number and percentage of strategies employed by observed teachers and categorizes the strategies into the three primary domains around which MCLA developers have designed the professional development model: strategies aiming to improve students’ vocabulary, comprehension, and fluency. Strategies that target more than one domain have been coded accordingly. Findings suggest that teachers who used multiple strategies tended to tap all three domains, with less emphasis on writing.

Table 63: Number and Percentage of Strategy Episodes Observed by Literacy Domain in Year 3 (N = 49 Observations)

	January 2009 (N = 116 episodes)		March 2009 (N = 66 episodes)	
	#	%	#	%
Vocabulary	32	27.6	11	16.7
Fluency	42	36.2	23	34.8
Comprehension	28	24.1	21	31.8
Vocabulary/Comprehension*	13	11.2	8	12.1
Fluency/Comprehension**	0	0.0	2	3.0
Writing	1	0.8	1	1.5
Total	116	99.9	66	100.0

Data Source: RBS classroom observations

*Includes the Frayer model and other graphic organizers that illustrate meaning and/or usage of new vocabulary terms.

**Includes reader’s theater.

Although they used a wide variety of literacy strategies, teachers most commonly read text aloud, engaged students in choral reading, or used graphic organizers during the observed lesson. As Table 64 shows, teachers read aloud in more than half of classes in January (59.4%) and in March (52.9%).

Table 64: Number and Percentage of Classes Observed Using Various Literacy Strategies by Month in Year 3

	January 2009 (n = 32 classes)		March 2009 (n = 17 classes)	
	#	%	#	%
Teacher reads aloud	19	59.4	9	52.9
Choral reading	15	46.9	9	52.9
Graphic organizer	13	40.6	5	29.4
Connecting text to life	9	28.1	8	47.1
Interactive word wall	9	28.1	4	23.5
Monitoring understanding of text	9	28.1	6	32.3
Pre-teaching vocabulary	8	25.0	0	0.0
Glossary use	6	18.8	1	5.8
Repeated reading	6	18.8	4	23.5
Students generating questions	2	6.3	1	5.8
Activating prior knowledge	2	6.3	1	5.8
Question-answer relationship	1	3.1	2	11.7
Reader's theater	0	0.0	4	23.5
Semantic features analysis	0	0.0	2	11.7
Retelling	1	3.1	0	0.0
Reflection	1	3.1	0	0.0
Etymology	1	3.1	1	5.9
Mnemonic	3	9.4	2	11.8
Shared writing	1	3.1	2	11.8
Context clue	2	6.3	0	0.0
Word sort	1	3.1	0	0.0
Questioning for purpose	1	3.1	0	0.0
Previewing text	0	0.0	1	5.9

Data source: RBS classroom observations, 2008–2009 school year

The strategies that each observed teacher employed are presented by content area in Figure 13 below. Each row in the table represents an individual teacher and the strategies that he or she was observed implementing with students. (The COP annotated guide included in Appendix S descriptions and explanations of all strategies.) Figure 14 presents the strategies used by individual teachers who were observed in March 2009. As in the previous table, each row represents a teacher and the specific strategies that he or she used during the classroom observation.

Figure 13: Literacy Strategies Used by Individual Cohort 2 Teachers, January 2009

ELA	Teacher Reads Aloud	Connecting Text	Activating Prior Knowledge	Preteaching Vocabulary	Graphic Organizer	Monitoring Understanding		
	Teacher Reads Aloud	Context Clue	Retelling	Choral Reading	Word Wall			
	Graphic Organizer	Word Wall	Glossary Use					
	Word Wall	Context Clue	Glossary Use					
MATHEMATICS	Teacher Reads Aloud	Choral Reading	Monitoring Understanding					
	Choral Reading	Teacher Reads Aloud	Glossary Use					
	Monitoring Understanding	Activating Prior Knowledge	Think Aloud					
	Preteaching Vocabulary							
	Graphic Org							
SOCIAL STUDIES	Word Wall	Questioning for Purpose	Choral Reading	Reflection	Repeated Reading	Connecting Text	Monitoring Understanding	
	Connecting Text	Choral Reading	Glossary Use	Preteaching Vocabulary	Graphic Organizer			
	Word Wall	Teacher Reads Aloud	Choral Reading	Connecting Text	Monitoring Understanding			
	Preteaching Vocabulary	Connecting Text	Teacher Reads Aloud	Choral Reading	Glossary Use			
	Teacher Reads Aloud	Graphic Organizer	Choral Reading	Repeated Reading				
	Graphic Organizer	Teacher Reads Aloud	Monitoring Understanding					
	Graphic Organizer	Teacher Reads Aloud						
	Choral Reading	Word Sort						
	Teacher Reads Aloud							
SCIENCE	Preteaching Vocabulary	Choral Reading	Etymology	Mnemonic	Connecting Text	Graphic Org		
	Choral Reading	Repeated Reading	Teacher Reads Aloud	Mnemonic	Bubble Map (GO)	Graphic Org		
	Graphic Organizer	Teacher Reads Aloud	Connecting Text	Monitoring Understanding	Shared Writing			
	Word Wall	Monitoring Understanding	QAR	Teacher Reads Aloud				
	Graphic Organizer	Student-Generated Question						
	Choral Reading	Teacher Reads Aloud						

