



Read to Achieve

Diagnostic and Intervention Services

Evaluation of Kentucky's Read to Achieve Program

2009-2010 Report

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EVALUATION OF KENTUCKY'S READ TO ACHIEVE PROGRAM

2009-2010 REPORT

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Introduction

The Kentucky Read to Achieve (KY RTA) Program was created under Senate Bill 19 in 2005 with the goal of supporting schools in implementing a reading diagnostic and intervention program to address the needs of struggling readers. More specifically, the KY RTA program was designed to identify and provide intensive reading and intervention programs to struggling readers within primary grades (K-3). There is flexibility in the intervention programs from which participating schools may choose, but several aspects of program implementation are required and therefore common across participating schools.

- Schools must provide a highly trained reading intervention teacher.
- Selected early reading intervention programs must offer short-term, intensive instruction in essential skills necessary for reading proficiency.
- Teachers must also participate in a variety of required professional development activities.

The Collaborative Center for Literacy Development (CCLD) was charged with creating and implementing a comprehensive research agenda to evaluate the impact of intervention programs on student achievement in reading for RTA participants. MGT of America was contracted by CCLD to conduct the comprehensive evaluation study during the 2009-2010 academic year.

The purpose of this report is to provide the background, methodology, and impact data for the 2009-2010 implementation of the KY RTA project. The report is organized as follows:

- **Chapter 1.0** provides background and the conceptual framework for the study.
- **Chapter 2.0** provides details on the methodology used for this study, including sample selection, protocol development, procedures, data collection, and design and analysis.
- **Chapter 3.0** summarizes the methods and findings for the case studies and cross-case analysis.
- **Chapter 4.0** details the stakeholder perceptual findings related to KY RTA program and intervention implementation effectiveness perceptual findings.
- **Chapter 5.0** summarizes the impact of the RTA program and its common interventions on student reading achievement outcomes.
- **Chapter 6.0** describes expenditures and the impact of program expenditures on student reading performance.

- **Chapter 7.0** provides a discussion of the findings and reflections on future evaluation of the KY RTA study.

Evaluation Plan

The evaluation plan, developed by MGT in collaboration with the Collaborative Center for Literacy Development at the University of Kentucky and the Kentucky Department of Education (KDE), used a mixed-methods approach to address three KY RTA evaluation study components: Process Study, Cost Study, and Impact Study.

Process Study

The process study identified emerging themes related to the implementation processes and practices. Data collected:

- Web-based survey data from teachers and principals at all RTA schools,
- Qualitative data from interviews and observations collected during site visits to the select group of five schools. (See **Chapter 3.0** for a description of the selection process.)

Impact Study

The impact study used pre- and post-test comparisons to analyze the effect on student learning of the KY RTA program and the four common interventions. Analyses of Covariance (ANCOVA) tests were conducted to determine the statistical significance and effect size of the difference in mean pretest-posttest gains based on the intervention. Given the large number of intervention programs that sites could implement and the difficulty in assessing all of them individually, MGT identified the four highest frequency interventions (referred to in this report as common interventions) based on the number of schools and students exposed to the intervention. Those selected for evaluation included: Reading Mastery, Soar to Success or Early Success, Reading Recovery, and Small Literacy Group Interventions. Data collected:

- Reading achievement data from the Test of Primary Reading Outcomes (T-Pro) assessments of students exposed to the RTA program and selected common interventions within the program in comparison to students not exposed to the RTA program and its common interventions.
- Existing data from KDE or CCLD (through KDE)

Cost Study

The cost study used district expenditure data and regression analyses to examine how much of an impact the expenditures have on student achievement. Data collected:

- Existing data from KDE or CCLD (through KDE),

- School-level data on end-of-year allowable expenditures via the budgetary data submitted to KDE

Findings

Process Study

The process study looked at the implementation of the RTA program. The following describes the implementation findings:

Based on the KY RTA survey administered in spring 2010, a majority of principals and teachers agreed/strongly agreed that the RTA screening process was effective in identifying students “at risk” and that it targeted the areas of needs.

There were four intervention approaches/programs that were used most frequently: Reading Recovery, Reading Mastery, Soar to Success/Early Success, and Small Literacy Group. The latter included a variety of activities, but always conducted in small groups. Teachers who used these common interventions rated their effectiveness.

Teachers and principals reported increased confidence in their ability to meet the needs of “at risk” readers through the essential components of the common reading interventions components: Phonemic Awareness, Phonics and Word Recognition, Fluency, Vocabulary, and Comprehension. Teachers indicated that most of the components were easy to implement, but the ease of implementation varied between the common intervention programs.

During site visits, principals and teachers reported the following practices as being most important to the success of the RTA program:

- Collaboration across Stakeholders: grade-level meetings; sharing ideas, concerns, and success stories; and including teachers, administrators, district and central office staff, and parents in the collaboration process.
- Professional Development: trainings, sessions, grade-level meetings, and modeling.
- Quality/Attitude of RTA Teachers: teacher enthusiasm, credentials, and highly qualified and trained RTA teachers.
- Intervention Planning and Decision-making: screening, progress monitoring, and data-based decision making.
- Administrative Leadership and Support: providing, guidance, direction, and support for KY RTA activities at the school, district, regional, and/or state levels.
- Specific Interventions/Intervention Components: Reading Mastery, Reading Recovery, and repetitive reading.

- Fidelity of Implementation: ensuring interventions are implemented as intended by all educational professionals.
- Alignment with Other Reading Initiatives/Programs: ensure RTA is well integrated with other programs.
- Parent Involvement: efforts by schools to encourage parent involvement.
- Materials: having sufficient materials that are engaging for students.

Most teachers and principals felt that RTA could be improved through continuation of funding for the program, but were less enthusiastic about continuation of the T-Pro as the assessment tool. Some teachers found it confusing, inaccurate, and time consuming, but many reported that it provided good information to help them support student learning.

Impact Study

The impact on student learning was measured using the T-Pro, administered before and after the intervention, and looked at the variation in impact based on the intervention program selected and several student characteristics. The report addresses the identified research questions.

Research question 1: What was the impact of the RTA program on student performance on the T-Pro?

- Students in the RTA Teacher Group made greater gains on the T-Pro than students in the No Intervention Group. However, the spring scores for RTA students in all grades are still lower than the spring scores of the No Intervention Group.
 - The benefits of RTA are most apparent in kindergarten and grade 1 with gains for students in grades 2 and 3 being too small to be significant.
 - The differences in gains between kindergarten and grade 3 may reflect an instrumentation problem with the T-Pro assessment tool.

Research question 2: What was the impact of the four most common interventions on student performance?

- Students who received any of the common interventions made gains. As described earlier, students in kindergarten made the highest gains, regardless of the intervention. *Reading Mastery* appears to be particularly effective in first grade, while *Early/Soar to Success* yields high gains in both grades 1 and 2. In third grade, gains are highest among students receiving uncommon interventions rather than common ones.

Research question 3: What was the impact of the RTA and common interventions in eliminating achievement gaps among students with different characteristics, including disabilities, low socioeconomic status, racial minority groups, limited English proficient (ELL), and gender?

- The findings do not demonstrate a consistent reduction in achievement gaps in any of the student groups considered in the study. The possible exception to this is for kindergarten minority and ELL students.
- Results show that students from non-minorities have greater gains, regardless of whether they were in the teacher group or received no intervention at all. The overall effect of the minority differences is relatively small.
- The results comparing the gains of students receiving special education do not show a consistent pattern.
- The differences between males and females tended to not be significant, but varied by grade level and by intervention program.
- There were no consistent differences identified for students who were receiving ELL services.
- The results comparing gains for students eligible for Free/Reduced Lunch with those not eligible did not yield any consistent differences.
- These analyses do not provide clear direction or recommendation to suggest one program is more or less effective at narrowing the achievement gaps. What may be most important is to ensure that RTA teachers are aware of multiple programs and approaches and work to provide instruction that is working *for that child*, rather than just a program that has worked for other children.

Cost Study

The cost study explored the expenditures of the KY districts, based on MUNIS code categories, and the impact of financial expenditures on student achievement.

- Findings indicate that expenditures per student varied widely among schools. At the 317 schools for which there were both financial and student data, the average expenditure per student was \$1,102; the minimum per student expenditure was \$176 and the maximum per student was \$7,460. Each school served an average of 80 children in RTA programs. The least number of children served at a school was 12 and the most served was 372.
- Over 89 percent of the funds were expended for personnel and personnel-related expenditures, while 7.5 percent of total funds were expended for books and supplies.
- Expenditures per student are not related to the change in total test scores between Fall and Spring.
- The financial analyses were beset by data limitations that impacted the number of students for inclusion in the study.
- The data available limit the confidence in the usefulness because the cost data was not tied to a specific intervention.

Conclusions

This 2009-2010 report of the KY RTA program provides valuable information regarding the implementation of RTA practices and the impact of the RTA program on student learning, supporting and supplementing the findings from CCLD's prior evaluations of the program. Adding to previous RTA evaluation studies, this evaluation examined the statistical impact of intervention delivery methods and specific high frequency interventions (four common interventions).

RTA-funded teachers are increasingly confident that they can provide valuable instruction to struggling students and the students who received RTA-funded support improved their reading performance. However, RTA teachers are not as confident of their ability to affect minority student performance. This may be an area for further review and study.

The four most commonly used interventions (small group instruction, *Reading Recovery*, *Reading Mastery*, and *Early/Soar to Success*) appear to provide important opportunities for student success. Under the current RTA model, districts must identify their planned program of intervention(s) and continue to implement those interventions for the duration of the project. KDE may want to allow districts or schools to change their planned interventions to offer one or more of these common interventions that appear to be successful.

The data was less clear about how to improve the achievement gap for minorities and other sub-groups reviewed in this study. However, minority children, especially in kindergarten, made significant gains when they received support from an RTA-funded intervention.

The evaluation in 2010-2011 will include both a process and an impact study using a mixed-methods approach. The process study will examine how students are selected for inclusion in RTA interventions and how RTA fits into any school-wide program of support. The impact study will examine the continuing impact of the KY RTA program on student reading achievement in order to answer the question, To what extent do students who receive RTA intervention maintain or improve their reading performance over time?

**1.0 EVALUATION OF THE
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1.1 Program History

The Kentucky Read to Achieve (KY RTA) Program was created under Senate Bill 19 in 2005 with the goal of supporting schools in implementing a reading diagnostic and intervention program to address the needs of struggling readers in the primary grades. More specifically, the KY RTA program was designed to identify and provide intensive reading and intervention programs to struggling readers within primary grades (K-3). There is flexibility in the intervention programs from which participating schools may choose but several aspects of program implementation are required and therefore common across participating schools. These include that schools must provide a highly trained reading intervention teacher. Additionally, selected early reading intervention programs must offer short-term intensive instruction in essential skills necessary for reading proficiency. Teachers must also participate in a variety of required professional development activities. The Collaborative Center for Literacy Development (CCLD) was charged with creating and implementing a comprehensive research agenda to evaluate the impact of intervention programs on student achievement in reading for RTA participants. MGT of America, Inc. (MGT), was contracted by CCLD to conduct the comprehensive evaluation study during the 2009-2010 academic year.

It is important to note that there are different sources and methods of intervention delivery that occur at KY RTA schools. Students at RTA schools may be exposed to reading interventions not funded by RTA, interventions funded by RTA and implemented by a certified reading intervention teacher who did not receive RTA training, and programs funded by RTA and implemented by an RTA trained reading intervention teacher. Essentially, this variation may be conceptualized as levels of exposure to the RTA program for which some students are exposed to part of the program (identification and provision of RTA funded intervention) and some students are exposed to the full program (identification and provision of RTA funded intervention by a highly trained RTA intervention teacher).

1.1.1 Prior KY RTA Evaluation Findings

According to prior evaluation studies conducted by CCLD, students exposed to the KY RTA program outperformed non-RTA students on reading achievement. This finding resulted for the sample as a whole (all students at RTA schools) and for each of the sub-groups examined (disability, ethnicity, SES, migrant, and gender groups). There were still gaps, however, for intervention students from disadvantaged groups relative to their peers. This suggested that the RTA intervention may have been more effective for students from traditionally advantaged as compared to disadvantaged groups. Additionally, students receiving RTA funded intervention from RTA trained teachers showed more growth than students receiving interventions (RTA funded or not) from non-RTA trained teachers.

1.1.2 Supporting Reading Research

The KY RTA program and other initiatives designed to promote positive literacy outcomes for struggling readers are based on a wealth of research demonstrating that children with early reading difficulties are at risk for having poor educational and social outcomes but early intervention can effectively disrupt this cycle. Children who enter school with limited reading-related skills are at high risk of being classified as disabled and requiring costly special education services. In fact, learning disabilities related to language and reading development are the most frequently identified disabilities among students in public schools in the United States (Office of Special Education Programs, 1998, Lentz; 1988).

Academic success, as defined by high school graduation, can be predicted with reasonable accuracy by knowing someone's reading proficiency at the end of grade 3 (Slavin et al., 1994.)¹ A person who is not at least a modestly skilled reader by the end of third grade is quite unlikely to graduate from high school (Snow et al., 1998.)²

Findings in the literacy field have also revealed gaps in literacy development among disadvantaged groups of children. For example, it has been found that failure to learn to read adequately is more likely among poor children, nonwhite children, and non-native speakers of English (Snow et al., 1998; Weatherby, 2000). Also, differences in literacy performance and growth in literacy abilities over time is linked to socioeconomic status (Clements, Reynolds, and Hickey, 2004).

Although reading difficulties can have long ranging effects on children's educational outcomes, research has also shown that intervening factors can improve reading abilities and ameliorate these effects. Use of evidence-based reading interventions; screening and progress monitoring and data-based decision making; professional development for interventionists, and strong administrative leadership have been linked to improving the literacy development of struggling readers (Greenwood, Kratochwill, & Clements, 2008). Additionally, evidence shows that early interventions such as those used in the RTA program can help close the gap between traditionally advantaged and disadvantaged student groups (Rodgers, Gomez-Bellenge, Wang, & Shulz, 2005).³

1.2 Current Study Overview

MGT's 2009-2010 evaluation addressed three study components: Process Study, Cost Study, and Impact Study. The process evaluation examined the implementation and fidelity of the RTA program and common reading interventions implemented as part of the RTA program. The cost evaluation examined the cost effectiveness of the RTA program. The impact study examined the effect of the program and its common interventions on student achievement in reading. The key research questions addressed for this evaluation by study component are as follows.

¹ Ibid., p. 21.

² Ibid., p. 21.

³ Rodgers, E. M., Gómez-Bellengé, F. X., Wang, C., & Schulz, M. (2005, April). *Predicting the literacy achievement of struggling readers: Does intervening early make a difference?* Paper presented at the annual meeting of the American Educational Research Association, Montreal, Quebec. Available online at www.ndec.us

1.2.1 Process Study Questions

1. What interventions are implemented at RTA schools and which interventions are most common?
2. What is the duration of common RTA interventions?
3. What is the perceived student engagement for students participating in common RTA interventions as reported by RTA teachers?
4. What is the perceived effectiveness and areas for improvement of RTA and common intervention implementation as reported by RTA teachers and principals?
5. What is the fidelity of implementation of common RTA interventions?
6. What are the qualitative experiences of a sample of “best practicing” schools?

1.2.2 Cost Study Questions

1. What costs are associated with each expenditure category for regular and matched funds?
2. Is cost per student related to reading achievement?

1.2.3 Impact Study Questions

1. What was the impact of the RTA program on student performance on the T-Pro?
2. What was the impact of 4 common interventions on student performance on the T-Pro?
3. What is the impact of the RTA program and common interventions in eliminating academic achievement gaps among students with differing characteristics, including subpopulations of students with disabilities, students with low socioeconomic status, students from racial minority groups, students with limited English proficiency, and students of different gender?

The current study supports the prior RTA evaluation work by further examining the program’s overall impact on students and sub-groups of students. This evaluation also adds to prior evaluation findings by including an in-depth process evaluation to help understand what factors allow the program to be most successful and to better understand the fidelity, acceptability, and perceived effectiveness of the program and its common interventions. Furthermore, this study extends the prior RTA evaluation research through examining RTA program expenditures and their relation to student reading performance.

1.3 Evaluation Report Organization

This report includes seven chapters. In addition to this chapter which provides background and the conceptual framework for the study, **Chapter 2.0** provides details on the methodology used for this study including sample selection, protocol development, procedures, data collection, and design and analysis. **Chapter 3.0** summarizes the methods and findings for the case studies and cross-case analysis. **Chapter 4.0** details the stakeholder perceptual findings related to KY RTA program and intervention implementation effectiveness perceptual findings. **Chapter 5.0** summarizes the impact of the RTA program and its common interventions on student reading achievement outcomes. **Chapter 6.0** covers expenditures and the impact of program expenditures on student reading performance. Finally, **Chapter 7.0** provides a discussion of the findings and reflections on future evaluation of the KY RTA study.

2.0 *METHODOLOGY*

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2.1 General Overview

MGT used a mixed-methods approach to address three KY RTA evaluation study components: Process Study, Cost Study, and Impact Study. The process evaluation component of this study combined quantitative and qualitative data collected from stakeholders at participating RTA schools to better understand variations in the implementation process. This included collection of any existing data from KDE or CCLD (through KDE), Web-based survey data from stakeholders at all RTA schools, and interview and observational data collected during site visits to a select group of five schools. Stakeholder surveys were used to collect data on the implementation process, stakeholder perceptions of quality and effectiveness of implementation, and acceptability and fidelity of implementation. MGT conducted site-visits at five schools identified as best practicing RTA schools to gather in-depth qualitative data on the implementation process. A purposeful sample of sites was selected for this portion of the study. For the cost study MGT obtained school-level data on end-of-year allowable expenditures via the data budgetary data submitted to KDE. A quasi-experimental design was used to examine reading achievement of students exposed to the RTA program and select common interventions within the program in comparison to students not exposed to the RTA program and its common interventions. In the remainder of this chapter, details of the sample and sample selection, data collection, and design and analysis methods are summarized.

2.2 Intervention and Sample Selection

2.2.1 Intervention Selection

Given the large number of intervention programs implemented at the various schools and grade levels (47 interventions were identified), common interventions were selected across grade levels for the evaluation study using following criteria: (1) the number of students that were served by the intervention program was 100 or more; (2) the number of schools that have implemented the intervention program was 10 or more; and (3) the selected intervention programs were among the top four in terms of both the number of schools and the number of students exposed to the intervention program across grade levels. The above criteria were established in consideration of obtaining an adequate sample size for quantitative data analysis purposes.

Exhibit 2-1 shows the interventions meeting the “10 schools/100 students or more” criteria based on intervention data reported by each school on the 2008-09 KDE end-of-year survey (described later in this chapter) data. The four highest frequency interventions based on the number of schools and students exposed to the intervention selected for evaluation included: Reading Mastery, Soar to Success or Early Success, Reading Recovery, and Small Literacy Group Interventions.¹ It is important to note that Soar to Success and Early Success were treated as one interchangeable intervention for

¹ Small Group Interventions included Small Group Interventions, Literacy Support Groups, Early Literacy Groups, Skills Groups, Literacy and Guided Reading, and Leveled Literacy Intervention.

the purposes of this study because multiple versions of these interventions have been available through the publisher throughout the KY RTA implementation years. In earlier versions of these interventions, Soar to Success was designed for grades 3 to 8 and Early Success was designed for grades K-2. The latest version of Soar to Success is designed for grades K-6 (essentially encompassing the former Soar to Success and Early Success Interventions). Following **Exhibit 2-1** is a description of each of the interventions.

**EXHIBIT 2-1
HIGH FREQUENCY RTA INTERVENTIONS**

Intervention N = 100 (10) or more ¹	# Students (# schools)				
	Across Grades	KG	First	Second	Third
Small literacy Group	8678 (330)	2054 (135)	2085 (231)	2352 (239)	2187 (223)
Reading Mastery	1775 (42)	408 (31)	480 (45)	462 (48)	425 (49)
Reading Recovery	2147 (247)	n/a	2147 (247)	n/a	n/a
Early/Soar to Success ²	3106 (143)	296 (28)	883 (85)	1019 (109)	958 (109)
Earobics	762 (54)	405 (29)	159 (25)	98 (18)	100 (19)
Fast for Word	1160 (44)	496 (16)	243 (21)	226 (24)	195 (23)
Scott Foresman	911 (48)	375 (27)	150 (21)	217 (23)	169 (17)
Early Int. in Reading	561 (39)	292 (19)	136 (18)	88 (13)	45 (11)
Head Sprout	560 (46)	220 (17)	159 (28)	117 (23)	64 (14)
Voyager	473 (24)	92 (6)	131 (13)	130 (12)	120 (17)
Harcourt	321 (17)	59 (5)	49 (7)	94 (13)	119 (11)
SRA	371 (26)	105 (8)	108 (14)	79 (12)	79 (14)

Source: Kentucky Department of Education 2008-09 intervention data.

¹Interventions meeting the criteria of being provided to 100 or more students at 10 or more schools.

² Any version of Soar to Success or Early Success.

Grey shading indicates the interventions that were most common at both the student and school levels and across grades.

2.2.2 Common Intervention Descriptions

Reading Recovery

A short-term intervention of one-to-one tutoring for low-achieving first graders. The goal is to reduce the number of first grade students who have extreme difficulty learning to read and write and to reduce the cost of these learners to educational systems. Lessons are divided into 30 minutes each day for 12 to 20 weeks or until the student can meet grade-level expectations.²

Reading Mastery

A direct instruction program designed to provide explicit, systematic instruction in English language reading. Two versions are available, *Reading Mastery Classic* is for use in grades K-3 and *Reading Mastery Plus* is an integrated reading-language program for grades K-6. The program focuses on phonemic awareness and sound-letter correspondence as well as vocabulary development, comprehension and oral reading

² Reading Recovery Council of North America Web site: <http://www.readingrecovery.org>.

fluency. Students are grouped by similar reading level, based on program placement assessments.³

Soar to Success/Early Success

Soar to Success is a reading intervention program for grades 3-8 who are reading below grade level. The goals are to accelerate reading ability and help students apply the comprehension and decoding strategies to other content areas. Instruction occurs in small groups that meet daily for 18 weeks. The five-step lesson plan includes revisiting, reviewing, rehearsing, reading/reciprocal teaching, and responding/reflecting.⁴

Small Group Intervention

This was a general intervention category that combined a number of interventions reported on the KDE end-of-year survey that fell into a more general group of interventions. The interventions included within the generic Small Group category were those with the following labels on the KDE end-of-year-survey: Small Group Interventions, Literacy Support Groups, Early Literacy Groups, Skills Groups, Literacy and Guided Reading, and Leveled Literacy Intervention. These interventions all used a generic process of conducting intervention in small literacy groups using leveled readers and teacher coaching. Typically these interventions were not specific published or packaged interventions and in the case of Leveled Literacy Intervention, which is published by Fountas and Pinell, the intervention's primary mechanism of change appears to be the small group aspect of the intervention. This intervention is described on the publisher's website as "a small-group, supplementary intervention program designed to help teachers provide powerful, daily, small-group instruction for the lowest achieving children in the early grades."⁵

2.2.3 Site Visit Sample Selection

A sample of five schools was selected to participate in site visits. The tiered sample selection approach encompassed the following selection factors:

- School and student rates of intervention provision reported for 2008-09.
- State-level recommendations.
- District level recommendations.
- Reading performance indicators.
 - Average school-level percentile score on the T-pro assessment in kindergarten through third (K to 3) grades.
 - Change on the average school-level K to 3 T-pro percentile score from fall 2008 to spring 2009.
- School demographic factors: rates for common ethnic categories, free/reduced lunch, special education placement, and limited English proficiency status.

³ What Works Clearinghouse program description found in Interventions –Materials.

⁴ Florida Center for Reading program description, found in Interventions -- Materials.

⁵ <http://www.fountasandpinnelleveledbooks.com>.

The step-by-step approach to selecting the five site visit schools is detailed in **Chapter 3.0**. In summary, after the four most common interventions were selected, state and district level representatives were asked to provide recommendations of districts/schools using those interventions that were effectively implementing the RTA program. Then student assessment and demographic data were taken into consideration to identify schools that were also high performing on reading achievement and to select a demographically diverse sample. Recommendations were given priority in the selection process followed by performance and finally demographic make-up.

2.2.4 Impact Study Sample

All students at participating KY RTA schools with T-Pro data were included in the impact study. In some cases, sub-groups of students (such as demographic sub-groups or students exposed to various service delivery models or types of interventions) were included in analyses depending on the research question being addressed.

2.3 Data Collection Procedures and Measures

2.3.1 Teacher and Principal Surveys

Principals and RTA teachers completed a web-based perceptual survey which encompassed three survey sections for which both principals and teachers completed (with items tailored to each role) and a fourth survey section completed by teachers. Section 1 included rating scale items tapping the perceived effectiveness of the overall RTA program. Section 2, included rating scale items focused on the perceived confidence of teachers and principals regarding their implementation or understanding of the overall RTA program. An open-ended item addressing areas for improvement for the RTA program made up Section 3. Section 4, completed by the RTA teacher, included survey items related to the four selected common interventions. Specifically, common intervention items related to the implementation success and confidence, importance, acceptability, frequency, and duration of the four common interventions and their corresponding intervention components. **Chapter 4.0** provides details on survey items, scales, and survey findings.

2.3.2 Qualitative Data Collection

In the spring of 2010, MGT scheduled visits to each of the five exemplary schools identified through the tiered sample selection approach. During the site visits, MGT conducted separate interviews with principals and RTA teachers. MGT also conducted observations of select common interventions implemented at each school. Intervention observations lasted approximately 30 minutes at each school. Details are provided in **Chapter 3.0**.

2.3.3 Observations

Using the intervention materials obtained from the intervention publishers, MGT developed observational protocols for each of the common interventions observed during the site visits. **Appendix B** includes the observation tools used in this study. Each observational coding rubric included ratings of alignment of implementation with intervention components (fidelity rating) and quality of intervention implementation

(quality rating). Ratings could range from 1 to 3 (lowest to highest implementation fidelity/quality).

2.3.4 Teacher and Principal Interviews

MGT developed teacher and principal interview guides with items designed to identify successful practices in KY RTA implementation efforts, barriers to those efforts, lessons learned, and recommendations for improvement. **Appendix A** includes the interview guides. MGT conducted separate interviews with principals and RTA teachers at each of the 5 selected site visit schools, each lasting approximately 45 minutes.

2.3.5 KDE KY RTA End-of-Year Survey: Intervention Implementation Section

MGT obtained data on intervention usage at the school and student levels from the KDE KY RTA End-of-Year Survey. Intervention data were reported by each KY RTA school for each student who received intervention at the school by an RTA teacher (who has received RTA training) or a certified teacher (who has not received RTA training). Intervention data included the type of service delivery modality used to provide an intervention and whether that intervention was designated as an RTA intervention or a non-RTA intervention: RTA intervention provided by an RTA teacher, RTA intervention provided by a certified teacher, and non-RTA intervention provided by a certified teacher. The designation of RTA versus non-RTA was dependent upon whether or not the intervention was funded through RTA funds. Data from this survey also included the primary intervention that a given student received. School representatives completing the survey could select from a drop-down menu of interventions or could select “other” and provide the name of the intervention provided to a student.

2.3.6 T-Pro Assessment

Total scores from the T-Pro assessment and student demographic data were obtained through the Kentucky Department of Education (KDE) and used to select participating schools. Total test scores were used in this study due to questions about the validity of the T-Pro Normal Curve Equivalency (NCE) scores. The Center for Innovation and Assessment examined the T-Pro data from 2009-2010 and recommended that total scores rather than NCE's be used as outcome measures. The Test of Primary Reading Outcomes (T-PRO) was developed by a team of former teachers and experts in primary reading education. T-PRO is a nationally norm-referenced test which was designed to assess the five key reading skills identified by the National Reading Panel as scientifically-proven to influence reading success. The T-PRO assessment system is designed to be comprehensive, yet manageable. It includes an optional writing component as well as ideas for intervention, classroom activities, and reference resources for both teachers and families. CIA can customize this assessment to your state or local standards.

2.3.7 Expenditures Survey

Actual expenses for expenditures falling within each of the allowable expenditure categories were collected annually through the MGT RTA data collection web-site. Each school provided end-of-year expenditures for each allowable category. Expenditure categories included salaries and benefits; professional, technical, and other services;

travel; postage and printing; computers and computer equipment; supplies and materials, dues, and registration fees

2.4 Design and Analysis

2.4.1 Process Study

For the online surveys, descriptive statistics were provided on the implementation process, fidelity, and perceived effectiveness of the implementation of common interventions to identify prevalent implementation practices across the schools that implemented the same program as well as the schools that implemented different intervention programs. The same was done with the observational data to identify patterns across the schools in the implementation process. For the qualitative data from the surveys, interviews, and observations, emerging themes related to implementation processes/practices was identified.

Descriptive statistics were used to summarize the performance and demographic make-up of each of the participating schools. **Exhibit 2-4** shows the average percentile score during spring 2009, change in average percentile score from fall 2008 to spring 2009, and percentage of students falling into the demographic categories.

A case study was developed for each of the five schools which included a summary of findings from the interviews and observations related to the following key focal areas: successful practices implemented; impacts of the KY RTA program /interventions on the school; challenges and lessons learned; and next steps for program/interventions improvement. Each individual case study provides a rich and in-depth study of how real schools participating in the KY RTA program implement the program effectively, plan to improve the program, and the apply the lessons they have learned during their years of KY RTA participation.

MGT synthesized and integrated data from the interviews and observations to develop an in-depth narrative cross-case summary of the five schools' efforts related to implementation and sustainability. Content analysis was conducted of the interview and observation data across the individual case studies to derive essential themes within each of the focal areas.

2.4.2 Cost Study

Descriptive statistics were provided to demonstrate how funds were spent for each allowable expenditure category for all schools with RTA funds (see **Exhibits 2-1 and 2-2**, which show the total spent statewide from grant funds or other funds, the average per school, and the average per district). Stepwise regression analyses were conducted to examine how much of an impact each dollar of investment has on student performance outcomes. Initially, total expenditure per student (by school) was regressed onto the change in total score from Fall 2009 to Spring 2010 to determine if there was an overarching relationship between expenditures and changes in scores. Stepwise regression analyses began with determining the impact of expenditures by category (personnel, consultants, supplies, publications, travel, computer supplies, and registration fees) on the change in total score from Fall 2009 to Spring 2010. Statistically insignificant expenditures were removed (step down) and dummy variables for the four

interventions of greatest interest (Small Group, SOAR, Reading Mastery, and Reading Recovery) were added to the regression (step up). Again, statistically insignificant items were removed (step down). Demographic variables were added to the regression (step up), and statistically insignificant items were removed (step down). Comparisons of the residuals and the variables were made to see if there was a nonlinear relationship.

2.4.3 Impact Study

A pretest-posttest within-schools comparison group design was used for the impact study component of the evaluation. The impact of the KY RTA program and the four selected common interventions was examined on the pretest-posttest T-Pro student reading achievement gains.

The evaluation design chosen to examine impacts of the KY RTA program and common interventions was partly determined by the available assessment data. T-Pro student assessments were only administered to students at KY RTA schools. The evaluation design was also driven by the criterion used by schools for identifying students for intervention. The recommended criterion for intervention identification is student fall T-Pro scores falling within Stanines 1-3. Thus, a Regression Discontinuity Design was explored for examining program impacts. However, it was determined that this design was not an option because the intervention selection criteria was not necessarily based on a single quantitative measure (e.g., Stanines 1-3 on the T-Pro) but rather varied from student to student and included assessment criteria from the T-Pro as well as teacher judgment. Also, barriers such as scheduling conflicts and funding constraints sometimes prohibited students who were identified for intervention from receiving intervention. The outcome of these variations and constraints was that relatively large numbers of students with scores falling within Stanines 1-3 on the T-Pro did not receive intervention and relatively large numbers of students falling within Stanines 4-9 did receive intervention.

Therefore, reading performance and gains from fall 2009 to spring 2010 for students who received reading intervention support by a KY RTA-funded teacher were compared to students not receiving any intervention at KY RTA schools. Additionally, comparisons were conducted of pretest-posttest gains of students within each intervention group who were receiving the four selected common interventions: *Small Groups*, *Early/Soar to Success*, *Reading Recovery* and *Reading Mastery*. Finally, comparisons within the two intervention groups and the four common intervention groups were conducted to determine whether these interventions reduced achievement gaps for students classified from traditionally disadvantaged groups: minority status, participation in special education, gender, free/reduced priced lunch eligibility status, and ELL status.

To evaluate the impact of the RTA and common interventions on student gains on the T-Pro, Analyses of Covariance (ANCOVA) tests were conducted to determine the statistical significance and effect size of the difference in mean pretest-posttest gains based on the aforementioned intervention groupings. The fall 2009 total T-Pro score was used as a covariate in these analyses to statistically adjust for pre-existing differences in achievement between the groups. Within the ANCOVA framework, we conducted a set of planned comparisons using Helmert contrasts to compare the outcomes for students within different intervention groups. Planned comparisons were also conducted such that within each of the intervention groups mean gains of students receiving each common

intervention were compared to those of students not receiving that common intervention. Planned comparisons for the achievement gap analysis tested for the statistical significance of the difference in mean gains between the demographic eligibility status groups within the intervention groups. More details of the design and analysis process for the impact study are outlined in **Chapter 5.0** and in **Appendix C**.

3.0 KENTUCKY READ TO ACHIEVE CASE STUDY

3.0 KENTUCKY READ TO ACHIEVE CASE STUDY

To get an in-depth understanding of practices used by Kentucky Read to Achieve (KY RTA) schools that are successfully implementing the program and common RTA interventions, MGT conducted a qualitative study of five RTA schools. In the spring of 2010, MGT visited five RTA schools identified as exemplary based on district-level recommendations and student performance and growth. From these visits, individual case studies were developed and key findings across the case studies were summarized. This chapter summarizes the methods and findings of the five case studies and cross-case narrative and is organized into the following sections:

- **Methods**
 - Sample Selection. Describes the methodology for selecting the five schools visited.
 - Data Collection Summary. Describes the development of interview and observational guides, coding rubrics, and the data collection process.
- **Analytical Techniques**
 - Provides a summary of the quantitative and qualitative methods.
- **Findings**
 - Cross Case Summary. Provides a narrative of the key themes identified across the five case studies.
 - Individual Case Studies. Includes case studies for each of the five exemplary schools.
- **Discussion**
 - Provides an overarching summary of the key findings and application of those findings.

3.1 Methods

3.1.1 Sample Selection

The goal of the sample selection process was to identify a sample of five exemplary or “best practicing” schools that were also implementing one or more common RTA intervention. The selection measures and factors included:

- School and student rates of intervention provision reported for 2008-09.
- State-level recommendations.
- District level recommendations.
- Reading performance indicators.

- Average school-level percentile score on the T-pro assessment in kindergarten through third (K to 3) grades.
- Change on the average school-level K to 3 T-pro percentile score from fall 2008 to spring 2009.
- School demographic factors: rates for common ethnic categories, free/reduced lunch, special education placement, and limited English proficiency status.

A tiered selection process was used to identify RTA site visit schools. The site selection process is detailed below.

Step 1. Schools providing one or more of the four most common interventions were eligible to participate in site visits. See **Chapter 2.0** for a discussion of the methodology for selecting the four common interventions. These included: Reading Mastery, Soar to Success or Early Success (Soar/Early Success), Reading Recovery, and Small Literacy Group Interventions.

Step 2. Kentucky Department of Education representatives were asked to recommend districts where schools were successfully implementing the RTA program and one or more of the selected common interventions based on their experiences and perceptions of actual program/intervention implementation. Seven districts were recommended.

Step 3. The state-level recommended districts were asked to recommend schools that were successfully implementing the RTA program and one or more of the selected common interventions based on their experiences and perceptions of actual program/intervention implementation. Twelve schools were recommended. District contacts were asked to recommend best practicing schools by responding to the following questions:

1. Please provide the names of schools in your district that really stand out as “best practicing” in terms of their RTA implementation and success. Where possible, please recommend schools that are using one or more of the following interventions: Small literacy group interventions, Reading Mastery, Reading Recovery, and Early Success/Soar to Success.
2. For each school you recommend, please indicate why you feel they have been so successful. For example: What exemplary practices, strategies, or activities is the school using to implement the RTA program? How is the program impacting the school, educational professionals, and students in a positive way?

Step 4. Student performance and change on the average T-Pro percentile scores for grades K to 3 for the 12 district recommended schools were examined for alignment of student performance with district level recommendations. The content of district recommendations was given priority as a selection factor over student performance indicators. For anonymity sake, the names of the five selected schools and their corresponding districts have been disguised. Arbitrary school and district names are used throughout this report (School A, B, C, D, and E and District 1, 2, 3, and 4) to distinguish the schools and districts.

Step 5. Demographics of the five selected schools were examined for variation on the key demographic factors. **Exhibit 3-1** shows the demographic distributions for all KY RTA schools and for the five selected schools. A representative sample was not required since other factors (recommendations and student performance) were given higher priority using a tiered selection approach. However, there was an attempt to ensure variation across demographic factors so as not to have an extreme over/under representation on any one demographic factor.

**EXHIBIT 3-1
DEMOGRAPHIC DISTRIBUTIONS FOR ALL RTA
AND THE FIVE SELECTED SCHOOLS**

Demographic Indicator (% Group Status)	All RTA Schools	Five Selected Schools
Disability	24.17%	16.84%
Limited English Proficiency	2.68%	4.86%
Free/Reduced Lunch	54.29%	43.35%
African American Ethnicity	9.09%	14.25%
Hispanic Ethnicity	3.89%	5.61%
White Ethnicity	81.91%	72.17%

Source: Kentucky Department of Education 2008-09 demographic data, 2008-09 T-Pro Assessment data.

3.1.2 Data Collection Summary

The specifics of protocol development and data collection are outlined in **Chapter 2.0** of this report. To summarize the case study data collection process, MGT developed measures and collected teacher and principal interview data and intervention fidelity observational data at each of the five selected schools. The interviews were designed to capture information on the successful practices in KY RTA implementation and sustainability efforts, barriers to those efforts, lessons learned, and recommendations for improvement. **Appendix A** includes the teacher and principal interview guides.

