Louisiana Striving Readers: Final Evaluation Report

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Executive Summary

The Louisiana Striving Readers evaluation assessed the implementation and effectiveness of the Voyager *Passport Reading Journeys* (PRJ), a widely used supplemental literacy intervention for struggling adolescent readers that reflects the research-based practices recommended by the National Reading Panel (2000) and other more recent syntheses (Biancarosa & Snow, 2004; Edmonds, et al., 2009; Kamil, et al., 2008; Scammacca et al., 2007; Torgesen et al., 2007). To date, PRJ has been adopted in 45 states across the country in almost 470 districts and over 2,200 schools, and has served over 268,000 students. PRJ offers four levels of instruction appropriate for middle and high school students. The PRJ curriculum uses direct, explicit instruction in reading comprehension, vocabulary, and word study for adolescents who struggle with reading using age-appropriate fiction and non-fiction texts. The program is delivered through 50-minute daily lessons delivered 5 days a week. Assessments are embedded in the curriculum to enable teachers to monitor progress and differentiate instruction. The program is formatted as a series of 15 two-week reading expeditions focused on topics related to science or social studies with optional add-ons (reteach or writing). Each week, students spend four days on lessons designed to build their fluency, vocabulary, and comprehension. They spend the fifth day online using SOLO®, an interactive online learning package. A library of Lexile-leveled books and magazines on age-appropriate topics is also provided for each classroom.

The Louisiana Striving Readers Program, funded by the Louisiana Department of Education (LDOE) through a grant from the U.S. Department of Education, targeted over 1,200 struggling readers in grades 6-7 from ten middle schools across the state of Louisiana. The grant required a rigorous, independent experimental evaluation, conducted by SEDL, addressing fidelity of program implementation and program impacts on student motivation and reading achievement. Findings from previous quasi-experimental studies suggested that the program can be effective in improving the skills of adolescent readers, relative to other traditional approaches. Despite the program's widespread use and promising research findings, PRJ had not been previously evaluated rigorously as part of an objective, large-scale, third-party study.

The study reported here had two specific aims: 1) determine the fidelity of implementation, or the extent to which the program was delivered as the grant indicated it should be implemented; 2) determine the impacts of PRJ on student reading and other related outcomes (i.e., student motivation and engagement in reading) and how the effects may have varied by student subgroups. The study design involved a multi-site randomized controlled trial in which students who were identified as reading *Below Basic* on the state reading assessment in 10 Title I middle schools in 4 districts in Louisiana were randomly assigned to one of two groups: 1) literacy intervention teachers who were trained in the PRJ program and delivered the curriculum as an add-on to students' regular core reading curriculum, or 2) teachers who continued to deliver supplemental instruction as usual, which included a range of other services and electives available in their school (i.e., tutoring, study hall), which were not focused on supplemental literacy services or courses. The study followed teachers and students over one school year (2010-2011).

The Louisiana state reading assessment (*i*LEAP) was used to identify eligible students in the fall prior to the start of the program and as a post-test outcome in the subsequent spring. For the

evaluation, SEDL also assessed students in reading achievement in the fall (pretest) and spring (posttest) of each year using a group-administered reading test (GRADE). Additional student outcomes, including student motivation and engagement in reading (MRQ), were also captured each fall and spring using student surveys. Fidelity of implementation was captured through classroom observations, archival school, program, and classroom data sources, and interviews with teachers, principals, PRJ coaches, and LDOE staff in the fall and spring of each year.

Findings

Implementation. The study assessed fidelity of implementation (FOI) – actual implementation relative to the ideal – in terms of the grant's professional development (PD) and classroom implementation models. The grant involved a number of additional supports, particularly in the areas of professional development, than is "typical" with the PRJ implementation (e.g., LDOE staff site visits and TA, district coordinators support and TA, principal classroom visits, number and length of Voyager coaches follow up visits, and teacher credentials for hiring). Perhaps because of this, the study found lower levels overall of FOI in terms of actual PD received, particularly in terms of on-going supports. Despite less than ideal PD FOI, classroom FOI was adequate across all teachers/classrooms in the fall and spring with the majority of teachers implementing with high levels of FOI to the PRJ classroom implementation model. Additional results indicate that relative to a more "typical" PRJ combined (professional development and classroom) implementation model, the program was implemented with medium to high levels of adequacy across the 10 schools in the study.

Impacts. The study found evidence of a statistically significant treatment effect on students' reading performance, as measured by the overall GRADE reading assessment score, and for the vocabulary and reading comprehension subscales of the GRADE assessment. We found no evidence that treatment students' and control students' outcomes differed on the *i*LEAP overall ELA score or Reading subscale. Finally, we found no evidence that the treatment impacted students' motivation to read, as measured by the MRQ total score or any of the four MRQ subscales.

The study found statistically significant differential impacts of the PRJ program by student gender and grade for the overall GRADE reading and comprehension scores. The results suggest that for males and 7th graders, assignment to the PRJ treatment condition yielded positive and substantial gains in reading scores. There was a statistically significant positive differential impact also found for the *i*LEAP Reading subscore for 7th graders. No other statistically significant differential impacts were detected for the *i*LEAP or MRQ outcomes. In addition, we found no differential impacts by student poverty status, ethnicity, or baseline proficiency in reading.

The overall impact and differential subgroup impacts are encouraging. This study provides evidence that PRJ is effective at improving struggling 6th and 7th grade students' reading performance on nationally norm referenced standardized assessments relative to other electives after only one year of the intervention. The size of the effects, particularly for overall reading (effect size = 0.27) and reading comprehension (effect size = 0.31) were statistically significant as well as educationally meaningful (PRJ student scores increased 3 and 4 NCE points, on average, respectively). The vocabulary effect size (effect size = 0.13) was statistically significant

but relatively small (PRJ student scores increased, on average, 2 NCE points). Males appeared to benefit more from the PRJ program (males scores increased 4-5 NCE points, on average), as did 7th grade students (7th grade students in PRJ scores increased 2 NCE points, on average). These findings are particularly promising given the relatively small number of proven adolescent literacy programs for the struggling readers, who were the targets of this study.

Implications for Research, Policy, and Practice

This study adds a critical piece to the evidence-base for the PRJ program – a high-quality third-party experimental study assessing effectiveness. The results are encouraging and provide evidence that the program can impact reading outcomes on a standardized norm referenced assessment for students two or more grade levels behind their peers after one year of implementation. However, this study involved significant involvement of the Louisiana state education agency, which may represent a less than typical implementation of the program. We found no impacts on student *i*LEAP reading scores or on student motivation or engagement in reading. In addition, the funding for the study was ended after only one year of intervention. Thus, the extent to which these results may replicate in different contexts, for a broader range of reading outcomes, and over an extended period of time remains an important empirical question. The program, and the field, would likely benefit from further research addressing these questions.