Figure 13: Literacy Strategies Used by Individual Cohort 2 Teachers, January 2009, contd.

OTHER	Preteaching Vocabulary	Word Wall	Teacher Reads Aloud	Choral Reading	Monitoring Understanding	Graphic Organizer	Repeated Reading	Student-Generated Question
	Choral Reading	Preteaching Vocabulary	Connecting Text	Monitoring Understanding	Teacher Reads Aloud			
	Connecting Text	Preteaching Vocabulary	Glossary Use	Preteaching Vocabulary	Word Wall			
	Teacher Reads Aloud	Word Wall	Teacher Reads Aloud	Choral Reading	Repeated Reading			
	Teacher Reads Aloud	Choral Reading	Mnemonic	Repeated Reading	Graphic Organizer			
	Teacher Reads Aloud							

Data source: RBS Classroom observations, Year 3

One ELA class used no strategies, and one "other" class used no strategies.

Figure 14: Literacy Strategies Used by Individual Cohort 2 Teachers, March 2009

ELA	QAR	Connecting Text	Monitoring Understanding	Teacher Reads Aloud	Activating Prior Knowledge	Previewing Text	Shared Writing	Student-Generated Question
	Graphic Organizer	Teacher Reads Aloud	Connecting Text	Choral Reading	Monitoring Understanding			
	Repeated Reading	Teacher Reads Aloud	Connecting Text	Frustration Model				
	Teacher Reads Aloud	Choral Reading	Repeated Reading	Mnemonic	Semantics Features Analysis			
	Choral Reading	Repeated Reading	Teacher Reads Aloud	Connecting Text				
	Word Wall	Choral Reading	Connecting Text	Shared Writing				
SOCIAL STUDIES	Connecting Text	Graphic Organizer	Glossary Use	Student-Generated Question	QAR	Word Wall	Repeated Reading	Choral Reading
	Semantics Features Analysis	Graphic Organizer	Direct Instruction	Monitoring Understanding				
	Word Wall	Teacher Reads Aloud	Mnemonic	Reader's Theater				
	Word Wall	Choral Reading	Teacher Reads Aloud					
	Reader's Theater	Choral Reading						
	Reader's Theater							
MATH	Choral Reading	Teacher Reads Aloud	Graphic Organizer	Frustration Model				
SCIENCE	Etymology	Monitoring Understanding	Choral Reading	Connecting Text	Reader's Theater			
OTHER	Teacher Reads Aloud	Connecting Text	Word Wall	Choral Reading	Monitoring Understanding			

Data source: RBS Classroom Observations, Year 3

Literacy Coach Ratings of Teacher Implementation

In Year 3, MCLA literacy coaches maintained portfolios of teachers' work and other documentation that included evidence sheets used by coaches during classroom observations, teachers' instructional materials, student work artifacts, and lesson plans. The repository of information served as evidence upon which coaches could draw to indicate a teacher's level of MCLA implementation fidelity. At the end of the school year, RBS convened a working session with five of the six literacy coaches for the purpose of assigning MCLA implementation ratings for individual Cohort 2 teachers on a subset of components using descriptions in the IC Map; the coaches were encouraged to cull data from the portfolios during the session. The resulting teacher ratings assigned in May 2009 serve as a measure of classroom-level implementation at the halfway mark and ratings to be developed in May 2010 will represent follow-up teacher implementation scores.