For purposes of selecting an intervention for observation at each school, intervention data reported on the 2008-2009 Kentucky Department of Education (KDE) end-of-year intervention survey (most recent intervention data available at the time of the site visits) was used to determine which of the common interventions were implemented by each of the site visits schools. Most of the schools were implementing more than one of the common interventions. There was an attempt to have representation of each of the four common interventions in terms of observations across the site visit schools. However, Reading Mastery was not a primary intervention at any of the schools. Therefore, three of the four common interventions were observed during site visits: Reading Recovery, Soar/Early Success, and Small Group Literacy Intervention (see **Exhibit 3-2** for the intervention observed at each school).

A 30 minute intervention observation occurred at each site visit school. Intervention observations yielded ratings of alignment of implementation with intervention components (fidelity rating) and quality of intervention implementation (quality rating). Ratings could range from 1 to 3 (lowest to highest implementation fidelity/quality). **Exhibit 3-2** below shows the average ratings for each participating school on the implementation and quality rating scales along with descriptive information on the

instructional group size and intervention observed. Intervention implementation fidelity and quality ratings were very high across the five schools.

**EXHIBIT 3-2
INTERVENTION OBSERVATION RATINGS**

School	Intervention Observed	Group Size	Average Fidelity Rating ¹	Average Quality Rating ²
School A	Small Group	4	2.7	3
School B	Soar to Success	5	3	3
School C	Reading Recovery	1	3	3
School D	Reading Recovery ³	1	3	3
School E	Early Success	6	3	3

¹Implementation fidelity rating scale ranged from 1 (lowest) to 3 (highest).

²Implementation quality rating scale ranged from 1 (lowest) to 3 (highest).

³A small group intervention was also observed with a group size of 3 and fidelity and quality ratings of 3.

3.2 Analytical Techniques

Descriptive statistics were used to summarize the performance and demographic make-up of each of the participating schools. **Exhibit 3-3** shows the average percentile score during spring 2009, change in average percentile score from fall 2008 to spring 2009, and percentage of students falling into the demographic categories.

**EXHIBIT 3-3
DEMOGRAPHIC AND T-PRO PROFILES
SELECT KENTUCKY ELEMENTARY SCHOOLS**

DISTRICT	SCHOOL	RTA Mean Percentile T-Pro (Spring 2009)				T-Pro % Change (Fall 2008 - Spring 2009)				Select Demographics (% of Total for Grades K-3, Fall 2009)			
		Grade K	Grade 1	Grade 2	Grade 3	Grade K	Grade 1	Grade 2	Grade 3	FRL	White	African American	Hispanic
District 1	School A	52.1	51.6	50.8	60.6	2.3	0.7	(5.1)	1.7	53.8%	60.0%	20.7%	9.1%
	School B	65.6	60.4	65.6	63.4	4.2	(2.6)	3.6	0.4	21.2%	82.2%	6.1%	3.3%
District 2	School C*	52.1	49.9	n/a	n/a	(5.6)	(4.6)	n/a	n/a	57.9%	69.9%	14.3%	5.3%
District 3	School D	32.3	35.1	27.7	37.3	(0.4)	1.4	(6.2)	5.7	92.0%	42.9%	30.1%	22.1%
District 4	School E	66.7	55.6	53.5	56.1	5.3	(5.2)	(0.1)	4.9	30.9%	97.3%	1.1%	0.5%

Source: Kentucky Read to Achieve T-Pro Student Assessment Data, 2008-09.

*Grade 2 and 3 data not available for School C.

¹ Free/reduced lunch status

A case study was developed for each of the five schools which included a summary of findings from the interviews and observations related to the following key focal areas: successful practices implemented; impacts of the KY RTA program /interventions on the school; challenges and lessons learned; and next steps for program/interventions improvement. Each individual case study provides a rich and in-depth study of how real schools participating in the KY RTA program implement the program effectively, plan to improve the program, and the apply the lessons they have learned during their years of KY RTA participation.

MGT synthesized and integrated data from the interviews and observations to develop an in-depth narrative cross-case summary of the five schools' efforts related to implementation and sustainability. Content analysis was conducted of the interview and observation data across the individual case studies to derive essential themes within each of the focal areas.

3.3 Findings

3.3.1 Cross-Case Summary.

Highlights for each of the key focal areas are provided in this section of the report. **Exhibit 3-4** shows the overarching themes that emerged during the site visits within each of the key areas of focus along with a brief description of each. Following **Exhibit 3-4** is a summary of each of these focal areas. Individual case studies for each of the five exemplary schools follow the cross-case summary.

EXHIBIT 3-4 OVERARCHING CROSS-CASE THEMES

Cross Case Summary Themes
<p>Successful Implementation Practices</p> <ul style="list-style-type: none"> ■ <u>Collaboration across Stakeholders</u>: grade-level meetings; sharing ideas, concerns, and success stories; and including teachers, administrators, district and central office staff, and parents in the collaboration process. ■ <u>Professional Development</u>: trainings, sessions, grade-level meetings, and modeling. ■ <u>Quality/Attitude of RTA Teachers</u>: teacher enthusiasm, credentials, and highly qualified and trained RTA teachers. ■ <u>Intervention Planning and Decision-making</u>: screening, progress monitoring, and data-based decision making. ■ <u>Administrative Leadership and Support</u>: providing, guidance, direction, and support for KY RTA activities at the school, district, regional, and/or state levels. ■ <u>Specific Interventions/Intervention Components</u>: Reading Mastery, Reading Recovery, and repetitive reading. ■ <u>Fidelity of Implementation</u>: ensuring interventions are implemented as intended by all educational professionals. ■ <u>Alignment with Other Reading Initiatives/Programs</u>: ensure RTA is well integrated with other programs. ■ <u>Parent Involvement</u>: efforts by schools to encourage parent involvement. ■ <u>Materials</u>: having sufficient materials that are engaging for students.

**EXHIBIT 3-4 (Continued)
OVERARCHING CROSS-CASE THEMES**

<p>Impacts</p> <ul style="list-style-type: none"> ■ <u>Student Abilities</u>: improving student performance and success rates for existing interventions. ■ <u>Student Interest</u>: students engaged or interested in participating in the intervention. ■ <u>Professional Development Opportunities</u>: RTA teachers receive critical training.
<p>Challenges and Lessons Learned/Solutions</p> <ul style="list-style-type: none"> ■ <u>Gap Among Children with Disabilities</u>: students with disabilities still lagging behind their peers. <i>Solution</i>: collaboration among professionals and integrating RTA and special education efforts and training. ■ <u>T-Pro Testing Challenges</u>: transitions from GRADE to T-Pro and from T-Pro paper and pencil to online testing; technology problems during online testing (log-in issues, computer problems); scheduling; and students reluctant to use the computer. ■ <u>Time Constraints</u>: more time needed to enroll students; for intervention planning; for the exit process; and to serve more students. <i>Solution</i>: coordination, planning, and scheduling. ■ <u>Parent Involvement</u>: difficult to get parents involved with student literacy development. <i>Solution</i>: teachers sent materials home; encourage parents to come and observe an intervention. ■ <u>Serve More Students</u>: need more RTA teachers to serve more students; parents request intervention for their child even if the child doesn't meet the screening criteria.
<p>Improvements Needed</p> <ul style="list-style-type: none"> ■ Reduce gap among children with disabilities. ■ Address concerns with T-Pro online testing. ■ Sooner notification of program continuance for planning purposes.

Source: MGT Case Study Site Visits, 2010.

3.3.2 Successful Practices

Teachers and principals noted that collaboration across various stakeholders is key to the success of the RTA program and implementing RTA reading interventions. Teachers share ideas and concerns with one another and work together to screen students for interventions, monitor progress, and make intervention decisions. Principals provide leadership, support, and guidance important for the buy-in of the program. Additionally, the central office appoints a liaison between the schools and KDE to ensure communication and collaboration at all levels. Schools have identified creative ways to monitor and track student progress in a way that allows all teachers to follow the students' progress and communicate about student performance and needs. Examples include communication logs and color coded student progress exhibits. A premium was put on keeping parents informed and encouraging them to be involved in their child's literacy education experience. For instance, teachers send progress reports home to parents, hold family literacy nights, and encourage parents to read with their child at home. One school indicated that parents may observe their child actually receiving an intervention. Principals at the schools MGT visited commonly reported being fortunate to have such highly trained and enthusiastic RTA teachers. In addition to RTA teachers receiving formal training, embedded professional development is offered by RTA teachers to other teachers at the school such as modeling and holding grade-level

meetings. In terms of actual intervention implementation, interventions observed by MGT staff were implemented with a high degree of fidelity and quality based on coding rubrics completed during school visits.

3.3.3 Program Impacts

Teachers and principals reported that the program was having a positive influence on student reading abilities. They reported student improvements in performance and high rates of students' exiting the program/intervention. Another RTA program impact reported was the increased training that the RTA teachers received through RTA funding.

3.3.4 Challenges and Lessons Learned

Reducing the gap between students with disabilities and other students was a common challenge reported across several of the schools visited. One way that the schools are attempting to deal with this challenge is by integrating special education and RTA services and training and through collaboration of the educational professionals focused on supporting students with disabilities (special education teachers, RTA teachers, and resource teachers). Another common concern reported was dealing with transitions in the RTA assessments. Transitioning from one outcome measure to another (GRADE to T-Pro) and from one method of testing to another (paper and pencil to online testing) has been difficult for the schools. A related concern was the use of online testing. Barriers included computer log-in and other technological difficulties, and student reluctance to use computers and their limited experience with computers. Other challenges mentioned by one or more schools included limitations in time and staff to identify and serve all students that need intervention and low parent involvement. School staff are working together to identify ways to carve out time for intervention scheduling that will not impinge as much on the time to actually implement the intervention. As mentioned earlier, schools are also using a variety of methods to encourage and increase parent involvement.

3.3.5 Improvements Needed

The primary areas for improvement emphasized by principals and teachers included addressing T-Pro online testing concerns, reducing the gap between students with disabilities and other students, and being able to receive earlier notification as to whether the school will continue to receive RTA funding for the next school year.

3.4 Five Individual Case Studies

3.4.1 School A

Successful Practices

The common denominator for successful implementation of the program at School A is that there is full support from all participating stakeholders. The lead teacher is building capacity and training other teachers to ensure all teachers are implementing the same (or similar) strategies.

The principal is “100 percent” supportive according to staff, and this ensures successful buy-in from the faculty. Also, it was reported that the central office appoints a liaison between the schools and KDE, and that position has ensured teachers have the necessary skills and training to appropriately implement the program. The Title I staff in the central office also provide additional technical assistance and support when needed. The lead teacher implementing the program attends all grade-level meetings held once a week to assist teachers in lesson plans that will be in direct alignment with the goals of the program.

Another successful practice is that the lead teacher uses a running record once a day for each student to monitor progress or adjust strategies. Using progress monitoring data, the students’ response to the intervention is used to make intervention decisions.

The materials used to implement the program (books, letters, white boards, etc.) are of great interest to the children and are sufficient for program implementation.

Program Impacts

The teacher and the principal interviewed at School A both strongly believed the Reading Recovery and small group interventions implemented at their school have been effective in improving students’ reading performance. The principal commented that students that participated in the Reading Recovery program in the first grade are now accepting reading awards (recognized as reading proficient or distinguished) as fifth grade students. While the principal could articulate the overall success, she was unable to provide longitudinal data to show overall improvement. The principal stated that she has a very high student mobility rate; therefore, it is difficult to track overall student progress (particularly as it relates to various student subgroups) over the course of several years.

Challenges and Lessons Learned

The principal and teacher indicated that The Test of Primary Reading Outcomes (T-Pro) was a main challenge for teachers and students. In the fall, the test was administered by paper and pencil and in the spring, the test was taken online. The online administration was wrought with errors including 30 minutes into the test, the students’ responses were cleared and they had to retake it all over again. Teachers and administrators inquired if the server was adequate for such extensive usage. They stated that the students in their school simply were not prepared to take an online test and the staff interviewed believed that the students’ overall scores on the T-Pro suffered due to the sudden switch to online administration. Many of the students do not have access to computers at home and are only exposed to technology instruction once a week at school.

The only other challenge identified at this school is that the lead teacher would like to have more time to screen students for the program.

Areas for Improvement

More planning and preparation is needed for the administration of the on-line T-Pro assessment. Also, the school would like more advance notice of whether the program will be funded for the following year(s) in order to effectively plan.

Overall Summary and Application

Overall, the successful implementation at School A involves strong support at all stakeholder levels (teachers, paraprofessionals, parents, and central office staff). Closely monitoring individual students allows for instructional modifications. Additionally, keen record keeping and analysis of data has assisted this school in successful program implementation.

3.4.2 School B

Successful Practices

The principal's key explanation for the success of the Soar to Success intervention program is the quality and credentials of the two teachers who are implementing the program. He said he looked for two teachers that had a "Mrs. Doubtfire" personality (vibrant, exciting, energetic). He believes that having two part-time teachers implement the program is a true key to successful implementation as well. He believes in and has witnessed burnout if only one teacher provides full-day training. He feels that by working the program part-time, the two teachers can better maintain their enthusiasm and effectiveness for program implementation.

The collaborative efforts in this school are quite evident. The two teachers implementing the program conduct model lessons for other teachers and meet regularly with all grade-level teachers to ensure that all instruction is in alignment with the constructs of the Soar to Success reading tenets.

The teachers commented that the repeated readings are the most successful strategy employed in the program. They stated the repetition allows students to eventually grasp the skills.

Each of the teachers write a monthly parent newsletter and send home regular student progress reports. They believe keeping parents well-informed is another key to their school's successful implementation of the program. (The school also holds a family literacy night two times a year and this has been most successful in improving parent involvement. Lastly, teachers stated that they give their students two free books (on the student's reading level) a month to keep and this encourages more reading time in the home.

Program Impacts

The principal indicated that he receives positive feedback from all stakeholders regarding the success of the program and that "kids love to attend the small group sessions."

The teachers implementing the program provided several sources of quantitative data to support the success of the program. Including, but not limited to, individual student's progress on the T-Pro assessment.

Challenges and Lessons Learned

The principal stated that one of his challenges with the program is that it is so successful that he continuously gets calls from parents wanting to have their child enrolled in the program even if the student's assessment scores do not warrant the additional reading assistance.

The school is not a Title I school; therefore, the program is critical to continue as it is one of the school's few early intervention initiatives. Ideally, the leadership would like to know if KY RTA funding will continue by April 30 in order to adequately prepare and plan for the following school year.

The T-Pro testing was a significant challenge including log-in issues, computers shutting down, scheduling problems, and students' reluctance to use the computer.

Two Key Areas for Improvement

- The schools need to know sooner in the year if the program will be continuing for planning purposes.
- The state should "iron out" the issues associated with taking the T-Pro online.

Overall Summary and Application

Overall, School B staff and leadership are implementing the KY RTA and Soar to Success intervention quite successfully. The keys to the program's success are the collaborative efforts and initiatives in place to ensure that all staff are working in concert with the program's intent and strategies. Also, a great emphasis is placed on student progress reports and regular communication with parents and/guardians. The principal and central office staff are supportive and provide the needed information or training to ensure the teachers have the appropriate tools to successfully implement the program.

Another key to this school's successful implementation of the program is having two RTA teachers tracking and monitoring student success.

3.4.3 School C

Successful Practices

The Reading Recovery intervention was considered by principals and teachers as very effective. This was supported by the third-party observation of the Reading Recovery intervention conducted by MGT staff. The intervention implementation that was observed was highly aligned with the learning needs and skill level of students attending the intervention. The high quality of implementation along with the skilled RTA teacher's encouragement of the students, were both, likely contributors to the student's engagement, excitement, and participation in the intervention session.

The principal and teachers felt that teacher collaboration is one of the most important best practices leading to the school's exemplary RTA program implementation. Once it was determined that intervention services are needed, the teachers began to work with each other and the students to plan an intervention that best fits the students' needs.

The RTA teachers and students' classroom teachers used a communication log to share and compare the students' progress and problem areas in reading and writing.

Along with the implementation techniques, progress monitoring (for example, running records) is also a best practice that has made this school exemplary. RTA teachers also use an observation summary (the Marie Clay's Observation Survey used in the Reading Recovery Program) for multiple assessments and reassessments to track the student's progress from the beginning of the intervention process through completion of the intervention. In order to ensure that the teachers continue to be highly effective, implementing proper strategies and techniques, the teachers attend many professional development trainings, as well as in-house training sessions and meetings. The teachers are in constant contact with the district and other schools in an effort to share issues, concerns, effective strategies, and success stories. There is much collaboration among teachers, the principal, parents, district staff, and the state-level personnel. Being able to get the much needed professional development to ensure highly skilled and trained teachers allows the teachers and students to benefit from an effective reading and learning experience.

Program Impacts

Overall, the RTA program is having a positive impact on the students at School C. According to school records, progress monitoring and other student data, the RTA program has a very high success rate among those who engage in the intervention process. The RTA program prepares the students for the desired reading level and allows them to catch up in skill areas where they have weaknesses.

One of the main barriers that exist at School C is parent involvement in helping the student read at home. The RTA teachers send progress reports, books to read with the students, and lesson plans home to the parents. The teachers are working hard to address this barrier and encourage parents to become more involved in the intervention implementation process. For example, the teacher and the principal are very dedicated to having "mirror" sessions, in which the parent is encouraged to come and directly observe an intervention session through a two-way mirror. The teachers also hold regular parent meetings, send home letters, send e-mails, and call parents to encourage their participation in the student's literacy development.

An additional barrier is the need for more RTA teachers. The principal and RTA teacher feel that if there were more teachers, then the school would be able to serve more students with needs and better prepare them for achieving in reading.

Another challenging area in need of improvement is the gap among students with disabilities. Currently, Special Education, RTA, and resources teachers have collaboration meetings to discuss possible ways to close this gap. The Special Education teachers are trained in Reading Recovery and on strategies and techniques used in the RTA intervention sessions that can also be used in the Special Education classes.

Overall Summary and Application

The highly trained and enthusiastic RTA teachers have played a vital role in making the RTA program at School C a success story. The assessment and reassessment and the

progress monitoring tools used by the school are an efficient way of tracking not only the success of the student, but the success of the school and the RTA program. The efforts that the school puts forth to encourage the parents' involvement were also viewed as keys to the success of the RTA program at the school.

With continued support from the district and state, as well as other stakeholders, the RTA program has the ability to continue to make positive impacts on the students that receive the interventions. Furthermore, with continued support and collaboration from the teachers and interested parties, there is a possibility for the gap to be lessened among the students with disabilities.

3.4.4 School D

Successful Practices

The school feels that one of the most effective aspects of the RTA program is the Reading Recovery intervention. In addition, the on-site observation of the Reading Recovery implementation revealed that the intervention is implemented with a high degree of fidelity.

An additional component of the RTA program that was perceived by the school as effective is having well-trained RTA teachers that collaborate with the students' other teachers to screen students, identify problem areas in students' reading skills, and make intervention decisions. This teacher collaboration aids in the students' reading proficiency across classrooms. Once it is determined that intervention services are needed, the teachers began to work with students using a variety of techniques such as word chunks, clusters, clapping sounds, using word touch as they read, and articulating phonemes in words in order to articulate a nice and smooth sounding word and/or sentence. During intervention observations, teachers used encouraging words and positive corrective actions to assist the students in understanding words and letters and how they come together to form sentences.

Along with the identification and implementation techniques, progress monitoring is also a critical practice that has made RTA implementation at this school exemplary. In order to track or monitor progress, the teachers use a wall to post students' performance from the beginning of the intervention participation to the exit of the intervention following each student through the intervention implementation using color coding for performance levels as they move through the intervention process.

Program Impact

Overall, the RTA program is having a positive impact on the students at School D, as well as other stakeholders involved. The exiting percentages are very high according to school and state data. There is much collaboration among teachers, parents, district staff, and the state-level personnel. Being able to get the much needed professional development to ensure highly skilled and trained teachers allows for the teachers and students to maximally benefit from the reading and learning experience afforded by the RTA program. The interviewees emphasized that if it was not for the RTA program in this school, the at-risk population would suffer.

Challenges and Lessons Learned

Some of the barriers that exist at School D, when it comes to implementing RTA program and interventions, are scheduling time to plan interventions between sessions and planning the exiting process. The RTA teachers prepare individual schedules for student interventions prior to intervention sessions. When teachers have taken the necessary time needed to prepare the intervention schedules, it reduces the overall time available for intervention implementation. More students could be served if there was more time available to devote to scheduling and implementing the interventions. At this particular time, this barrier has not been addressed. However, efforts are being made to discuss whether and how time can be created for scheduling without cutting down on the number of sessions provided.

Another challenging area in need of improvement is the gap among students with disabilities. Currently, Special Education, RTA, and resources teachers have collaboration meetings to discuss possible ways to close this gap. The lead RTA teacher has imbedded professional development for Special Education teachers related to strategies used within the RTA program and interventions that can also be used in the Special Education classes. The school has met all of the No Child Left Behind Goals except in the area of children with disabilities.

Overall Summary and Application

Through the interviews and intervention observations conducted during the site visit at School D, it was apparent that the RTA program at this school is being implemented with fidelity, held in positive regard by the principal and teachers, and is having the intended impact on student performance. The highly trained teachers and their passion for the students and their job were positive factors in the implementation of the RTA program. The screening process and the progress monitoring approach used by the school have clearly been conducive to the school's RTA program success.

3.4.5 School E

Successful Practices

The most effective RTA program and intervention implementation practices are the collaboration among teachers, the initial screening process, and reviewing student data to properly determine students' intervention needs. The teachers that provide the interventions are both retired teachers that bring a great deal of knowledge to the intervention process. Observations of the Early Success intervention revealed that the intervention was being implemented with a high degree of fidelity and was engaging to the student. The well-trained teachers and their love for helping the students to succeed have helped make this school exemplary with regard to RTA program implementation and student outcomes. To ensure that the teachers are properly trained, there are a number of professional development trainings, professional growth academies, conferences, and seminars that the teachers attend throughout the year on a local, state, and district level. There are also a number of webinar trainings that are available to the teachers and staff.

The many implementation techniques and the progress monitoring tools (especially the Early Success Student Record) implemented at School E are also sources of the

school's RTA success. Teachers track the success and progress students make over the course of the intervention using various monitoring tools.

Program Impact

Overall, the RTA program is having a positive impact on the students at School E, as well as on the teachers and the school's achievement goals. According to School E's statistical data, there has never been a student to repeat any of the provided interventions once they have completed them.

Challenges and Lessons Learned

One of the barriers that exist at School E is the transition from the GRADE testing to the T-Pro testing. The school went from "paper and pencil" testing to online computer testing and the school feels that it was very difficult to adjust to this transition. The interviewees also felt that the information being presented in the new intervention plans adopted by their school does not coincide with the material tested on the T-Pro and comparisons between the T-Pro and GRADE are challenging. There appeared to be gaps between the interventions offered and the student abilities being assessed. The school suggested that the state and district incorporate more consistent assessment variables. Because the testing method changed (from paper and pencil to electronic testing) in the middle of the school year, it was harder to adjust to the changes. This issue has been brought to the attention of the district. The RTA teachers have also prepared tool books to supplement the areas where they feel there is a gap between the intervention materials and plans used by the school and the skills assessed on the T-Pro. The teachers have analyzed the T-Pro test and created check lists of missing data elements.

Another barrier when it comes to implementing the RTA interventions is scheduling time to plan between sessions. At this particular time, this barrier has not been addressed. However, efforts are being made to discuss whether and how time can be created for scheduling without cutting down on the number of sessions provided.

A final challenging area in need of improvement is the gap among students with disabilities. Currently, Special Education, RTA, and resource teachers have collaboration meetings to discuss possible ways to close this gap. The gap has not been completely closed at this time, but the staff feels that the gap has lessened.

The training that the RTA teacher receives through the program and the RTA teacher's enthusiasm were perceived to be very critical to the success of the program. . In addition, the screening process and the progress monitoring methods used by the school were viewed as very effective and also important factors in the success of the program.

3.5 Discussion

Overall, the five exemplary schools MGT visited seem to be committed to the KY RTA program and reported positive impacts of the program on students and RTA teachers. Practices most commonly reported by schools as most successful to the implementation of KY RTA and its interventions included professional development, collaboration across educational professionals, intervention planning and decision making, and RTA teacher attributes. The schools reported challenges in closing the gap among students with disabilities and are using the staff and training available to integrate services to deal with this challenge. The schools visited could benefit from further support in this area. Teachers and principals interviewed also voiced concerns about T-Pro testing. Related to this issue, KDE has accepted a recommendation made by the RTA Steering Committee to remove the statewide RTA assessment requirement for the 2010-2011 school year. During the 2010-2011 school year, KDE is requiring that schools administer a comprehensive diagnostic assessment in the fall and spring of the year and, consistent with prior RTA program years, monitor student progress regularly throughout the year. Future evaluation efforts will benefit from interviewing teachers and principals on their methods for selecting measures, progress monitoring, and intervention decision making.

4.0 SURVEY FINDINGS

4.0 SURVEY FINDINGS

To gather information on stakeholder perceptions regarding the Kentucky Read to Achieve (KY RTA) program and common intervention implementation, MGT developed and administered the Kentucky Read to Achieve Perceptual Survey to principals and teachers at RTA schools. Teachers and principals reported on the degree of program implementation success, confidence to implement the program, and areas for improvement. Teachers also reported on implementation success, duration, and acceptability of the four select common interventions and their associated intervention elements.

The KY RTA survey was administered in spring 2010. RTA teachers and principals at each of the 333 KY RTA schools were invited via email to complete the survey. A total of 207 (62%) teachers and 157 (47%) principals across RTA schools participated in the KY RTA Perceptual Survey. Responses were monitored and tracked and non-respondents received multiple automated electronic reminders encouraging survey participation. Participation rates were likely impacted by the timing of the survey which occurred near the end of the school year due to delays in obtaining intervention materials from which to prepare intervention element items.

4.1 KY RTA Implementation Success

Principals and teachers were asked to rate a list of implementation items regarding the implementation and success of the overall RTA program by indicating the degree to which they agreed or disagreed with each statement. Possible response options included “Strongly Agree,” “Agree,” “Disagree,” “Strongly Disagree,” “Don’t Know,” and “N/A.”

Survey items and the number and percentage of principals and teachers agreeing or strongly agreeing with each implementation statement are shown in **Exhibit 4.1**. The average agreement rating is also presented. Across items, few respondents selected disagree (1% to 6%) or strongly disagree (1% to 2%) regarding implementation statements.

Overall, the majority of principals and teachers agreed/strongly agreed that the RTA screening process has been effective in identifying children who are at risk of reading difficulties, that RTA intervention decisions are made by analyzing and reflecting on student reading performance data, that an adequate supply of intervention materials is available to implement the RTA program and associated interventions, and that the RTA literacy team works collaboratively with teachers and other instructional staff to analyze and interpret student data and make intervention decisions.

Nearly all principals agreed/strongly agreed that RTA intervention decisions are targeted to children’s specific reading difficulties as identified by student assessments. The majority of teachers agreed/strongly agreed that the school provides them encouragement to enlist the assistance of other educational professionals to facilitate and support the implementation of RTA interventions (90.3%), and that the principal

provides effective support and leadership for the RTA program and associated interventions (95.7%).

Eighty-nine percent of principals and 78.8 percent of teachers agreed/strongly agreed that RTA interventions are appropriate and effective for students with disabilities. Only half of the principals and teachers agreed/strongly agreed that RTA interventions are appropriate and effective for students with limited English proficiency (49.0% and 51.7%, respectively). These lower percentages may be attributed to more respondents selecting “Don’t Know” or “N/A” as their response for these items. For both items regarding the effectiveness of RTA interventions provided to students with limited English proficiency or disabilities, a relatively large percentage of the respondents indicated “Don’t Know” or “N/A.” (percentages ranged from 6% to 32%; See **Exhibit 4-1** footnote).

**Exhibit 4-1
PROGRAM AND IMPLEMENTATION SUCCESS**

ITEM	PRINCIPAL (N = 157)			TEACHER (N = 207)		
	Average	Agree/Strongly Agree		Average	Agree/Strongly Agree	
		n	%		n	%
The RTA screening process has been effective in identifying children who are at risk of reading difficulties.	3.51	151	96.2%	3.50	195	94.2%
RTA intervention decisions are targeted to children’s specific reading difficulties as identified by student assessments.	3.68	154	98.1%			
RTA intervention decisions are made by analyzing and reflecting on student reading performance data.	3.67	152	96.8%	3.67	202	97.6%
An adequate supply of intervention materials is available to implement the RTA program and associated interventions.	3.44	150	95.5%	3.49	200	96.6%
RTA interventions are appropriate and effective for students with limited English proficiency. ¹	3.30	77	49.0%	3.21	107	51.7%
RTA interventions are appropriate and effective for students with disabilities. ²	3.34	140	89.2%	3.15	163	78.8%
The RTA literacy team works collaboratively with teachers and other instructional staff to analyze and interpret student data and make intervention decisions.	3.64	150	95.5%	3.60	201	97.1%
Our school encourages me to enlist the assistance of other educational professionals to facilitate and support the implementation of RTA interventions.				3.41	187	90.3%
Our principal has provided effective support and leadership for the RTA program and associated interventions.				3.58	198	95.7%

Source: 2009-10 Kentucky Read to Achieve Perceptual Survey.

¹ DK/NA responses greater than 5 percent for Principals: N/A = 29.9%, DK = 16.6% and Teachers: N/A = 32.9%, DK = 9.2%.

² DK/NA responses greater than 5 percent for Teachers: N/A = 6.8%, DK = 6.3%.

Average scores do not include DK/NA. Scale ranges from 1 (Strongly Disagree) to 4 (Strongly Agree).

4.2 Confidence to Implement KY RTA

Teachers and principals were asked to rate a list of survey items based on their degree of confidence (from having “Extensive Confidence,” “More Than Average Confidence,” “Basic Confidence,” or “Little Confidence”) that they (for RTA teachers) or the instructional staff (for principals) responsible for implementing RTA program/interventions would be able to effectively use or implement these activities in relation to the RTA program/interventions. **Exhibit 4-2** shows the percentage of teachers and principals selecting each response category with extensive and more than average confidence categories collapsed.

Roughly 90 percent of principals and RTA teachers reported more than average or extensive confidence with regards to implementing RTA program components across most of the implementation confidence survey items. Notable exceptions included confidence ratings for implementing interventions for students with disabilities or with limited English proficiency and for the use of intervention strategies to close the achievement gap among students from traditionally disadvantaged backgrounds.

Fifty-eight percent of principals reported more than average/extensive confidence that the instructional staff would be able to effectively implement interventions for students with limited English proficiency with 31 percent reporting basic confidence and 11 percent reporting little confidence. Slightly more than 45 percent of RTA teachers reported basic confidence that they would be able to effectively implement interventions for students with limited English proficiency with nearly 20 percent of teachers reporting little confidence. Eighty-one percent and 62 percent of principals and teachers, respectively, reported average/extensive confidence that the instructional staff would be able to effectively implement interventions for students with disabilities. Most of the remainder of teachers and principals reported basic confidence that instructional staff would be able to implement interventions for students with disabilities.

Seventy-seven percent of teachers indicated that they had more than average/extensive confidence that the instructional staff would be able to effectively use strategies to close the achievement gap among traditionally underrepresented groups of students with 22 percent reporting basic confidence.

Overall, principals reported a having higher degree of confidence in the teachers’ abilities to implement interventions with and close the gap for students from various disadvantaged sub-groups than the teachers reported having in their own abilities. This may reflect a gap in the principal’s perceptions of teacher’s actual abilities or may suggest that teachers are more skilled in these areas than they realize. Either way, confidence ratings across principals and teachers were lower for addressing needs of disadvantaged student groups, suggesting that this may be an area in need of targeted support, professional development, and resources.

**EXHIBIT 4-2
CONFIDENCE RATINGS: PERCENT REPORTING LEVELS OF CONFIDENCE**

ITEM	PRINCIPAL (N = 155)						TEACHER (N = 203)					
	More than Average/ Extensive		Basic		Little		More than Average/ Extensive		Basic		Little	
	n	%	N	%	n	%	n	%	n	%	n	%
Identifying students to receive RTA interventions.	143	92.3%	10	6.5%	2	1.3%	193	95.1%	10	4.9%	0	0.0%
Monitoring student reading progress.	145	93.5%	10	6.5%	0	0.0%	187	92.1%	16	7.9%	0	0.0%
Implementing RTA interventions with fidelity.	142	91.6%	11	7.1%	2	1.3%	187	92.1%	16	7.9%	0	0.0%
Evaluating RTA intervention success.	139	89.7%	13	8.4%	3	1.9%	177	87.2%	25	12.3%	1	0.5%
Use of appropriate student grouping strategies for RTA interventions.	141	91.0%	12	7.7%	2	1.3%	179	88.2%	24	11.8%	0	0.0%
Implementing RTA interventions for students with limited English proficiency.	90	58.1%	48	31.0%	17	11.0%	73	36.0%	92	45.3%	38	18.7%
Implementing RTA interventions for students with disabilities.	125	80.6%	25	16.1%	5	3.2%	126	62.1%	65	32.0%	12	5.9%
Using strategies to close the achievement gap among traditionally underrepresented groups of students.	135	87.1%	17	11.0%	3	1.9%	157	77.3%	45	22.2%	1	0.5%

EXHIBIT 4-2 (Continued)
CONFIDENCE RATINGS: PERCENT REPORTING LEVELS OF CONFIDENCE

ITEM	PRINCIPAL (N = 155)						TEACHER (N = 203)					
	More than Average/ Extensive		Basic		Little		More than Average/ Extensive		Basic		Little	
	n	%	N	%	n	%	n	%	n	%	n	%
Knowledge of scientifically-based reading research and effective literacy intervention strategies.	141	91.0%	13	8.4%	1	0.6%	179	88.2%	23	11.3%	1	0.5%
Working as a team with other educational professionals to review and analyze student data, make intervention decisions, and determine RTA intervention success.	138	89.0%	12	7.7%	5	3.2%	185	91.1%	18	8.9%	0	0%

Source: 2009-10 Kentucky Read to Achieve Perceptual Survey.

4.3 Frequency of Common Interventions

Teachers responding to the survey were asked to report their school’s usage of one or more of the four select common interventions: Small Literacy Group, Reading Mastery, Reading Recovery, and Soar to Success/Early Success.

Shown in **Exhibit 4-3**, the frequency of implementation reported by teachers across grades for each intervention is as follows in order of most to least prevalent: Small Literacy Group (85.2%), Soar to Success/Early Success (23.2%) and Reading Mastery (8.4%). Reading Recovery interventions were provided to students in the 1st grade at a rate of 68 percent. About 3.5 percent of the responding teachers were not implementing any of the listed interventions. Note that these percentages are computed by taking the number of teachers reporting using a given common intervention on the KY RTA Perceptual Survey divided by the total number teachers that responded to the survey. Note that rates of common intervention usage reported in Chapter 2.0 are more representative of the rates of intervention usage across all RTA schools. Those rates were derived from teacher reports on the KDE Intervention Survey for which most schools provided intervention data.

**EXHIBIT 4-3
FREQUENCY AND PERCENTAGES OF RTA TEACHERS PROVIDING COMMON INTERVENTIONS**

Common Intervention	All Grades		KG		1st		2nd		3rd	
	N	%	n	%	n	%	n	%	n	%
Small Literacy Group	173	85.2%	108	53.2%	147	72.4%	146	71.9%	123	60.6%
Reading Mastery	17	8.4%	9	4.4%	12	5.9%	16	7.9%	16	7.9%
Reading Recovery					138	68.0%				
Soar to Success/Early Success	47	23.2%	17	8.4%	35	17.2%	42	20.7%	41	20.2%

Source: 2009-10 Kentucky Read to Achieve Perceptual Survey.

Note: There were seven teachers (or 3.4%) not implementing any of these interventions.

4.3.1 Common Intervention Effectiveness

Teachers were asked to rate the overall degree of effectiveness of each common reading intervention (Small Literacy Group, Reading Mastery, Reading Recovery, and Soar to Success/Early Success). Response options included: “Ineffective,” “Somewhat Ineffective,” “Somewhat Effective,” “Very Effective” or “Neutral”. **Exhibit 4-4** shows the percentage of respondents selecting the most common two response categories: Somewhat Effective and Very Effective. Very few respondents selected somewhat/very ineffective (1% to 2%) or neutral (1% to 6%) response options.

More than 95% of the teachers who used one of the four common interventions rated them as either Somewhat Effective or Very Effective. Small Literacy Group interventions, used in all grades, and Reading Recovery, used only in Grade 1, were rated as the most effective interventions.

**EXHIBIT 4-4
OVERALL EFFECTIVENESS RATINGS BY COMMON INTERVENTION**

Common Intervention	Total	Average Score	Somewhat Effective		Very Effective	
	N	M	n	%	n	%
Small Literacy Group	173	4.74	39	22.5%	132	76.3%
Reading Mastery	18	4.33	10	55.6%	7	38.9%
Reading Recovery	134	4.96	5	3.7%	129	96.3%
Soar to Success/Early Success	47	4.34	28	59.6%	18	38.3%

Source: 2009-10 Kentucky Read to Achieve Perceptual Survey.

4.3.2 Common Intervention Elements

Duration of Common Intervention Elements

RTA teachers were asked to report the duration of implementation for intervention elements for any of the four common interventions they implemented. Three duration categories were included on the survey: 0-1 times per week, 2-3 times per week and 4-5 times per week. Percentages of teachers reporting each duration category for each intervention element is shown in **Exhibit 4-5**. Typically, the majority of teachers reported implementing the intervention elements 4-5 times a week. Additionally, a sizable percentage of teachers reported administering the elements 2-3 times a week for Small Group (13% to 22%), Soar/Early Success (6% to 38%), and Reading Mastery (11% to 33%) interventions. Only a very small percentage (less than 2%) of teachers reported implementing the Reading Recovery intervention elements less than 4-5 times per week. Rates of administering intervention elements 0-1 time a week were typically low (below 5%).

Exceptions to the pattern of results were for elements for which only a few teachers (n = 18) reported intervention duration and a relatively high percentage of those teachers indicated N/A (11% to 28%). These included, “Spelling” and “Fluency Rate/Accuracy” elements for Reading Mastery.