Many middle school students continue to struggle with reading proficiency. At least two-thirds of eighth grade students fail to reach proficient-level reading scores (National Center for Educational Statistics, 2011). Recent initiatives emphasize the critical role of early reading instruction in preventing reading difficulties and the need for effective interventions to bring students to proficient levels in reading and narrow the gap between them and their peers. With increased investment and expectations in reading programs to ameliorate reading difficulties in students who are significantly behind their peers, policymakers and school administrators need evidence regarding the utility of the PRJ program, and other similar programs, as a strategy for improving student reading achievement and addressing gaps in reading difficulties. This study provides evidence of a supplemental reading program's impacts that may help to inform decision-makers – policy makers and practitioners – attempting to address this critical problem.

The study findings also have potentially meaningful implications for communities of practice, particularly those working closely with adolescent students reading significantly behind their peers. The study found PRJ, which focuses on direct, explicit comprehension, vocabulary, and word study instructional strategies, was implemented with adequate levels of fidelity in classrooms in a relatively short period of time. In addition, PRJ had the largest impacts on reading comprehension outcomes for these students. These results may be particularly important given improved reading comprehension skills may also significantly help students in learning other content areas.

Introduction

Significance of the Problem

This study addresses the effectiveness of a widely used supplemental reading program for struggling adolescent readers that reflects the research-based practices recommended by the National Reading Panel (2000) and other more recent syntheses (Biancarosa & Snow, 2004; Edmonds, et al., 2009; Kamil, et al., 2008; Scammacca et al., 2007; Torgesen et al., 2007). This and other similar programs are increasingly used to address reading difficulties in middle and secondary school students where the demands on students have shifted from learning to read to reading to learn. Converging evidence from two decades of research suggests that with appropriate instruction, nearly all students can become competent readers (Denton & Mathes, 2003; Lyon, Fletcher, Fuchs, & Chhabra, 2006; Mathes & Denton, 2002; Snow, Burns, & Griffin, 1998). Yet statistics indicate that approximately two-thirds of fourth and eighth grade students fail to reach proficient-level reading scores (National Center for Educational Statistics, 2011). Recent initiatives emphasize the critical role of early reading instruction in preventing reading difficulties, recognizing that students who do not learn to read well by third grade are less likely to build vocabulary and interact with a wide variety of texts (Good, Simmons, & Kame'enui, 2001). As a result, older students who continue to struggle to read often face difficulties in organizing and acquiring content knowledge from informational text (Snow and Biancarosa, 2003). Studies have found that reading ability is a key predictor of achievement in other content areas, such as mathematics and science (ACT, 2006). Such failure can have a long-term impact on students' self-confidence, motivation to learn, performance in school, and success in life (Harris & Sipay, 1990; Juel, 1988; Stanovich, 1986, 2000), and reading difficulties are the most common reason for referral into special education (Donovan & Cross, 2002). Despite these concerns, there is limited evidence that supplemental reading programs can impact reading outcomes for older students that are reading significantly below grade level.

According to the Education Watch Report (The Education Trust, 2009), Louisiana is the only state in which the gap between African American and white students has narrowed significantly in both 4th grade reading and 8th grade math. Despite this success in reducing the achievement gap, over 26,500 students did not graduate from the state's high schools in 2008. The lost lifetime earnings in Louisiana for that class of dropouts alone total nearly $6.9 billion (Alliance for Excellent Education, 2011). One of the most commonly cited reasons that students drop out of high school is that they do not have the literacy skills to keep up with the high school curriculum, which has become increasingly complex (Kamil, 2003; Snow and Biancarosa, 2003). In 2006, the state adopted the Louisiana Literacy Plan, a blueprint for improving students' reading achievement. As the plan incorporates grade-specific instructional models, research-based programs and strategies, ongoing assessment, and job-embedded professional development, it served as a powerful springboard for the Louisiana Striving Readers Program**.** The program assessed the effectiveness of a research-based reading intervention targeted to struggling readers in 6th and 7th grades and provided evidence from a rigorous, independent experimental evaluation conducted by SEDL regarding program fidelity of implementation and impacts on student reading outcomes as well as outcomes related to student motivation and engagement in reading.

Overview of the Intervention

The Louisiana Striving Readers Program used *Passport Reading Journeys* (PRJ), a comprehensive supplemental curriculum published by Voyager Expanded Learning, which blends targeted, teacher-led instruction with student-centered technology. To date, PRJ has been adopted in 45 states across the country in almost 470 districts and over 2,200 schools, and has served over 268,000 students. The program offers four levels of instruction appropriate for middle and high school students. PRJ uses direct, explicit instruction in comprehension, vocabulary, and word study for adolescents who struggle with reading using age-appropriate fiction and non-fiction texts. The program is delivered through 50-minute daily lessons delivered 5 days a week. Assessments are embedded in the curriculum to enable teachers to monitor progress and differentiate instruction. The program is formatted as a series of 15 two-week reading expeditions focused on topics related to science or social studies with optional add-ons (reteach or writing). Each week, students spend four days on lessons designed to build their fluency, vocabulary, and comprehension. They spend the fifth day online using SOLO®, an interactive online learning package. A library of Lexile-leveled books and magazines on age-appropriate topics is also provided for each classroom.

A limited body of research has examined the impact of the supplemental PRJ program on reading outcomes with middle and high school students. Shneyderman (2006) carried out a quasi-experimental study with 9th and 10th graders in Miami, Florida. The study involved four Voyager PRJ schools with predominantly low-achieving, Hispanic Limited English Proficient students (n=453) compared to four matched comparison control schools (n=394) identified using propensity score matching on pretest state assessment scores, student demographics, and English for Speakers of Other Languages levels. Results from Hierarchical Linear Modeling (HLM) analyses using the state assessment pretest as a covariate indicated statistically significant positive impacts on reading outcomes on the Florida Comprehensive Assessment Test for ninth graders (ES = +0.22) but not for tenth graders (ES = +0.12) with an overall effect size of +0.17 (Slavin, Cheung, Groff, and Lake, 2008).

Other smaller scale quasi-experimental evaluations of the Voyager PRJ program funded by the publisher suggest that, in comparison to other reading curricula, PRJ has been associated with better reading outcomes. Denson (2008) implemented PRJ with ninth graders who were struggling readers (based on previous years state assessment scores) in a high school in Dallas, Texas (n=88), and compared them to ninth grade students in a matched control school (n=82) based on pretest reading scores and demographic variables. The PRJ students made significantly greater progress on norm-referenced (ITBS: Iowa Test of Basic Skills) and criterion-referenced (TAKS: Texas Assessment of Knowledge and Skills) reading assessments relative to the students in the control school over two years. The study did not estimate effect sizes or establish that the students were statistically equivalent at pretest, which weakens the design and implications of the findings. In a more recent quasi-experimental study, Denson, Peyton, and Macpherson (2009), looked at ninth graders who were struggling readers from the same high school in Dallas, Texas (n=99) who participated in the PRJ program, and compared them to students matched on demographics and reading assessment variables from another high school in the district (n=46). Results from these analyses are less clear. The authors state that the PRJ students scored 47 points higher on the TAKS although they do not indicate whether this difference was statistically significant. Again, the authors did not calculate the effect size for the difference and did not

confirm that there were no statistically significant differences between the treatment and control groups at pretest, thus weakening the validity of the results.