RBS selected six domains from the IC Map that reflected implementation fidelity areas that coaches were uniquely positioned to rate by virtue of frequent teacher interactions and observations. RBS facilitated coaches' assignment of teacher ratings using the adapted rubric included in Appendix T, which described variations in implementation from the optimal level of MCLA strategy implementation, as designated by developers, to a minimal level of implementation. The six domains reflect the extent to which coaches observed teachers: (1) introducing strategies and describing its purpose when used; (2) consistently modeling the use of a strategy; (3) providing multiple guided practice activities using a variety of texts; (4) providing opportunities for students' independent practice of strategies; (5) differentiating instruction based on analysis of progress monitoring; and (6) revisiting previously introduced literacy strategies as opportunities to apply them to new material.

The literacy coaches assigned fidelity ratings for 100 teachers with whom they worked during the 2008–2009 school year (including teachers who attrited from the program during the year). Table 65 summarizes the number and percentage of teachers rated at various levels of implementation for each of the six dimensions after one year of MCLA participation. Implementation levels ranged from low to optimal, the number of descriptions varying dependent upon the component. Results show that coaches' ratings of individual teachers were distributed widely across implementation domains. For example, coaches tended to rate teachers at medium or high levels of implementation with regard to introducing literacy strategies: only 20.9 percent of teachers at School A and 15.6 percent of teachers at School H were rated at a low level of implementation in this area by coaches. On the other hand, while the ratings tend to tilt toward medium or higher implementation, there was considerable variation in ratings across the schools: the percentage of teachers receiving optimal implementation ratings was 4.6 percent at School A, 13.3 percent at School C, 37.5 percent at School H, and 60 percent at School L (although that represents six of only ten teachers at that school). Ratings within and across teachers varied.

Table 65: Number and Percentage of Teachers Rated at Various Implementation Levels by Literacy Coaches in Year 3 (N = 100)

	School A (N = 43 Ratings)	School C (N = 15 Ratings)	School H (N = 32 Ratings)	School L (N = 10 Ratings)
Introduce Strategy				
low	9 (20.9%)	0 (0.0%)	5 (15.6%)	0 (0.0%)
medium	15 (34.8%)	9 (60.0%)	20 (62.5%)	3 (30.0%)
high	19 (44.1%)	6 (40.0%)	7 (21.8%)	7 (70.0%)
Model Strategy				
low	8 (18.6%)	0 (0.0%)	4 (12.5%)	0 (0.0%)
medium	17 (39.5%)	8 (53.3%)	9 (28.1%)	1 (10.0%)
high	16 (37.2%)	5 (33.3%)	7 (21.8%)	3 (30.0%)
optimal	2 (4.6%)	2 (13.3%)	12 (37.5%)	6 (60.0%)
Use Guided Practice				
low	9 (20.9%)	0 (0.0%)	1 (3.1%)	1 (10.0%)
medium	16 (37.2%)	4 (26.7%)	9 (28.1%)	0 (0.0%)
high	17 (39.5%)	10 (66.7%)	10 (31.3%)	6 (60.0%)
optimal	1 (2.3%)	1 (6.7%)	12 (37.5%)	3 (30.0%)
Encourage Independent Use of Strategies				
low	9 (20.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
medium	25 (58.1%)	8 (53.3%)	7 (21.9%)	5 (50.0%)
high	9 (20.9%)	7 (46.7%)	25 (78.1%)	5 (50.0%)
Differentiate Instruction				
low	17 (39.5%)	5 (33.3%)	8 (25.0%)	1 (10.0%)
medium	16 (37.2%)	6 (40.0%)	4 (12.5%)	4 (40.0%)
high	10 (23.2%)	4 (26.7%)	20 (62.5%)	5 (50.0%)
Revisit Strategies				
low	13 (30.2%)	3 (20.0%)	8 (25.0%)	1 (10.0%)
medium	15 (34.8%)	6 (40.0%)	3 (9.4%)	2 (20.0%)
high	11 (25.6%)	6 (40.0%)	6 (18.7%)	4 (40.0%)
optimal	4 (9.3%)	0 (0.0%)	15 (46.8%)	3 (30.0%)

Data source: RBS coaching rubric adapted from the MSRP Innovation Configuration Map, Year 3