EXHIBIT 4-5
DURATION OF IMPLEMENTATION OF INTERVENTION ELEMENTS

Intervention	Intervention Elements	0-1 Time a Week		2-3 Times a Week		4-5 Times a Week	
		n	%	N	%	N	%
Soar to Success/Early Success (N = 47)	Revisiting	1	2.1%	18	38.3%	28	59.6%
	Teaching Elements	1	2.1%	7	14.9%	39	83.0%
	Reading	0	0.0%	3	6.4%	44	93.6%
	Responding	0	0.0%	14	29.8%	32	68.1%
	Other	0	0.0	2	22.2	6	77.8%
Small Literacy Group (N = 173)	Phonemic Awareness	5	2.9%	32	18.5%	134	77.4%
	Phonics and Word Recognition	2	1.15%	22	12.7%	149	86.1%
	Fluency	7	4.0%	38	22.0%	126	72.8%
	Vocabulary	6	3.5%	37	21.4%	128	74.0%
	Comprehension	6	3.5	32	18.5	135	78.0%
Reading Recovery (N = 134)	Reading familiar text	0	0.0%	2	1.5%	132	98.5%
	Reading yesterday's news story	0	0.0%	2	1.5%	132	98.5%
	Letter/sound and/or word work	0	0.0%	2	1.5%	132	98.5%
	Writing a story	0	0.0%	2	1.5%	132	98.5%
	Assembling a cut-up story	0	0.0%	2	1.5%	132	98.5%
	Reading a new book	0	0.0%	2	1.5%	131	97.8%
Reading Mastery (N = 18)	Letter sounds ¹	0	0.0%	2	11.1%	15	83.3%
	Word reading ¹	0	0.0%	2	11.1%	15	83.3%
	Story reading/Comprehension ¹	0	0.0%	5	27.8%	12	66.7%
	Workbook/Independent practice ²	0	0.0%	3	16.7%	13	72.2%
	Vocabulary ¹	0	0.0%	4	22.2%	13	72.2%
	Spelling ³	3	16.7%	5	27.8%	5	27.8%
	Fluency rate/Accuracy ¹	6	33.3%	6	33.3%	5	27.8%

Source: 2009-10 Kentucky Read to Achieve Perceptual Survey.

Other elements reported included: Comprehension, Cut Up Sentences, Multi-Sensory Approach, Reading Strategies, Reviewing, Writing about what was read, Decoding skills

¹Not applicable response greater than 5% = 5.6%

²Not applicable response greater than 5% = 11.1%

³Not applicable response greater than 5% = 27.8%

Importance of Common Intervention Elements

Teachers were asked to report the degree of importance for each intervention element. Ratings ranged from 1 to 5 with response categories of "Very Important", "Somewhat Important", "Neutral", "Somewhat Unimportant", and "Unimportant."

Exhibit 4-6 shows the percentage of teachers selecting the two most commonly selected response options (Very and Somewhat Important). The percentage of teachers providing a response of somewhat unimportant ranged from 1 percent to 6 percent. No respondents indicated any of the elements were very unimportant. Rates of N/A ranged from 1 percent to 11 percent.

The majority of teachers responding to this section of the survey indicated that they felt the intervention elements for the four common interventions were either somewhat or very important to program effectiveness. There was some variation in the rates of Very Important and Somewhat Important with the most variation found for select Reading Mastery elements (for example, Workbook/Independent Practice and Spelling) and Soar to Success (for example, Revisiting and Responding) elements.

**Exhibit 4-6
Importance of Intervention Elements**

Intervention	Intervention Elements	Very Important		Somewhat Important		Average Score
		n	%	n	%	M
Soar to Success/Early Success (N = 47)	Revisiting	29	61.7%	14	29.8%	4.5
	Teaching Elements	38	80.9%	6	12.8%	4.7
	Reading	41	87.2%	3	6.4%	4.7
	Responding	33	70.2%	9	19.2%	4.6
	Other	8	88.9%	1	11.1%	---
Small Literacy Group (N = 173)	Phonemic Awareness	158	91.3%	13	7.5%	4.9
	Phonics and Word Recognition	164	94.8%	9	5.2%	4.9
	Fluency	148	85.5%	21	12.1%	4.8
	Vocabulary	151	87.3%	18	10.4%	4.8
	Comprehension	161	93.1%	9	5.2%	4.9
Reading Recovery (N = 134)	Reading familiar text	134	100%	0	0.0%	5.0
	Reading yesterday's news story	134	100%	0	0.0%	5.0
	Letter/sound and/or word work	133	99.3%	1	0.7%	4.9
	Writing a story	134	100%	0	0.0%	5.0
	Assembling a cut-up story	128	95.5%	6	4.5%	4.5
	Reading a new book	133	99.3%	0	0.0%	5.0

EXHIBIT 4-6 (Continued)
IMPORTANCE OF INTERVENTION ELEMENTS

Intervention	Intervention Elements	Very Important		Somewhat Important		Average Score
		n	%	n	%	<i>M</i>
Reading Mastery (N = 18)	Letter sounds ¹	16	88.9%	1	5.6%	4.9
	Word reading ¹	15	83.3%	2	11.1%	4.8
	Story reading/Comprehension ¹	16	88.9%	1	5.6%	4.9
	Workbook/Independent practice ²	9	50.0%	6	33.3%	4.5
	Vocabulary ¹	14	77.8%	2	11.1%	4.7
	Spelling ³	6	33.3%	5	27.8%	4.1
	Fluency rate/Accuracy ¹	14	77.8%	1	5.6%	4.7

Source. 2009-10 Kentucky Read to Achieve Perceptual Survey.

Average score not including DK/NA. Scale ranges from 1 (Very Unimportant) to 5 (Very Important).

Other elements reported included: Comprehension, Cut Up Sentences, Multi-Sensory Approach, Reading Strategies, Reviewing, Writing about what was read, Decoding skills

¹Not applicable response greater than 5% = 5.6%

²Not applicable response greater than 5% = 11.1%

³Not applicable response greater than 5% = 22.2%

4.4 Acceptability of Common Intervention Elements.

Teachers were asked to report on whether each intervention element was difficult to implement, whether they would prefer/not prefer to implement the element again and whether the elements were engaging/not engaging to the students. The response option was a check-box and respondents could check all that applied. **Exhibits 4-7 to 4-10** below show the percentage of teachers that checked an intervention element in response to a given statement (difficulty, prefer/not prefer to implement, student engaged/not engaged). Also shown is the percentage of respondents that reported none of the elements fit a given statement.

Regarding small group intervention elements, the majority of respondents (over 80%) indicated that none of the elements were difficult to implement, they would prefer to implement phonemic awareness, phonics and word recognition, fluency, vocabulary, and comprehension again, and that these elements were engaging for the students.

In response to why the intervention element(s) was/were difficult to implement, teachers responded as follows:

- Vocabulary and Comprehension are difficult for struggling readers with limited knowledge and experiences.
- Time constraints; there is never enough time to get to every element every day.
- Students struggle with comprehension and teachers have limited resources in the area of comprehension.

**EXHIBIT 4-7
ACCEPTABILITY OF SMALL GROUP INTERVENTION ELEMENTS (N = 173)**

ITEM	Phonemic Awareness		Phonics and Word Recognition		Fluency		Vocabulary		Comprehension		None	
	n	%	n	%	n	%	n	%	n	%	n	%
Elements that were difficult to implement.	3	1.7	3	1.7	10	5.8	10	5.8	18	10.4	140	80.9
Elements that prefer to implement again.	156	90.2	158	91.3	153	88.4	152	87.9	159	91.9	6	3.5
Elements that prefer not to implement again.	3	1.7	2	1.2	2	1.2	1	0.6	1	0.6	152	87.9
Elements that were engaging for students.	154	89.0	159	91.9	143	82.7	140	80.9	142	82.1	3	1.7
Elements that were not engaging for students.	5	2.9	6	3.5	18	10.4	16	9.2	16	9.2	122	70.5

Source: 2009-10 Kentucky Read to Achieve Perceptual Survey. Valid percentage reported for "None". Only "Yes" responses are included in this table. Respondents could check all elements that apply so that percentages across table columns will not add to 100%.

Over 88 percent of teachers felt that none of the Reading Mastery intervention elements were difficult to implement. Less than half prefer to implement spelling again and only 39 percent believe spelling was engaging for students. All other elements were seen to be engaging and would be implemented again.

Reasons reported for why an intervention element was difficult to implement included:

- Not enough time to implement.
- Other elements were more important to implement in the time given.

**EXHIBIT 4-8
ACCEPTABILITY OF READING MASTERY INTERVENTION ELEMENTS (N = 18)**

ITEM	Letter Sounds		Word Reading		Story Reading/ Comprehension		Workbook/ Independent Practice		Vocabulary		Spelling		Fluency Rate/ Accuracy		None	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Elements that were difficult to implement.	0	0.0	0	0.0	0	0.0	1	5.6	2	11.1	5	27.8	0	0.0	11	91.7
Elements that prefer to implement again.	17	94.4	17	94.4	16	88.9	16	88.9	16	88.9	8	44.4	16	88.9	0	0.0
Elements that prefer not to implement again.	0	0.0	0	0.0	0	0.0	1	5.6	0	0.0	3	16.7	1	5.6	12	80.0
Elements that were engaging for students.	16	88.9	16	88.9	17	94.4	13	72.2	14	77.8	7	38.9	15	83.3	0	0.0
Elements that were not engaging for students.	0	0.0	0	0.0	0	0.0	2	11.1	0	0.0	5	27.8	1	5.6	9	81.8

Source: 2009-10 Kentucky Read to Achieve Perceptual Survey. Valid percentage reported for "None".

Only "Yes" responses are included in this table. Respondents could check all elements that apply so that percentages across table columns will not add to 100%.

Regarding Reading Recovery intervention elements, almost all respondents (over 90%) felt none of the elements were difficult to implement, they prefer to implement all elements again, and all elements were engaging for the students.

Teachers indicated the following reasons for why the intervention element(s) was/were difficult to implement:

- Less confident in this area.
- Not sure they are choosing the right word work for the right students.

**EXHIBIT 4-9
ACCEPTABILITY OF READING RECOVERY INTERVENTION ELEMENTS (N = 134)**

ITEM	Reading Familiar Texts		Reading Yesterday's Story		Letter/Sound or Word Work		Writing a Story		Assembling Cut-up Story		Reading a New Book		None	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Elements that were difficult to implement.	0	0.0	0	0.0	7	5.2	2	1.5	0	0.0	1	0.7	123	96.9
Elements that prefer to implement again.	125	93.3	125	93.3	124	92.5	124	92.5	122	91.0	125	93.3	5	71.4
Elements that prefer not to implement again.	0	0.0	0	0.0	1	0.7	0	0.0	0	0.0	0	0.0	122	91.7
Elements that were engaging for students.	127	94.8	124	92.5	127	94.8	126	94.0	127	94.8	125	93.3	4	80.0
Elements that were not engaging for students.	1	0.7	1	0.7	0	0.0	2	1.5	0	0.0	1	0.7	121	92.4

Source: 2009-10 Kentucky Read to Achieve Perceptual Survey. Valid percentage reported for "None". Only "Yes" responses are included in this table. Respondents could check all elements that apply so that percentages across table columns will not add to 100%.

Regarding Soar to Success/Early Success intervention elements,

- Most teachers indicated they were not difficult to implement (85%).
- Almost all teachers preferred to implement each element again (between 92% and 96%).

- Most teachers felt the elements were engaging for the students (between 81% and 89%).

As to why the intervention element(s) was/were difficult to implement, teachers reported:

- Time constraints – hard to fit the revisiting and responding elements into daily schedule.
- Other programs are more effective than Early Success and Soar.
- Students have difficulty formulating thoughts and expressing them in writing. The response questions don't build strong story writers.

**EXHIBIT 4-10
ACCEPTABILITY OF SOAR TO SUCCESS/EARLY SUCCESS INTERVENTION
ELEMENTS (N = 47)**

ITEM	Revisiting		Teaching Elements		Reading		Responding		Other		None	
	n	%	n	%	n	%	n	%	n	%	n	%
Elements that were difficult to implement.	3	6.4	2	4.3	1	2.1	4	8.5	1	2.1	40	85.1
Elements that prefer to implement again.	43	91.5	45	95.7	44	93.6	44	93.6	9	19.1	2	4.3
Elements that prefer not to implement again.	2	4.3	1	2.1	2	4.3	3	6.4	1	2.1	41	95.3
Elements that were engaging for students.	38	80.9	42	89.4	42	89.4	39	83.0	7	14.9	3	6.4
Elements that were not engaging for students.	7	14.9	1	2.1	2	4.3	4	8.5	1	2.1	36	94.7

Source: 2009-10 Kentucky Read to Achieve Perceptual Survey. Valid percentage reported for "None". Only "Yes" responses are included in this table. Respondents could check all elements that apply so that percentages across table columns will not add to 100%.

Other elements reported by one respondent each included: Comprehension, Cut Up Sentences, Multi-Sensory Approach, Reading Strategies, Reviewing, Writing about what was read, Decoding skills

4.5 KY RTA Program Improvement

Principals and teachers were asked how the RTA program could be improved to better support principals, teachers, students, and other stakeholders toward the goal of improving K-3 student performance. Principals provided 189 suggestions and teachers provided 259 suggestions for how the RTA program could be improved to better support

principals, teachers, students, and other stakeholders. These suggestions were synthesized into common themes shown in **Exhibits 4-11 and 4-12** below. Responses were categorized by type and frequency. The key findings were:

- The most frequent response given by principals and teachers for how the RTA program could be improved to better support principals, teachers, students, and other stakeholders was to increase/continue funding the program and to give earlier notice of the program budget.
- The next most frequent category of responses provided by principals and teachers was regarding the use of T-Pro in assessing students including difficulties using the T-Pro (i.e., confusing, inaccurate, and time-consuming).
- Both principals and teachers indicated that the RTA program needs to serve more students and ideally all students (without excluding any student group), should be integrated into the regular classroom teaching curriculum, and that the program should be more flexible so teachers can adapt the program to students' changing needs. Principals and teachers also desire to have more training and continued professional development for RTA teachers and staff.

**EXHIBIT 4-11
AREAS FOR IMPROVEMENT: PRINCIPAL REPORTS.**

PRINCIPALS	n	%
Increase/Continue funding/RTA program; earlier notice of program budget amount	90	47.6%
Discontinue program	1	0.5%
Regular RTA teacher meetings for discussion, planning, and sharing strategies	4	2.1%
Assessment: Concerns/Difficulty/Inaccuracies with using T-Pro	27	14.3%
Follow curriculum/intervention guidelines more closely (e.g. monitoring, administering, full duration)	2	1.0%
Greater emphasis on data collection and analysis	1	0.5%
Less record-keeping/meetings, more time with students	4	2.1%
Choose standard test format (written or computerized)	2	1.1%
Training for new staff and continued professional development	11	5.8%
Integrate/Supplement with other programs; Use RTA intervention as a supplement	2	1.1%
Increase the number of RTA teachers/staff	11	5.8%
Fund after-school programs	1	0.5%
Serve more students (no exclusions), integrate into regular classroom teaching, more flexibility	23	12.2%
Continue list serv support	1	0.5%
Provide additional support to students as they progress through each grade level	1	0.5%
Need longer/shorter testing periods	3	1.6%
Need more individual and small group sessions for students	1	0.5%
Other	1	0.5%
No suggestions	3	1.6%
Total responses	189	100%

Source: 2009-10 Kentucky Read to Achieve Perceptual Survey. A total of 154 principals responded.

**EXHIBIT 4-12
AREAS FOR IMPROVEMENT: TEACHER REPORTS.**

TEACHERS	n	%
Increase/Continue funding/RTA program; earlier notice of program budget amount	69	26.6%
Discontinue/Replace program	1	0.4%
Regular RTA teacher meetings for discussion, planning, and sharing strategies; increase communication among RTA teachers	14	5.45
Assessment: Concerns/Difficulty/Inaccuracies with using T-Pro (clearer guidelines, T-Pro too slow)	47	18.1%
Use/Integrate more technology into RTA program	3	1.2%
Follow curriculum/intervention guidelines more closely	1	0.4%
Hire more qualified teachers to implement RTA intervention program	2	0.8%
Choose standard test format (written or computerized); prefer written format	5	1.9%
Monitor/Decrease workload	1	0.4%
Training for new staff and continued professional development (Webinars, updated materials, focus on ESL/disabled students)	28	10.8%
Need more individual and small group sessions for students	4	1.5%
Integrate/Supplement with other programs; Use RTA intervention as a supplement	10	3.9%
Increase the number of RTA teachers/staff	20	7.7%
Serve more students (no exclusions), integrate into regular classroom teaching, more flexibility, focus more on special education, disabled ESL, and LEP students	16	6.2%
Continue list serve	1	0.4%
Provide additional support to students as they progress through each grade level	3	1.2%
Need longer/shorter testing periods	3	1.2%
Increase state-level and district-level monitoring/collaboration/communication (regular meetings)	4	1.5%
Participate in a statewide RTA conference	2	0.8%
Increase/Continue parent involvement in RTA program	3	1.2%
Other	2	0.8%
No suggestions	20	7.7%
Total responses	259	100%

Source: 2009-10 Kentucky Read to Achieve Perceptual Survey. A total of 200 teachers responded.

4.6 Chapter Summary

This chapter provided information derived from teachers and principals in RTA schools gathered through an electronic survey tool. The focus of this part of the evaluation was perceptual data regarding the identified intervention elements and the capacity of the teachers and school to implement the interventions.

Much of the focus was on the four common interventions described in detail in Chapter 2. The data gathered from this exploration indicate that most teachers believe the selected intervention is “Somewhat” or “Very Effective” and will, therefore, continue to implement all or nearly all elements of the selected intervention. Additionally, most principals report confidence in the ability of their teachers to implement the selected intervention. However, teachers themselves report being less confident, especially regarding their ability to improve the achievement of minority or at risk learners. Although the interventions are seen as effective, the

perceived lack of personal effectiveness and possible impact on student achievement should be explored in the 2010-11 RTA evaluation.

**5.0 KENTUCKY READ TO
ACHIEVE PROGRAM AND
INTERVENTION IMPACT**

5.0 KENTUCKY READ TO ACHIEVE PROGRAM AND INTERVENTION IMPACT

This chapter summarizes the conceptualization, methodology, and findings for the impact study component of the evaluation. The ultimate goal of the Kentucky Read to Achieve (KY RTA) program and its associated interventions is to improve reading performance among participating students. The research questions examined in this study related to program and intervention impact are as follows:

1. What was the impact of the RTA program on student performance on the Test of Primary Reading Outcomes (T-Pro)?
2. What was the impact of four common interventions on student performance on the T-Pro?
3. What is the impact of the RTA program and common interventions in eliminating academic achievement gaps among students with differing characteristics (i.e., disabilities, low socioeconomic status, racial minority groups, limited English proficiency, and gender)?

In prior studies of the impact of the KY RTA program, differences were found on student performance for students exposed to the various service delivery models such that larger gains emerged for students exposed to RTA interventions provided by RTA-trained teachers as compared to interventions provided by certified teachers, especially for non-RTA interventions. Service delivery modalities are described in **Section 5.1**. In this study, two service modality student groupings were examined:

- Students receiving only RTA interventions from RTA-funded teachers (RTA Teacher Group)
- Students not receiving an intervention (No Intervention Group)

Furthermore, the impact on student reading performance of the RTA program, as well as that of the four common interventions (that is, Reading Recovery, Reading Mastery, Soar/Early Success, and Small Group) selected for focus in this evaluation, was examined. Examining the unique impact of each of the four common interventions provides some insight into whether exposure to these interventions is linked to reductions in achievement gaps according to minority status, participation in special education, gender, free/reduced priced lunch eligibility status and English Language Learner (ELL) status.

Prior evaluation of the KY RTA program has suggested that some gaps remain in the performance of traditionally more and less disadvantaged students. In this study, the impact of student demographic grouping status on performance within the context of the various intervention modalities was analyzed. In the next section, the data sources and analytical model for addressing each of the impact study research questions are described.

5.1 Methods

5.1.1 Data

As indicated in **Chapter 1.0**, students at KY RTA schools may receive interventions through various service delivery modalities. To elaborate, students may receive interventions from RTA-funded teachers because they are in RTA schools, may receive interventions from non-RTA-funded teachers, or they may receive no intervention. Data are available by student, indicating whether or not a given student experienced intervention. In terms of the specific type of intervention the student received (for example, Reading Mastery, Reading Recovery, etc.), the primary intervention provided to the student is reported. It should be noted that students may be receiving other interventions besides this primary intervention, but that data is not captured in this study.

5.1.2 Design and Analysis

To address the impact study research questions, gain scores were computed based on the fall 2009 and spring 2010 administration of the T-Pro. Following the recommendation of the Center for Innovation and Assessment, total scores rather than Normal Curve Equivalency (NCE) scores were the used in this evaluation.¹ These total scores represent the total number of correct responses to test items. In the absence of grade-level norming or scaling of these scores, all analyses conducted for the impact study are disaggregated by grade level.

The evaluation consisted of three components based on the three impact study research questions. First, a comparison was conducted of the pretest-posttest gains of students in the RTA-funded Teacher Group to those of students in the No Intervention Group (Set 1). Second, a comparison was conducted of pretest-posttest gains of students within the RTA intervention groups receiving the following common interventions: *Small Groups*, *Early/Soar to Success*, *Reading Recovery* and *Reading Mastery* (Set 2). In the third component of the analysis, a comparison was conducted of gains within the RTA-funded Teacher Group and common intervention groups to determine whether these interventions reduced achievement gaps according to minority status, participation in special education, gender, free/reduced priced lunch eligibility status and ELL status (Set 3).

To evaluate the impact of the RTA and common interventions on student gains on the T-Pro, Analyses of Covariance (ANCOVA) were conducted to test for the statistical significance and effect size of the difference in mean pretest-posttest gains based on the aforementioned intervention groupings. The fall 2009 total T-Pro score was used as a covariate in these analyses to statistically adjust for pre-existing differences in achievement between the groups. Within the ANCOVA framework, we conducted a set of planned comparisons as follows. For the Set 1 comparisons, we conducted a contrast analysis (Helmert contrasts) comparing the outcomes for students with an RTA trained teacher to those of students who did not receive an intervention. For the Set 2 analysis, we conducted planned comparisons such that within each of the Set 1 groups, mean gains of students receiving each common intervention were compared to those of students not receiving that common intervention. Planned comparisons for the Set 3

¹ <http://www.cia.indiana.edu/>.

analysis tested for the statistical significance of the difference in mean gains between the demographic/service eligibility status groups within the Set 1 and Set 2 groupings.

5.2 Results

This section provides an overview of the findings as they pertain to each of the program impact research questions, starting with the comparison of student gains in the RTA Teacher group and the No Intervention Group. Next, gains of students receiving common interventions within each of these intervention groups are described, and finally, the differences in student gains according to demographic category and academic needs are summarized. **Appendix C** includes a technical report which provides comprehensive details of the statistical analyses from the Analyses of Covariance (ANCOVA) and contrast analyses.

5.3 Summary and Discussion

Research Question 1: What was the impact of the RTA program on student performance on the T-Pro?

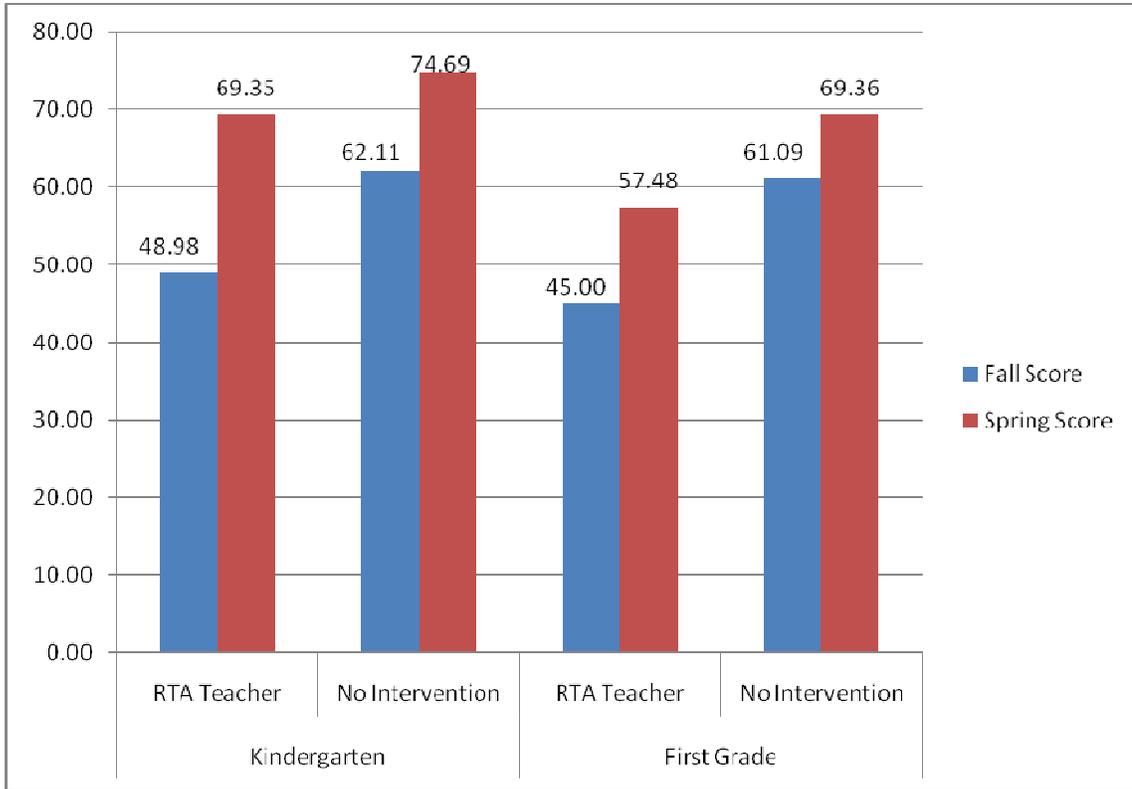
5.3.1 Summary of Findings

Exhibit 5-1 shows findings related to Research Question #1. In kindergarten and grade 1, students in the RTA Teacher Group make greater gains on the T-Pro than students in the No Intervention Group. In second and third grade, students in the RTA Teacher Group made greater gains than those in the No Intervention Group. However, the spring scores for RTA students in all grades are still lower than the spring scores of the No Intervention Group.

This data shows that students who receive RTA-funded reading intervention support are making progress. These students show important learning gains from fall to spring as measured by the T-Pro assessment. Students who receive RTA intervention support tend to start the year behind their peers, as shown by the fall score. However, it is important to remember that RTA students **should be selected** because their achievement is low and they are in need of assistance. Students who do not receive RTA intervention are expected to score higher. They should **not be selected** because their achievement is already high and they are not in need of assistance. The goal of RTA is to give extra support to low achieving students and help them become skilled readers by the end of grade 3.

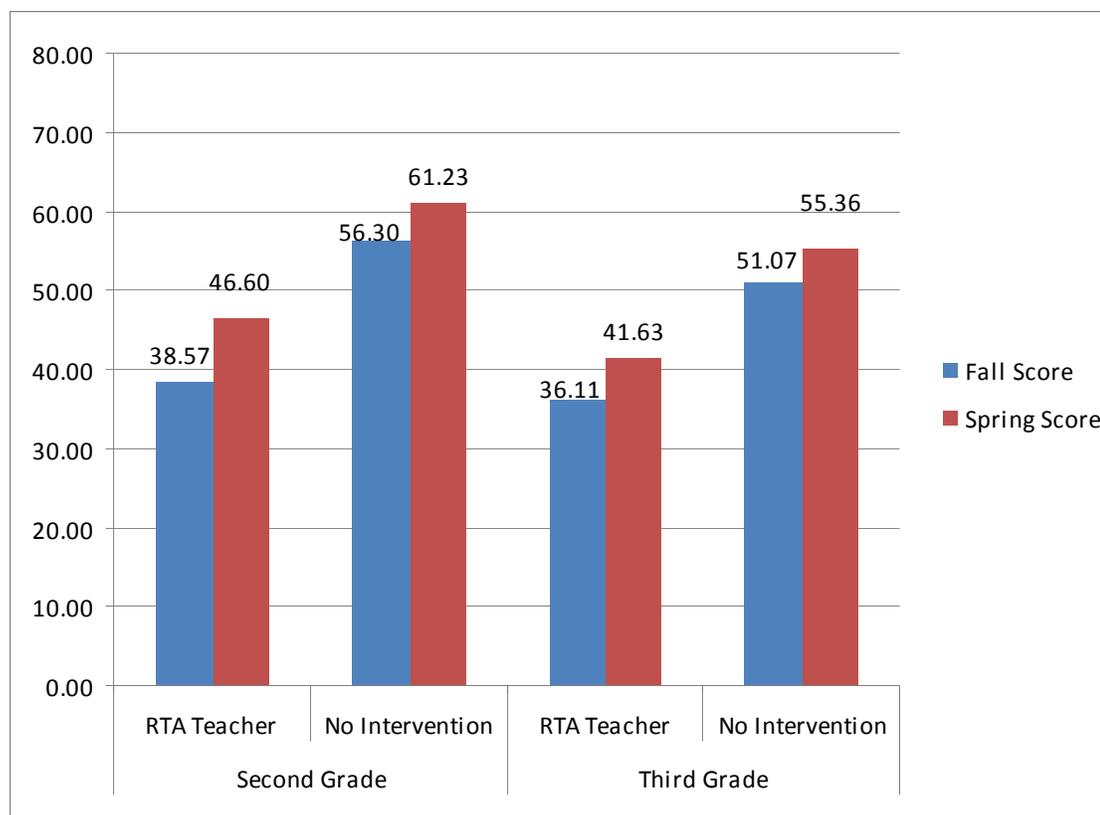
As shown, in the fall of kindergarten, RTA students started 14 points behind, but their spring score was only 5 points behind their peers. This is an important gain and it puts them closer to where they need to be. RTA students in grades 1-3 also made gains as shown in **Exhibits 5-1** and **5-2** below.

**EXHIBIT 5-1
PROGRAM IMPACTS ON READING PERFORMANCES OF
KINDERGARTEN AND FIRST GRADE STUDENTS AT KY RTA SCHOOLS**



Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-2
PROGRAM IMPACTS ON READING PERFORMANCES OF
SECOND AND THIRD GRADE STUDENTS AT KY RTA SCHOOLS**



Source: MGT of America, Inc., compiled from KDE data.

5.3.2 Conclusions and Interpretation

Students who received RTA intervention improved their reading performance. This was true for students in all grades K-3. Students in kindergarten made the greatest gains; students in grade 3 made the least gains. The apparent greater gains at earlier grades may be a function of the fact that students in grades 2 and 3 are farther behind and have more reading skills and strategies to learn than students in kindergarten and first grade. Also, the T-Pro scores used for this analysis were raw scores, rather than scaled or normed scores. The instrumentation issue will be explored further in **Section 5.4**.

Research Question 2: What was the impact of four common interventions on student performance on the T-Pro?

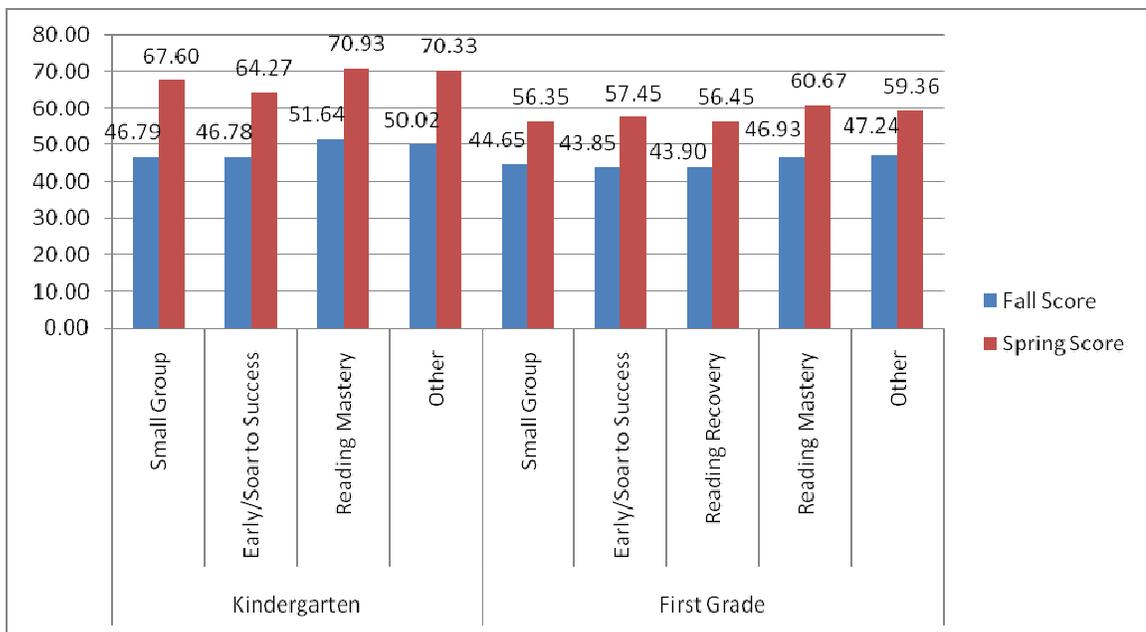
5.3.3 Summary of Findings

Exhibits 5-3 and **5-4** depict findings related to Research Question #2. This research question explored the relative effectiveness of the four most commonly used interventions: small group, *Reading Mastery*, *Reading Recovery*, and *Early/Soar to Success*. It should be noted, that *Reading Recovery* is an intervention at grade 1 only. In addition, the data collected represents the **primary** intervention a child received, but not

necessarily the only intervention a child received. Since all the children in this study are attending RTA schools, it is possible that a child would receive additional intervention support beyond this identified primary intervention – either another one of these four common interventions or “other” intervention.

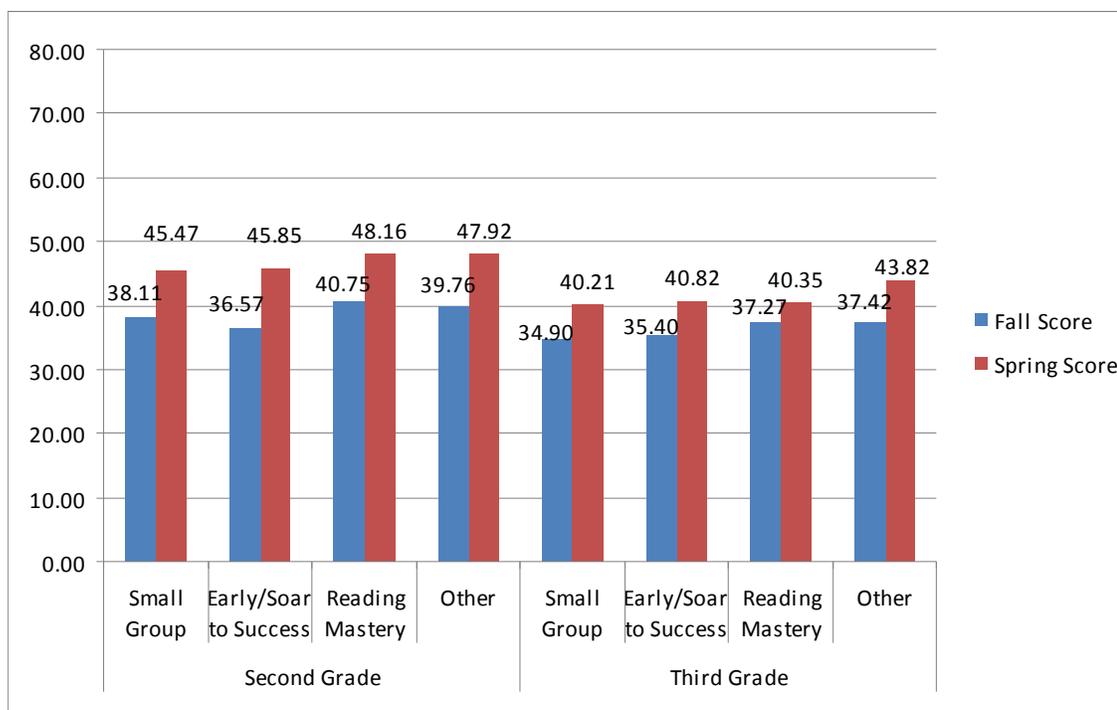
From the data, students who received any of these common interventions made gains. As described earlier, students in kindergarten made the highest gains, regardless of the intervention.

**EXHIBIT 5-3
IMPACT OF FOUR COMMON INTERVENTIONS ON READING PERFORMANCES
FOR KINDERGARTEN AND FIRST GRADE STUDENTS
IN THE RTA TEACHER GROUP**



Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-4
IMPACT OF FOUR COMMON INTERVENTIONS ON READING PERFORMANCES
FOR SECOND AND THIRD GRADE STUDENTS IN THE RTA TEACHER GROUP**



Source: MGT of America, Inc., compiled from KDE data.

5.3.4 Conclusions and Interpretation:

The findings from this analysis suggest that the common interventions produce student gains and are effective. However, as described in Chapter 2, teachers reported not being sure about the effectiveness of interventions. This suggests that teachers need to be knowledgeable about the effectiveness of several interventions.

Research Question 3: What is the impact of the RTA program and common interventions in eliminating academic achievement gaps among students with differing characteristics (that is, disabilities, low socioeconomic status, racial minority groups, limited English proficiency, and gender)?

5.3.5 Summary of Findings

Exhibits 5-5 through 5-24 show the findings from analyses conducted to address Research Question #3. **Exhibits 5-5 through 5-14** depict the program impact on achievement gaps for students from each of the demographic groups examined in this study. **Exhibits 5-15 through 5-24**, depict common intervention impacts on achievement gaps for students from each of the demographic groups examined in this study. Separate tables are provided for each demographic group.

Findings show that students from non-minority groups have greater gains than those from minority groups, regardless of whether they were in the RTA Teacher Group or received no intervention at all. However, the analyses also indicate that the overall effect

of the minority differences is relatively small. Comparing the gains of students receiving special education to the gains of students who did not does not yield a consistent trend.

Differences between the gains of male and female students tended to not be significant. There were some minor differences noted between programs. For example, in kindergarten, male students receiving no intervention made greater gains than females, while in grade 1, female students in the RTA Teacher Group made greater gains than their male counterparts. Among first graders, female students participating in *Early/Soar to Success* gained more than male students participating in that intervention. Other common interventions did not yield any gender differences.