The extent of evidence of the PRJ program is based on a small number of quasi-experimental studies. Only one independent quasi-experimental study has provided strong and direct support for the potential effectiveness of the program. Though the results from this and other quasi-experimental studies appear promising, the studies assessing the effectiveness of the PRJ program were conducted in a limited number of schools, involving predominantly statewide assessments of reading outcomes, and students in the early years of high school (i.e., 9th grade). Another key limitation across this research is the inability or failure to monitor and verify program implementation fidelity. The inability to examine dimensions related to implementation fidelity, dosage, and program duration or to document and verify differences between the control and treatment conditions weakens the conclusions that can be drawn. Thus, the extent to which these results may replicate in different contexts and for a broader range of reading outcomes remains an important empirical question. The results provide some evidence that the PRJ program can be effective. But perhaps more importantly, this evidence suggests that, in combination with the widespread adoption of the program, the program is well positioned for an independent efficacy trial to measure implementation fidelity and determine its impact on reading outcomes.

Findings from quasi-experimental studies suggest that the program can be effective in improving the skills of adolescent readers, relative to other traditional approaches. Yet, despite the program's widespread use and promising research findings, PRJ has not been evaluated rigorously on a scale as part of an objective, third-party efficacy study.

A number of factors make information from an efficacy study of the PRJ program valuable for educational policymakers and practitioners, particularly at the state and local levels:

- In response to NCLB, schools' adoption of core reading programs has steadily increased nationwide. However, many students continue to struggle with reading proficiency, particularly in late elementary, middle, and high school, and need intense and effective interventions to bring them to proficient levels in reading and narrow the gap between them and their peers in reading, and in other content areas impacted by reading. PRJ is among the most widely used supplemental reading programs with years of delivering methods found to be effective in reading instruction for adolescents.

- Results from a quasi-experimental study suggest that PRJ can produce student-level effects of statistical and educational significance on reading outcomes. However, this study was conducted in select schools in a single district and offer only preliminary indications of program effects. A third-party efficacy study can test whether the PRJ program has similar results across a larger sample of districts and schools.

- With increased investment and expectations in supplemental reading programs to ameliorate reading difficulties in students who are significantly behind their peers each year, policymakers and school administrators need evidence regarding the utility of the PRJ program as a long-term strategy for improving student reading achievement and preventing gaps in reading difficulties.

Overview of the Evaluation

The study reported here had two specific aims: 1) determine the extent to which the program was delivered as the grant indicated it should be implemented or fidelity of implementation; 2) determine whether the program produced substantial impacts on student reading and other related outcomes (i.e., student motivation and engagement in reading) and how the effects of the program may have varied by student subgroups. The study design involved a multi-site randomized controlled trial in which students who were identified as reading *Below Basic* on the state reading assessment in 10 Title I middle schools in 4 districts in Louisiana were randomly assigned to one of two groups: 1) literacy intervention teachers who were trained in the PRJ program and delivered the curriculum as an add-on to their regular core reading curriculum, or 2) teachers who continued to deliver supplemental instruction as usual, which included a range of other services and electives available in their school (e.g., tutoring, study hall) which were not focused on supplemental literacy services or courses. The study followed teachers and students over one school year (2010-2011).

Research Questions

The study addressed the following major research questions:

Research Question 1: Fidelity of Implementation (FOI). Describe the extent to which the intervention was delivered as the grant indicated it should be implemented. Was there significant variation in implementation fidelity among the schools and classrooms in the treatment group?

Research Question 2: Overall Impacts on Student Reading Outcomes. Does student-level assignment to the PRJ supplemental literacy program produce impacts on reading achievement for 6th and 7th grade students significantly behind their peers (i.e., scoring *Below Basic* on the state assessment) in reading relative to student assignment to a supplemental non-reading elective services control condition?

Research Question 3: Overall Impacts on Student Motivation to Read. Does student-level assignment to the PRJ supplemental literacy program produce impacts on students' motivation to read for 6th and 7th grade students significantly behind their peers (i.e., scoring *Below Basic* on the state assessment) in reading relative to student assignment to a supplemental non-reading elective services control condition?

Research Question 4: Overall Impacts by Subgroups. For which subgroups and under which conditions does the program have its greatest impact?

Study Design and Methods

SEDL's approach for assessing the implementation and impact of the PRJ program involved two key elements:

- **Multi-site Randomized Controlled Trial (RCT)** in which eligible 6th and 7th grade students who scored *Below Basic* on the Louisiana state assessment in reading in the spring 2010 from 10 middle schools were randomly assigned to one of two groups: 1) literacy intervention

teachers that were trained in the PRJ program and deliver the curriculum, and 2) teachers that delivered supplemental or elective instruction not focused on literacy services. Statistical power calculations indicated that 10 schools would be needed to detect an effect size of .10 for main effect and subgroup analyses (n=1,200 students) so the study design targeted a sample of approximately 1,200 students in 10 schools across 4 districts in Louisiana. The study followed teachers and students through one school year (2010-2011).

- **Implementation Study** to document the specific fidelity of implementation of the supplemental intervention program in each classroom and school as well as the level of implementation or "dose" (i.e., intensity, duration, and integration of services) of professional development services to determine if the supplemental intervention was delivered as intended, and to collect data about why, how, and under which conditions it was or wasn't implemented with fidelity. The implementation study also documented general fidelity constructs related to implementation (i.e., teacher and classroom factors associated with high fidelity of implementation) or other facilitators and barriers influencing the program implementation which may be significant predictors of program outcomes in treatment classrooms and may explain indirect impacts as well as the critical contextual factors related to the program effects.

Sampling Plan

A multi-stage sampling process was refined and implemented during the first year planning period of the study, involving:

- **Initial school selection**. The LDOE recruited a purposive sample of schools that met eligibility criteria for inclusion in the sample (i.e., demonstrated the required number of potential struggling readers for each grade proposed for the study, met Title I eligibility criteria, and secured letters of agreement to participate in the study from district superintendents and school principals).

- **School eligibility**. To be included in the study, schools had to have a minimum number of eligible striving readers to create treatment and control groups at each grade level. Eligibility was determined from information derived from LDOE school databases. Initial estimates from the state indicated that the 10 schools willing to participate in the study met the eligibility criteria.

- **Student sample selection**. Based on recruitment efforts and projections of student achievement from the state assessment (Integrated Louisiana Educational Assessment Program or *i*LEAP) in each school, a sample of 10 schools and an initial pool of approximately 1,400 eligible students (i.e., scoring *Below Basic* in reading) were targeted. SEDL researchers confirmed these data during the first year planning period to verify school eligibility and the initial sample. Final requirements and memoranda of understanding were negotiated with each school during the first year planning period. Critical to this agreement was the schools' commitment to change their enrollment procedures to involve random assignment for all consenting students and the participation of staff in the study.

- **Random assignment**. At each school, enrollment procedures began in the summer 2010 by determining a pool of eligible struggling readers who scored *Below Basic* using the previous spring *i*LEAP criterion-reference scores for reading. From this pool of students, school liaisons (program staff trained and supported by the study team) provided information about the study to parents and solicited their consent for student participation in the study. The SEDL study team (i.e., data manager) randomly assigned half of the eligible, consented students to the PRJ program and half to the control condition. Students who were tested in the spring 2010 but did not return or show up for school in the fall 2010 were considered ineligible for the study.