As the table above shows, three of the IC Map dimensions were rated on a three-point scale (introduce the strategy, encourage independent strategy use, and differentiate instruction) and three dimensions were rated on a four-point scale (model, use guided practice, and revisit strategy). RBS calculated a total score for individual teachers by summing the teacher's six ratings for a possible 21 points and then divided the sum by 5.25 to standardize results to a four-point implementation level scale, where 1 = minimal, 1.1 to 2 = low, 2.1 to 3 = medium, and 3.1 to 4 = high implementation. Next, RBS aggregated individual implementation ratings to the school level by summing teachers' scores and calculating the mean, median, and standard deviation of scores at each school. Table 66 summarizes the results from this analysis and shows that the school-level MCLA implementation ratings at the end of Year 3 ranged from medium (mean of 2.37) levels of implementation at School A to high (mean of 3.38) implementation levels at School L. Overall, there was a medium level of MCLA implementation (as indicated by a mean of 2.75) across all four MCLA schools.

Table 66: MCLA Implementation Ratings Assigned to Teachers by Coaches at the End of Year 3 by School (N = 100)

	Number of Teachers Assigned Ratings During SY 2008–2009	Implementation Rating*			
		Mean	Range	Median	Standard Deviation
School A	43	2.39	1.1 to 3.8	2.47	0.79
School C	15	2.74	1.9 to 3.6	2.67	0.46
School H	32	3.05	1.7 to 4.0	3.23	0.79
School L	10	3.25	1.7 to 3.8	3.52	0.70
All Schools	100	2.75	1.1 to 4.0	2.85	0.81

Data source: RBS Literacy Coach IC Map Rating Tool, 2009

** Mean ratings are scored using the following scale: 1.0 = minimal, 1.1 to 2 = low, 2.1 to 3 = medium, and 3.1 to 4 = high implementation.*

Summary of Level of Implementation Attained for Whole-School Intervention

In Year 3 of the MSRP, developers provided 53.5 hours of out-of-school professional development to teacher participants to implement six lessons that integrated specific literacy practices (i.e., the use of academic word walls, choral reading, and semantic features analysis). Literacy coaches helped teachers complete the assignments through feedback provided in debriefing conferences, classroom observations, and a wide range of other general support activities. In addition to coaching assistance, teachers were encouraged to use materials and resources from an on-site curriculum library maintained by the literacy coaches.

RBS tracked attendance at the MCLA evening classes to determine individual and schoolwide program participation in the four schools receiving the intervention in Year 3. Teachers had very high levels of course participation: 85.6 percent of the 90 teachers who completed both fall and spring semesters (N = 90) attended 80 percent or more of classes.

Although course attendance was high among registered teachers, enrollment in MCLA across the four schools varied widely in Year 3: 52 percent of eligible teachers participated in one school, compared with 88.4 percent of eligible teachers in another school in fall 2008. RBS assigned an implementation rating to each school using a formula that takes into account teachers' course attendance and includes the number of eligible teachers who opted not to participate in the program. All eligible teachers in the school were assigned one of four numerical ratings depending on how many MCLA professional development sessions they attended in fall 2008 and spring 2009. Teachers' attendance rates in the fall and spring were averaged for an overall attendance rate; for example, a teacher with 100 percent fall course attendance who dropped the course before the spring semester began received a "0" for spring and an average of 50 percent attendance overall. Eligible teachers who did not participate in MCLA received an attendance rate of "0." The ratings are as follows: teachers who attended 25 percent or fewer of the sessions were given a "1," those attending between 26 and 50 percent of the professional development offered were assigned a "2," teachers participating in between 51 and 75 percent of the professional development offered received a "3," and those who attended 76 to 100 percent of the professional development offered were given a rating of "4."

Other implementation ratings were assigned to the four MCLA schools, including a coaching dosage score, principal involvement rating, use of materials score, and teacher implementation score. The percentage of MCLA teachers with high coach dosage was determined by the number/percentage of teachers who worked with the coaches 10 or more times during the school year according to data provided in their weekly logs. A principal involvement score of “4” was assigned to each school since all principals attended all of fellowship classes and two key MCLA events. The use of materials rating is a calculation of the percentage of eligible teachers who used the CRC and follows the same scale that was used to rate course participation scores (and includes non-MCLA participants). The teacher implementation score was derived from individual-level ratings of teacher implementation assigned by coaches that were aggregated to the school level and based upon mean scores between “1” and “4.” Finally, the school’s implementation rating is a composite score based on the previous measures.