Similarly, no differences in gains were observed between students eligible for free or reduced priced lunch in any of the grade levels and those of students who are not eligible. Students receiving ELL services in the RTA Teacher Group made gains to the same extent as students in the RTA Teacher Group not receiving ELL services. There appears to be no consistent trend favoring or disfavoring students receiving ELL services when considering the gains in the common intervention groups.

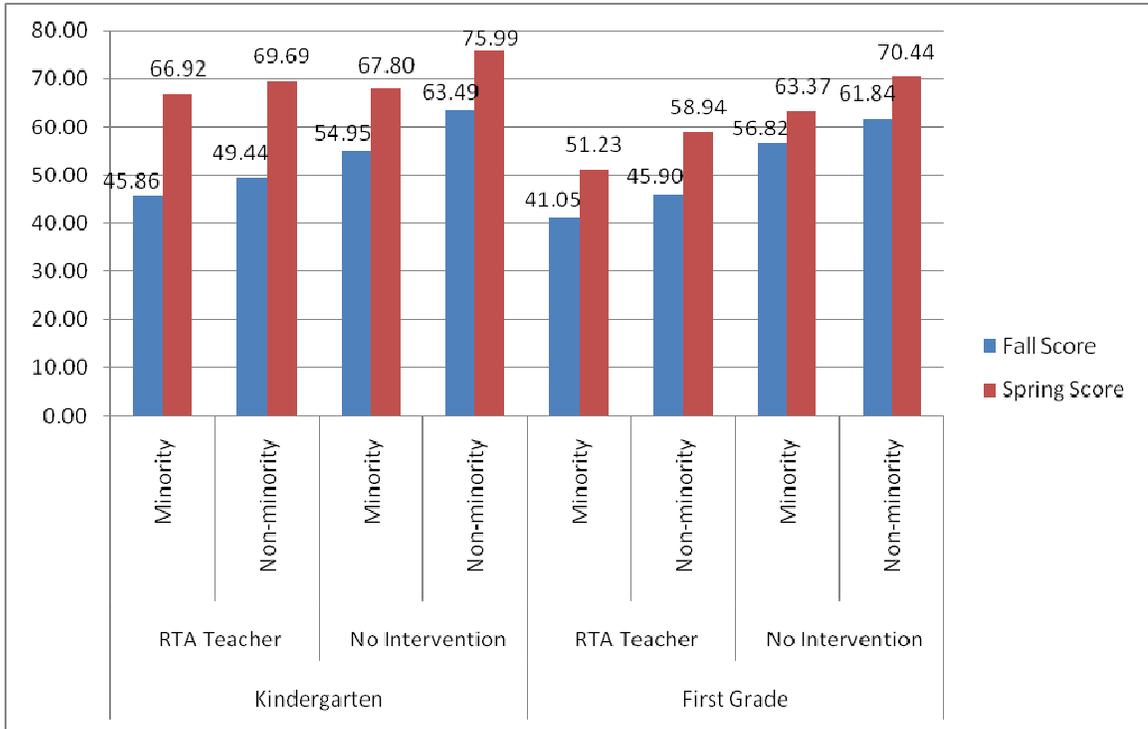
In conclusion, these analyses do not provide clear direction or recommendation to suggest one program is more or less effective at narrowing the achievement gaps. What may be most important is to ensure that RTA teachers are aware of multiple programs and approaches and work to provide instruction that is working *for that child*, rather than just a program that has worked for other children.

Exhibits 5-5 through 5-24 show the pre- and post-test scores for students who received RTA-funded intervention and students who received no intervention. As described earlier, the RTA-supported students typically started lower, but made significant gains, especially at kindergarten, nearly matching the post-test score of the minority and ELL students who received no intervention.

There are separate tables for students in each of the following groups:

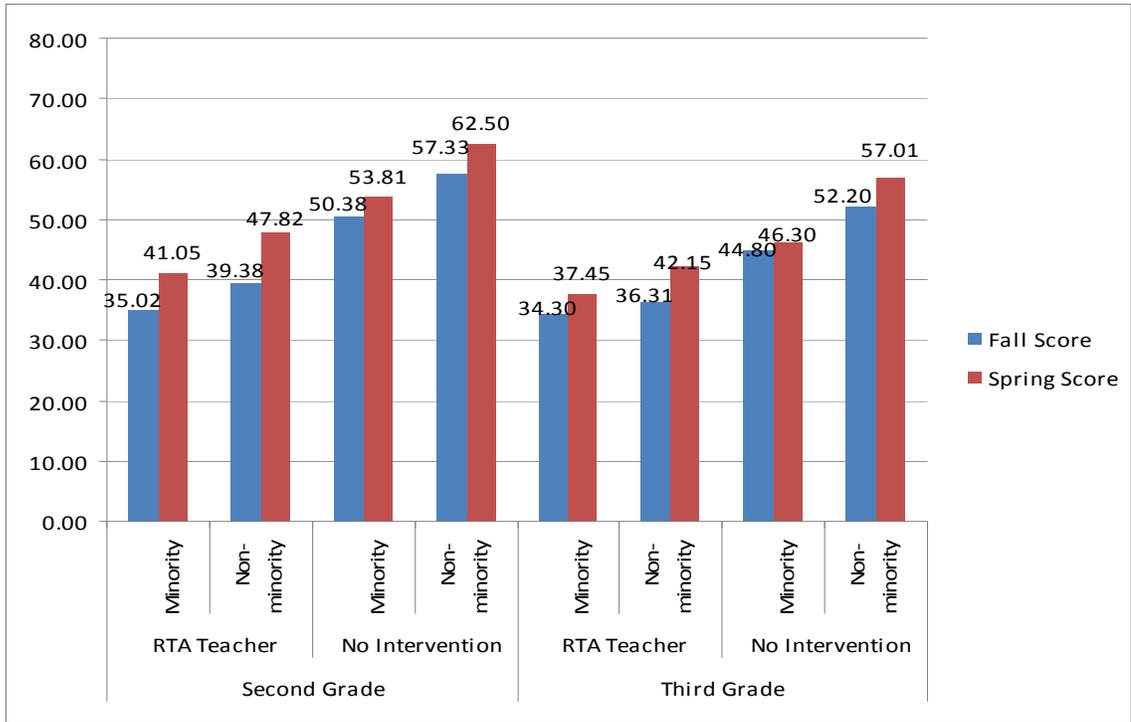
- Minority status
- Special Education status
- Gender status
- Free/Reduced Lunch status
- ELL status

**EXHIBIT 5-4
PROGRAM IMPACT ON READING ACHIEVEMENT GAP:
MINORITY STATUS
KINDERGARTEN AND FIRST GRADE STUDENTS**



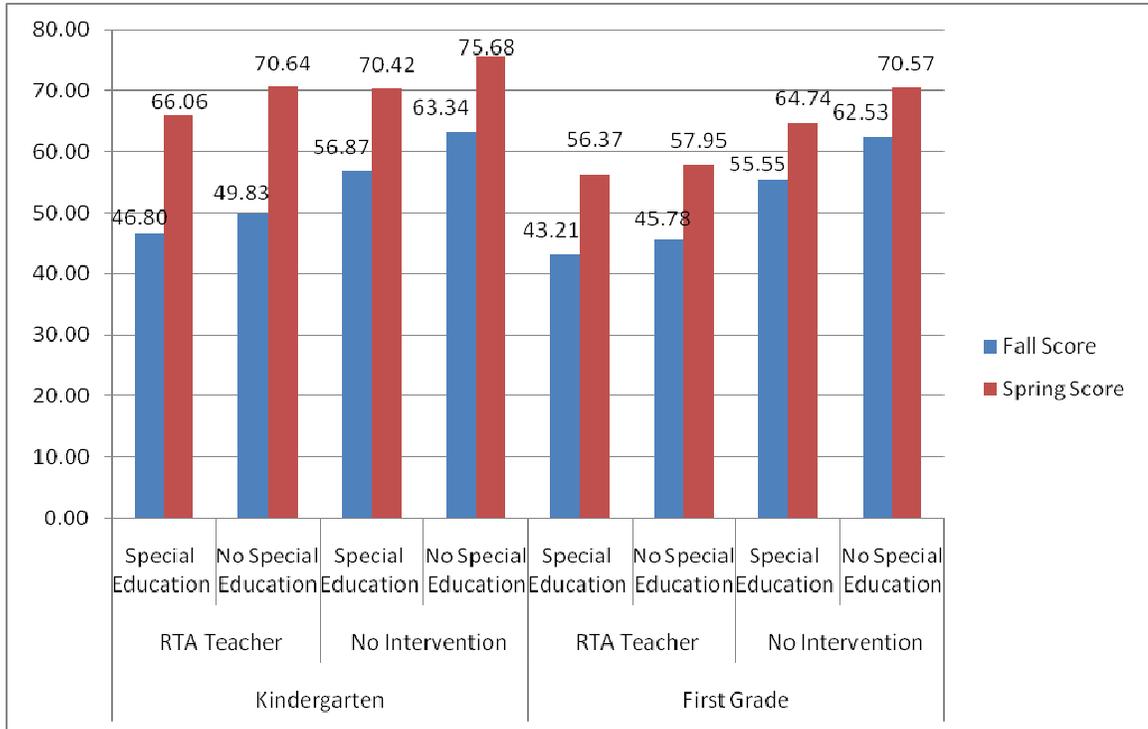
Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-6
PROGRAM IMPACT ON READING ACHIEVEMENT GAP:
MINORITY STATUS
SECOND AND THIRD GRADE STUDENTS**



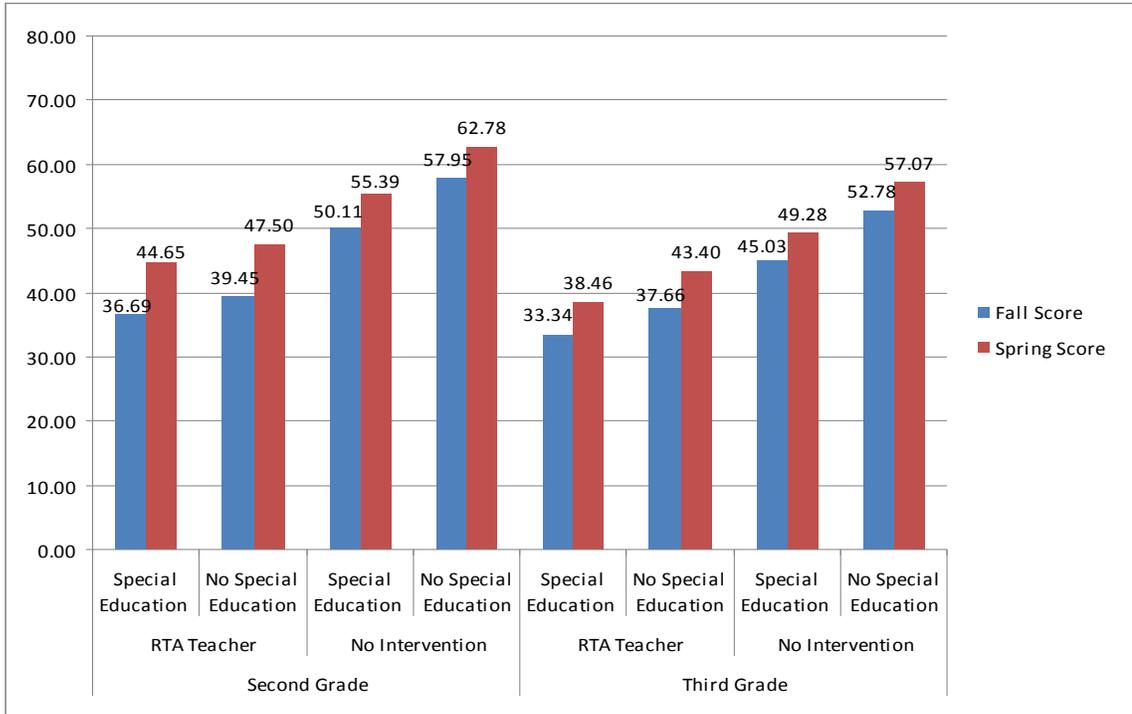
Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-7
PROGRAM IMPACT ON READING ACHIEVEMENT GAP:
SPECIAL EDUCATION STATUS
KINDERGARTEN AND FIRST GRADE**



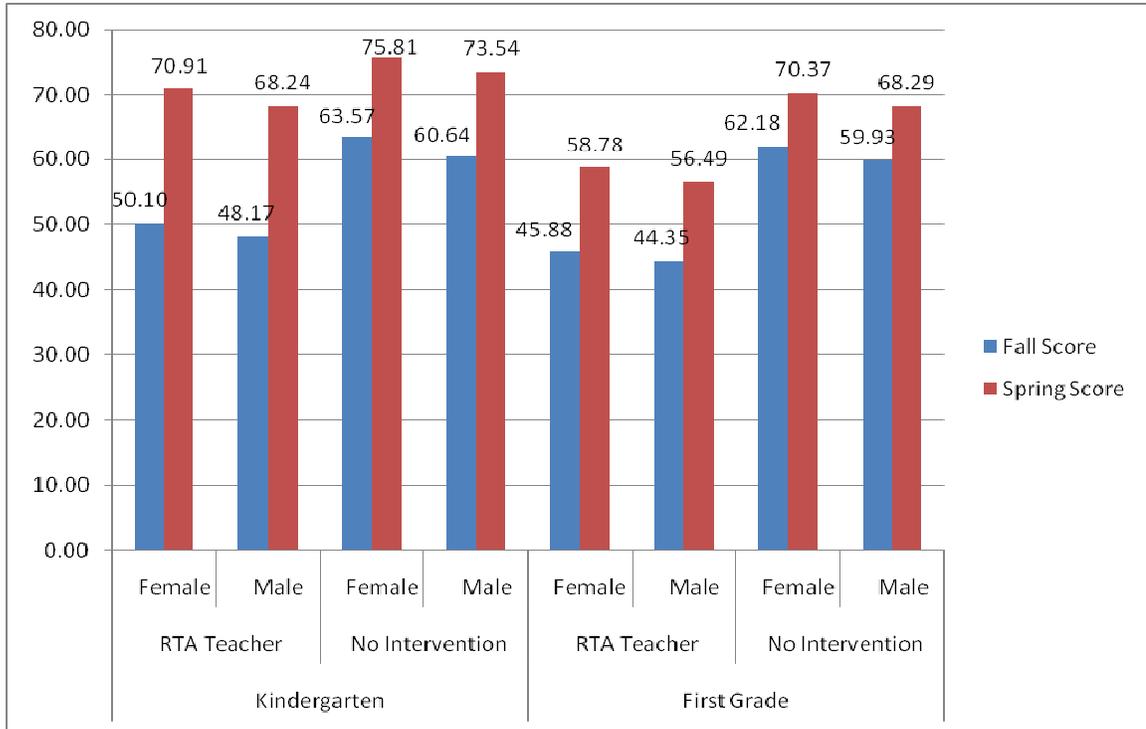
Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-8
PROGRAM IMPACT ON READING ACHIEVEMENT GAP:
SPECIAL EDUCATION STATUS
SECOND AND THIRD GRADE**



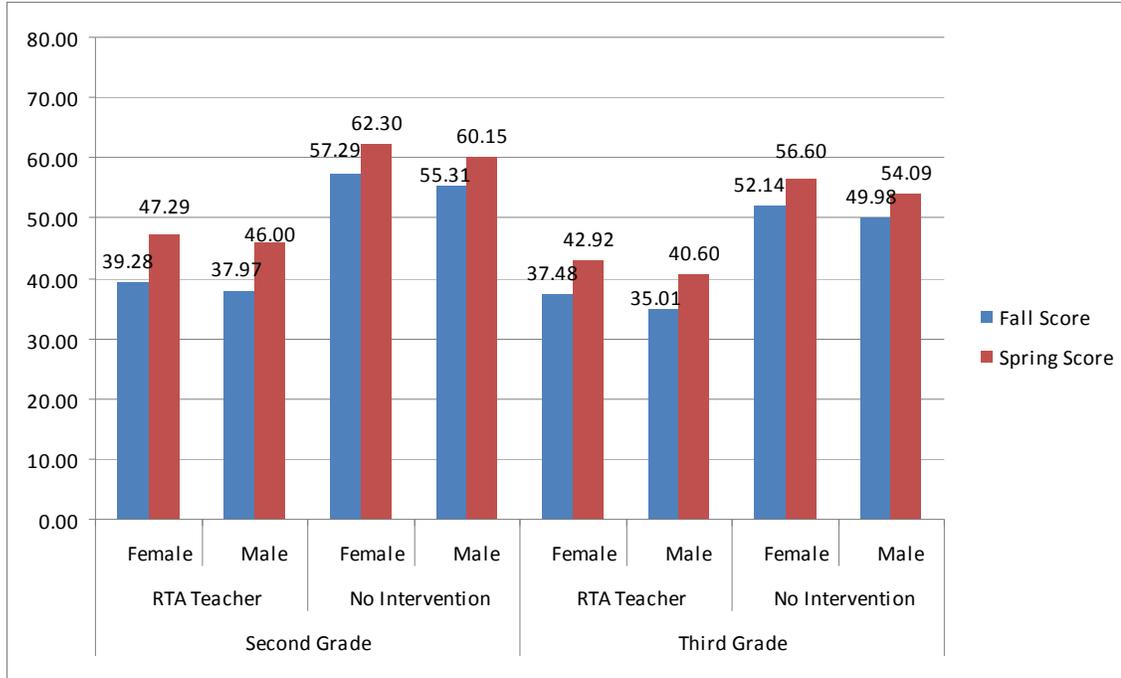
Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-9
PROGRAM IMPACT ON READING ACHIEVEMENT GAP:
GENDER STATUS
KINDERGARTEN AND FIRST GRADE**



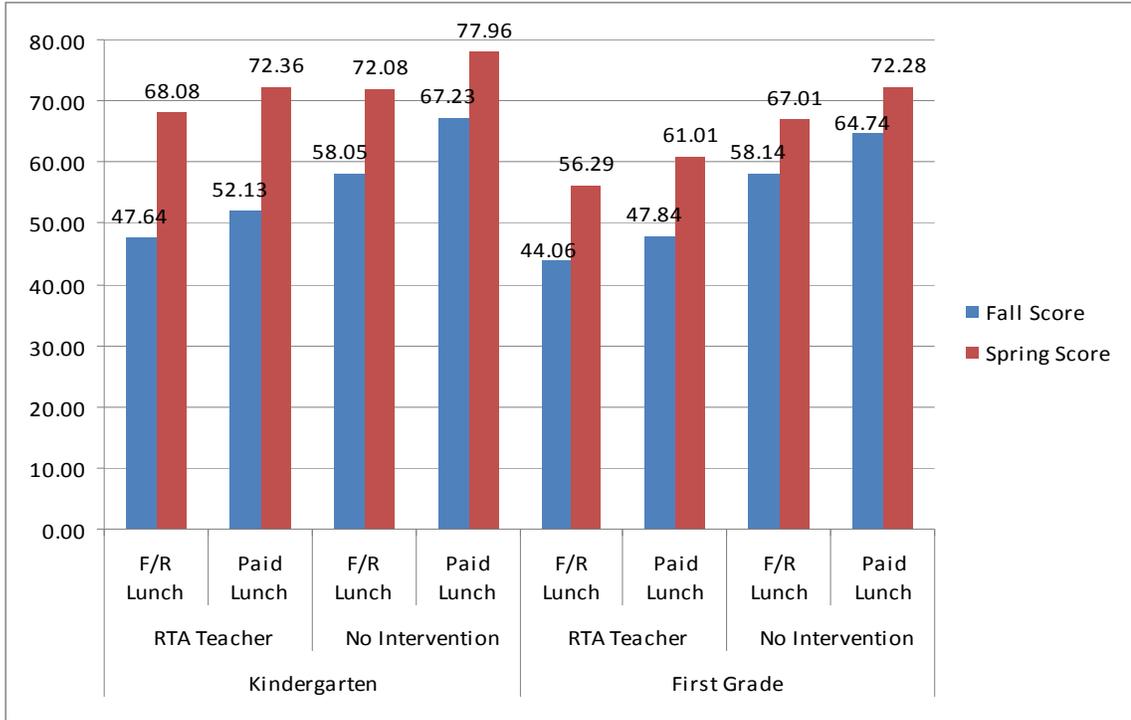
Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-10
PROGRAM IMPACT ON READING ACHIEVEMENT GAP:
GENDER STATUS
SECOND AND THIRD GRADE**



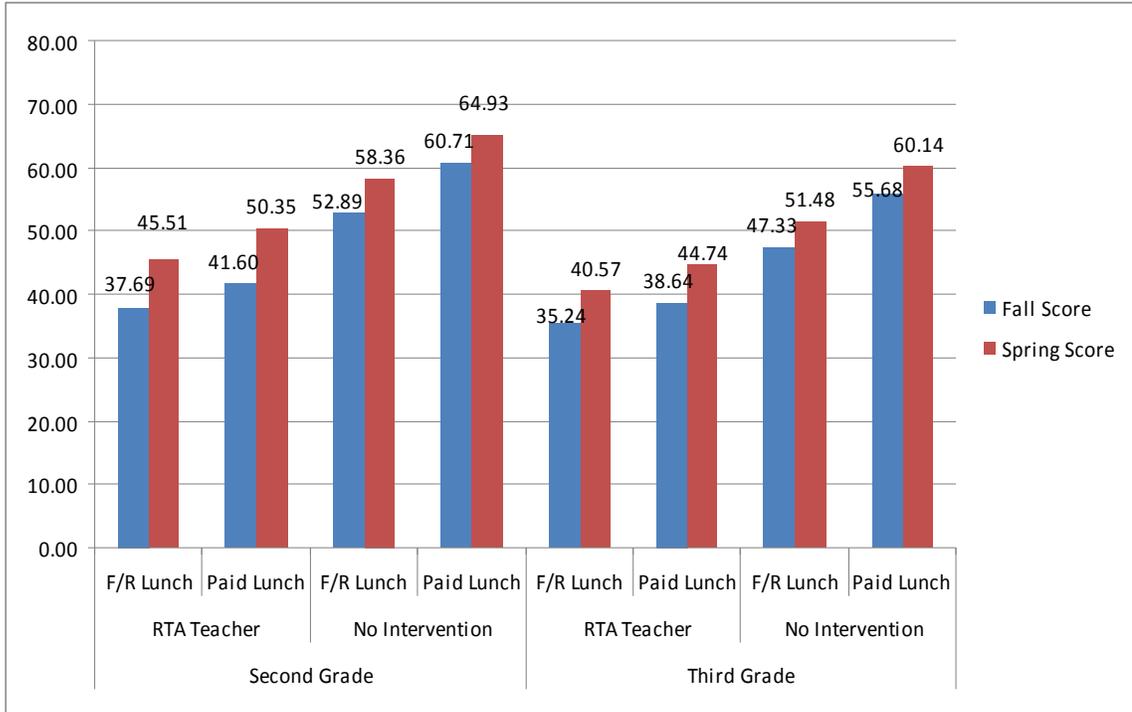
Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-11
PROGRAM IMPACT ON READING ACHIEVEMENT GAP:
FREE/REDUCED LUNCH STATUS
KINDERGARTEN AND FIRST GRADE STUDENTS**



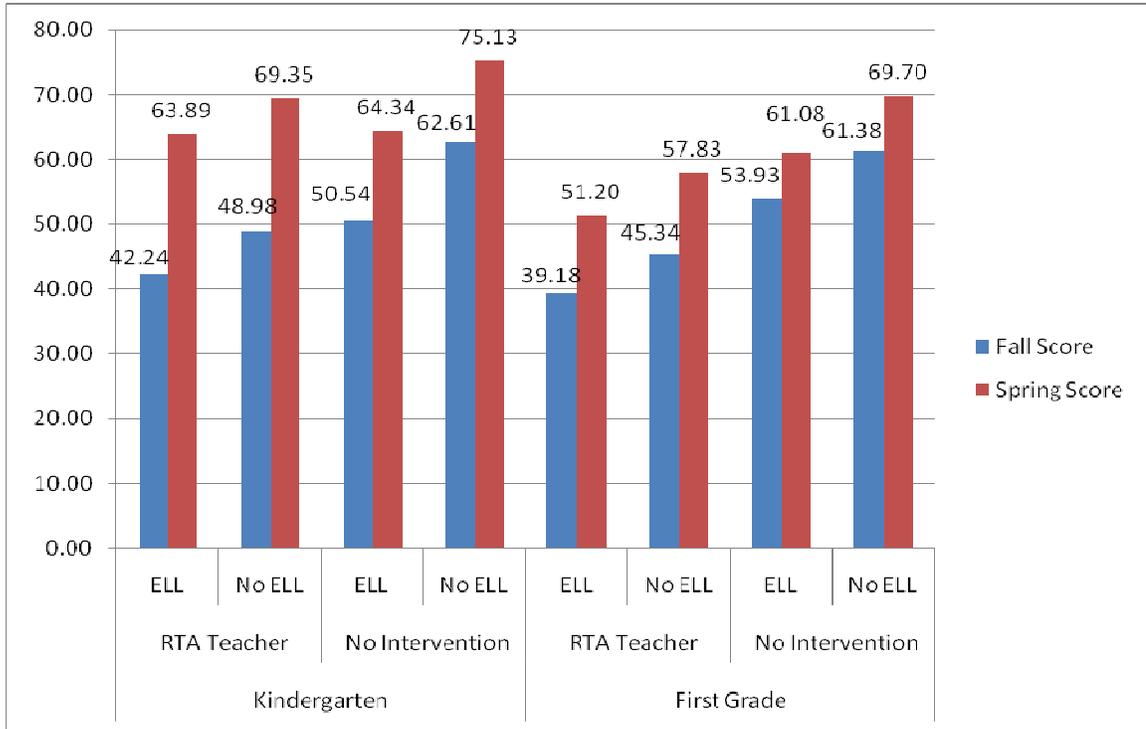
Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-12
PROGRAM IMPACT ON READING ACHIEVEMENT GAP:
FREE/REDUCED LUNCH STATUS
SECOND AND THIRD GRADE STUDENTS**



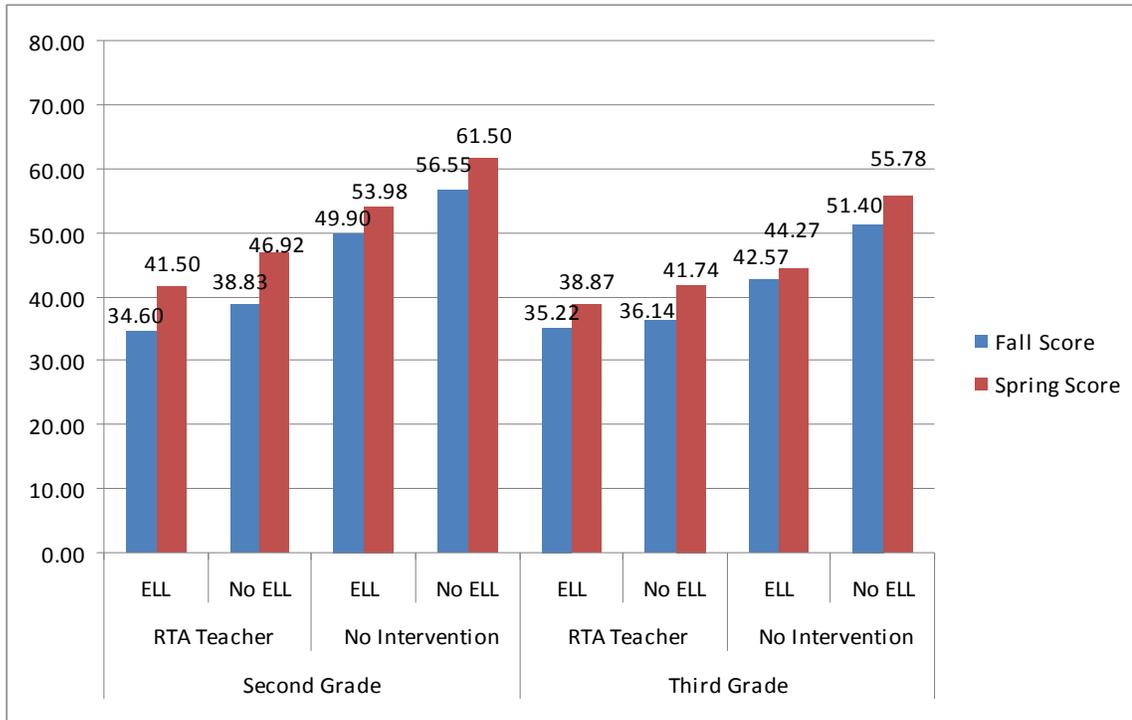
Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-13
PROGRAM IMPACT ON READING ACHIEVEMENT GAP:
ELL STATUS
KINDERGARTEN AND FIRST GRADE STUDENTS**



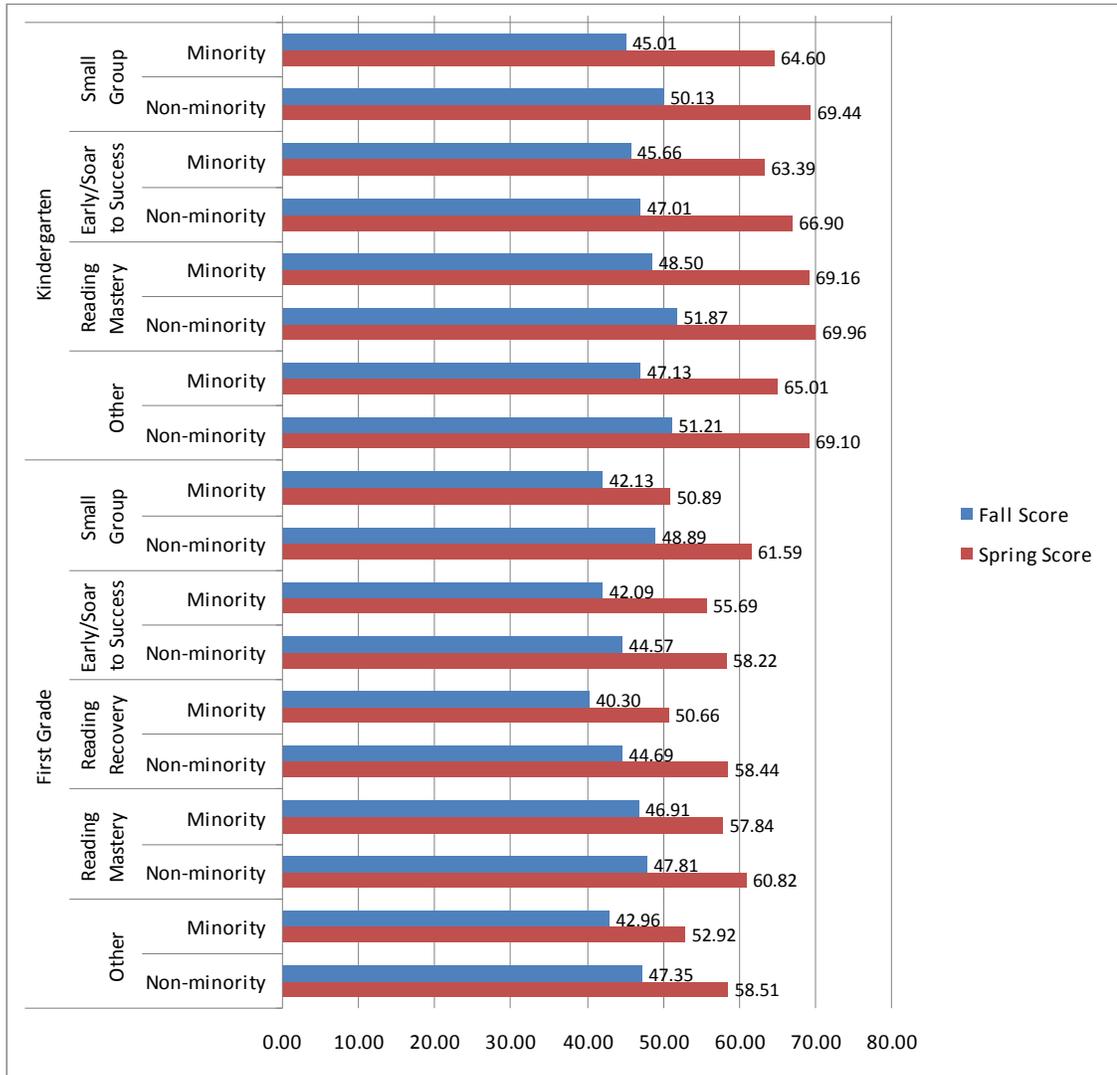
Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-14
PROGRAM IMPACT ON READING ACHIEVEMENT GAP:
ELL STATUS
SECOND AND THIRD GRADE STUDENTS**



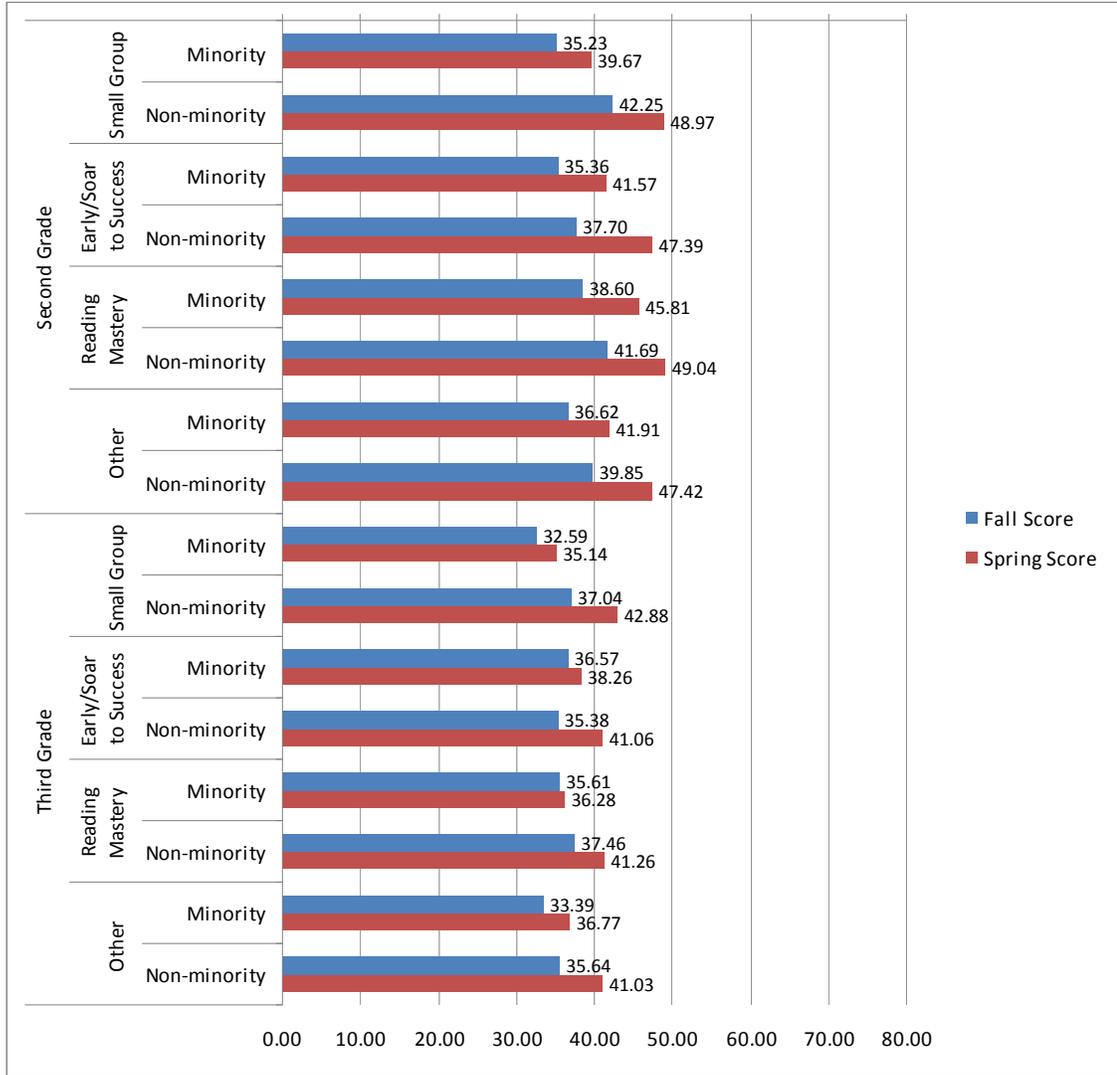
Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-15
COMMON INTERVENTION IMPACT ON READING ACHIEVEMENT GAP:
MINORITY STATUS
KINDERGARTEN AND FIRST GRADE STUDENTS**