Key Measures of Outcomes

Louisiana state reading assessment (*i*LEAP) data was used to randomize students (spring 2010) as well as a post-test outcome the subsequent spring. Students were also assessed in reading achievement in the fall (pretest) and spring (posttest) using a group-administered reading test (GRADE). Additional student outcomes, including student motivation and engagement in reading (MRQ) were captured in the fall and spring using surveys. Fidelity of implementation was captured by classroom observations and interviews with teachers, principals, PRJ coaches, and LDOE staff in the fall and spring of each year as well as archival school, program, and classroom data sources.

Overview of the Report

The remainder of the report is divided into three parts. Part I is an overview and in-depth description of the intervention, part II describes the implementation study design and results, and part III presents the impact study design and results. Appendices include additional details about the analytic methods and measures used in the study.

Description of the Intervention

Description of the Study Sample

Selection of Study Schools. A purposive sample of 10 middle schools were recruited that met eligibility criteria for inclusion in the sample. Schools had to enroll the required number of potential struggling readers for each grade (i.e., 6th and 7th grades) proposed for the study and had to sign letters of agreement to participate in the study. School and student demographics had to meet Title I eligibility criteria. Eligibility was determined from information derived from LDOE school databases. State data indicated that the 10 schools willing to participate in the study met the eligibility criteria. Table 1.1 below displays sample pool estimates based on spring 2010 *i*LEAP data provided by LDOE for all 10 schools indicating commitments to participate in the study.

Table 1.1. Expected Student Sample Pool Based on 2010 iLEAP State Assessment Data

		6th Grade Students			7th Grade Students		
School	Locale	n *Below Basic*/ Total	% *Below Basic*	% African-American	n *Below Basic*/ Total	% *Below Basic*	% African-American
1	Rural	87 / 185	47%	36%	94 / 204	46%	35%
2	City	64 / 163	39%	91%	66 / 148	45%	91%
3	City	55 / 134	41%	93%	76 / 150	51%	93%
4	City	64 / 146	44%	97%	50 / 96	52%	98%
5	City	48 / 150	32%	90%	57 / 138	41%	83%
6	Suburb	109 / 211	52%	61%	67 / 164	41%	63%
7	Rural	82 / 198	41%	22%	59 / 156	38%	31%
8	City	53 / 147	36%	74%	50 / 126	40%	71%
9	Rural	39 / 84	46%	73%	37 / 76	49%	55%
10	Rural	56 / 138	41%	41%	64 / 138	46%	39%

Final requirements and memoranda of understanding were negotiated with each school by the LDOE, and sites were developed and prepared for the study through meetings during the first planning year of the grant. As part of this process, SEDL researchers presented a detailed description of the RCT study procedures and considerations for reducing any disruptions to normal school procedures. Critical to this period of site development were site visits to each school to finalize the parameters and ideal conditions for the implementation of the research in each of the schools and to provide an opportunity to answer any questions administrators may have had before the study began.

Selection of Study Intervention Teachers. PRJ was implemented by literacy intervention teachers that were hired by the school districts based on selection criteria and requirements established by LDOE[1] to provide the supplemental program activities during an elective period

[1] LDOE criteria and requirements, include: 1) Valid Louisiana teaching certificate; meeting NCLB definition of Highly Qualified Advanced degree in reading or reading specialist certification (preferred); 2) Knowledge of reading intervention and scientifically-based research instructional strategies; 3) Knowledge of specific strategies used before, during, and after reading to build comprehension; 4) Knowledge of strategies and activities to increase vocabulary and oral language development; 5) Ability to communicate effectively with students, school personnel,

devoted to this offering at each school. LDOE worked closely with districts to staff literacy intervention teachers who taught exclusively in the intervention classrooms rather than in addition to their duties in regular ELA classrooms and to have one intervention teacher per school. Special care was also taken to ensure that treatment teachers did not interact with students assigned to the control condition. Based on estimates of eligible students, each school planned to have, a range of 2-6 sections with up to 20 students in each section, participating in PRJ.

Selection of Study Participants (Students). The study focused on 6th and 7th grade students scoring *Below Basic* on the spring 2010 Integrated Louisiana Educational Assessment Program (*i*LEAP) English Language Arts (ELA) subscale. The iLEAP is Louisiana's state assessment and contains items linked to established Grade Level Expectations (GLEs) criterion referenced items and items from the Iowa Test of Basic Skills (ITBS) norm referenced items. Students who score *Below Basic* are considered to be performing below grade level and are often targeted for interventions. The iLEAP was administered during March of the previous spring, prior to entering 6th and 7th grade. While the *i*LEAP tests students' acquired skills across several key areas (i.e., science, math and ELA), only the ELA score was used to establish eligibility for inclusion. The researchers worked with the LDOE staff to obtain spring 2010 *i*LEAP scores for all 5th and 6th grade students across the state. The data were provided in late May and researchers began working with participating districts and schools to identify their incoming 6th and 7th graders. Students were excluded from participation if they did not have a spring 2010 *i*LEAP ELA score.

The total number of students in the 6th and 7th grade, was 3,595 across the 10 study schools. From this pool, 1,437 were eligible for randomization, based on their spring 2010 *i*LEAP ELA score in the *Below Basic* (*Approaching Basic* and *Unsatisfactory*) category. The remaining 2,158 were not eligible for randomization. All students with a spring 2010 *i*LEAP score were eligible to participate, including limited English proficient (LEP), and special education students.

Logic Model for the Intervention

SEDL researchers created a logic model (see Figure 1.1 below) to describe the linkages between PRJ professional development, curriculum materials, instruction, and proposed short and long-term outcomes. The model provided a conceptual framework for the evaluation approach, the research design, core constructs to be measured, and the timeline for the study. It hypothesized the major constructs that are relevant for the evaluation of the PRJ program and the pathways through which students' reading achievement may be influenced.

Key components of PRJ (listed under Program Inputs/Activities) included teacher, principal, and district coordinator professional development; teacher and student curricula and materials; and ongoing support throughout the school year. As the logic model indicates, the PRJ curriculum was hypothesized to be mediated by how well teachers implement the program (see Short Term