Once the above ratings were tallied, RBS calculated an average score for each MCLA school and assigned it one of four corresponding schoolwide implementation ratings:

- 1 = minimal program implementation
- 1.1 to 2 = low implementation
- 2.1 to 3 = medium implementation
- 3.1 to 4 = high implementation

Table 67 summarizes these implementation ratings as well as the number and percentage of participants in the intervention by school for Year 3. Results show a medium level of MCLA implementation at each of the four Striving Readers schools, ranging from 2.56 at School C to a 2.90 at School A.

Table 67: Schoolwide MCLA Participation and Implementation Rankings, Year 3

	School A	School C	School H	School L
Number of Eligible Teachers in August 2009	52	22	45	25
Percent of Eligible Teachers Participating in MCLA	88.4%	72.7%	71.1%	52.0%
Number Completing MCLA, Fall Semester	46	16	32	13
Number Completing MCLA, Spring Semester	36	16	30	10
Number (Percentage) of Teachers Completing both Semesters	34 (73.9%)	16 (100%)	30 (93.8%)	10 (76.9%)
Course Participation Score	3.15	3.05	2.91	2.45
Coaching Dosage Score*	3	1	3	3
Coach's Assigned Implementation Rating	2.37	2.74	3.05	3.38
Principal Involvement Rating	4	4	4	4
Materials Use Rating	2	2	1	1
School's Implementation Rating (Includes Nonparticipants)	2.90 (medium)	2.56 (medium)	2.79 (medium)	2.77 (medium)

Data sources: MCLA attendance records, CDALs, RBS Literacy Coach IC Map Rating Tool, and Year 3 CRC records.

** Score is based on the percentage of all eligible teachers (as of fall 2008) who received high levels of coaching support. 1 = minimal, 1.1 to 2 = low, 2.1 to 3 = medium, and 3.1 to 4 = high.*

VI. Evaluation of the Impacts of the Whole-School Intervention: Years 1 through 3

During Years 1 and 2, the whole-school intervention was implemented in Cohort 1 schools for two years, and the analysis used teachers from Cohort 2 schools as research controls; in Year 3, the intervention ended in Cohort 1 schools and was implemented for the first year in Cohort 2 schools. The experimental phase of the whole-school intervention has ended, so no impacts are presented in this report. The final MSRP report will include exploratory analyses that examine data related to the whole-school intervention gathered during Years 3 and 4.

References

- Bloom, H. (2006). *Learning more from social experiments: Evolving analytic approaches*. Russell Sage Foundation. New York, NY.
- Feldman and Feighan (2007). Memphis Striving Readers Classroom Observation Protocol (MSR-COP). Philadelphia: RBS.
- Hall, G. E., & Hord, S.M. (2006). *Implementing Change: Patterns, Principles, and Potholes (Second Edition)*. Boston, MA: Allyn & Bacon.
- MCS Quick Facts. (2009) Retrieved January 19, 2010 from http://www.mcsk12.net/facts_about_mcs.asp
- Cooter, R., Potts, R., Feldman, J., Chadwick, K., Heeren, E., Perkins, H., Washington, R., Bryant, L., Harris, R., Allen, L., McCann, R., Hall, G. (2008). Memphis Content Literacy Academy (MCLA) Innovation Configuration Map. RBS: Philadelphia, PA.
- Potts, R., Perkins, J.H., Heeren, E., Harris, R., & Feldman, J. (2008, May). *Will that work for us? Interpreting research from the MSRP*. Paper presented at the International Reading Association Research Conference, Atlanta, GA.
- Scholastic (2005). *Leadership Implementation Guide: Supporting READ 180 in Your District*. Scholastic Inc.: New York.
- Scholastic (2007). *READ 180 Enterprise Edition Research Protocol*. Scholastic Inc.: New York.
- Urban Child Institute, The. (2009). *The State of children in Memphis and Shelby County*. Memphis, TN: Author. Retrieved February 19, 2010, from http://www.theurbanchildinstitute.org/Downloads/DatabookFiles/DataBook2009/TUCI_Data_Book_IV_2009.complete.pdf