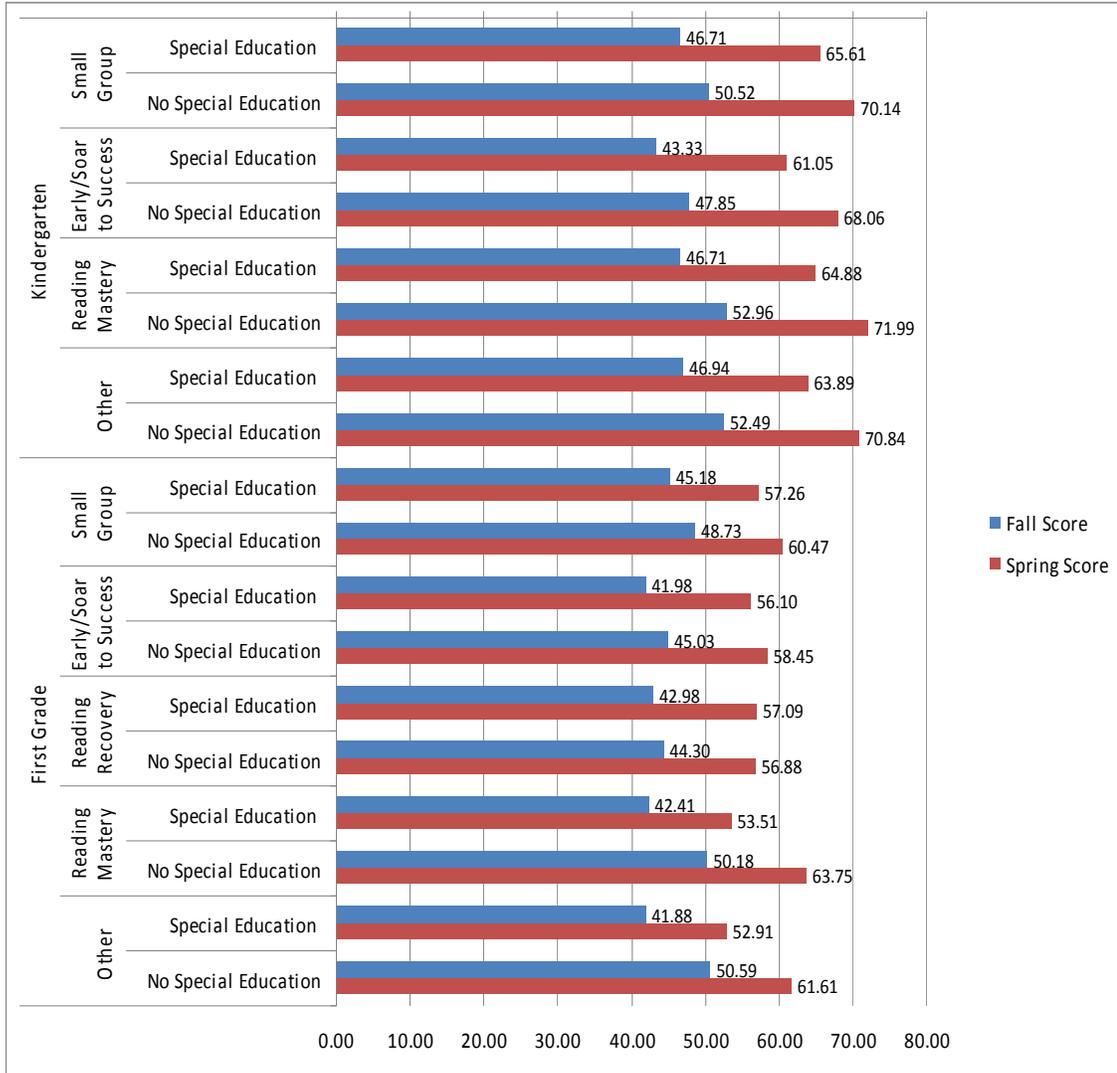
Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-16
COMMON INTERVENTION IMPACT ON READING ACHIEVEMENT GAP:
MINORITY STATUS
SECOND AND THIRD GRADE STUDENTS**



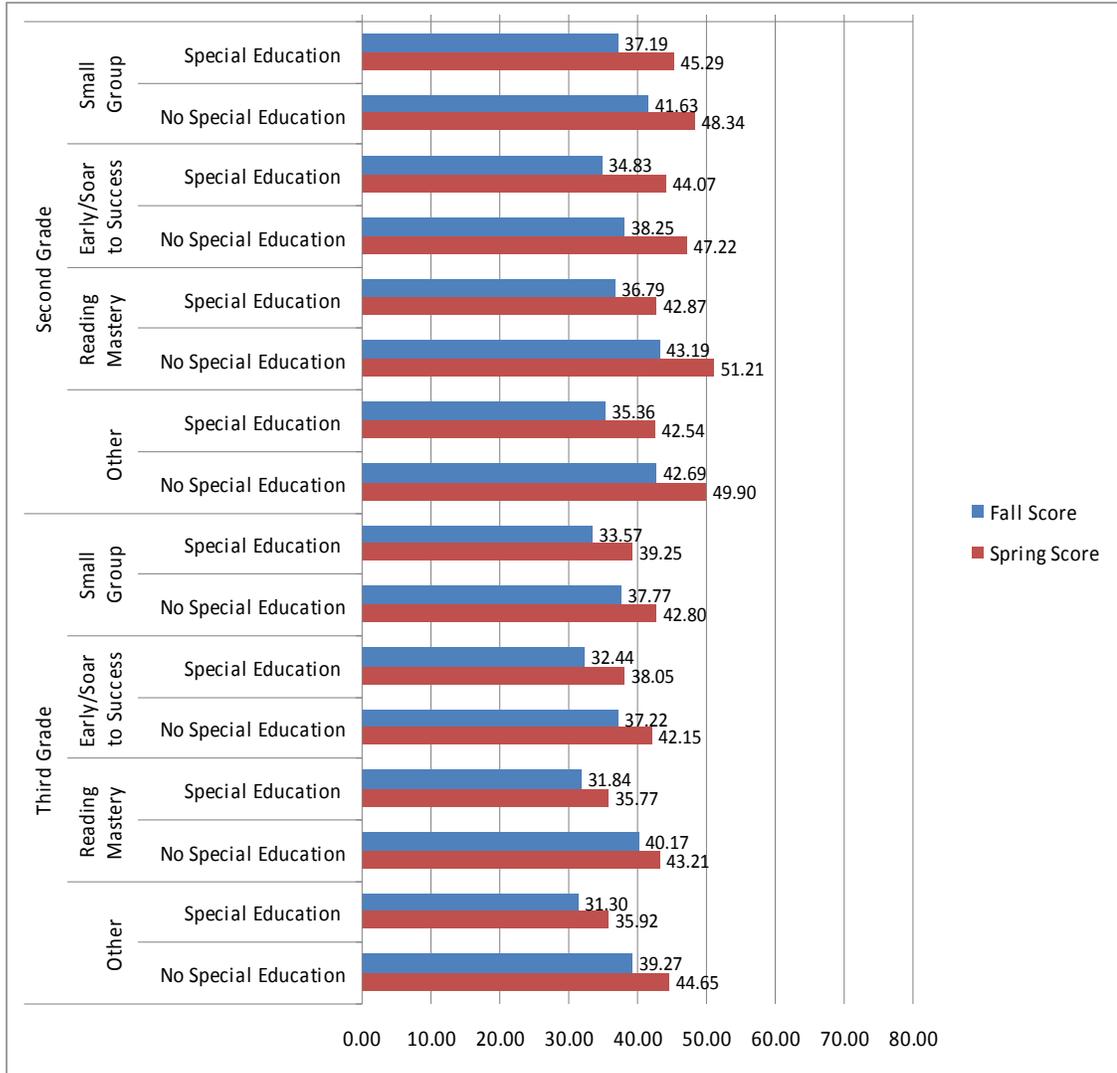
Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-17
COMMON INTERVENTION IMPACT ON READING ACHIEVEMENT GAP:
SPECIAL EDUCATION STATUS
KINDERGARTEN AND FIRST GRADE STUDENTS**



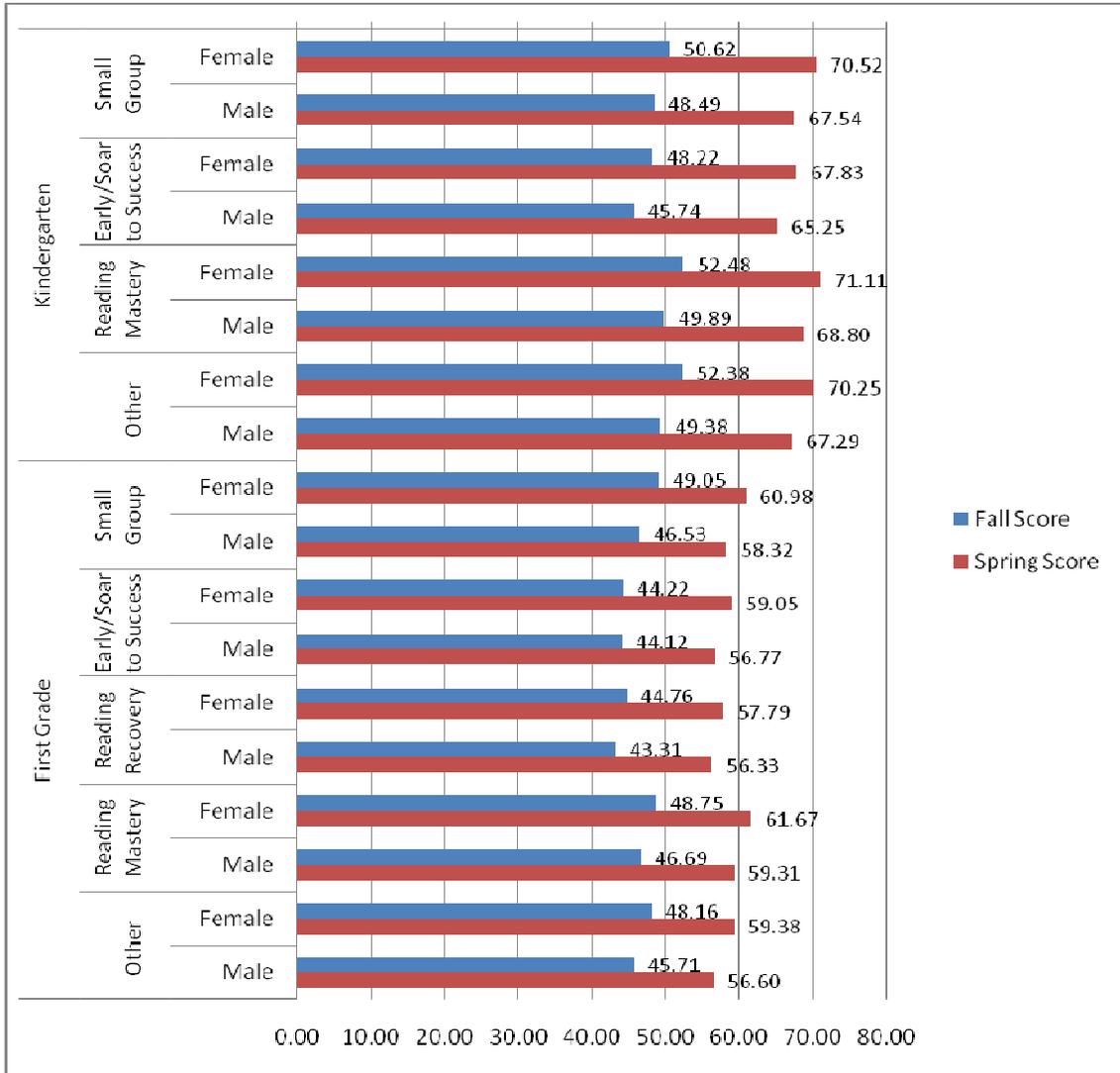
Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-18
COMMON INTERVENTION IMPACT ON READING ACHIEVEMENT GAP:
SPECIAL EDUCATION STATUS
SECOND AND THIRD GRADE STUDENTS**



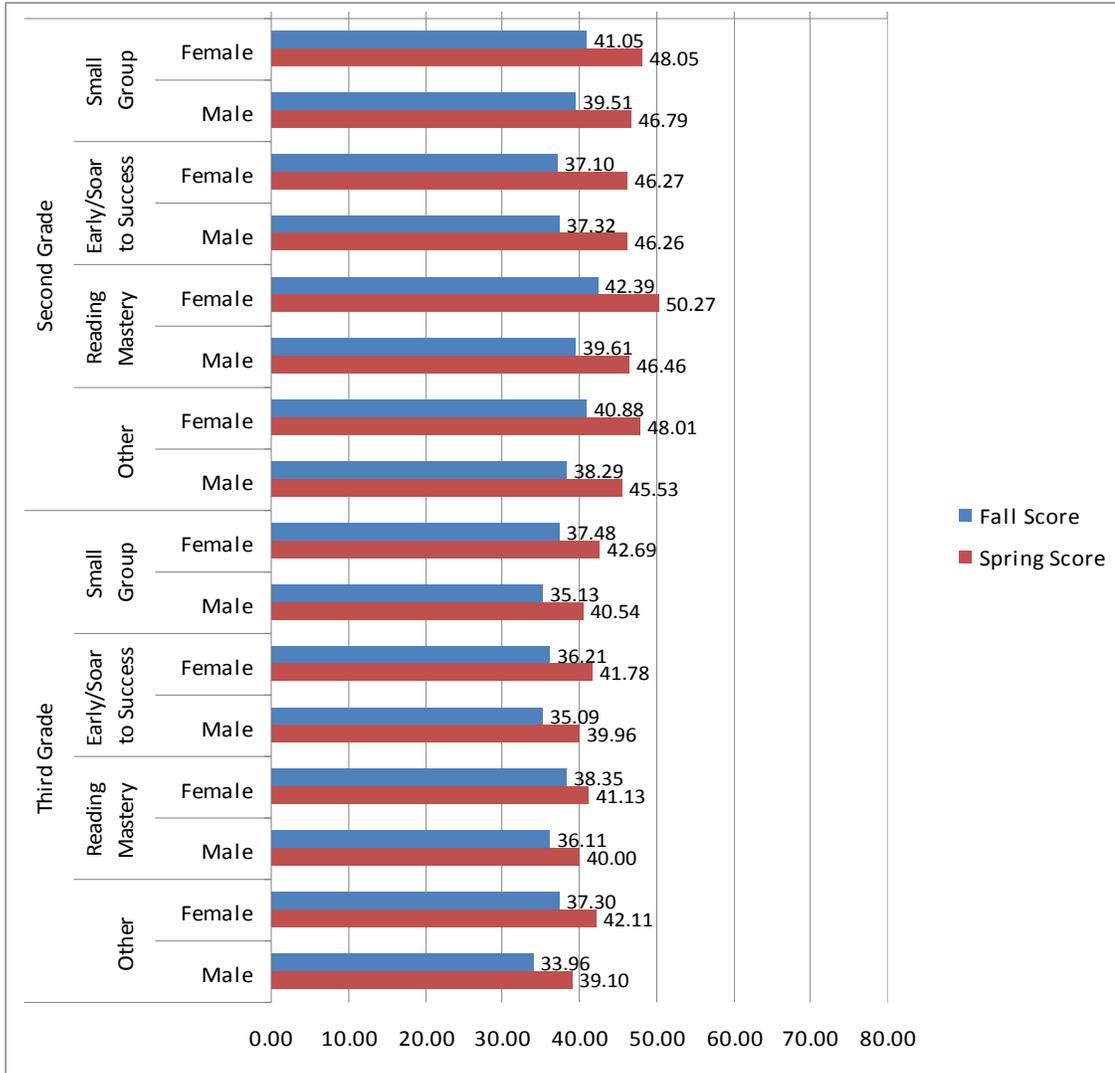
Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-19
COMMON INTERVENTION IMPACT ON READING ACHIEVEMENT GAP:
GENDER STATUS
KINDERGARTEN AND FIRST GRADE STUDENTS**



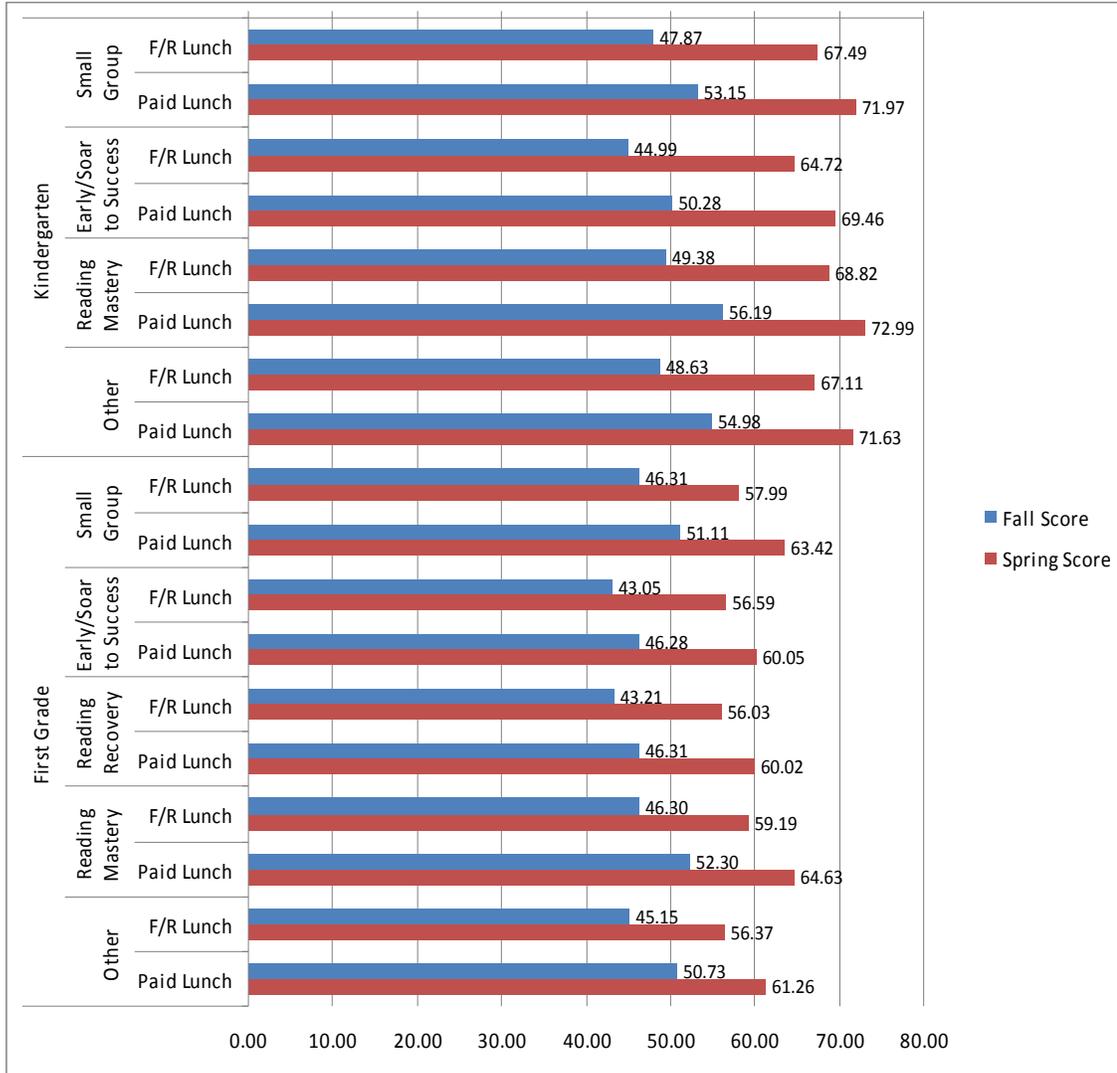
Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-20
COMMON INTERVENTION IMPACT ON READING ACHIEVEMENT GAP:
GENDER STATUS
SECOND AND THIRD GRADE STUDENTS**



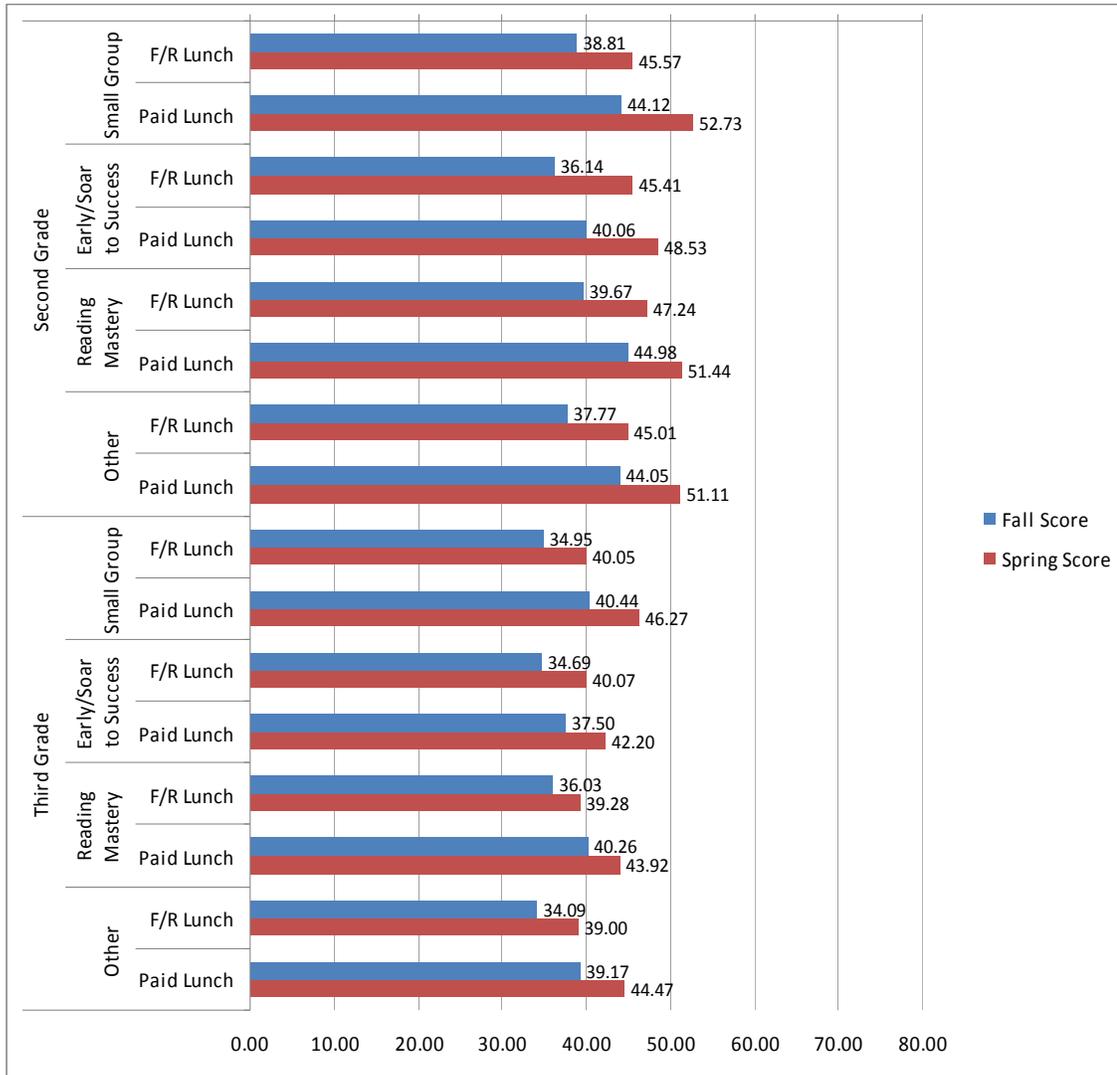
Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-21
COMMON INTERVENTION IMPACT ON READING ACHIEVEMENT GAP:
FREE/REDUCED LUNCH STATUS
KINDERGARTEN AND FIRST GRADE STUDENTS**



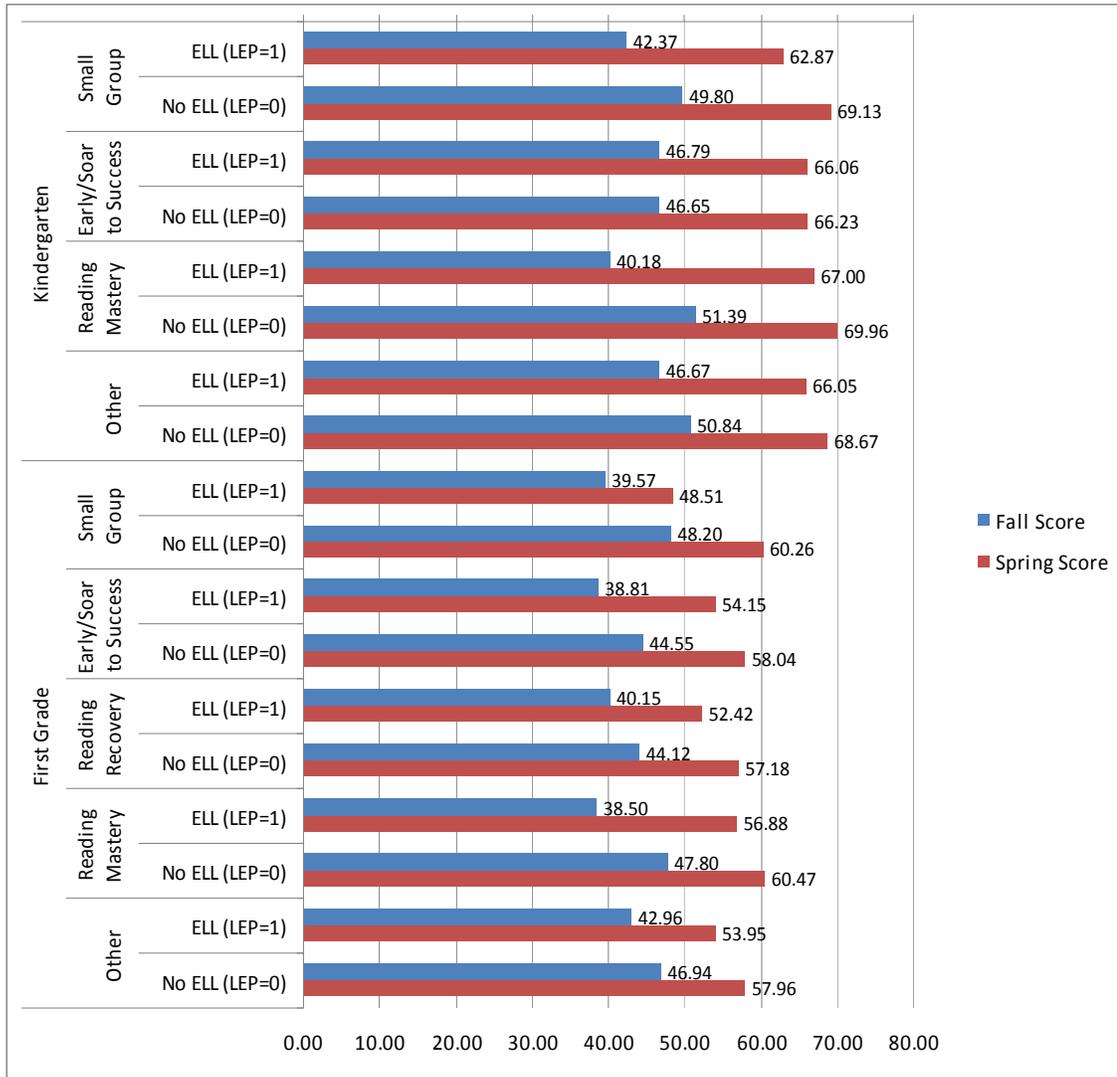
Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-22
COMMON INTERVENTION IMPACT ON READING ACHIEVEMENT GAP:
FREE/REDUCED LUNCH STATUS
SECOND AND THIRD GRADE STUDENTS**



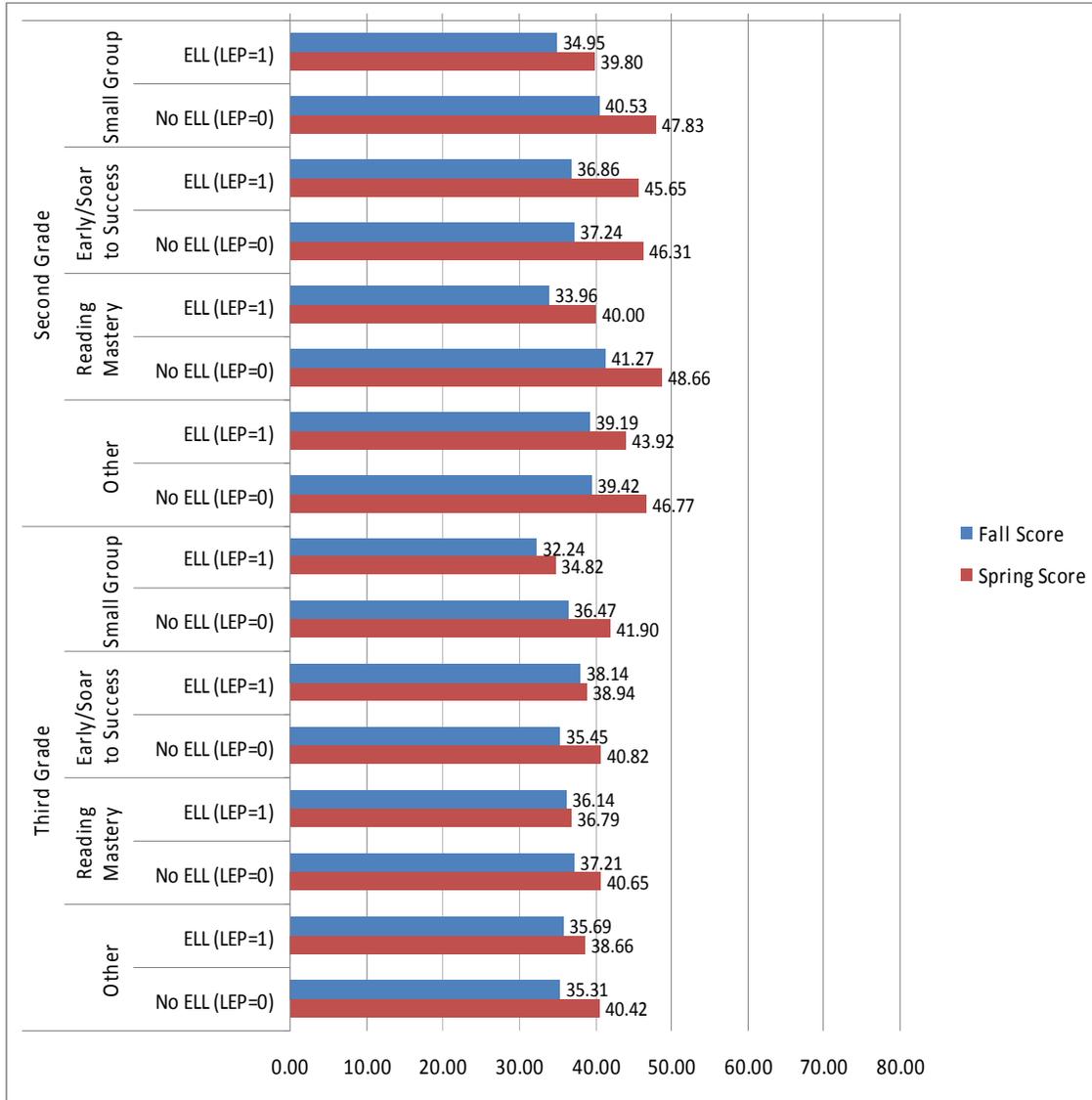
Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-23
COMMON INTERVENTION IMPACT ON READING ACHIEVEMENT GAP:
ELL STATUS
KINDERGARTEN AND FIRST GRADE STUDENTS**



Source: MGT of America, Inc., compiled from KDE data.

**EXHIBIT 5-24
COMMON INTERVENTION IMPACT ON READING ACHIEVEMENT GAP:
ELL STATUS
SECOND AND THIRD GRADE STUDENTS**



Source: MGT of America, Inc., compiled from KDE data.

5.3.6 Conclusions and Interpretation

Inspection of the data presented in Exhibits 5-5 through 5-24 shows that RTA is helping students in all groups improve their reading performance. However, the research data do not demonstrate a consistent reduction in achievement gaps in any of the student groups considered here.

Further consideration and study are needed to discern the causes and intermediary factors related to findings regarding the gap between minority and non-minority students. Gains seem to be larger among students from minority groups than students who are

not. Future evaluations could focus on teasing out the differences between schools in how effectively the academic needs of minority students are addressed. In addition, there also may be a need to assess how to improve teacher confidence and competence to address the minority gap more effectively.

A better understanding is needed of the lack of consistency of the results for students receiving special education. Similarly, a better understanding of why students receiving no intervention who are eligible for free or reduced priced lunch tend to make greater gains than ineligible students in that group, while no such trend is consistently observed in students receiving interventions.

5.4 Strengths and Limitations

The findings reported here tell a clear story about the interventions. Common interventions tend to benefit students and intervention seems to be particularly effective in the early grades. None of the interventions considered here appeared to benefit minorities, free or reduced priced lunch recipients, and students receiving academic services (ELL, special education services) in particular. Rather, to the extent that these interventions are beneficial, they tend to benefit all students equally.

The data reported here, however, have a limitation based on instrumentation. The data analyzed for this evaluation display an overwhelming trend of diminishing gains as grade level gets higher. In kindergarten, differences between pretest and posttest are very large, while these differences diminish in the higher grade levels. While the validity of the T-Pro Normal Curve Equivalency scores may be questionable, an alternative needs to be sought. It may be desirable to scale the T-Pro score according to grade level expectations, or identify a different assessment tool to measure program impact at least for the higher grades.

The graphs illustrate the impact of RTA and common interventions, showing pretest-posttest levels and relative gains. The differences in pretest scores are not random, but reflect student placement factors that need to be taken into consideration can be compared even if initial pretest scores are vastly different among the different intervention groups. However, these initial differences are not random, but reflect student placement factors that need to be taken into consideration when interpreting these findings. Students who received intervention tended to have lower initial scores than students receiving no intervention (hence, the need for intervention), and it is, therefore, of particular importance for the intervention groups to produce greater gains, as they did in many, but not all, instances.

The graphs illustrate the impact of RTA and common interventions, showing pretest-posttest levels and relative gains. The differences in pretest scores are not random, but reflect student placement factors that need to be taken into consideration. Once the capability exists to reliably link students to their schools and teachers, the reliability of the estimation of the effectiveness of RTA and the common interventions would be significantly enhanced. In the current analysis, it is not known to what extent the impact of these interventions varies from school to school. It may be helpful in future studies to understand whether RTA is part of a comprehensive intervention program at a school and how RTA fits into that program. In addition, it may be helpful to understand how children are selected for RTA intervention.

6.0 *FINANCIAL ANALYSIS*

6.0 FINANCIAL ANALYSIS

This goal of this financial analysis was to explore the expenditures of the KY districts, based on MUNIS code categories, and the impact of financial expenditures on student achievement. The analysis was made more difficult by the limitations of some data. For example, the financial data is not tied to the intervention data, making it difficult to draw conclusions about cost and program impact. The study provides information on how RTA funds were spent.

Kentucky (KY) school districts expended a total of \$27,871,817 on Read to Achieve (RTA) activities and programs in FY 2010, or \$1,102 per student for the 25,299 students in schools for which financial data were available.¹ Of the total funds, \$18,850,436 or 68 percent were grant funds, while the remaining \$9,021,281 (32%) were matching funds.

As is shown in **Exhibits 6-1** and **6-2**, almost all of the funds (89.9%, or \$25,049,908) were expended for personnel, including certified personnel, professional development, and employee benefits such as health insurance and workers' compensation insurance. All the districts and all except one school expended RTA funds on personnel and benefits. The average personnel expenditure per district was \$240,864, and a school expended an average of \$78,526 on personnel, professional development, and benefits.

Expenditures for contract pay for certified permanent staff (MUNIS code 110) were 83.2 percent of total expenditures, and averaged \$73,355 per school and \$227,258 per district. Two schools in the Elizabethtown Independent School District and two schools in the Fayette District did not have expenditures in this category, but did expend RTA funds for other categories of personnel.

In addition to expenditures for personnel, districts spent RTA funds on printing and postage, books and supplies, and computer equipment. Expenditures for books and program supplies (MUNIS codes 600) totaled \$2,093,500 or 7.5 percent of total expenditures. Computers and components were purchased by 51 schools in 24 districts for a total of \$212,540, or \$4,167 per school and \$8,856 per district.

The average RTA expenditure for the 319 schools for which there were financial data was \$87,372, the minimum RTA expenditure was \$50,066 and the maximum was \$178,220. For the 104 school districts participating in the RTA program, the average expenditure was \$267,997, while the minimum was \$57,500 and the maximum amount was \$1,864,123. These data are shown in summary form in **Exhibit 6-3**.

Data were not available to determine expenditures for each intervention. School districts reported total expenditures by MUNIS code, but not expenditures by intervention. Many schools used more than one intervention strategy and it was not possible to separate expenditures by strategy.

At the 317 schools for which there were both financial and student data, the average expenditure per student was \$1,102; the minimum per student expenditure was \$176 and the maximum per student was \$7,460. Each school served an average of 80

¹ One school district (Sunshine) reported \$60,000 of expenditures for RTA but no information on students, while several districts reported program information but no financial data.

children in RTA programs. The least number of children served at a school was 12 and the most served was 372. There is significant range of cost and number of students served. There are several possible scenarios that could account for these data, including having a 1.0 FTE teacher in a small, rural school serving 12 very low achieving students over a long period of time or having a 1.0 FTE teacher serving many higher achieving students over a short period of time. These data are shown in **Exhibit 6-3**.

**EXHIBIT 6-1
PERSONNEL EXPENDITURES**

MUNIS Codes	Description	Total Grant Funds	Total Matching Funds	Total	Percent Total	Number of Schools	Number of Districts	Average per School	Average per District
110	Certified Permanent: Contract pay	\$16,160,347	\$7,019,979	\$23,180,326	83.2%	315	102	\$73,355	\$227,258
111	Certified Permanent Extended Days	\$119,417	\$39,865	\$159,282	0.6%	51	24	\$3,123	\$6,637
112	Certified Permanent Extra Duty	\$22,064	\$122,515	\$144,579	0.5%	34	22	\$4,252	\$6,572
113	Other Certified Staff Non-Contract Pay	\$208,202	\$135,964	\$344,166	1.2%	95	43	\$3,623	\$8,004
120	Certified Substitutes	\$155,663	\$203,188	\$358,851	1.3%	108	55	\$3,323	\$6,525
211	Group Life Insurance	\$3,432	\$202	\$3,634	0.0%	28	2	\$130	\$1,817
213	Group Liability Insurance	\$689	\$53	\$742	0.0%	27	1	\$27	\$742
221	Employer FICA Contribution	\$13,967	\$9,654	\$23,621	0.1%	20	11	\$1,181	\$2,147
222	Employer Medicare Contribution	\$190,806	\$57,043	\$247,849	0.9%	274	92	\$905	\$2,694
231	Retirement - KTRS Employer Contribution	\$0	\$7,675	\$7,675	0.0%	6	1	\$1,279	\$7,675
251	Unemployment Insurance – State	\$16,864	\$9,889	\$26,753	0.1%	149	53	\$180	\$505
253	Unemployment Insurance – Kentucky SBA	\$2,013	\$11,895	\$13,908	0.0%	40	9	\$348	\$1,545
260	Workmen’s Compensation	\$60,634	\$17,041	\$77,675	0.3%	217	64	\$358	\$1,214
270	Health Benefits and COBRA	\$265	\$73	\$338	0.0%	1	1	\$338	\$338
338	Registration Fees	\$116,692	\$21,505	\$138,197	0.50%	90	45	\$1,536	\$3,071
810	Dues/Registration fees	\$241,760	\$80,552	\$322,312	1.16%	232	85	\$1,389	\$3,792
	Total, Personnel	\$17,312,815	\$7,737,093	\$25,049,908	89.9%	319	104	\$78,526	\$240,864

Source: MGT of America, Inc., calculated from RTA data.