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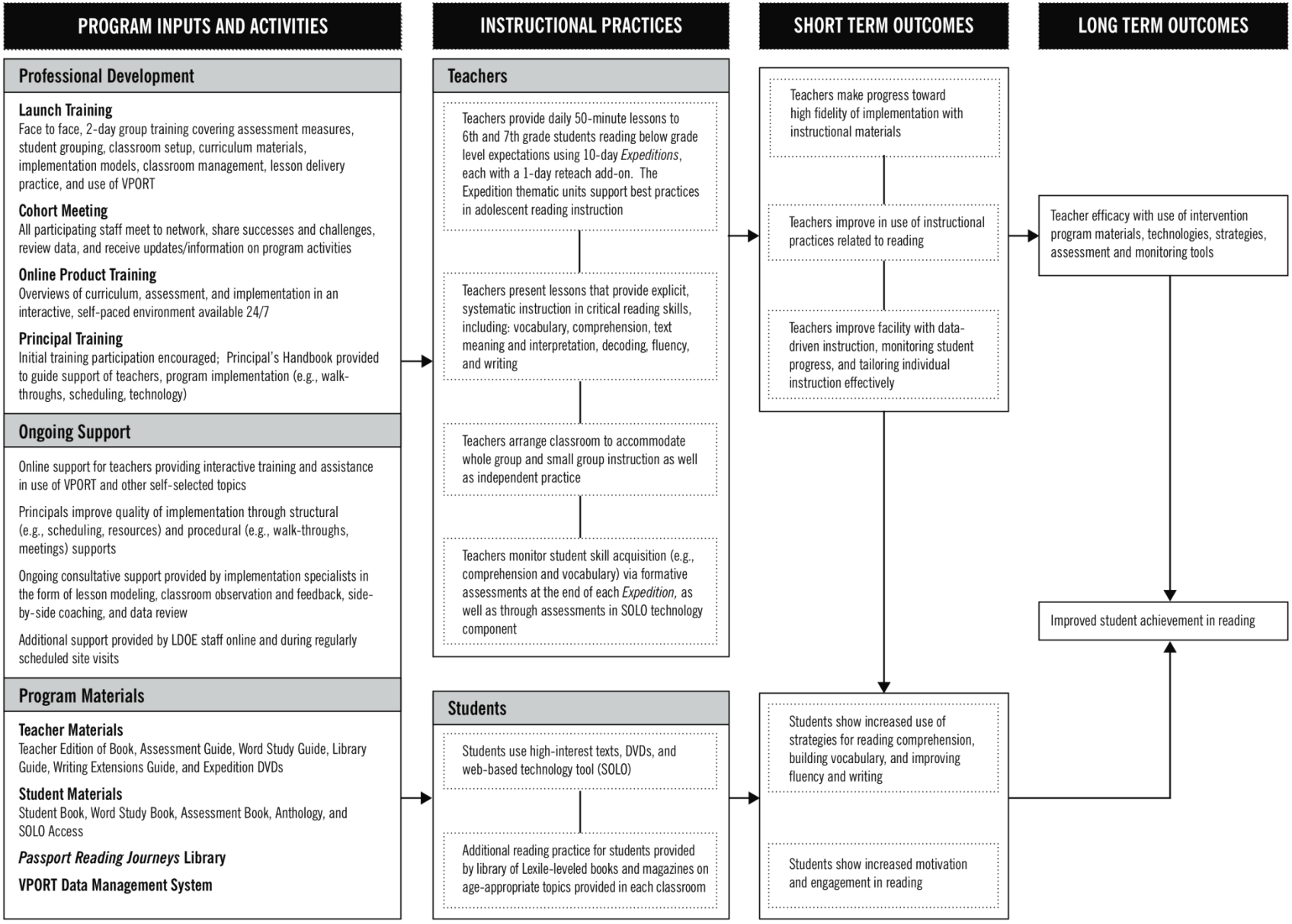
and parents, and an ability to work collaboratively with others; 6) Ability to promote student motivation and engagement in learning; 7) Knowledge of technology and how it is used to facilitate instruction and track student progress in reading; and 8) a minimum of three years of demonstrated effective classroom instruction, including teaching reading or core reading program and experience in improving student performance in diverse populations.

Teacher Outcomes). Similar to many other programs, a critical component of PRJ was the way in which teachers combine specific instructional practices and curriculum materials in the classroom. For example, the fidelity with which teachers implement the PRJ materials and methods would potentially mediate short-term outcomes, including changes in teacher instructional practices and facilitation of student motivation and engagement in reading. Long-term outcomes include teacher efficacy with the PRJ materials and strategies, and students' performance in reading.

Logic Model for *Passport Reading Journeys* - Targeted Intervention for Louisiana Striving Readers



Plan for Implementing the Intervention

Planned Professional Development Model

The PRJ curriculum and materials are important elements of the project, but it is the teacher's ability to implement the program with fidelity that results in a long-term difference for learning. Therefore, the professional development for teachers was intended to be intensive and ongoing, offering a full range of support that included lesson modeling, side-by-side coaching with observation and feedback, and data review. The professional development model, delivered and/or facilitated by LDOE staff and Voyager implementation specialists, included five formats for literacy intervention teachers and project support staff: Launch Training, Online Product Training, Ongoing Consultative Support, Cohort Meetings, and Principal Training.

In addition to the professional development provided by Voyager, the literacy intervention teachers received technical assistance from the LDOE and their principals. The technical assistance from LDOE was provided via on-site visits, phone conversations, and emails. All technical assistance was documented by LDOE through a T/TA tracking system. LDOE staff planned to visit each school at least eight times each year to provide technical assistance during and in between Voyager implementation specialists visits to ensure program fidelity. District coordinators would provide additional support by coordinating project efforts at the local level and serving as liaisons between and among partners. Principals planned to visit classrooms and work with teachers to ensure fidelity of implementation is maintained across the project's timeline. Principals planned to visit each teacher once a week during the initial month of implementation and then twice a month over the school year. In total, the project planned to provide a minimum of 86 hours of professional development to teachers over the school year. District and LDOE staff would receive a total of 30 and 18 hours, respectively, and Principals 36 hours across the planning year and first school year of implementation. These supports described in detail in this section are outlined in Table 1.2 below.

Table 1.2. Professional Development Model: Method, Frequency, Purpose, and Contact Hours[2]

YEAR 1 2009-2010 (PLANNING YEAR)			
Method/Format	**Frequency**	**Purpose**	**Hours**
Cohort Meeting	Spring 2010	• Preview PRJ curriculum • Discuss program activities • Attended by District staff & Principals	12

[2] LDOE has enhanced Voyager's PD model by providing additional supports highlighted in yellow, for each year of the study.

YEAR 2 2010-2011 (FIRST YEAR OF IMPLEMENTATION)			
Method/Format	**Frequency**	**Purpose**	**Hours**
Launch Training	August 2010	Face-to-face PRJ implementation training covering: • Assessment measures • Student grouping • Classroom setup • Curriculum materials • Implementation models • Classroom management • Lesson delivery practice	12
Online Product Training	Ongoing	Self-paced PRJ modules that supplement Launch Training. Topics include: • Assessment and Data Management • Classroom Management • Lesson Preparation • Model Lessons (video) • Trouble Shooting Tips	8 to 16
Ongoing Consultative Support	2x in September 1x in Oct. – Jan. 1x in March – May 2 to 4 hours per visit	On-site school visits provided by Voyager implementation specialists to support skill development and program implementation. Activities include: • Classroom observations and feedback • Lesson modeling • Side-by-side coaching • Data analysis and decision-making • Exit conference with principal • Completing Fidelity of Implementation Checklist	18-36
Cohort Meeting	February 2011	All participating staff in project schools meet to: • Network • Share successes and resolve challenges • Review data • Receive program updates	6
Principal Meeting	Fall 2010	In addition to attending Launch Training and Cohort Meetings, all principals in project schools meet to: • Define the principal's role in program implementation (e.g. walk-throughs, scheduling, technology) • Review the Principal's Handbook for PRJ that contains tools used to guide support of teachers	6