**EXHIBIT 6-2
NON – PERSONNEL AND TOTAL EXPENDITURES**

MUNIS Codes	Description	Total Grant Funds	Total Matching Funds	Total	Percent Total	Number of Schools	Number of Districts	Average per School	Average per District
322	Educational Consultant: Non School Employee	\$84,078	\$132,643	\$216,721	0.78%	88	37	\$2,463	\$5,857
531	Postage	\$40,473	\$10,376	\$50,849	0.18%	149	63	\$341	\$807
552	Posters	\$2,300	\$6,800	\$9,100	0.03%	11	8	\$827	\$1,138
553	Publications	\$3,877	\$5,410	\$9,287	0.03%	18	15	\$516	\$619
559	Other Printing	\$12,255	\$15,550	\$27,805	0.10%	24	17	\$1,159	\$1,636
	Subtotal, Postage & Printing	\$58,905	\$38,136	\$97,041	0.34%				
581	Travel - In District	\$6,655	\$6,150	\$12,805	0.05%	15	11	\$854	\$1,164
582	Travel - Out-of-District	\$104,919	\$30,676	\$135,595	0.49%	109	43	\$1,244	\$3,153
584	Travel - Out-of-State	\$43,714	\$9,894	\$53,608	0.19%	35	18	\$1,532	\$2,978
	Subtotal, Travel	\$155,288	\$46,720	\$202,008	0.73%				
610	General Program Supplies	\$510,694	\$187,232	\$697,926	2.50%	268	99	\$2,604	\$7,050
641	Library Books	\$125,138	\$246,533	\$371,671	1.33%	72	38	\$5,162	\$9,781
642	Periodicals and Newspapers	\$19,334	\$18,200	\$37,534	0.13%	18	11	\$2,085	\$3,412
643	Supplementary Books, Study Guides, Curriculum	\$400,374	\$324,754	\$725,128	2.60%	167	73	\$4,342	\$9,933
646	Assessments	\$52,155	\$70,940	\$123,095	0.44%	45	26	\$2,735	\$4,734
647	Reference materials	\$47,040	\$13,860	\$60,900	0.22%	14	10	\$4,350	\$6,090
650	Computer-Related Supplies	\$36,067	\$41,180	\$77,247	0.28%	43	27	\$1,796	\$2,861
	Subtotal, Books & Supplies	\$1,190,800	\$902,699	\$2,093,500	7.51%				
734	Computers and Essential Components	\$48,550	\$163,990	\$212,540	0.76%	51	24	\$4,167	\$8,856
	Total, Non-Personnel Expenditures	\$1,537,622	\$1,284,188	\$2,821,810	10.1%	319	104	\$8,846	\$27,133
	GRAND TOTAL	\$18,850,436	\$9,021,281	\$27,871,717	100.0%	319	104	\$87,372	\$267,997

Source: MGT of America, Inc., calculated from RTA data.

**EXHIBIT 6-3
EXPENDITURES PER STUDENT, PER SCHOOL, AND PER DISTRICT**

	Average	Minimum	Maximum	Standard Deviation
Number of children served per school	80	12	372	54
Expenditure per student	\$1,102	\$176	\$7,636	\$1,046
Expenditures per school	\$87,372	\$50,066	\$178,220	\$29,081
Expenditures per district	\$267,997	\$57,500	\$1,864,123	\$319,638

6.1 Impact of Expenditures on Achievement

Analyses were conducted to understand whether expenditures per student in the KY RTA program impacted student achievement outcomes. This study looked at the total expenditures of districts that received RTA funds, not the state as a whole. Therefore, these data should not be interpreted as suggesting that the RTA expenditure did not impact student achievement. The data were inconclusive on whether expenditures per student were related to the change in total test scores between Fall and Spring. Discussion in Chapter 5 indicated that students exposed to RTA interventions did score higher on tests than children who did not have RTA interventions.

Stepwise Logistic Regression (LR) analyses were conducted examining the change in total test scores from fall to spring against total RTA expenditures per student in each school, RTA expenditures by MUNIS code categories, and expenditures by category for the four types of interventions of most interest (small group intervention {SGI}, Early Success/Soar to Success [EI/SS], Reading Mastery [RM], and Reading Recovery [RR]),

6.1.1 Total Expenditures

Findings were inconclusive related to the relationship between total expenditures per student and the change in total test scores between Fall and Spring (beta coefficient = 0.001). **Exhibit 6-4** displays the regression analysis results. The data are not conclusive about any relationship between per student expenditures and any student learning impact results. This analysis provided no clear evidence of impact.

**EXHIBIT 6-4
REGRESSION RESULTS FOR TOTAL EXPENDITURES**

Variable	B	SE	β	Test	Model Test	R ²
Difference in Test Score						.000
Total Expenditure per Student Served	1.273E-05	.000	.001	.140		

Source: MGT of America, Inc., calculated from RTA data.

6.1.2 Expenditures by Category

Expenditure categories used in this analysis were the following:

- Personnel and Benefits
- Consultant and Other fees
- Travel
- Publications
- Books and Supplies
- Computer-related Supplies
- Dues and Registration Fees

Findings were inconclusive related to the relationship between expenditures per student by category of expenditure and the change in total test scores between Fall and Spring. Beta coefficients varied from 00.011 to 0.029; Pearson’s Correlation Coefficient = 0.044. Scatterplots of the residuals against expenditures did not suggest useful data transformations. **Exhibit 6-5** displays the regression analysis results.

**EXHIBIT 6-5
REGRESSION RESULTS FOR EXPENDITURES BY CATEGORY**

Variable	B	SE	β	Test	R ²
Difference in Test Score					.002
Personnel Expense per Student Served	0.000	0.000	-0.015	-2.151*	
Consultant and Fee Expense per Student Served	0.006	0.001	0.029	4.404***	
Publication Expense per Student Served	0.019	0.006	0.021	2.986**	
Travel Expense per Student Served	0.011	0.004	0.018	2.670**	
Computer Supply Expense per Student	-0.002	0.001	-0.011	-1.625	

Source: MGT of America, Inc., calculated from RTA data.

* Significant at the .05 level.

** Significant at the .01 level.

*** Significant at the .001 level.

6.1.3 Expenditures by Category by Specific Intervention

Expenditure categories and interventions used in this analysis were the following:

Expenditure Categories

- Personnel and Benefits
- Consultant and Other fees
- Travel
- Publications
- Books and Supplies
- Computer-related Supplies
- Dues and Registration Fees

Interventions

- Small group intervention
- Early Success/Soar to Success
- Reading Mastery
- Reading Recovery (Gr. 1 only)

Findings were inconclusive related to the relationship between expenditures per student by category of expenditure and by specific intervention strategy and the change in total test scores between Fall and Spring. The t-test checks the means between the sample and the entire population. The beta coefficients varied from -0.032 to 0.047, with a Pearson's Correlation Coefficient of 0.078. It should be noted that Reading Recovery is an intervention that is only used with Grade 1 students. All other interventions explored in this analysis were available for use with students in grades K-3. Although the data shows a negative correlation with Personnel Expense per Student Served and several of the most common interventions, the correlation (R-square) was so low that the results are inconclusive.

Exhibit 6-6 displays the regression analysis results.

**EXHIBIT 6-6
REGRESSION RESULTS FOR EXPENDITURES BY CATEGORY
BY SPECIFIC INTERVENTION**

Variable	B	SE	β	Test	R²
Difference in Test Score					0.006
Personnel Expense per Student Served	0.000	0.000	-0.020	-2.997**	
Consultant and Fee Expense per Student Served	0.007	0.001	0.031	4.744***	
Publication Expense per Student Served	0.015	0.006	0.017	2.491*	
Travel Expense per Student Served	0.010	0.004	0.016	2.345*	
Small Group Intervention	-0.753	0.170	-0.032	-4.428***	
Early Success/ Soar to Success	-0.647	0.248	-0.018	-2.607**	
Reading Mastery	-0.665	0.302	-0.015	-2.204*	
Reading Recovery	1.886	0.276	0.047	6.840***	

Source: MGT of America, Inc., calculated from RTA data.

* Significant at the .05 level.

** Significant at the .01 level.

*** Significant at the .001 level.

6.1.4 Expenditures by Category, Interventions of Interest, and Demographics

Expenditure categories, interventions, and demographic variables used in this analysis were the following:

Expenditure Categories	Interventions	Demographics
Personnel and Benefits	Small group intervention	Gender
Consultant and Other fees		Grade
Travel	Early Success/Soar to Success	Caucasian
Publications		African-American
Books and Supplies	Reading Mastery	Hispanic
Computer-related Supplies		Asian-Pacific Islander
Dues and Registration Fees	Reading Recovery	Other Ethnicity
		Free/reduced lunch status
		Limited English proficiency
		Migrant
		Special Education

Findings were inconclusive on the relationship between expenditures per student by category of expenditure, by specific intervention strategy, and by demographic category, and the change in total test scores between Fall and Spring. The beta coefficients varied from -0.087 to 0.027, with a Pearson’s Correlation Coefficient of 0.451. **Exhibit 6-7** displays the regression analysis results.

**EXHIBIT 6-7
REGRESSION RESULTS FOR EXPENDITURES BY CATEGORY, BY INTERVENTION, AND BY DEMOGRAPHIC VARIABLE**

Variable	B	SE	β	Test	R ²
Difference in Test Score					0.203
Consultant and Fee Expense per Student Served	0.006	0.001	0.028	4.691***	
Publication Expense per Student Served	0.012	0.005	0.013	2.198*	
Travel Expense per Student Served	0.012	0.004	0.019	3.278***	
Small Group Intervention	0.313	0.147	0.013	2.131*	
Early Success/ Soar to Success	1.290	0.220	0.036	5.825***	
Reading Mastery	0.578	0.268	0.013	2.155*	
African-American	-3.332	0.226	-0.087	14.725***	
Free/Reduced Lunches	0.431	0.148	0.017	2.919**	
Limited English Proficiency	-1.332	0.292	-0.027	-4.561***	
Migrant	2.138	0.938	0.013	2.281*	
Disability	-0.339	0.136	-0.015	-2.486*	

Source: MGT of America, Inc., calculated from RTA data.

* Significant at the .05 level.

** Significant at the .01 level.

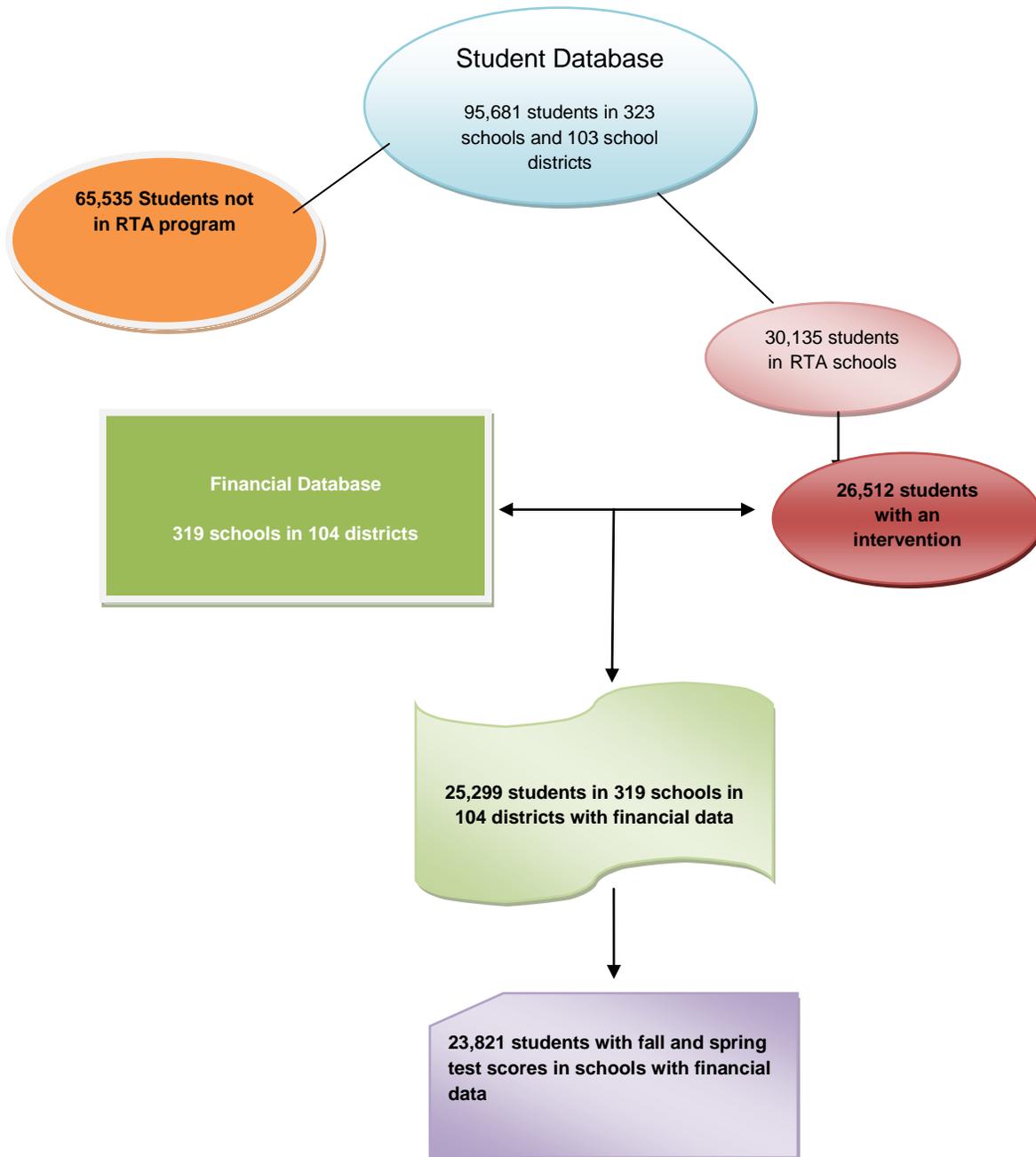
*** Significant at the .001 level.

6.2 Limitations

The financial analyses were limited by challenges in the data. For example, multiple sources of data from multiple databases were needed to conduct this study. Merging data from financial files with data from testing files, then with data from demographic files, and finally, the inclusion of multiple variables resulted in deletion of students, reducing the sample of students for inclusion in the study. The schematic of the merging of data files is shown in **Exhibit 6-8**.

For some students, testing data were available only in the Fall or in the Spring, but not for both times at which the tests were given. This resulted in 1,692 students who received interventions being excluded from the study. Similarly, testing and demographic data were available for some students, but financial data were not available for that student's school. This limitation resulted in the exclusion of 1,421 students in 64 schools. Additionally, there was one district for which financial information was available, but program data were not.

**EXHIBIT 6-8
SCHEMATIC OF FILE MERGES**



Schools were asked to report the primary intervention for a student, and many districts reported only the primary intervention while others reported multiple interventions. Financial data, however, were reported for categories of expenditure such as Contracted Personnel Salaries or Books, not for each intervention. Thus, it was not possible to determine what expenditures were for each intervention. It may be impossible to determine personnel expenditures related to a specific intervention because teachers and other personnel may provide their services across multiple interventions, as well as in areas that are not within the RTA program. Similarly, funds from other sources not reported in the matching funds may have been used to improve student achievement. For example, a teacher whose salary is supported by federal Special Education monies may have provided reading interventions to students. Or, migrant students may have received additional tutoring that resulted in achieving higher test scores from personnel funded by federal Title I Part C Migrant Education grants.

6.3 Summary

Kentucky school districts expended a total of \$27,871,817 on RTA activities and programs in FY 2010 for the 25,299 students in schools for which financial data were available. Of the total funds, \$18,850,436, or 68 percent, were grant funds, while the remaining \$9,021,281 (32 percent) were matching funds. Over 89 percent of the funds were expended for personnel and personnel-related expenditures, while 7.5 percent of total funds were expended for books and supplies.

The average RTA expenditure for the 319 schools for which there were financial data was \$87,372, the minimum RTA expenditure was \$50,066 and the maximum was \$178,220. For the 104 school districts participating in the RTA program, the average expenditure was \$267,997, while the minimum was \$57,500 and the maximum amount was \$1,864,123.

At the 317 schools for which there were both financial and student data, the average expenditure per student was \$1,102; the minimum per student expenditure was \$176 and the maximum per student was \$7,460. Each school served an average of 80 children in RTA programs. The least number of children served at a school was 12 and the most served was 372.

Analyses were conducted to understand whether expenditures per student in the KY RTA program impacted student achievement outcomes. Findings were inconclusive on the relationship between expenditures per student and the change in total test scores between Fall and Spring.

7.0 SUMMARY

7.0 SUMMARY

The Kentucky Read to Achieve Program was established with the goal of supporting schools in implementing a reading diagnostic and intervention program to address the needs of struggling readers. It was intended to identify struggling readers and ensure that there were appropriately trained staff to support them by using identified early reading intervention programs and focusing on essential skills. This report provides an evaluation of the intervention provided during the 2009-2010 school year, including information on the processes, and the implementation of the RTA Program, the impact of financial variables, and the impact on student learning.

This chapter includes:

- Limitations identified through the study
- Findings from the study
- Recommendations for the next evaluation period, 2010 – 2011.

7.1 Limitations

The limitations identified included some issues with collecting data about the interventions. It is difficult to draw conclusions on student achievement gains or attribute them to one program, since some students may have been exposed to multiple interventions. The data only captured what the primary intervention was and whether a student was exposed to one or more intervention delivery systems.

The list of most common interventions includes “small group intervention.” Although this was identified by teachers as one of the most common types of intervention, it does not have a consistent definition or carry a uniform instructional methodology or set of materials. Based on those concerns, MGT recommends not including “small group intervention” as a focal intervention for the selection of site visit schools, survey data collection, or examination of impact on student reading performance in further evaluation years.

Another issue relevant to the common interventions that likely impacted the findings or at least the interpretation of those findings is the variation in the Soar to Success/Early Success versions that the RTA schools may have been using at the time of data collection. In earlier versions of the intervention package, Soar to Success was published as an intervention for grades 3-8 and Early Success was published as an intervention for grades K-2. However, the latest version of Soar to Success was designed for grades K-6. No data were collected on the version of Soar to Success or Early Success used as an intervention for this study. For this report, the Soar to Success and Early Success intervention categories were collapsed to form one intervention category because the latest version of the program available through the publisher is Soar to Success designed to support students in K-6.

The student impact data shows an overwhelming trend of diminishing gains as grade levels get higher. Gains in kindergarten are very large, but gains at grade 3 are much lower. This leveling off of the gain scores most likely is an artifact of how the T-Pro was

constructed and reflects the limitations of using test scores without norming or scaling based on grade level, such as the NCE scores used previously. The T-Pro was also not well received by teachers during the site visits and on surveys. For 2010-2011, the Iowa Test of Basic Skills (ITBS) will be used to examine impact on student reading outcomes.

The analyses of the impact of financial expenditures were limited by data limitations that reduced the number of students for inclusion in the study. It was difficult to combine expenditure data with pre- and post-test student achievement data with demographic data and connect that to intervention approaches.

7.2 Findings

7.2.1 *Process Study*

The process study looked at the implementation of the RTA program. The following describes the implementation findings:

- Based on the KY RTA survey administered in spring 2010, a majority of principals and teachers agreed/strongly agreed that the RTA screening process was effective in identifying students “at risk” and that it targeted the areas of needs.
- Teachers and principals also reported increased confidence in their ability to meet the needs of “at risk” readers through the five RTA program components: Phonemic Awareness, Phonics and Word Recognition, Fluency, Vocabulary, and Comprehension. Teachers indicated that most of the components were easy to implement, but the ease of implementation varied between the programs.
- There were four intervention approaches/programs that were used most frequently: Reading Recovery, Reading Mastery, Soar to Success/Early Success, and Small Literacy Group. The latter included a variety of activities, but always conducted in small groups. Of these interventions, Reading Recovery was rated by teachers as the most effective intervention followed by Small Literacy Group. Reading Mastery and Soar to Success/Early Success were rated as somewhat effective.
- Most teachers and principals felt that RTA could be improved through continuation of funding for the program, but were less enthusiastic about continuation of the T-Pro as the assessment tool. It was described as confusing, inaccurate, and time consuming.

7.2.2 **Impact Study**

The impact on student learning was measured using the T-Pro, administered fall and spring and looked at the variation in impact based on the intervention program selected, the teacher group, and several student characteristics. The report addresses these identified research questions:

- **Research question 1:** What was the impact of the RTA program on student performance on the T-Pro?
 - Student gains in the RTA Teacher Group are largest. Students receiving no intervention had the lowest gains. The largest effects are found in earlier grades.
 - The benefits of RTA are most apparent in kindergarten and grade 1 with gains for students in grades 2 and 3 being too small to be significant.
- **Research question 2:** What was the impact of the four interventions on student performance?
 - The common interventions produce student gains and are effective. The four common interventions appear to be more effective than “other” interventions except at grade three. This result suggests that schools that are not currently using these four common interventions should be encouraged to consider using them over other types of interventions. This would mean a change in the current RTA model that requires schools to identify intervention approach(es) when they applied for funding and maintain that intervention approach for the duration of the project. In light of this finding about the effectiveness of the four most common interventions, KY DOE may want to reconsider this requirement.
- **Research question 3:** What was the impact of the RTA and common interventions in eliminating achievement gaps among students with different characteristics, including disabilities, low socioeconomic status, racial minority groups, limited English proficient (ELL), and gender?
 - The findings do not demonstrate a consistent reduction in achievement gaps in any of the student groups considered in the study
 - Results show that students from non-minorities typically have greater gains, regardless of the teacher or if they received no intervention at all. The overall effect of the minority differences is relatively small, however.
 - The results comparing the gains of students receiving special education do not show a consistent trend favoring either category within the interventions.
 - The differences between males and females tended to not be significant, but varied by grade level and by intervention program.

- There were no consistent differences identified for students who were receiving ELL services.
- The results comparing gains for students eligible for Free/Reduced Lunch with those not eligible did not yield any consistent differences.

7.2.3 Cost Study

The cost study explored the expenditures of the KY districts, based on MUNIS code categories, and the impact of financial expenditures on student achievement.

- Findings indicate that expenditures per student are not related to the change in total test scores between Fall and Spring.
- The financial analyses were limited by data limitations that reduced the number of students for inclusion in the study.

7.3 Recommendations for 2010-2011 Study

The evaluation in 2010-2011 should include both a process and an impact study using a mixed-methods approach. The process study should continue to examine the implementation of the RTA program and three of the identified common reading interventions. As described earlier, MGT recommends eliminating the “small group instruction” intervention as a designated common intervention from the study due to the many definitions and lack of clarity surrounding this approach.

The case studies conducted during this study provided valuable insight into the implementation of the intervention and opportunities for discussion with practitioners. Case studies should continue to inform this project and could serve to more deeply examine issues, including student selection procedures and how or whether RTA fits in as a part of a larger intervention program at the school.

The impact study should continue to examine the evidence of the KY RTA program on student reading achievement. As described earlier, the T-Pro assessment will not be used for RTA student achievement data. The ITBS will serve as the reading achievement assessment instrument. The ITBS is a widely-used assessment that is regularly used to assess reading achievement. Unlike T-Pro, ITBS scores are normed and scaled based on grade level and are available as normal curve equivalents (NCEs) that allow year-to-year growth to be measured.

APPENDICES

APPENDIX A
INTERVIEW GUIDES

APPENDIX A
INTERVIEW GUIDES

This appendix includes the Interview Guides for the Teacher and Principal interviews.

**KENTUCKY READ TO ACHIEVE TEACHER INTERVIEW GUIDE
2009-2010**

The purpose of this interview is to learn more about the effective practices your school is using to implement the RTA program, understand any challenges your school has faced in implementing the program, and get your recommendations for improvement. Your input is greatly appreciated and will provide valuable insights for the implementation of the RTA program.

Date: _____ District: _____

School: _____ Interviewer: _____

RTA Teacher: _____

GENERAL IMPLEMENTATION

1. In terms of your experiences with the Read to Achieve program and interventions:

1a. Overall, which practices/activities have been **most successful**?

1b. What implementation barriers have you experienced?

1c. How have those barriers been addressed? Please discuss the effectiveness of each approach.

SUPPORT FOR RTA IMPLEMENTATION

2. Describe effective aspects of the support that has been provided by principals, district personnel, and state personnel for the implementation of the RTA program?

Principal?

District?

State?

3. How could support provided by your principal, district personnel, or state personnel be improved to better facilitate the implementation of the RTA program?

Principal?

District?

State?

COLLABORATION

4. What strategies has your school used to garner support from a variety of educational professionals for the successful implementation of the RTA program (e.g., engaging assistance from resource teachers, paraprofessionals, and other school staff)?

5. What collaborative teaming strategies have been used at your school to support the implementation of the RTA program (e.g., RTA leadership team meetings, grade-level meetings, regular meetings with various stakeholders to discuss strategies, student performance, and intervention effectiveness)?

6. Has your school communicated with other RTA schools to share successful RTA strategies with one another? If so, what did you learn from other schools about how to improve RTA implementation at your school?

INTERVENTION PROVISION

7. Describe the process related to providing RTA interventions at your school. Please address the following practices/topics in your response:

- Screening
- Selecting students for RTA interventions
- Intervention decision making (selecting interventions, determining which skills to target, adjusting intervention strategies or intensity)
- Provision of interventions (types of interventions, grouping strategies, planning)
- Progress monitoring
- Determining student response to intervention
- Intervention evaluation

8. What strategies have been most effective regarding this process?

9. What challenges have been experienced regarding this process?

10. What aspects of this process could be improved and what improvements would you recommend?

STUDENT IMPACT

11. In your opinion, what is the overall impact of the RTA program on student achievement?

12. What do you think has been the impact of the RTA program on eliminating or closing the gap among students from traditionally underrepresented groups including:

- Students from low-income backgrounds
- Students with disabilities
- Students from racial minority groups
- Students with limited English proficiency
- Migrant students

13. What effective RTA-related practices has your school used to help eliminate or close the achievement gap?

14. What challenges has your school faced that have impacted the successfulness of the RTA program in closing or eliminating the achievement gap?

**KENTUCKY READ TO ACHIEVE PRINCIPAL INTERVIEW GUIDE
2009-2010**

The purpose of this interview is to learn more about the effective practices your school is using to implement the RTA program, understand any challenges your school has faced in implementing the program, and get your recommendations for improvement. Your input is greatly appreciated and will provide valuable insights for the implementation of the RTA program.

Date: _____ District: _____

School: _____ Interviewer: _____

RTA Teacher: _____

GENERAL IMPLEMENTATION

1. In terms of your experiences with the Read to Achieve program and interventions:

1a. Overall, which practices/activities have been **most successful**?

1b. What implementation barriers have you experienced?

1c. How have those barriers been addressed? Please discuss the effectiveness of each approach.

SUPPORT FOR RTA IMPLEMENTATION

2. Describe effective aspects of the support that has been provided by district and state personnel for the implementation of the RTA program?

District?

State?

3. How could support provided by your district or state personnel be improved to better facilitate the implementation of the RTA program?

District?

State?

COLLABORATION

4. What strategies has your school used to garner support from a variety of educational professionals for the successful implementation of the RTA program (e.g., engaging assistance from resource teachers, paraprofessionals, and other school staff)?

5. What collaborative teaming strategies have been used at your school to support the implementation of the RTA program (e.g., RTA leadership team meetings, grade-level meetings, regular meetings with various stakeholders to discuss strategies, student performance, and intervention effectiveness)?

6. Has your school communicated with other RTA schools to share successful RTA strategies with one another? If so, what did you learn from other schools about how to improve RTA implementation at your school?

STUDENT IMPACT

7. In your opinion, what is the overall impact of the RTA program on student achievement?

8. What do you think has been the impact of the RTA program on eliminating or closing the gap among students from traditionally underrepresented groups including:

- Students from low-income backgrounds
- Students with disabilities
- Students from racial minority groups
- Students with limited English proficiency
- Migrant students

9. What effective RTA-related practices has your school used to help eliminate or close the achievement gap?

10. What challenges has your school faced that have impacted the successfulness of the RTA program in closing or eliminating the achievement gap?

APPENDIX B

INTERVENTION FIDELITY

APPENDIX B

INTERVENTION FIDELITY

This appendix includes the observation data collection forms used during the site visits to the five selected schools. Intervention Fidelity aims to understand to what degree the identified intervention approach—Reading Recovery, Reading Mastery, Small Group Instruction or Soar/Early Success—is being implemented by the teacher. For this study, the site reviewer provided an overall rating of the extent to which students are actively engaged in learning, the teacher is organized with a sequential plan for instruction and materials easily managed, class or group management is smooth and does not detract from learning, and the teacher incorporates effective instructional principles including modeling and explicit instruction in new skills/strategies, scaffolding and support for initial learning, monitoring of student learning with immediate, specific feedback, and pacing appropriate to student learning.

Reading Mastery Implementation Fidelity

Kindergarten

Teacher: _____ School: _____

Instructional Group Size: _____

Intervention Component and Brief Description of Instruction Observed <i>(include all exercises under these lesson headings in ratings; if the heading is not in the lesson check NA)</i>	Time Spent	Implementation					Quality		
		3	2	1	0	NA	3	2	1
Pronunciation (oral) <i>Observed:</i>									
Sounds (with letters; include cross-out game) <i>Observed:</i>									
Say It Fast <i>Observed:</i>									
Sound Out <i>Observed:</i>									

Reading Vocabulary/Reading Vocabulary-Rhyming <i>Observed:</i>									
Story/Story Copying (reading, comprehension, word finding, etc.) <i>Observed:</i>									
Sound Writing <i>Observed:</i>									
Pair Relations <i>Observed:</i>									
Independent Activity <i>Observed:</i>									
Other (picture completion, symbol action, rhyming, etc.) <i>Observed:</i>									

Codebook

Time

Indicate the amount of time spent on the intervention component

Implementation

The intervention components on the checklist are denoted by black headings in the lesson. Include all exercises/activities under the intervention component (i.e. all exercises under the matching black heading in the specific lesson) in the rating. For example, if there are 3 exercises for the component "Sounds", provide an overall rating for "Sounds" implementation of all 3 exercises.

3: Implemented all or most of the required elements of the intervention component

2: Implemented more than 50% of the required elements of the intervention component

1: Implemented 50% or less of the required elements of the intervention component

0: Intervention component was not implemented but was required

NA: Intervention component was not a required part of the lesson (component heading was not in the lesson)

Quality

Include all exercises/activities under the intervention component in the quality rating. For example, if there are 3 exercises for the component "Sounds", provide an overall quality rating for "Sounds" implementation of all 3 exercises.

The quality indicator is an overall rating of the extent to which students are actively engaged in learning, the teacher is organized with a sequential plan

for instruction and materials easily managed, class or group management is smooth and does not detract from learning, and the teacher incorporates effective instructional principles including modeling and explicit instruction in new skills/strategies, scaffolding and support for initial learning, monitoring of student learning with immediate, specific feedback, and pacing appropriate to student learning.

3: All or most of the quality indicators were observed

2: More than 50% of the quality indicators were observed

1: 50% or fewer of the quality indicators were observed

Reading Mastery Implementation Fidelity

First Grade

Teacher: _____ School: _____

Instructional Group Size: _____

Intervention Component and Brief Description of Instruction Observed <i>(include all exercises under these lesson headings in ratings; if the heading is not in the lesson check NA)</i>	Time Spent	Implementation					Quality		
		3	2	1	0	NA	3	2	1
Sounds/Letter Names/Capital Letters <i>Observed:</i>									
Reading Vocabulary <i>Observed:</i>									
Read the Item(s) <i>Observed:</i>									
Story <i>Observed:</i>									

<p>Story Items <i>Observed:</i></p>										
<p>Sound Writing/Sentence Copying <i>Observed:</i></p>										
<p>Picture Comprehension/Reading Comprehension <i>Observed:</i></p>										
<p>Rule Review <i>Observed:</i></p>										
<p>Independent Activity <i>Observed:</i></p>										
<p>Individual Checkout/Reading Hard Words <i>Observed:</i></p>										
<p>Other (following instructions, story-picture items, deductions, etc.) <i>Observed:</i></p>										

Codebook

Time

Indicate the amount of time spent on the intervention component

Implementation

The intervention components on the checklist are denoted by black headings in the lesson. Include all exercises/activities under the intervention component (i.e. all exercises under the matching black heading in the specific lesson) in the rating. For example, if there are 3 exercises for the component "Sounds", provide an overall rating for "Sounds" implementation of all 3 exercises.

3: Implemented all or most of the required elements of the intervention component

2: Implemented more than 50% of the required elements of the intervention component

1: Implemented 50% or less of the required elements of the intervention component

0: Intervention component was not implemented but was required

NA: Intervention component was not a required part of the lesson (component heading was not in the lesson)

Quality

Include all exercises/activities under the intervention component in the quality rating. For example, if there are 3 exercises for the component "Sounds", provide an overall quality rating for "Sounds" implementation of all 3 exercises.

The quality indicator is an overall rating of the extent to which students are actively engaged in learning, the teacher is organized with a sequential plan

for instruction and materials easily managed, class or group management is smooth and does not detract from learning, and the teacher incorporates effective instructional principles including modeling and explicit instruction in new skills/strategies, scaffolding and support for initial learning, monitoring of student learning with immediate, specific feedback, and pacing appropriate to student learning.

3: All or most of the quality indicators were observed

2: More than 50% of the quality indicators were observed

1: 50% or fewer of the quality indicators were observed

Reading Mastery Implementation Fidelity

Second or Third Grade

Teacher: _____ School: _____

Grade: _____ Instructional Group Size: _____

Intervention Component and Brief Description of Instruction Observed	Time Spent	Implementation					Quality		
		3	2	1	0	NA	3	2	1
Vocabulary/Vocabulary Review/Vocabulary Sentences <i>Observed:</i>									
Reading Words <i>Observed:</i>									
Story Background <i>Observed:</i>									
Story Reading <i>Observed:</i>									
Paired Practice <i>Observed:</i>									

Written Items <i>Observed:</i>										
Independent Work/Workcheck <i>Observed:</i>										
Spelling <i>Observed:</i>										
Fluency Rate/Accuracy <i>Observed:</i>										
Test <i>Observed:</i>										
Other (fact review, fact game, globe activity, poem, study items, etc.) <i>Observed:</i>										

Codebook

Time

Indicate the amount of time spent on the intervention component

Implementation

Include all exercises/activities under the intervention component in the rating. For example, if there are 3 exercises for the component "Sounds", provide an overall rating for "Sounds" implementation of all 3 exercises.

3: Implemented all or most of the required elements of the intervention component

2: Implemented more than 50% of the required elements of the intervention component

1: Implemented 50% or less of the required elements of the intervention component

0: Intervention component was not implemented but was required

NA: Intervention component was not a required part of the lesson

Quality

Include all exercises/activities under the intervention component in the quality rating. For example, if there are 3 exercises for the component "Sounds", provide an overall quality rating for "Sounds" implementation of all 3 exercises.

The quality indicator is an overall rating of the extent to which students are actively engaged in learning, the teacher is organized with a sequential plan for instruction and materials easily managed, class or group management is smooth and does not detract from learning, and the teacher incorporates effective instructional principles including modeling and explicit instruction in new skills/strategies, scaffolding and support for initial learning,

monitoring of student learning with immediate, specific feedback, and pacing appropriate to student learning.

3: All or most of the quality indicators were observed

2: More than 50% of the quality indicators were observed

1: 50% or fewer of the quality indicators were observed

Reading Recovery Implementation Fidelity

Teacher: _____ School: _____

Grade: _____ Instructional Group Size: _____

Intervention Component and Brief Description of Instruction Observed	Time Spent	Implementation					Quality		
		3	2	1	0	NA	3	2	1
Reading familiar texts <i>Observed:</i>									
Reading yesterday's story <i>Observed:</i>									
Letters, sounds, or word work <i>Observed:</i>									
Writing a story <i>Observed:</i>									
Assembling a cut-up story <i>Observed:</i>									
Introducing and reading new text <i>Observed:</i>									

Reading Recovery Required Elements

Reading Familiar Texts

- Teacher uses book(s) that has been previously read; text is appropriate to student level
- Teachers has student work on reading the story fluently
- Teacher provides feedback on using meaning, structure, or print-sound relationships to read with phrasing and fluency

Reading Yesterday's Story

- Teacher takes a running record as the student reads the book
- Teacher provides feedback on the use of strategies

Letters, Sounds, or Word Work

- Teacher provides instruction and activities to assist student in understanding more about the features of word or letters in texts (e.g., work with single letters/sounds, clusters, onset-rime, and larger chunks).
- Teacher uses magnetic letters for letter identification and building words.
- Teacher selects words for word work that are high utility and occur often in language or are needed for writing.
- Teacher moves from less complex to more complex letter/sound associations.
- Teacher assists student in finding consistencies in language and supports the discovery of inconsistencies in the written code.
- Teacher provides assistance in hearing phonemes in words.

Writing a Story

- Teacher assists student in composing a message (e.g., directionality and spatial rules, forming letters, hearing phonemes in words to write the words, using phonological analysis to determine a word's orthographic representation)

Assembling a Cut-up Story

- Teacher assists student in putting story together (e.g., order of words, sequences of letters, linking story to own language, phrasing)
- Teacher provides feedback to assist student problem-solving to correcting errors

Introducing and Reading a New Text

- Teacher assists students to apply strategies to reading new text and making sense of the text (e.g., orienting to aspects of text, identifying known words, problem-solving reading unknown and multisyllabic words, monitoring reading and understanding, self-correcting, repeating to confirm, search for cues)

Codebook

Time

Indicate the amount of time spent on the intervention component

Implementation

3: All or most of the component instruction includes instruction in the critical elements of the intervention component

2: More than 50% of the component instruction includes instruction in the critical elements of the intervention component

1: 50% or less of the component instruction includes instruction in the critical elements of the intervention component

0: Intervention component was not implemented but was required

NA: Intervention component was not a required part of the lesson

Quality

The quality indicator is an overall rating of the extent to which students are actively engaged in learning, the teacher is organized with a sequential plan for instruction and materials easily managed, class or group management is smooth and does not detract from learning, and the teacher incorporates effective instructional principles including modeling and explicit instruction in new skills/strategies, scaffolding and support for initial learning, monitoring of student learning with immediate, specific feedback, and pacing appropriate to student learning.

3: All or most of the quality indicators were observed

2: More than 50% of the quality indicators were observed

1: 50% or fewer of the quality indicators were observed

Small Group Interventions Implementation Fidelity

Teacher: _____ School: _____

Intervention Program: _____

Grade: _____ Instructional Group Size: _____

Intervention Component and Brief Description of Instruction Observed	Time Spent	Implementation				Quality		
		3	2	1	NA	3	2	1
Phonological Awareness <i>Observed:</i>								
Phonics and Word Recognition <i>Observed:</i>								
Fluency <i>Observed:</i>								
Vocabulary <i>Observed:</i>								
Comprehension <i>Observed:</i>								

Research-Based Instruction

Phonological Awareness

- Provides instruction in hearing and manipulating sounds in words (e.g., blending sounds orally, segmenting sounds orally, isolating the last sound, etc.).
- While the goal of instruction should be hearing and manipulating individual sounds in words (cat = /c/ /a/ /t/), instruction may be provided in hearing and manipulating larger parts of words (base words, syllables, onset-rime) or comparing words (rhyming, identifying a word that has a different sound) as scaffolding for students who may not yet be able to hear individual sounds in words.
- Instruction with letters or print should be included under phonics and word recognition.

Phonics and Word Recognition

- Provides instruction in common letter/sound relationships (e.g., individual letters, letter combinations, affixes). May integrate previously learned phonological skills with letters/sounds.
- Provides instruction in use of letter/sound relationships in decoding and spelling regular words.
- Provides strategy for decoding and spelling multisyllabic words through breaking word into chunks or syllable.
- Provides instruction in reading and spelling irregular words through practice and memorization (use of sounds only where the letter makes its regular sound).

Fluency

- Provides opportunities for practicing known letters, sounds, or words to automaticity.
- Provides opportunities with feedback for practicing reading and rereading connected text with accuracy and appropriate rate. May include modeling of fluent reading by teacher or peers.

Vocabulary

- Introduces the meaning of new words (high-utility and currently unknown to students).
- May integrate practice in reading the word based on phonics and word recognition knowledge, but the focus of vocabulary instruction is on word meaning and the correct use of the word in language (oral or written).
- Provides instruction and practice that goes beyond the definition to help students understand how the word is used in language (e.g., examples, nonexamples, demonstrations, use of word in sentences, etc.).
- Provides context for word use and meaning (e.g., new words are used in connected text).
- Provides instruction in determining the meaning of words from context.

Comprehension

- Provides instruction in monitoring comprehension, organizing information in text, recognizing text structure, generating questions about the text, predicting outcomes about the text, and confirming or negating predictions.

- Provides instruction in strategies for students to actively apply to reading to help them understand the text (e.g., how to identify the main idea, how to summarize, etc.).
- Builds student background knowledge related to understanding the text.
- Facilitates discussion of one or more aspects of the text or content to provide opportunities for students to analyze text, make inferences, and provide evidence from the text and background knowledge for their responses.

Codebook

Time

Indicate the amount of time spent on the intervention component

Implementation

3: All or most of the component instruction includes research-based instruction of the intervention component

2: More than 50% of the component instruction includes research-based instruction of the intervention component

1: 50% or less of the component instruction includes research-based instruction of the intervention component

NA: Intervention component was not implemented

Quality

The quality indicator is an overall rating of the extent to which students are actively engaged in learning, the teacher is organized with a sequential plan for instruction and materials easily managed, class or group management is smooth and does not detract from learning, and the teacher incorporates effective instructional principles including modeling and explicit instruction in new skills/strategies, scaffolding and support for initial learning, monitoring of student learning with immediate, specific feedback, and pacing appropriate to student learning.

3: All or most of the quality indicators were observed

2: More than 50% of the quality indicators were observed

1: 50% or fewer of the quality indicators were observed

APPENDIX C

***IMPACT STUDY TECHNICAL
REPORT***

APPENDIX C

IMPACT STUDY TECHNICAL REPORT

Method

Gain scores were computed based on the fall 2009 and spring 2010 administration of the T-Pro. Following the recommendation of the Center for Innovation and Assessment, total scores rather than NCE scores were the used in this evaluation.¹ These total scores represent the total number of correct responses to test items. In the absence of grade-level norming or scaling of these scores, all analyses conducted for the impact study are disaggregated by grade level.

Based on the research questions, the evaluation conducted consisted of three components. First, a comparison was conducted of the pretest-posttest gains of students who participated in the RTA funded programs, in which teachers received RTA training to those of students receiving interventions from a certified teacher who has not received RTA training, and to the gains of students who did not receive any intervention at all (Set 1). Second, a comparison was conducted of pretest-posttest gains of students within the RTA and Certified Teacher intervention groups receiving the following common interventions: *Small Groups*, *Early/Soar to Success*, *Reading Recovery* and *Reading Mastery* (Set 2). In the third component of the analysis, a comparison was conducted of gains within the RTA, Certified Teacher, and common intervention groups to determine whether these interventions reduced achievement gaps according to minority status, participation in special education, gender, free/reduced priced lunch eligibility status, and ELL status (Set 3).

To evaluate the impact of the RTA and common interventions on student gains on the T-Pro, Analyses of Covariance (ANCOVA) were conducted to test for the statistical significance and effect size of the difference in mean pretest-posttest gains based on the aforementioned intervention groupings. The fall 2009 total T-Pro score was used as a covariate in these analyses to statistically adjust for pre-existing differences in achievement between the groups. Within the ANCOVA framework, we conducted a set of planned comparisons as follows. For the Set 1 comparisons, we conducted a contrast analysis (Helmert contrasts) comparing the outcomes for students with an RTA trained teacher to those of all other students (intervention from certified teacher or no intervention) and comparing the outcomes for students receiving interventions from certified teachers to those receiving no intervention. For the Set 2 analysis, we conducted planned comparisons such that within each of the two Set 1 intervention groups, mean gains of students receiving each common intervention were compared to those of students not receiving that common intervention. Planned comparisons for the Set 3 analysis tested for the statistical significance of the difference in mean gains between the demographic/service eligibility status groups within the Set 1 and Set 2 groupings.

¹ <http://www.cia.indiana.edu/assessments.htm>

Data described in this appendix are displayed graphically in **Chapter 5.0**. The graphic data includes only two groups—RTA-funded teacher intervention compared to no intervention.

Results

This section summarizes the findings as they pertain to each of the program impact research questions, starting with the comparison of student gains in the RTA Teacher group, the Certified Teacher Group, and the No Intervention Group. Next, gains of students receiving common interventions within each of these intervention groups are described, and finally, the differences in student gains according to demographic category and academic needs are summarized.

Student Gains in the RTA and Certified Teacher Groups

Exhibit C-1 shows the pretest-posttest of the T-Pro means (Fall 2009 and Spring 2010) for the RTA Teacher Group and the Certified Teacher Group as well as for the students having received no intervention. Results are reported separately for Grades K, 1, 2 and 3. As shown in **Exhibit C-1**, during kindergarten, T-Pro scores went up by 20.38 points, while for those kindergarten students who received interventions from certified teachers, scores went up by 17.33 points and for those students receiving no intervention, scores went up by 12.57 points. However, in the RTA Teacher Group, fall pretest scores were lower (48.98) than in the Certified Teacher Group (50.75) or the no intervention group (62.12). A contrast analysis indicates that the difference between the RTA Teacher Group and the other two groups is statistically significant, while the difference between the Certified Teacher and No Intervention Groups is not. The Analysis of Covariance indicates that intervention grouping has a statistically significant impact on student gains, and that the Fall 2009 covariate has a statistically significant impact as well. The effect size associated with initial pretest differences is large (.83), while the effect associated with the contrasted intervention grouping is small (.08).²

In first grade, the gains in the RTA Teacher Group, Certified Teacher Group and No Intervention Group are more modest (12.47, 11.86 and 8.27, respectively) than in kindergarten. The effect of intervention grouping and the pretest covariate are both statistically significant, and the contrast analysis reveals that the difference between students exposed to the RTA Teacher Group compared to other students, and the difference between students receiving interventions from a certified teacher and students receiving no intervention are both statistically significant. The effect size associated with these contrasts was small, however (.06).

Exhibit C-1 also shows the results for grade 2. In the RTA Teacher Group, the fall T-Pro scores are 38.57 and 46.60 in the spring, a gain of 8.02 points; in the Certified Teacher Group, the pretest mean is 40.20 and the posttest mean is 47.20, a gain of 7.00 points. In the No Intervention Group, the pretest and posttest means are 56.31 and 61.23,

² Effect sizes were determined as follows. Partial η^2 was computed, i.e., the ratio of statistical variance attributable to the effect in question relative to the total variance in the ANCOVA model. Following Cohen (1988), the effect size was then computed as $f = \sqrt{\frac{\eta^2}{1 - \eta^2}}$. A small effect is defined as $f = .10$, a medium effect as $f = .25$ and a large effect as $f = .40$. These criteria should be seen as rules of thumb that do not replace the reader's clinical judgment about the magnitude or practical significance of the reported effects. Source: Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. Hillsdale, NJ: Erlbaum.

respectively, a gain of 4.92 points. The Analysis of Covariance indicates that the effects of the intervention grouping and pretest covariates on the gain scores are both statistically significant. The contrast analysis indicates, however, that only the difference between the Certified Teacher Group and the No Intervention Group is significant, but that the difference in gain scores between RTA Teacher Group and the other groups is not. The effect size associated with the contrasts is small (.07). The pretest-posttest differences are much less pronounced in grade 3 than in the other grades. In grade 3, the differences range from 5.52 in the RTA Teacher Group to 4.29 in the No Intervention Group, with a gain of 4.66 points in the Certified Teacher Group. In the RTA Teacher Group, the pretest mean T-Pro score is 36.12 and the posttest score is 41.63; in the Certified Teacher Group, the pretest and posttest are 35.72 and 40.37, respectively. In the No Intervention Group, the pretest and posttest mean scores are 51.07 and 55.36, respectively. Nonetheless, the ANCOVA indicates that the impact of intervention grouping and pretest covariate are both statistically significant. The effect size associated with the intervention grouping is 0.06, a small effect.

**EXHIBIT C-1
PROGRAM IMPACTS ON READING PERFORMANCES OF STUDENTS AT KY RTA
SCHOOLS**

<i>Grade level/ Intervention/ Delivery</i>	<i>N</i>	<i>Fall Total Score (SD)</i>	<i>Spring Total Score (SD)</i>	<i>Gain Score (SD)</i>	<i>Effect Size Intervention</i>	<i>Pretest</i>
Kindergarten						
RTA Teacher ¹	2,281	48.98 (13.51)	69.35 (11.25)	20.38 (10.31)*	0.65	0.41
Certified Teacher ²	3,760	50.74 (14.85)	68.07 (12.89)	17.33 (10.45)		
No Intervention	15,887	62.11 (14.50)	74.69 (10.68)	12.57 (9.65)		
First Grade						
RTA Teacher	3,620	45.00 (10.99)	57.48 (12.38)	12.47 (9.95)*	0.41	0.02
Certified Teacher	3,859	46.97 (12.92)	58.83 (13.71)	11.86 (9.83)*		
No Intervention	15,079	61.09 (12.49)	69.36 (10.71)	8.27 (8.51)		
Second Grade						
RTA Teacher	2,473	38.57 (10.86)	46.60 (12.65)	8.02 (9.62)	0.26	0.13
Certified Teacher	3,633	40.20 (13.16)	47.20 (13.96)	7.00 (9.44)*		
No Intervention	15,667	56.30 (13.36)	61.23 (12.43)	4.92 (7.91)		
Third Grade						
RTA Teacher	1,864	36.11 (10.63)	41.63 (12.31)	5.52 (10.38)	0.1	0.03
Certified Teacher	3,324	35.72 (12.46)	40.37 (13.75)	4.66 (9.42)*		
No Intervention	16,967	51.07 (12.94)	55.36 (14.21)	4.29 (8.09)		

¹ Program intervention from an RTA teacher only.

² RTA and/or non-RTA intervention from a certified teacher.

* p < .05

Note: Statistical significance denotes the comparison of each common intervention with the mean of all other interventions.

Common Interventions

Exhibits C-2 and **C-3** show the fall to spring pretest and posttest findings on the T-Pro comparing common interventions in the RTA Teacher Group (**Exhibit C-2**) and the Certified Teacher Group (**Exhibit C-3**). Only students receiving interventions were included in this comparative analysis (i.e., there is no 'No Intervention Group').

RTA Teacher Group

Exhibit C-2 compares the outcomes for each of the common interventions within the RTA Teacher Group, again disaggregating the findings by grade level. Planned comparisons were conducted such that first the outcomes for students receiving *Small Groups* interventions is compared to those for students receiving any other intervention, then the outcomes for those receiving *Early/Soar to Success* is compared to any other intervention and then the same outcome comparisons are made for students participating in *Reading Mastery*. In grade 1, but not in the other grades, a comparison is also made between students participating in *Reading Recovery* and those who do not (*Reading Recovery* is designed to be a first grade intervention). The signs in the table indicate whether the difference between gains associated with intervention in question is larger '+' or smaller '-', than the mean gains of all other interventions combined.

Exhibit C-2 shows that in the RTA Teacher Group, the Fall 2009 to Spring 2010 gains in kindergarten range from 19.29 (*Reading Mastery*) to 20.80 (*Small Groups*). As depicted in **Exhibit C-2**, the gains of Kindergarten students receiving common interventions are lower in the RTA Teacher Group than among those students who did not receive common interventions. An effect size of .06 indicates, however, that this difference should be seen as a small effect. **Exhibit C-2** also shows the T-Pro pretest-posttest results for the first grade RTA Teacher Group. It can be seen that the gains are substantial in all groups, but not as large as in kindergarten. Gains in the *Reading Mastery* group are larger than those in the other intervention groups (13.74), while those in the *Small Groups* intervention and *Reading Recovery* are relatively modest (11.74 and 12.54, respectively). The Analysis of Covariance indicates that the main effect of the intervention groups and pretest covariates are both statistically significant. The effect size associated with the comparison of the common interventions is small at .07. Also shown in **Exhibit C-2**, are the findings for the second graders in the RTA Teacher Group. On average, the lowest fall to spring gains were achieved by students receiving the *Small Groups* intervention (7.36 points) compared to the others, while the highest gains were earned by students in the *Early/Soar to Success* (9.28 points) compared to the others. The Analysis of Covariance indicates that the main effect of intervention grouping and the effect of the pretest covariate are both statistically significant. The effect size associated with the contrasts between intervention groups equals .07, which is small.

For the third graders in the RTA Teacher Group, gains are lower in the common intervention groups than in the 'other' category (a gain of 6.40 in the later group, with gains ranging from 3.07 (*Reading Mastery*) to 5.42 points (*Early/Soar to Success*). The gain made by third graders in *Reading Mastery* is statistically significantly lower than the gain achieved by third graders in the RTA Teacher Group receiving other interventions. The effect size associated with these contrasts is small (.11).

**EXHIBIT C-2
IMPACT OF FOUR COMMON INTERVENTIONS ON READING PERFORMANCES
FOR STUDENTS IN THE RTA TEACHER GROUP**

<i>Grade Level/ Type of Intervention</i>	<i>N</i>	<i>Fall Total Score (SD)</i>	<i>Spring Total Score (SD)</i>	<i>Gain Score (SD)</i>	<i>Direction of Contrast</i>	<i>Effect Size Pretest</i>	<i>Contrast</i>
Kindergarten¹							
Small Group	553	46.79 (12.91)	67.60 (11.95)	20.81 (10.47)		0.71	0.06
Early/Soar to Success	272	46.78 (11.99)	64.27 (11.09)	20.49 (10.25)			
Reading Mastery	199	51.64 (13.41)	70.93 (9.82)	19.29 (9.25)			
Other	1250	50.02 (13.91)	70.33 (11.05)	20.30 (10.40)*	+		
First Grade²							
Small Group	798	44.65 (11.50)	56.35 (13.44)	11.70 (10.19)*	-	0.32	0.07
Early/Soar to Success	485	43.85 (9.29)	57.45 (11.44)	13.59 (10.15)			
Reading Recovery	1288	43.90 (10.03)	56.45 (11.87)	12.54 (10.28)*	-		
Reading Mastery	209	46.93 (10.48)	60.67 (11.54)	13.74 (9.30)*	+		
Other	840	47.24 (12.48)	59.36 (12.51)	12.12 (9.13)			
Second Grade³							
Small Group	880	38.11 (10.49)	45.47 (12.80)	7.36 (9.44)*	-	0.25	0.07
Early/Soar to Success	505	36.57 (8.94)	45.85 (11.92)	9.28 (10.10)*	+		
Reading Mastery	226	40.75 (11.38)	48.16 (12.92)	7.40 (9.53)			
Other	847	39.76 (11.89)	47.92 (12.66)	8.16 (9.50)			
Third Grade⁴							
Small Group	580	34.90 (10.43)	40.21 (12.42)	5.31 (10.03)		0.34	0.11
Early/Soar to Success	471	35.40 (9.71)	40.82 (11.07)	5.42 (11.16)			
Reading Mastery	165	37.27 (10.62)	40.35 (12.09)	3.08 (9.65)*	-		
Other	647	37.42 (11.28)	43.82 (12.85)	6.40 (10.20)*	+		

¹ Intervention F = 1015.38, p < .001; Pretest Covariate F = 1165.05, p < .001

² Intervention F = 284.90, p < .001; Pretest Covariate F = 371.70, p < .001

³ Intervention F = 142.60, p < .001; Pretest Covariate F = 153.74, p < .001

⁴ Intervention F = 111.91, p < .001; Pretest Covariate F = 210.23, p < .001

* p < .05

Note: Statistical significance denotes the comparison of each common intervention with the mean of all other interventions.

The signs indicate whether this comparison is favorable to the intervention '+' or unfavorable '-', "Other" denotes an intervention other than one of the four common interventions.

Certified Teacher Group

Exhibit C-3 shows that Kindergarten students in the Certified Teacher Group receiving the *Small Groups* common intervention made significantly greater gains (18.67 points) than the other students in the Certified Teacher Group, i.e., those receiving other common or uncommon interventions, while students in *Early/Soar to Success* made significantly smaller gains (17.56 points) than students in the Certified Teacher Group receiving other common or uncommon interventions. It is noteworthy also that the fall 2009 scores were higher in the *Small Groups* intervention group than in *Early/Soar to Success*. The ANCOVA indicates that both the intervention groupings and the pretest covariates have a significant impact on student gains. The impact of the specific contrasts summarized above is small, as indicated by an effect size of .11.

The results for grade 1 students are also shown in **Exhibit C-3**. First grade students in the Certified Teacher Group who received *Reading Recovery* made significantly higher gains (13.84 points) than the other first grade students in the Certified Teacher Group, while students in the group receiving uncommon interventions made significantly lower

gains (10.34 points) than those receiving common ones. It is also noteworthy that students in the *Reading Recovery* group had lower pretest means to begin with than students in the other common intervention groups. The main effect of the intervention grouping is statistically significant, as is the influence of the pretest scores on student gains at this grade level. Distinguishing the common intervention groups has a small effect on the statistical variability in student gains in the Certified Teacher Group.

Exhibit C-3 shows the findings for grade 2 students in the Certified Teacher Group as well. It can be seen that gains were greatest among students receiving *Early/Soar to Success* compared to recipients of other interventions, common or uncommon. This fall-to-spring gain of 8.62 points is a significantly larger gain than that obtained by students who were not in that common intervention group. Gains in the other common intervention groups ranged from 7.04 (*Small Groups*) to 6.64 (no common intervention). The main effect of the common intervention grouping on student gains on the T-Pro is statistically significant, but the associated effect size is small (.06).

Third graders in the Certified Teacher Group who participated in *Small Groups* had significantly greater gains from Fall 2009 to Spring 2010 on the T-Pro than students who did not (5.26 points). On the other hand, students in the group participating in *Reading Mastery* had gains that were significantly lower (3.50 points) than those achieved by students who did not participate in that intervention. The Analysis of Covariance indicates that the main effect of the common intervention groupings is small (effect size = .07), but statistically significant, as is the effect of pretest differences.

**EXHIBIT C-3
IMPACT OF FOUR COMMON INTERVENTIONS ON READING PERFORMANCES
FOR STUDENTS IN THE CERTIFIED TEACHER GROUP**

<i>Grade level/ Type of Intervention</i>	<i>N</i>	<i>Fall Total Score (SD)</i>	<i>Spring Total Score (SD)</i>	<i>Gain Score (SD)</i>	<i>Direction of Contrast</i>	<i>Effect Size Pretest</i>	<i>Contrast</i>
Kindergarten¹							
Small Group	1078	50.67 (14.61)	69.34 (12.67)	18.67 (10.63)*	+	0.62	0.11
Early/Soar to Success	127	46.39 (11.71)	63.95 (11.88)	17.56 (10.50)*	-		
Reading Mastery	244	50.68 (13.75)	69.04 (11.69)	18.35 (9.07)			
Other	2309	51.04 (15.20)	67.62 (13.09)	16.58 (10.43)*	-		
First Grade²							
Small Group	1254	49.50 (13.04)	61.44 (13.33)	11.94 (9.28)		0.31	0.13
Early/Soar to Success	220	44.85 (9.80)	58.52 (12.92)	13.67 (9.77)			
Reading Recovery	758	43.94 (9.42)	57.78 (11.44)	13.84 (9.90)*	+		
Reading Mastery	285	48.18 (13.44)	60.22 (13.41)	12.04 (9.47)			
Other	1342	46.40 (13.32)	56.73 (14.97)	10.34 (10.13)*	-		
Second Grade³							
Small Group	1563	41.39 (13.26)	48.43 (14.02)	7.04 (9.26)		0.28	0.06
Early/Soar to Success	269	38.42 (10.37)	47.04 (12.13)	8.62 (9.58)*	+		
Reading Mastery	291	40.99 (12.75)	48.25 (13.32)	7.25 (8.52)			
Other	1493	39.20 (13.48)	45.84 (14.22)	6.64 (9.76)*	-		
Third Grade⁴							
Small Group	1210	36.87 (12.56)	42.13 (14.11)	5.26 (9.73)*	+	0.25	0.07
Early/Soar to Success	352	35.80 (9.87)	40.63 (11.41)	4.82 (8.82)			
Reading Mastery	337	37.14 (12.37)	40.64 (13.53)	3.50 (9.56)*	-		
Other	1425	34.38 (12.85)	38.76 (13.84)	4.38 (9.23)			

¹ Intervention F = 1250.65, p < .001; Pretest Covariate F = 1457.02, p < .001

² Intervention F = 330.33, p < .001; Pretest Covariate F = 369.81, p < .001

³ Intervention F = 237.00, p < .001; Pretest Covariate F = 290.43, p < .001

⁴ Intervention F = 134.65, p < .001; Pretest Covariate F = 199.40, p < .001

* p < .05

Note: Statistical significance denotes the comparison of each common intervention with the mean of all other interventions.

The signs indicate whether this comparison is favorable to the intervention '+' or unfavorable '-', "Other" denotes an intervention other than one of the four common interventions.

Addressing Achievement Gaps

Exhibit C-4 shows the pretest-posttest mean gains on the T-Pro disaggregating minority (non-Caucasian) and non-minority (Caucasian) students in kindergarten and grades 1, 2 and 3 in the RTA Teacher Group and in the Certified Teacher Group. Kindergarten students had no significant differences detectable between minority (non-Caucasian) and non-minority (Caucasian) students. However, in the other grades, non-minority students make greater gains than minority students, while at the same time having lower fall pretest scores to begin with. This absence of a gap reduction between minorities and non-minority students is consistent across grades 1, 2 and 3, and is observed both in the RTA Teacher Group and the Certified Teacher Group. In fact, the students who are not minorities made greater gains than those who are minorities in many instances. In grade 1, minorities in the RTA Teacher Group on the average gained 10.18 points, while non-minorities gained 13.04 points. The corresponding gains in the Certified Teacher Group are 9.87 for minority and 12.27 for non-minority students. In grade 2, similarly, minorities gain less than non-minority students. In the RTA Teacher Group, the mean fall-to-spring gain of minority students is 6.03, while the gain for non-minority students is 8.45. In the Certified Teacher Group, minorities gain 4.69 points while non-minorities gained 7.50 points. In the RTA Teacher Group in grade 3, likewise, minorities gain by 3.14 points,

while non-minorities gain 5.83. In the Certified Teacher Group, minorities gain 2.37 while non-minorities gain 5.20.

The comparison between students participating in special education and not participating yields a less consistent pattern of differences, as can be seen in **Exhibit C-5**. In kindergarten, gains are greater among students not receiving special education than among students who do, both in the RTA Teacher Group (20.81 and 19.26, respectively) and in the Certified Teacher Group (17.62 and 16.76). However, among first graders, the difference in gain between students participating in special education and students who do not turns statistically significant only in the RTA Teacher Group, where special education participants make greater gains (13.16 points) than students not participating in special education (12.18). In second grade, on the other hand, the difference between special education and non-special education participants is statistically significant only in the Certified Teacher Group, and also in favor of the special education participants, who gained 7.44 points, compared to a mean gain of 6.69 in the non-participants. No statistically significant differences were found based on special education participation in grade 3 in either the RTA or Certified Teacher Groups.

Exhibit C-6 shows the disaggregation of findings by gender. Males and females achieve about the same gains in both the RTA and Certified Teachers groups in all grades, the one exception being the female first graders in the RTA Teacher Group, who made greater gains than their male counterparts (12.90 and 12.14 points respectively).

Exhibit C-7 shows that kindergarten students eligible for free or reduced-priced lunch in the Certified Teacher Group made greater gains (18.06) than students not eligible for free/reduced lunch (15.70). No such a difference was seen in kindergarten in the RTA Teacher Group. In grade 1, on the other hand, students not eligible for free or reduced lunch made greater gains than those not eligible in the RTA Teacher Group but not in the Certified Teacher Group. In grade 2, non-eligible students in the RTA Teacher Group made greater gains (8.75) than eligible students in the RTA Teacher Group (7.84), while no significant differences were observed among second graders in the Certified Teacher Group. No significant differences were seen according to free lunch eligibility status in grade 3.

Exhibit C-8 shows the differences in pretest posttest gains distinguishing English Language Learners (ELL) and students who are not ELL. It can be seen that in Kindergarten, students in the ELL group make greater gains than non-ELL students in both intervention groups; although only in the Certified Teacher Group does the difference reach statistical significance (students who are ELL gain 19.37 points while students who are not gain 17.22). In the first grade, students who are in the non-ELL group gain more than ELL students in the Certified Teacher Group (11.94 and 10.57, respectively) but no such difference is seen in the RTA Teacher Group. A very sizeable difference in favor of the students who are not ELL was observed in grade 2 in the Certified Teacher Group, who gained 7.16 points while ELL students gained 4.41 points. It can also be seen in **Exhibit C-8** that in grade 3, students who are not ELL gained more than students who are ELL in the Certified Teacher Group (4.81 and 1.87, respectively), while in the RTA Teacher Group a similar trend favoring non-ELL students merely approached statistical significance. In part, the failure to detect significant differences here is attributable to the fact the number of students who are ELL students in the RTA Teacher Group is very small.

**EXHIBIT C-4
PROGRAM IMPACT ON READING ACHIEVEMENT GAP: MINORITY STATUS**

<i>Grade level/ Intervention/ Delivery/ Minority Status</i>	<i>N</i>	<i>Fall Total Score (SD)</i>	<i>Spring Total Score (SD)</i>	<i>Gain Score (SD)</i>	<i>Effect Size Minority Contrast</i>
Kindergarten¹					
<i>RTA Teacher⁵</i>					
Minority	224	45.86 (12.50)	66.92 (11.83)	21.07 (9.92)	< .01
Non-minority	1,981	49.44 (13.61)	69.69 (11.14)	20.25 (10.39)	
<i>Certified Teacher⁶</i>					
Minority	583	46.88 (13.42)	64.58 (12.27)	17.70 (10.52)	
Non-minority	3,068	51.49 (14.97)	68.74 (12.87)	17.25 (10.43)	
<i>No Intervention</i>					
Minority	2,340	54.95 (15.99)	67.80 (13.24)	12.85 (10.57)	
Non-minority	13,028	63.49 (13.81)	75.99 (9.64)	12.51 (9.44)	
First Grade²					
<i>RTA Teacher</i>					
Minority	614	41.05 (10.31)	51.23 (12.56)	10.18 (10.72)*	0.09
Non-minority	2,866	45.90 (10.97)	58.94 (11.92)	13.04 (9.67)	
<i>Certified Teacher</i>					
Minority	577	43.36 (13.21)	53.23 (14.45)	9.87 (10.40)*	
Non-minority	3,169	47.60 (12.77)	59.87 (13.39)	12.27 (9.66)	
<i>No Intervention</i>					
Minority	2,008	56.82 (13.56)	63.37 (13.33)	6.55 (8.76)*	
Non-minority	12,558	61.84 (12.17)	70.44 (9.83)	8.60 (8.45)	
Second Grade³					
<i>RTA Teacher</i>					
Minority	430	35.02 (9.64)	41.05 (11.81)	6.03 (9.36)*	0.1
Non-minority	1,991	39.38 (11.00)	47.82 (12.54)	8.45 (9.66)	
<i>Certified Teacher</i>					
Minority	591	36.85 (11.34)	41.54 (12.47)	4.69 (9.21)*	
Non-minority	2,939	40.85 (13.37)	48.35 (13.94)	7.50 (9.40)	
<i>No Intervention</i>					
Minority	2,116	50.38 (14.63)	53.81 (14.35)	3.43 (8.47)*	
Non-minority	13,166	57.33 (12.87)	62.50 (11.62)	5.17 (7.78)	
3rd Grade³					
<i>RTA Teacher</i>					
Minority	229	34.30 (9.93)	37.45 (10.96)	3.14 (9.68)*	0.14
Non-minority	1,593	36.31 (10.70)	42.15 (12.35)	5.83 (10.45)	
<i>Certified Teacher</i>					
Minority	579	33.50 (11.21)	35.87 (12.59)	2.37 (9.64)*	
Non-minority	2,666	36.22 (12.70)	41.42 (13.83)	5.20 (9.33)	
<i>No Intervention</i>					
Minority	2,393	44.80 (13.95)	46.30 (15.25)	1.51 (8.76)*	
Non-minority	14,138	52.20 (12.42)	57.01 (13.42)	4.81 (7.84)	

¹ Intervention F = 376.65, p < .001; Minority F = 3.53, n. s., Intervention X Minority F = 0.22, n.s.

² Intervention F = 226.20, p < .001; Minority F = 144.85; Intervention X Minority F = 1.66, n.s.

³ Intervention F = 93.11, p < .001; Minority F = 128.37, p < .001; Intervention X Minority F = 253.71, p < .001

⁴ Intervention F = 11.97, p < .001; Minority F = 144.84, p < .001; Intervention X Minority F = 0.98, n.s.

⁵ Program intervention from and RTA teacher only.

⁶ RTA and/or non-RTA intervention from a certified teacher.

* p < .05

Note: A single ANOVA model was fitted for each grade level. Planned comparisons were conducted within each ANOVA to examine whether the differences according to the student groupings within each intervention group were statistically significant.

EXHIBIT C-6
PROGRAM IMPACT ON READING ACHIEVEMENT GAP: GENDER STATUS

<i>Grade Level/ Intervention/ Delivery/ Gender</i>	<i>N</i>	<i>Fall Total Score (SD)</i>	<i>Spring Total Score (SD)</i>	<i>Gain Score (SD)</i>	<i>Effect Size Gender Contrast</i>
Kindergarten¹					
<i>RTA Teacher⁵</i>					
Female	951	50.10 (13.32)	70.91 (10.18)	20.82 (10.37)	0.03
Male	1,330	48.17 (13.59)	68.24 (11.84)	20.06 (10.27)	
<i>Certified Teacher⁶</i>					
Female	1,608	52.61 (14.96)	69.85 (11.94)	17.25 (10.34)	
Male	2,152	49.36 (14.62)	66.75 (13.41)	17.39 (10.53)	
<i>No Intervention</i>					
Female	8,002	63.57 (13.90)	75.81 (9.72)	12.24 (9.38)*	
Male	7,885	60.64 (14.93)	73.54 (11.47)	12.90 (9.90)	
First Grade²					
<i>RTA Teacher</i>					
Female	1,560	45.88 (11.05)	58.78 (12.10)	12.90 (9.78)*	< .01
Male	2,060	44.35 (10.90)	56.49 (12.51)	12.14 (10.07)	
<i>Certified Teacher</i>					
Female	1,620	48.36 (12.76)	60.24 (13.25)	11.88 (9.70)	
Male	2,239	45.96 (12.94)	57.81 (13.95)	11.85 (9.93)	
<i>No Intervention</i>					
Female	7,808	62.18 (11.96)	70.37 (9.81)	8.19 (8.32)	
Male	7,271	59.93 (12.94)	68.29 (11.49)	8.36 (8.71)	
Second Grade³					
<i>RTA Teacher</i>					
Female	1,142	39.28 (11.05)	47.29 (12.59)	8.01 (9.38)	< .01
Male	1,331	37.97 (10.66)	46.00 (12.67)	8.03 (9.83)	
<i>Certified Teacher</i>					
Female	1,585	41.46 (13.44)	48.45 (14.04)	6.99 (9.40)	
Male	2,048	39.23 (12.85)	46.23 (13.83)	7.00 (9.47)	
<i>No Intervention</i>					
Female	7,860	57.29 (12.68)	62.30 (11.53)	5.00 (7.78)	
Male	7,807	55.31 (13.95)	60.15 (13.19)	4.84 (8.04)	
Third Grade⁴					
<i>RTA Teacher</i>					
Female	829	37.48 (10.38)	42.92 (12.28)	5.44 (10.15)	< .01
Male	1,035	35.01 (10.71)	40.60 (12.25)	5.59 (10.57)	
<i>Certified Teacher</i>					
Female	1,420	37.20 (12.49)	41.72 (13.69)	4.52 (9.20)	
Male	1,904	34.61 (12.34)	39.37 (13.71)	4.76 (9.58)	
<i>No Intervention</i>					
Female	8,536	52.14 (12.41)	56.60 (13.60)	4.46 (7.94)	
Male	8,431	49.98 (13.37)	54.09 (14.71)	4.11 (8.23)	

Intervention F = 845.31, p < .001; Gender F = .01, n.s.; Intervention X Gender F = 5.41, p < .05

Intervention F = 470.10, p < .001; Gender F = 1.96, n.s.; Intervention X Gender F = 3.92, p < .05

Intervention F = 203.19, p < .001; Gender F = 0.08, n.s.; Intervention X Gender F = 0.24, n.s.

Intervention F = 18.39, p < .001; Gender F = .00, n.s.; Intervention X Gender F = 2.06, n.s.

¹ Program intervention from and RTA teacher only.

² RTA and/or non-RTA intervention from a certified teacher.

* p < .05

Note: A single ANOVA model was fitted for each grade level. Planned comparisons were conducted within each ANOVA to examine whether the differences according to the student groupings within each intervention group were statistically significant.

**EXHIBIT C-7
PROGRAM IMPACT ON READING ACHIEVEMENT GAP: FREE/REDUCED LUNCH
STATUS**

<i>Grade Level/ Intervention/ Delivery/ Free Lunch Eligibility</i>	<i>N</i>	<i>Fall Total Score (SD)</i>	<i>Spring Total Score (SD)</i>	<i>Gain Score (SD)</i>	<i>Effect Size Free Lunch Contrast</i>
Kindergarten¹					
<i>RTA Teacher⁵</i>					
Free/Reduced Priced Lunch	1,601	47.64 (13.07)	68.08 (11.48)	20.44 (10.10)	0.15
Paid Lunch	680	52.13 (13.98)	72.36 (10.10)	20.23 (10.80)	
<i>Certified Teacher⁶</i>					
Free/Reduced Priced Lunch	2,596	48.60 (14.34)	66.66 (13.08)	18.06 (10.52)*	
Paid Lunch	1,164	55.54 (14.85)	71.24 (11.86)	15.70 (10.10)	
<i>No Intervention</i>					
Free/Reduced Priced Lunch	8,849	58.05 (14.83)	72.08 (11.90)	14.03 (9.94)*	
Paid Lunch	7,038	67.23 (12.28)	77.96 (7.78)	10.73 (8.94)	
First Grade²					
<i>RTA Teacher</i>					
Free/Reduced Priced Lunch	2,707	44.06 (10.83)	56.29 (12.51)	12.23 (10.12)*	0.06
Paid Lunch	913	47.84 (10.98)	61.01 (11.28)	13.17 (9.39)	
<i>Certified Teacher</i>					
Free/Reduced Priced Lunch	2,779	45.55 (12.63)	57.55 (13.77)	12.00 (9.96)	
Paid Lunch	1,080	50.61 (12.96)	62.12 (13.01)	11.51 (9.48)	
<i>No Intervention</i>					
Free/Reduced Priced Lunch	8,339	58.14 (12.76)	67.01 (11.94)	8.87 (8.84)*	
Paid Lunch	6,740	64.74 (11.13)	72.28 (8.05)	7.53 (8.02)	
Second Grade³					
<i>RTA Teacher</i>					
Free/Reduced Priced Lunch	1,917	37.69 (10.60)	45.51 (12.53)	7.81 (9.77)*	0.06
Paid Lunch	556	41.60 (11.20)	50.35 (12.31)	8.75 (9.08)	
<i>Certified Teacher</i>					
Free/Reduced Priced Lunch	2,636	38.44 (12.11)	45.39 (13.52)	6.95 (9.57)	
Paid Lunch	997	44.86 (14.59)	51.99 (13.99)	7.13 (9.09)	
<i>No Intervention</i>					
Free/Reduced Priced Lunch	8,820	52.89 (13.52)	58.36 (13.13)	5.47 (8.30)*	
Paid Lunch	6,847	60.71 (11.79)	64.93 (10.36)	4.22 (7.32)	
Third Grade⁴					
<i>RTA Teacher</i>					
Free/Reduced Priced Lunch	1,388	35.24 (10.50)	40.57 (12.00)	5.33 (10.25)	< .01
Paid Lunch	476	38.64 (10.61)	44.74 (12.68)	6.10 (10.74)	
<i>Certified Teacher</i>					
Free/Reduced Priced Lunch	2,481	34.34 (11.90)	39.00 (13.34)	4.65 (9.51)	
Paid Lunch	843	39.76 (13.19)	44.43 (14.15)	4.67 (9.16)	
<i>No Intervention</i>					
Free/Reduced Priced Lunch	9,370	47.33 (12.96)	51.48 (14.57)	4.14 (8.61)	
Paid Lunch	7,597	55.68 (11.33)	60.14 (12.17)	4.46 (7.38)	

¹ Intervention F = 754.71, p < .001; Free Lunch F = 100.67, p < .001; Intervention X Free Lunch F = 22.54, p < .001

² Intervention F = 424.31, p < .001; Free Lunch F = 3.21, n.s.; Intervention X Free Lunch F = 19.50, p < .001

³ Intervention F = 191.00, p < .001; Free Lunch F = 0.06, n.s.; Intervention X Free Lunch F = 19.56, p < .001

⁴ Intervention F = 18.85, p < .001; Free Lunch F = 3.58, n.s.; Intervention X Free Lunch F = 0.90, n.s.