YEAR 2 2010-2011 (FIRST YEAR OF IMPLEMENTATION)			
Method/Format	**Frequency**	**Purpose**	**Hours**
Principal Classroom Observations	Aug.–Sept. 2010 Oct.–May 2010-11 (bi-weekly) 90 minutes/visit	• Address start-up needs • Ensure PRJ instruction has begun • Check utilization of program components • Provide feedback to teachers	6 24
LDOE Staff Site Visits	8(+) times/yr. 90 minutes/visit May overlap with Voyager visits	• Observe intervention classrooms • Review student data • Meet with principal and implementation teacher to review observation data	12
LDOE Staff TA	Ongoing	Online availability to all project participants, as needed	--
		Total Hours (Teachers)	86
		Total Hours (District)	30
		Total Hours (LDOE Staff)	18
		Total Hours (Principals)	36

Teacher Training and Support from Voyager. Initial group or "launch" training with intervention teachers, school principals, and district coordinators was planned over two days in early August 2010 with the intent of covering the key features of the PRJ program, including: assessment measures, student grouping, classroom set-up, curriculum materials, implementation models, classroom management, and lesson delivery practice. Launch training was delivered by Voyager implementation specialists. SOLO® (Strategic Online Learning Opportunities) was part of the PRJ curriculum, which provides opportunities for students to practice skills learned during face-to-face instruction. VPORT® (Voyager's online data management system), imports assessment data, monitors progress, and generates reports. On VPORT®, under the Training tab, teachers accessed the Online Product Training (OPT) modules. These were interactive, self-paced tutorials, which provided professional development targeted to the PRJ curriculum. Teachers were required to log 8 hours of PRJ online training via the VPORT® system and complete 4 modules (i.e., Introduction, Curriculum Overview, Assessment Overview, and Implementation Overview). Upon completion of each module, the teacher received a certificate of completion. In addition, teachers participated in an additional 8 hours of online training, which was self-selected from a menu of available online support materials including video presentations, demonstrating before, during, and after reading strategies, advanced word study, reading, and classroom management.

Ongoing consultative support occurred monthly and provided in-class coaching that included lesson modeling, classroom observation and feedback, and data review. Voyager implementation specialists provided services that corresponded to the needs of each teacher. In the second year of the grant, 2010-11, Voyager implementation specialists planned to visit each teacher involved in the SR grant a total of nine times: two visits in September; and one visit in each month from October to May, except for February (when the Cohort Training would serve as Voyager

"support"). Each visit to a teacher was to range in time from a minimum of two to a maximum of four hours.

Teacher Supports from School, District, and State Staff. Voyager recommended principals visit PRJ classrooms on at least two occasions during each school year, once during the initial implementation phase (September or October) to verify that PRJ instruction has begun, and once during the ongoing implementation phase (November through the end of the school year) to determine the degree to which teachers have implemented the program. The Louisiana Department of Education (LDOE) planned to implement this portion of the Voyager Professional Development model with additional enhancements. During the initial months of implementation (i.e., August and September 2010), the principal would visit the classroom weekly for an entire class period to ensure PRJ instruction began and to address start-up needs. During subsequent months, the principal would visit a class period every two weeks to determine to what degree all components of the program were being utilized (e.g., classroom library, SOLO®, appropriate pacing, etc.). The principal would summarize the data from observations and student data reports to provide feedback to the teacher on the level of implementation observed using the tools provided by PRJ.

Planned supports would also be provided by district coordinators who were designated by the grant to facilitate implementation in the schools. District staff would attend PRJ trainings and provide a range of supports to teachers implementing the curriculum in district schools, from logistical supports to direct instructional assistance. Project staff from the Louisiana Department of Education would also visit each school at least eight times a year to provide technical assistance during and in between Voyager implementation specialist visits to ensure program fidelity. During their visits, the LDOE staff would observe the intervention classroom and review student data. They would meet with the principal and the intervention teacher to review observations regarding program implementation.

Project Meetings Involving All Sites and Staff. In Spring 2010 and 2011, cohort meetings would be conducted in order to bring all teachers and staff associated with the SR grant together to network, share successes and challenges, review data, and receive updates and information on program activities. During the first year of the project, the first cohort meeting would be attended by district coordinators, principals, LDOE staff, SEDL evaluators, and Voyager PRJ representatives. The purpose of the first cohort meeting would be to provide information on the Voyager PRJ program and first-year program activities, including trainings, site visits, timelines, record keeping, etc. In the second year of the project, the cohort meeting was designed to provide updates and to give schools opportunities to network with each other. Additionally, a principal meeting would be held in year 2 (fall 2010) of the grant. The purpose of this meeting would be to explain the principal's role in program implementation (e.g., walkthroughs, scheduling, technology needs).

Planned Classroom Model

PRJ was designed to provide four (4) distinct academic years worth of age-appropriate and targeted reading intervention. Students who need and receive more than one year of intervention will extend their skills with new content. Two levels of PRJ were involved in the SR Grant in LA, PRJ Beginnings (for 6th graders) and PRJ I (for 7th graders). Each level of PRJ was designed

for one full academic year with 15 two-week Expeditions with optional add-ons (reteach or writing). While both PRJ Beginnings and PRJ I teach similar strategies and reinforce common skills, there are unique topics and Expedition content that are age/grade appropriate and of increasing complexity. Participation in PRJ I does not require completion of PRJ Beginnings. The planned classroom model, when fully implemented, involved core instructional elements in reading, reading materials, formative assessments, and use of technology, each described in more detail below.

Core Instructional Elements in Reading

Instructional Practices. For the Striving Readers grant, PRJ was planned to be implemented by a literacy intervention teacher during the regular school day in small classes (e.g., 15 students) and in addition to students' reading and English language arts coursework. Released in 2005, PRJ aligns fully with the state's ELA Content Standards and complements the core reading programs (Holt McDougal and Harcourt) used by the districts that participated in the project. PRJ followed a standard protocol that provides daily, 50 minute lessons that provide explicit, systematic instruction in critical reading skills. The curriculum incorporated fast-paced video segments on DVD, engaging text, and online interactive lessons. It was formatted as a series of 15 two-week reading Expeditions with optional add-ons (reteach or writing) on engaging topics related to science, social studies, and literature. A library of Lexile-leveled books and magazines on age-appropriate topics was provided for each classroom.

PRJ organized instruction around two, two-day routines to facilitate grouping and differentiation. The first and third days' lessons are whole-group instruction in which students are introduced to new vocabulary and a new reading passage. The second and fourth days' lessons include whole-group review of the previous day's instruction and the opportunity for students to independently (or with a partner) re-read the passage to build fluency. Independent and small-group structured practice allows the teacher to work intensively with some of the students. The fifth day is spent in independent or paired practice on SOLO® (Strategic Online Learning Opportunities), the technology component of PRJ. See Table 1.3 for a sample lesson cycle illustrating a composite summary of all 10 lessons in an Expedition. Lessons 1, 3, 6, and 8 follow the same pattern, and Lessons 2, 4, and 7 follow the same pattern. Lessons 5 and 10 are for online instruction. Lesson 9 is unique in that it contains the formative assessment and closing video segment for the Expedition, in addition to the Lesson 8 review. After administering the formative assessment within Lesson 9 and reviewing student scores, teachers may decide to reteach and reinforce the skills introduced in the Expedition. The reteach lesson, is taught immediately after Lesson 10 (SOLO) in each expedition. Each reteach highlights skills related to either comprehension and/or vocabulary and includes hands-on practice activities, as well as an additional assessment tool.