⁵ Program intervention from and RTA teacher only.

⁶ RTA and/or non-RTA intervention from a certified teacher.

* p < .05

Note: A single ANOVA model was fitted for each grade level. Planned comparisons were conducted within each ANOVA to examine whether the differences according to the student groupings within each intervention group were statistically significant.

**EXHIBIT C-8
PROGRAM IMPACT ON READING ACHIEVEMENT GAP: ELL STATUS**

<i>Grade Level/ Intervention/ Delivery/ ELL Status</i>	<i>N</i>	<i>Fall Total Score (SD)</i>	<i>Spring Total Score (SD)</i>	<i>Gain Score (SD)</i>	<i>Effect Size ELL Contrast</i>
Kindergarten¹					
<i>RTA Teacher⁵</i>					
ELL (LEP=1)	84	42.24 (12.65)	63.89 (13.11)	21.66 (11.22)	0.03
No ELL (LEP=0)	2,281	48.98 (13.51)	69.35 (11.25)	20.38 (10.31)	
<i>Certified Teacher⁶</i>					
ELL (LEP=1)	197	46.06 (14.16)	65.43 (12.51)	19.37 (11.20)*	
No ELL (LEP=0)	3,563	51.00 (14.85)	68.22 (12.90)	17.22 (10.39)	
<i>No Intervention</i>					
ELL (LEP=1)	656	50.54 (17.57)	64.34 (14.83)	13.80 (11.32)*	
No ELL (LEP=0)	15,231	62.61 (14.14)	75.13 (10.24)	12.52 (9.57)	
First Grade²					
<i>RTA Teacher</i>					
ELL (LEP=1)	193	39.18 (9.92)	51.20 (13.45)	12.06 (10.44)	0.03
No ELL (LEP=0)	3,427	45.34 (10.96)	57.83 (12.23)	12.49 (9.92)	
<i>Certified Teacher</i>					
ELL (LEP=1)	224	41.79 (13.34)	52.37 (14.93)	10.58 (10.08)*	
No ELL (LEP=0)	3,635	47.28 (12.83)	59.23 (13.54)	11.94 (9.81)	
<i>No Intervention</i>					
ELL (LEP=1)	585	53.93 (14.53)	61.08 (14.30)	7.15 (9.32)*	
No ELL (LEP=0)	14,494	61.38 (12.32)	69.70 (10.40)	8.32 (8.47)	
Second Grade³					
<i>RTA Teacher</i>					
ELL (LEP=1)	149	34.60 (9.31)	41.50 (11.88)	6.89 (9.92)	0.03
No ELL (LEP=0)	2,324	38.83 (10.91)	46.92 (12.63)	8.10 (9.60)	
<i>Certified Teacher</i>					
ELL (LEP=1)	215	38.25 (12.24)	42.66 (12.88)	4.40 (9.08)*	
No ELL (LEP=0)	3,418	40.33 (13.20)	47.49 (13.98)	7.16 (9.44)	
<i>No Intervention</i>					
ELL (LEP=1)	565	49.90 (15.05)	53.98 (14.46)	4.08 (9.66)*	
No ELL (LEP=0)	15,102	56.55 (13.24)	61.50 (12.27)	4.95 (7.84)	
Third Grade⁴					
<i>RTA Teacher</i>					
ELL (LEP=1)	69	35.22 (10.82)	38.87 (11.11)	3.65 (10.06)	0.06
No ELL (LEP=0)	1,795	36.14 (10.63)	41.74 (12.35)	5.60 (10.39)	
<i>Certified Teacher</i>					
ELL (LEP=1)	178	34.47 (12.19)	36.33 (12.58)	1.87 (10.76)*	
No ELL (LEP=0)	3,146	35.79 (12.48)	40.60 (13.78)	4.81 (9.31)	
<i>No Intervention</i>					
ELL (LEP=1)	630	42.57 (14.66)	44.27 (15.69)	1.70 (8.64)*	
No ELL (LEP=0)	16,337	51.40 (12.76)	55.78 (13.98)	4.39 (8.05)	

¹ Intervention F = 145.34, p < .001; ELL F = 12.05, p < .05; Intervention X ELL F = 0.57, n.s.

² Intervention F = 93.55, p < .001; ELL F = 9.29, p < .05; Intervention X ELL F = 0.56, n.s.

³ Intervention F = 29.97, p < .001; ELL F = 23.81, p < .001; Intervention X ELL F = 3.76, p < .05.

⁴ Intervention F = 4.22, p < .05; ELL F = 35.13, p < .001; Intervention X ELL F = 0.33, n.s.

⁵ Program intervention from and RTA teacher only.

⁶ RTA and/or non-RTA intervention from a certified teacher.

* p < .05

Note: A single ANOVA model was fitted for each grade level. Planned comparisons were conducted within each ANOVA to examine whether the differences according to the student groupings within each intervention group were statistically significant.

Achievement Gaps and Common Interventions

Exhibits C-9 through C-13 show the gap reduction results for the common interventions (RTA and Certified Teacher intervention groups are combined in this analysis). **Exhibit C-9** shows the impact of the common interventions on the gap between minority and non-minority students. during Kindergarten, minority students participating in *Reading Mastery* made greater gains (20.67) than non-minority students in *Reading Mastery* (18.09). In the other intervention groups, differences between minority and non-minority students were not statistically significant in kindergarten. In the first grade, non-minority students make greater gains in all common intervention groups except for *Early/Soar to Success*. It is also noteworthy that the gains achieved by minority as well as non-minority students in *Early/Soar to Success* is higher (13.60 and 13.65, respectively) than the gains of students in either demographic category in the other common intervention groups.

Exhibit C-9 also shows the results for grade 2. In the *Small Groups* and *Early/Soar to Success* intervention groups, non-minority student make greater gains on the T-Pro than minority students (7.73 vs. 4.44 favoring non-minorities in the *Small Groups* and 9.69 vs. 6.22 in *Early/Soar to Success*). No such discrepancy is seen in the *Reading Mastery* group. In third grade, non-minority students make greater gains than minority students in all three common intervention groups. Mean T-Pro gains among third graders participating in the *Small Groups* intervention are 5.83 for non-minority students and 2.56 for minority students; the corresponding results for *Early/Soar to Success* are 5.68 for non-minority students and 1.69 for minority students. In the *Reading Mastery* common intervention group, non-minority students gained 3.80 while the gains for minority student were almost flat at 0.68.

The mean gains on the T-Pro of students participating in special education compared to those who do not participate in special education are shown in **Exhibit C-10**. For Kindergarten students, achievement gains among special education participants in *Early/Soar to Success* are significantly lower (17.71 points) than those receiving the same common intervention without special education (20.21). In the other common intervention groups, differences between special education and non-special education students fail to reach statistical significance in kindergarten. First graders participating in special education in *Reading Recovery* made greater mean gains (14.11) than the non-special education students (12.58). Conversely, in *Reading Mastery*, first graders in special education made smaller mean gains (11.10) than first graders not in special education students (13.56). Differences in the other two common intervention groups were not statistically significant.

In grade 2, special education participants receiving the *Small Groups* common intervention achieve greater gains on the T-Pro (8.10) than students not participating in special education (6.70), while in the *Reading Mastery* group, the opposite is found, i.e., the gains of students not participating in special education are greater than those of students who do (8.01 and 6.09, respectively). Mean gains disaggregated by special education status are about the same in the *Early/Soar to Success* common intervention group. In grade 3, none of the common intervention groups produce differential gains in T-Pro pre-posttest means depending on special education status.

T-Pro gains are shown separately for male and female students in **Exhibit C-11**. As depicted in that table, there are no differences in the gains of males and females in any of the grade levels for any of the common interventions, with one exception: among first graders in *Early/Soar to Success*, females make greater gains (14.81 points) than males (12.65).

Exhibit C-12 is concerned with the findings disaggregated by free/reduced priced lunch eligibility status. Among kindergarten students receiving *Reading Mastery*, eligible students achieve greater gains (19.45) than non-eligible students (16.81), while no differences of similar magnitude are seen in the other common intervention groups. In grade 1, no differences were found between free lunch eligible students and their non-eligible peers participating in the same common intervention. Second graders participating in *Small Groups* who are eligible for free lunch attained smaller gains than those not eligible. Their gains are 6.76 and 8.32, respectively. In grade 3, no statistically significant differences are observed between eligible and non-eligible students in any of the common intervention groups.

The findings for ELL students receiving common interventions are shown in **Exhibit C-13**. For kindergarten students, the 11 students who are ELL in *Reading Mastery* on the average attained much greater gains (26.82) than students who are not ELL, but receiving that same common intervention (18.57). Among first graders, students who are ELL participating in the *Small Groups* intervention had significantly smaller gains (8.94) than their fellow students who are not ELL (12.06). The other common intervention groups did not produce significant differences in mean gains between participating students who are ELL and participating students who are not. In grade 2, students participating in *Small Groups* who are ELL achieved smaller gains than those who are not (4.85 and 7.29, respectively), while in the other common intervention groups, no significant differences were found between the ELL and non-ELL groups. Third grade ELL students had considerably smaller gains in all three common intervention groups. In the *Small Groups* intervention, students who are ELL gained 2.58 points, while students in the same intervention group who are not gained 5.43 points. In the *Early/Soar to Success* intervention, students in the non-ELL group gained 5.37 points while students in the ELL group gained less than one point. Likewise, the 14 ELL students in *Reading Mastery* gained less than one point on the T-Pro.

**EXHIBIT C-9
COMMON INTERVENTION IMPACT ON READING ACHIEVEMENT GAP: MINORITY
STATUS**

<i>Grade level/ Type of Intervention/ Minority Status</i>	<i>N</i>	<i>Fall Total Score (SD)</i>	<i>Spring Total Score (SD)</i>	<i>Gain Score (SD)</i>	<i>Effect Size Minority Contrast</i>
Kindergarten¹					
<i>Small Group</i>					
Minority	212	45.01 (12.71)	64.60 (11.82)	19.59 (10.48)	0.03
Non-minority	1,384	50.13 (14.29)	69.44 (12.41)	19.31 (10.66)	
<i>Early/Soar to Success</i>					
Minority	74	45.66 (10.83)	63.39 (12.01)	17.73 (10.90)	
Non-minority	311	47.01 (12.17)	66.90 (12.25)	19.89 (10.28)	
<i>Reading Mastery</i>					
Minority	93	48.50 (13.28)	69.16 (10.83)	20.67 (9.87)	
Non-minority	324	51.87 (13.68)	69.96 (11.11)	18.09 (8.92)	
<i>Other</i>					
Minority	428	47.13 (13.67)	65.01 (12.54)	17.87 (10.44)	
Non-minority	3021	51.21 (14.82)	69.10 (12.34)	17.89 (10.59)	
First Grade²					
<i>Small Group</i>					
Minority	380	42.13 (11.90)	50.89 (13.76)	8.76 (9.93)*	0.11
Non-minority	1597	48.89 (12.50)	61.59 (12.77)	12.69 (9.39)	
<i>Early/Soar to Success</i>					
Minority	88	42.09 (9.49)	55.69 (10.95)	13.60 (10.55)	
Non-minority	595	44.57 (9.44)	58.22 (12.05)	13.66 (9.98)	
<i>Reading Recovery</i>					
Minority	333	40.30 (10.03)	50.66 (11.67)	10.36 (10.66)	
Non-minority	1641	44.69 (9.63)	58.44 (11.29)	13.75 (9.94)*	
<i>Reading Mastery</i>					
Minority	86	46.91 (13.25)	57.84 (14.17)	10.93 (11.11)	
Non-minority	390	47.81 (12.21)	60.82 (12.29)	13.02 (9.05)	
<i>Other</i>					
Minority	304	42.96 (13.37)	52.92 (14.75)	9.96 (8.84)*	
Non-minority	1812	47.35 (13.61)	58.51 (13.89)	11.16 (9.51)	
Second Grade³					
<i>Small Group</i>					
Minority	411	35.23 (10.21)	39.67 (12.03)	4.44 (9.16)*	0.11
Non-minority	1986	42.25 (12.60)	48.97 (13.40)	7.73 (9.30)	
<i>Early/Soar to Success</i>					
Minority	124	35.36 (9.12)	41.57 (11.84)	6.22 (9.63)*	
Non-minority	624	37.70 (9.55)	47.39 (11.82)	9.69 (9.82)	
<i>Reading Mastery</i>					
Minority	112	38.60 (11.46)	45.81 (12.14)	7.21 (8.24)	
Non-minority	390	41.69 (12.26)	49.04 (13.23)	7.36 (9.12)	
<i>Other</i>					
Minority	368	36.62 (11.37)	41.91 (12.15)	5.29 (9.57)*	
Non-minority	1905	39.85 (13.13)	47.42 (13.84)	7.58 (9.68)	

EXHIBIT C-9 (Continued)
COMMON INTERVENTION IMPACT ON READING ACHIEVEMENT GAP: MINORITY STATUS

<i>Grade level/ Type of Intervention/ Minority Status</i>	<i>N</i>	<i>Fall Total Score (SD)</i>	<i>Spring Total Score (SD)</i>	<i>Gain Score (SD)</i>	<i>Effect Size Minority Contrast</i>
Third Grade⁴					
<i>Small Group</i>					
Minority	295	32.59 (10.64)	35.14 (11.90)	2.56 (10.09)*	0.11
Non-minority	1464	37.04 (12.06)	42.88 (13.55)	5.83 (9.72)	
<i>Early/Soar to Success</i>					
Minority	104	36.57 (9.58)	38.26 (9.91)	1.69 (8.46)*	
Non-minority	696	35.38 (9.81)	41.06 (11.33)	5.68 (10.37)	
<i>Reading Mastery</i>					
Minority	81	35.61 (10.93)	36.28 (12.79)	0.68 (9.48)*	
Non-minority	408	37.46 (12.00)	41.26 (13.01)	3.80 (9.52)	
<i>Other</i>					
Minority	328	33.39 (11.25)	36.77 (12.81)	3.38 (9.59)*	
Non-minority	1690	35.64 (12.67)	41.03 (13.84)	5.39 (9.58)	

¹ Intervention F = 4.47, p < .05; Minority F = 0.11, n.s.; Intervention X Minority F = 2.30, n.s.

² Intervention F = 8.83, p < .001; Minority F = 31.36, p < .001; Intervention X Minority F = 4.56, p < .05

³ Intervention F = 4.92, F = .05; Minority F = 34.55, p < .001; Intervention X Minority F = 2.96, p < .05

⁴ Intervention F = 3.78, p < .05; Minority F = 48.29, p < .001; Intervention X Minority F = 1.27, n.s.

* p < .05

Note: A single ANOVA model was fitted for each grade level. Planned comparisons were conducted within each ANOVA to examine whether the differences according to the student groupings within each intervention group were statistically significant.

EXHIBIT C-10
COMMON INTERVENTION IMPACT ON READING ACHIEVEMENT GAP: SPECIAL EDUCATION STATUS

<i>Grade Level/ Type of Intervention/ Special Education</i>	<i>N</i>	<i>Fall Total Score (SD)</i>	<i>Spring Total Score (SD)</i>	<i>Gain Score (SD)</i>	<i>Effect Size Special Ed. Contrast</i>
Kindergarten¹					
<i>Small Group</i>					
Special Education	500	46.71 (14.12)	65.61 (13.36)	18.89 (10.60)	0.05
No Special Education	1,131	50.52 (14.04)	70.14 (11.78)	19.62 (10.63)	
<i>Early/Soar to Success</i>					
Special Education	105	43.33 (11.71)	61.05 (14.42)	17.71 (10.11)*	
No Special Education	294	47.85 (11.74)	68.06 (9.54)	20.21 (10.45)	
<i>Reading Mastery</i>					
Special Education	131	46.71 (14.50)	64.88 (12.87)	18.17 (9.30)	
No Special Education	312	52.96 (12.78)	71.99 (9.23)	19.03 (9.10)	
<i>Other</i>					
Special Education	1165	46.94 (15.07)	63.89 (14.16)	16.95 (10.51)*	
No Special Education	2395	52.49 (14.27)	70.84 (10.87)	18.35 (10.57)	
First Grade²					
<i>Small Group</i>					
Special Education	646	45.18 (13.04)	57.26 (14.54)	12.08 (9.29)	0.05
No Special Education	1406	48.73 (12.36)	60.47 (13.03)	11.74 (9.80)	
<i>Early/Soar to Success</i>					
Special Education	200	41.98 (10.17)	56.10 (12.94)	14.12 (10.71)	
No Special Education	505	45.03 (9.02)	58.45 (11.43)	13.42 (9.75)	

EXHIBIT C-10 (Continued)
COMMON INTERVENTION IMPACT ON READING ACHIEVEMENT GAP: SPECIAL EDUCATION STATUS

<i>Grade Level/ Type of Intervention/ Special Education</i>	<i>N</i>	<i>Fall Total Score (SD)</i>	<i>Spring Total Score (SD)</i>	<i>Gain Score (SD)</i>	<i>Effect Size Special Ed. Contrast</i>
First Grade (Continued)					
<i>Reading Recovery</i>					
Special Education	594	42.98 (9.75)	57.09 (11.67)	14.11 (10.07)*	
No Special Education	1452	44.30 (9.80)	56.88 (11.75)	12.58 (10.17)	
<i>Reading Mastery</i>					
Special Education	161	42.41 (13.36)	53.51 (13.87)	11.10 (10.00)*	
No Special Education	333	50.18 (10.87)	63.75 (10.50)	13.56 (9.05)	
<i>Other</i>					
Special Education	969	41.88 (13.63)	52.91 (15.29)	11.03 (10.56)	
No Special Education	1213	50.59 (12.36)	61.61 (11.78)	11.02 (9.14)	
Second Grade³					
<i>Small Group</i>					
Special Education	784	37.19 (11.81)	45.29 (13.72)	8.10 (9.80)*	0.05
No Special Education	1659	41.63 (12.47)	48.34 (13.53)	6.70 (9.06)	
<i>Early/Soar to Success</i>					
Special Education	234	34.83 (9.54)	44.07 (13.01)	9.24 (10.93)	
No Special Education	540	38.25 (9.30)	47.22 (11.41)	8.97 (9.46)	
<i>Reading Mastery</i>					
Special Education	186	36.79 (11.13)	42.87 (12.64)	6.09 (9.25)*	
No Special Education	331	43.19 (12.12)	51.21 (12.46)	8.01 (8.75)	
<i>Other</i>					
Special Education	1050	35.36 (11.82)	42.54 (13.70)	7.18 (10.20)	
No Special Education	1290	42.69 (12.87)	49.90 (12.81)	7.21 (9.26)	
Third Grade⁴					
<i>Small Group</i>					
Special Education	654	33.57 (11.34)	39.25 (13.51)	5.68 (10.05)	0.03
No Special Education	1136	37.77 (12.02)	42.80 (13.50)	5.04 (9.69)	
<i>Early/Soar to Success</i>					
Special Education	284	32.44 (9.53)	38.05 (11.06)	5.61 (10.69)	
No Special Education	539	37.22 (9.50)	42.15 (11.04)	4.94 (9.97)	
<i>Reading Mastery</i>					
Special Education	180	31.84 (11.00)	35.77 (12.75)	3.92 (9.19)	
No Special Education	322	40.17 (11.20)	43.21 (12.48)	3.05 (9.79)	
<i>Other</i>					
Special Education	1024	31.30 (11.73)	35.92 (13.14)	4.62 (9.62)	
No Special Education	1048	39.27 (11.89)	44.65 (12.92)	5.39 (9.54)	

¹ Intervention F = 8.33, p < .001; Special Education F = 9.81, p < .05; Intervention X Special Education F = 0.75, n.s.

² Intervention F = 17.42, p < .001; Special Education F = 0.01, n.s.; Intervention X Special Education F = 3.94, p < .05

³ Intervention F = 7.44, p < .001; Special Education F = 0.05, n.s.; Intervention X Special Education F = 4.73, p < .05

⁴ Intervention F = 4.64, p < .05; Special Education F = 1.56, n.s.; Intervention X Special Education F = 2.24, n.s.

* p < .05

Note: A single ANOVA model was fitted for each grade level. Planned comparisons were conducted within each ANOVA to examine whether the differences according to the student groupings within each intervention group were statistically significant.

**EXHIBIT C-11
COMMON INTERVENTION IMPACT ON READING ACHIEVEMENT GAP: GENDER
STATUS**

<i>Grade Level/ Type of Intervention/ Gender</i>	<i>N</i>	<i>Fall Total Score (SD)</i>	<i>Spring Total Score (SD)</i>	<i>Gain Score (SD)</i>	<i>Effect Size Gender Contrast</i>
Kindergarten¹					
<i>Small Group</i>					
Female	662	50.62 (14.20)	70.52 (11.34)	19.90 (10.26)	< .01
Male	969	48.49 (14.09)	67.54 (13.04)	19.06 (10.85)	
<i>Early/Soar to Success</i>					
Female	149	48.22 (10.01)	67.83 (9.84)	19.62 (10.18)	
Male	250	45.74 (12.81)	65.25 (12.21)	19.52 (10.56)	
<i>Reading Mastery</i>					
Female	209	52.48 (13.08)	71.11 (9.69)	18.63 (8.43)	
Male	234	49.89 (13.95)	68.80 (11.82)	18.90 (9.78)	
<i>Other</i>					
Female	1536	52.38 (14.97)	70.25 (11.64)	17.86 (10.80)	
Male	2024	49.38 (14.48)	67.29 (12.94)	17.91 (10.39)	
First Grade²					
<i>Small Group</i>					
Female	880	49.05 (12.53)	60.98 (13.05)	11.93 (9.36)	0.03
Male	1172	46.53 (12.69)	58.32 (13.90)	11.78 (9.85)	
<i>Early/Soar to Success</i>					
Female	313	44.22 (9.01)	59.05 (11.28)	14.83 (9.66)*	
Male	392	44.12 (9.81)	56.77 (12.32)	12.65 (10.23)	
<i>Reading Recovery</i>					
Female	861	44.76 (8.84)	57.79 (11.50)	13.03 (10.13)	
Male	1185	43.31 (9.73)	56.33 (11.85)	13.02 (10.19)	
<i>Reading Mastery</i>					
Female	230	48.75 (11.37)	61.67 (12.19)	12.92 (9.97)	
Male	264	46.69 (12.97)	59.31 (12.94)	12.62 (8.95)	
<i>Other</i>					
Female	896	48.16 (13.80)	59.38 (13.84)	11.21 (9.53)	
Male	1286	45.71 (13.44)	56.60 (14.21)	10.89 (9.98)	
Second Grade³					
<i>Small Group</i>					
Female	1107	41.05 (12.72)	48.05 (14.00)	7.00 (9.06)	< .01
Male	1336	39.51 (12.15)	46.79 (13.36)	7.28 (9.54)	
<i>Early/Soar to Success</i>					
Female	365	37.10 (9.14)	46.27 (11.70)	9.17 (9.70)	
Male	409	37.32 (8.81)	46.26 (12.27)	8.95 (10.12)	
<i>Reading Mastery</i>					
Female	237	42.39 (11.93)	50.27 (12.54)	7.88 (8.86)	
Male	280	39.61 (12.23)	46.46 (13.40)	6.84 (9.05)	
<i>Other</i>					
Female	1005	40.88 (13.35)	48.01 (13.65)	7.13 (9.76)	
Male	1335	38.29 (12.49)	45.53 (13.66)	7.24 (9.65)	

EXHIBIT C-11 (Continued)
COMMON INTERVENTION IMPACT ON READING ACHIEVEMENT GAP: GENDER STATUS

<i>Grade Level/ Type of Intervention/ Gender</i>	<i>N</i>	<i>Fall Total Score (SD)</i>	<i>Spring Total Score (SD)</i>	<i>Gain Score (SD)</i>	<i>Effect Size Gender Contrast</i>
Third Grade⁴					
<i>Small Group</i>					
Female	804	37.48 (11.89)	42.69 (13.74)	5.21 (9.50)	0.03
Male	986	35.13 (11.89)	40.54 (13.43)	5.32 (10.09)	
<i>Early/Soar to Success</i>					
Female	351	36.21 (9.33)	41.78 (10.89)	5.57 (10.25)	4.86 (10.20)
Male	472	35.09 (10.08)	39.96 (11.39)	4.86 (10.20)	
<i>Reading Mastery</i>					
Female	241	38.35 (11.28)	41.13 (12.90)	2.78 (9.55)	3.90 (9.60)
Male	261	36.11 (12.21)	40.00 (13.22)	3.90 (9.60)	
<i>Other</i>					
Female	852	37.30 (12.60)	42.11 (13.61)	4.81 (9.28)	5.14 (9.79)
Male	1220	33.96 (12.18)	39.10 (13.70)	5.14 (9.79)	

¹ Intervention F = 9.93, p < .001; Gender F = 0.15, n.s.; Intervention X Gender F = 0.72, n.s.

² Intervention F = 15.93, p < .001; Gender F = 4.57, p < .05; Intervention X Gender F = 1.71, n.s.

³ Intervention F = 8.78, p < 001; Gender F = 0.51, n.s.; Intervention X Gender F = 0.74, n.s.

⁴ Intervention F = 5.37, p < 05; Gender F = 0.45, n.s.; Intervention X Gender F = 0.98, n.s.

* p < .05

Note: A single ANOVA model was fitted for each grade level. Planned comparisons were conducted within each ANOVA to examine whether the differences according to the student groupings within each intervention group were statistically significant.

EXHIBIT C-12
**COMMON INTERVENTION IMPACT ON READING ACHIEVEMENT GAP:
FREE/REDUCED LUNCH STATUS**

<i>Grade Level/ Type of Intervention/ Free Lunch Eligibility</i>	<i>N</i>	<i>Fall Total Score (SD)</i>	<i>Spring Total Score (SD)</i>	<i>Gain Score (SD)</i>	<i>Effect Size Free Lunch Contrast</i>
Kindergarten¹					
<i>Small Group</i>					
Free/Reduced Priced Lunch	1,173	47.87 (13.81)	67.49 (12.73)	19.62 (10.63)	0.07
Paid Lunch	458	53.15 (14.38)	71.97 (11.10)	18.82 (10.57)	
<i>Early/Soar to Success</i>					
Free/Reduced Priced Lunch	273	44.99 (11.75)	64.72 (11.78)	19.73 (10.55)	19.18 (10.12)
Paid Lunch	126	50.28 (11.40)	69.46 (9.96)	19.18 (10.12)	
<i>Reading Mastery</i>					
Free/Reduced Priced Lunch	330	49.38 (13.32)	68.82 (11.10)	19.45 (9.32)*	16.81 (8.38)
Paid Lunch	113	56.19 (13.17)	72.99 (9.78)	16.81 (8.38)	
<i>Other</i>					
Free/Reduced Priced Lunch	2413	48.63 (14.16)	67.11 (12.64)	18.48 (10.43)*	16.65 (10.76)
Paid Lunch	1147	54.98 (15.08)	71.63 (11.56)	16.65 (10.76)	
First Grade²					
<i>Small Group</i>					
Free/Reduced Priced Lunch	1495	46.31 (12.51)	57.99 (13.77)	11.37 (9.78)	0.03
Paid Lunch	557	51.11 (12.48)	63.42 (12.31)	12.31 (9.24)	
<i>Early/Soar to Success</i>					
Free/Reduced Priced Lunch	462	43.05 (9.45)	56.59 (12.40)	13.54 (10.33)	13.76 (9.44)
Paid Lunch	243	46.28 (9.11)	60.05 (10.61)	13.76 (9.44)	

EXHIBIT C-12 (Continued)
COMMON INTERVENTION IMPACT ON READING ACHIEVEMENT GAP:
FREE/REDUCED LUNCH STATUS

<i>Grade Level/ Type of Intervention/ Free Lunch Eligibility</i>	<i>N</i>	<i>Fall Total Score (SD)</i>	<i>Spring Total Score (SD)</i>	<i>Gain Score (SD)</i>	<i>Effect Size Free Lunch Contrast</i>
First Grade (Continued)					
<i>Reading Recovery</i>					
Free/Reduced Priced Lunch	1576	43.21 (9.99)	56.03 (11.93)	12.82 (10.35)	
Paid Lunch	470	46.31 (8.76)	60.02 (10.46)	13.71 (9.47)	
<i>Reading Mastery</i>					
Free/Reduced Priced Lunch	383	46.30 (11.92)	59.19 (12.85)	12.88 (9.37)	
Paid Lunch	111	52.30 (12.42)	64.63 (10.92)	12.33 (9.67)	
<i>Other</i>					
Free/Reduced Priced Lunch	1570	45.15 (13.05)	56.37 (13.96)	11.22 (9.34)	
Paid Lunch	612	50.73 (14.29)	61.26 (13.95)	10.53 (9.41)	
Second Grade³					
<i>Small Group</i>					
Free/Reduced Priced Lunch	1833	38.81 (11.65)	45.57 (13.30)	6.76 (9.37)*	0.05
Paid Lunch	610	44.12 (13.71)	52.73 (13.32)	8.32 (9.11)	
<i>Early/Soar to Success</i>					
Free/Reduced Priced Lunch	561	36.14 (9.23)	45.41 (12.36)	9.27 (10.17)	
Paid Lunch	213	40.06 (9.60)	48.53 (10.66)	8.47 (9.22)	
<i>Reading Mastery</i>					
Free/Reduced Priced Lunch	398	39.67 (11.85)	47.24 (12.98)	7.58 (9.11)	
Paid Lunch	119	44.98 (12.32)	51.44 (13.20)	6.46 (8.46)	
<i>Other</i>					
Free/Reduced Priced Lunch	1732	37.77 (11.86)	45.01 (13.16)	7.24 (9.89)	
Paid Lunch	608	44.05 (14.61)	51.11 (14.25)	7.06 (9.13)	
Third Grade⁴					
<i>Small Group</i>					
Free/Reduced Priced Lunch	1372	34.95 (11.44)	40.05 (13.11)	5.10 (9.87)	0.03
Paid Lunch	418	40.44 (12.59)	46.27 (14.12)	5.83 (9.66)	
<i>Early/Soar to Success</i>					
Free/Reduced Priced Lunch	566	34.69 (9.97)	40.07 (11.17)	5.38 (10.53)	
Paid Lunch	257	37.50 (9.05)	42.20 (11.18)	4.70 (9.51)	
<i>Reading Mastery</i>					
Free/Reduced Priced Lunch	365	36.03 (11.24)	39.28 (12.75)	3.25 (9.42)	
Paid Lunch	137	40.26 (12.77)	43.92 (13.33)	3.66 (10.03)	
<i>Other</i>					
Free/Reduced Priced Lunch	1565	34.09 (11.92)	39.00 (13.30)	4.91 (4.48)	
Paid Lunch	507	39.17 (13.31)	44.47 (14.27)	5.30 (9.91)	

Intervention F = 9.67, p < .001; Free Lunch F = 11.14, p < .05; Intervention X Free Lunch F = 1.32, n.s.

² Intervention F = 16.01, p < .001; Free Lunch F = 0.11, n.s.; Intervention X Free Lunch F = 1.67, n.s.

³ Intervention F = 5.41, p < .05; Free Lunch F = 0.15, n.s.; Intervention X Free Lunch F = 4.40, p < .05

⁴ Intervention F = 4.34, p < .05; Free Lunch F = 0.36, n.s.; Intervention X Free Lunch = 0.80, n.s.

* p < .05

Note: A single ANOVA model was fitted for each grade level. Planned comparisons were conducted within each ANOVA to examine whether the differences according to the student groupings within each intervention group were statistically significant.

**EXHIBIT C-13
COMMON INTERVENTION IMPACT ON READING ACHIEVEMENT GAP: ELL
STATUS**

<i>Grade Level/ Type of Intervention/ ELL Status</i>	<i>N</i>	<i>Fall Total Score (SD)</i>	<i>Spring Total Score (SD)</i>	<i>Gain Score (SD)</i>	<i>Effect Size ELL Contrast</i>
Kindergarten¹					
<i>Small Group</i>					
ELL (LEP=1)	99	42.37 (13.20)	62.87 (13.06)	20.49 (11.82)	0.05
No ELL (LEP=0)	1,532	49.80 (14.12)	69.13 (12.33)	19.33 (10.54)	
<i>Early/Soar to Success</i>					
ELL (LEP=1)	33	46.79 (11.47)	66.06 (13.13)	19.27 (11.05)	
No ELL (LEP=0)	366	46.65 (11.94)	66.23 (11.29)	19.58 (10.36)	
<i>Reading Mastery</i>					
ELL (LEP=1)	11	40.18 (14.33)	67.00 (14.09)	26.82 (12.70)*	
No ELL (LEP=0)	432	51.39 (13.48)	69.96 (10.84)	18.57 (8.97)	
<i>Other</i>					
ELL (LEP=1)	138	46.67 (14.47)	66.05 (12.14)	19.38 (10.65)	
No ELL (LEP=0)	3422	50.84 (14.76)	68.67 (12.48)	17.83 (10.56)	
First Grade²					
<i>Small Group</i>					
ELL (LEP=1)	140	39.57 (11.20)	48.51 (14.23)	8.94 (9.95)*	0.05
No ELL (LEP=0)	1912	48.20 (12.59)	60.26 (13.21)	12.06 (9.59)	
<i>Early/Soar to Success</i>					
ELL (LEP=1)	47	38.81 (9.58)	54.15 (13.62)	15.34 (10.38)	
No ELL (LEP=0)	658	44.55 (9.34)	58.04 (11.76)	13.49 (10.00)	
<i>Reading Recovery</i>					
ELL (LEP=1)	102	40.15 (9.67)	52.42 (11.98)	12.27 (9.63)	
No ELL (LEP=0)	1944	44.12 (9.77)	57.18 (11.67)	13.06 (10.19)	
<i>Reading Mastery</i>					
ELL (LEP=1)	8	38.50 (8.75)	56.88 (11.86)	18.38 (8.60)	
No ELL (LEP=0)	486	47.80 (12.28)	60.47 (12.65)	12.67 (9.42)	
<i>Other</i>					
ELL (LEP=1)	120	42.96 (14.96)	53.95 (15.85)	10.99 (10.51)	
No ELL (LEP=0)	2062	46.94 (13.53)	57.96 (13.99)	11.03 (9.75)	
Second Grade³					
<i>Small Group</i>					
ELL (LEP=1)	143	34.95 (9.99)	39.80 (11.68)	4.85 (9.80)*	0.06
No ELL (LEP=0)	2300	40.53 (12.50)	47.83 (13.64)	7.29 (9.28)	
<i>Early/Soar to Success</i>					
ELL (LEP=1)	49	36.86 (9.33)	45.65 (11.42)	8.80 (9.78)	
No ELL (LEP=0)	725	37.24 (9.51)	46.31 (12.04)	9.07 (9.93)	
<i>Reading Mastery</i>					
ELL (LEP=1)	27	33.96 (9.13)	40.00 (11.17)	6.04 (9.42)	
No ELL (LEP=0)	490	41.27 (12.20)	48.66 (13.10)	7.39 (8.95)	
<i>Other</i>					
ELL (LEP=1)	142	39.19 (13.00)	43.92 (13.38)	4.73 (9.03)*	
No ELL (LEP=0)	2198	39.42 (12.93)	46.77 (13.72)	7.35 (9.72)	

EXHIBIT C-13 (Continued)
COMMON INTERVENTION IMPACT ON READING ACHIEVEMENT GAP: ELL STATUS

<i>Grade Level/ Type of Intervention/ ELL Status</i>	<i>N</i>	<i>Fall Total Score (SD)</i>	<i>Spring Total Score (SD)</i>	<i>Gain Score (SD)</i>	<i>Effect Size ELL Contrast</i>
Third Grade⁴					
<i>Small Group</i>					
ELL (LEP=1)	100	32.24 (11.32)	34.82 (12.19)	2.58 (10.70)*	0.06
No ELL (LEP=0)	1690	36.47 (11.94)	41.90 (13.59)	5.43 (9.75)	
<i>Early/Soar to Success</i>					
ELL (LEP=1)	36	38.14 (10.96)	38.94 (8.99)	0.81 (9.35)*	
No ELL (LEP=0)	787	35.45 (9.71)	40.82 (11.30)	5.37 (10.22)	
<i>Reading Mastery</i>					
ELL (LEP=1)	14	36.14 (11.46)	36.79 (12.62)	0.64 (15.00)	
No ELL (LEP=0)	488	37.21 (11.84)	40.65 (13.07)	3.44 (9.39)	
<i>Other</i>					
ELL (LEP=1)	97	35.69 (12.31)	38.66 (13.01)	2.97 (10.23)*	
No ELL (LEP=0)	1975	35.31 (12.47)	40.42 (13.77)	5.11 (9.54)	

¹ Intervention F = 2.71, p < .05; ELL F = 7.17, p < .05; Intervention X ELL F = 1.82, n.s.

² Intervention F = 7.97, p < .001; ELL F = 0.76, n.s.; Intervention X ELL F = 3.63, p < .05

³ Intervention F = 4.80, p < .05; ELL F = 6.54, p < .05; Intervention X ELL F = 0.81, n.s.

⁴ Intervention F = 0.96, n.s.; ELL F = 12.93, p < .001; Intervention X ELL F = 0.52, n.s.

* p < .05

Note: A single ANOVA model was fitted for each grade level. Planned comparisons were conducted within each ANOVA to examine whether the differences according to the student groupings within each intervention group were statistically significant.