Table 1.3. Sample Lesson Cycle Passport Reading Journeys (PRJ) 10-Day Lesson Cycle with 1-day Reteach Lesson

Lessons 1, 3, 6, 8	**WHOLE GROUP** **Advanced Word Study** (10 min) • Affixes • Sight Words • Multisyllabic Words • Spelling • Fluency	**Lessons 2, 4, 7**	**WHOLE GROUP** **Before Reading** (10 min) • Vocabulary Review • Applied Vocabulary		**Lessons 5 and 10**	**GUIDED INDEPENDENT PRACTICE** **SOLO** (50 minutes) Guided independent application of active reading strategies	**Lesson 9**	**WHOLE GROUP** **Before Reading, Reading** (20 min) • Vocabulary Review • Reread Two-Day Lesson Passage
	Before Reading (15 minutes) • Expedition Introduction *(Lesson 1 only)* • Expedition Opener DVD *(Lessons 1 and 6 only)* • Vocabulary • Comprehension Strategies		**Reading** (15 minutes) • Reread Two-Day Lesson Passage • Practice Comprehension Strategies					**Assessment** (25 minutes) • Tips for Success • Comprehension and Vocabulary Assessment (on a new reading passage) • Practice with High-Stakes Testing Format
	Reading (20 minutes) • Read Two-Day Lesson Passage • Model Vocabulary and Comprehension Strategies		**INDEPENDENT SMALL GROUP** **After Reading** (10 minutes) • Comprehension Check • Writing in Response to Reading	**TEACHER-DIRECTED SMALL GROUP*** **Word Study** (25 minutes) • Word Recognition • Vocabulary • Fluency Reading **While the larger group of students is practicing skills independently or in pairs, a small group of students may be involved in **teacher-directed Word Study**.*				
	After Reading (5 minutes) • Review Vocabulary and Comprehension Strategies		**PAIRED FLUENCY PRACTICE** **PRJ Library** (15 minutes) • Building Fluency • Self-Selected Texts					**Expedition Wrap-Up** (5 minutes) • DVD Closing Segment • Discuss Probing Questions

Reteach Lesson	The Reteach Lesson is taught following Lesson 10 (SOLO) for each Expedition based on the reteach guidelines found in Lesson 9. Comprehension and vocabulary skills are reinforced that have not been mastered in the Expedition by students.

This page illustrates a composite summary of all 10 lessons in an Expedition.
Lessons 1, 3, 6, and 8 follow the same pattern. Lessons 2, 4, and 7 follow the same pattern. Lessons 5 and 10 follow the same pattern.
Lesson 9 is unique in that it contains the formative assessment and closing video segment for the Expedition, in addition to the Lesson 8 review.

Explicit Vocabulary Instruction. PRJ addresses vocabulary development using explicit instruction of word meanings (Marzano, 2004; Schatschneider et al., 2004), work context, and development of strategies to determine unknown words (Bauman et al., 2005). Affixes and roots are taught to students in a sequential pattern that is supported by the identified words in passages. A carefully planned sequence of vocabulary skills and word choices (e.g., high-utility words) is meshed within the student passage reading and comprehension activities (Baker, Simmons, & Kame'enui, 2004; Beck, McKeown, & Kucan, 2002). The sequence provides an introduction that is supported by numerous repetitions of the new words through activities such as discussion, writing, and extended reading. Lessons promote word consciousness and knowledge of word categories, such as antonyms and synonyms, to help student make connections between words.

PRJ's interactive web-based reading resource, SOLO®, provides self-paced, bi-modal (audio and visual stimuli) reading practice to build vocabulary. Multiple tools help students determine word meaning and contextual use in self-selected, Lexile-leveled reading passages. New words are introduced with student-friendly definitions and examples. Supports include automated clues or prompts and a function that allows students to click on difficult words to hear their pronunciation and definition. Students create their own word banks by "depositing" two words of their choosing from the previous SOLO® reading passage. As the word banks grow, repeated exposures help students to learn different meanings of the new words and how to use them in multiple contexts.

Direct and Explicit Comprehension Strategy Instruction. PRJ integrates comprehension instruction with vocabulary instruction and provides strategies to help students make sense of text. These strategies include, but are not limited to, summarizing, asking and answering questions, paraphrasing, predicting, making inferences, and finding the main idea. PRJ provides direct and explicit instruction for teaching students how to use comprehension strategies. As the lesson begins, the teacher tells students specifically what strategies they are going to learn and why it is important for them to learn the strategies. The teacher then models how to use the strategies by thinking aloud with a text. Teacher-guided practice with feedback follows so students have opportunities to practice using the strategies. Next, the teacher provides independent practice opportunities for students to use the strategies, and discusses with time the strategies when they read on their own.

Since some strategies are difficult to use with certain texts, PRJ carefully selects the text teachers use to teach each strategy. For example, main-idea summarizing is taught using informational texts, such as a content-area textbook or a nonfiction trade book. In addition, students study organizational text features that serve as frames for important information and logical links between ideas. Explicit instruction in text structures (sequence, compare/contrast, cause/effect, and problem/solution) teaches students to adjust comprehension strategies according to the text they are reading. Activities range from whole-group instruction to independent reading and response opportunities utilizing SOLO®. In each SOLO® session, students read leveled passages and practice previously taught strategies according to a specific learning path consistent with effective practices in computer-based instruction.

Opportunities for Extended Discussion of Text Meaning and Interpretation. PRJ lessons engage students in discussions of the meaning and interpretation of lesson passages. These discussions occur mostly "during" and "after" reading, in whole groups, and in a non-threatening

and supportive environment under the guidance of the teacher. PRJ provides teachers with guiding questions to help them frame and extend discussions and to stimulate students to think reflectively about the passages. The questions give students opportunities to have sustained exchanges with the teacher and other students, present their interpretations and points of view, and listen to the reasoned arguments of others participating in the discussion. Students are encouraged to explain their positions and the reasoning behind them, propose counter arguments or positions, recognize good reasoning, and summarize the main ideas of a discussion as it draws to a close. Teachers gradually become more skilled at listening to and using learner responses to guide their next questions rather than vice versa. This models an effective thinking and questioning process that students themselves can use to lead quality discussions.

Instruction in Foundational Reading Skills such as Decoding and Fluency. PRJ addresses word study in two ways. Students who read below 60 words per minute on a grade-level passage on PRJ's Reading Connected Text measure are taught with an intensive word study program that begins with a review of single letter-sound correspondences. Lessons are provided in small groups and on alternate days in PRJ's 10-day (two-week Expedition) lesson cycle. Explicit instruction focuses on automaticity and fluency with the alphabetic code.

In addition, all students participating in the supplemental literacy intervention receive explicit and systematic instruction in decoding, with particular attention to the study of multisyllabic words and unfamiliar technical terminology, as well as systematic practice in reading fluently. Advanced Word Study lessons are incorporated into alternate lessons of the PRJ curriculum. The lessons provide instruction in affixes, sight words, decoding multisyllabic words, spelling, and word and phrase fluency.

Instruction in Writing. PRJ includes two writing components. One component is writing in response to reading, which helps students check their understanding, reinforces returning to the text for more information, and sharpens critical thinking skills. Every second, fourth, and seventh lesson in a two-week reading Expedition integrates this component. The second component is a writing extension at the end of each Expedition designed to teach students to apply effective characteristics of good writing as they learn to write the text structures they are reading. These lessons help students develop writing proficiency essential for success in many content area classes. Students learn to apply qualities of good writing to their sentences, paragraphs, and short compositions. Instruction focuses on content, organization, voice, word choice, sentence fluency, and conventions. Paragraph writing is stressed, as well as multi-paragraph writing and research writing skills. Lessons employ explicit instruction, models of effective writing, and lesson-specific rubrics to enable self- and peer-evaluation.

Strategies to Improve Student Motivation and Engagement in Reading. As students progress from elementary school to middle school, motivation to read often diminishes (Guthrie & Davis, 2003). High interest text increases motivation to read as well as comprehension and achievement (Guthrie & Humenick, 2004). PRJ motivates students with engaging text and topics on different reading levels. Topics include real-world areas of interest for adolescents: *Shark Attack, The Science of Catching Criminals, Predicting the Perfect Storm, How To Sweeten Your Ride, JEANology*, *Military Medics: Saving Lives in Battle*, among others. The variety of topics and readability ranges allows students a considerable degree of choice. Audio recordings and online audio books are also available to provide models of prosody for striving readers.

DVD segments before and after each two-week reading Expedition present thought-provoking content in an action-packed format that provides background knowledge and creates the foundation for understanding of content. Each segment is hosted by a teen who poses probing questions, highlights essential content-area vocabulary, makes relevant connections to students' lives and engages them in thinking about topics as far-ranging as the Internet, microscopic things, and money. The selections have been field-tested for high interest with middle school students and reach across the curriculum to foster literacy development in social studies and science. One of the most successful features is that the characters, content, and activities target students who represent diverse cultural and linguistic groups.

Students also have access at least one day a week during school to SOLO® – an interactive web-based learning resource for students – which is also available to students whenever they can access it through the internet. This resource provides online reading resources matched to individual student reading levels as well as activities and assessments that provide immediate feedback to students which may increase their level of engagement and motivation to read.

Reading Materials

Description of Type of Texts Available. The PRJ student materials include several pieces. The Student Book includes student instructions, exercises, and worksheets. The Word Study Student Book contains lessons and daily passages for students who need additional instruction and reinforcement in phonic elements and sight words. The Student Assessment Book contains the tests and record sheets for the Reading Connected Text benchmark assessment. The benchmark assessment items for students can be located on the VPORT® Support Tab and the assessment can be taken online by logging into SOLO®.

The additional pieces of the PRJ student materials that contain texts used by students include the Anthology, the PRJ Library, and SOLO®. The Anthology is a hardback book that is a collection of mostly expository reading passages used with the Expedition lessons. The Anthology contains approximately 5 to 7 passages for each of the 15 Expeditions. The PRJ Library contains magazines and books for students' self-directed reading. Each level of the PRJ Library contains 28 magazines and books focused on science and social studies topics. Finally, each SOLO® Expedition has up to four passages, mostly expository, which allow students additional practice of key comprehension and vocabulary skills. SOLO® also provides supplemental Book Cart articles that are accessible at any time during any SOLO® session. Students are encouraged to review Book Cart articles in their free time after the session work is completed. The Book Cart provides leveled articles related to the social studies and science topics found in PRJ Expeditions.

Curriculum-Based or Teacher-Selected Materials. The Teacher's Resource Kit contains all the lesson materials and other resources needed to deliver instruction. The Teacher's Edition is the primary guide to teach the course. It contains daily lessons, examples of student materials, and facilitative dialogue to help teachers progress through each lesson. The Assessment Teacher's Guide provides assessment and guidance about administering and scoring the Reading Benchmark assessment, Reading Connected Text assessments, Comprehension and Vocabulary Assessments, and SOLO® Self-Assessment. The Word Study Teacher's Guide supports explicit, intensive instruction in fundamental reading skills. The Library Teacher's Guide and Blackline

Masters manual provides an overview of the books and magazines in the PRJ Library. It is also the guide to student activities and blackline masters. The Transparencies Pack contains many graphic organizers for added visual support for vocabulary sections of the daily lessons. Expedition DVDs contain high-energy video openers that begin each Expedition. The video openers introduce students to the topic of the Expedition and pose interesting questions to engage and motivate students. These DVD segments contain a conclusion for each Expedition with suggested answers to the questions posed in the opener.

Formative Assessment

The Comprehension and Vocabulary Assessment at the end of each Expedition is the formative assessment included in PRJ. This assessment measures the comprehension and vocabulary skills that students have been taught throughout the Expedition. The test is referenced in the Teacher's Edition and copies for students to complete are provided in the Student Book. The text used for the Comprehension and Vocabulary Assessments can be found in the Anthology.

The Comprehension and Vocabulary Assessment helps to monitor each student's acquisition of vocabulary and comprehension skills. It is written into instructional time to be administered during Lesson 9 of each Expedition. The assessment is administered to the whole group, lasts approximately 20 minutes, and simulates a high-stakes test format.

Additional formative assessments are included in the SOLO® technology component. Practice sessions have real-time measures with automatic feedback for students. Teachers are able to review this student feedback in VPORT® under the SOLO® tab.

Use of Technology

Strategic Online Learning Opportunities or SOLO® is a technology tool through which instruction is delivered using a broad range of relevant and engaging topics. In each session, students are guided on the skill path of proficient readers by animated hosts who introduce the content, provide think-alouds that review the strategies taught in the classroom, and motivate students as they apply strategies to self-selected passages.

SOLO® enables students to independently practice reading skills in an interactive, Web-based format. The program provides Lexile-leveled passages for students to read and explicit instruction and practice in word learning and comprehension strategies taught in the curriculum. Supports for independent reading include automated clues or prompts and vocabulary resources. The program also allows students to assess their fluency as they read a passage, review vocabulary words in a game format, and practice on skills in a standardized test format. SOLO® also connects students to additional technology resources for supplemental self-selected reading.

Each Expedition contains two, 50 minute SOLO® sessions to be completed during the fifth and tenth days of the Expedition cycle. Time for SOLO® usage is built into the two-week Expedition cycle.

Implementation Study Design and Results

Many of the specific assumptions of the research design in terms of anticipated effect size, sample size, outcomes of interest, and selected measures are based on the general assumption that the treatment is implemented with fidelity. SEDL developed methods to assess the fidelity of implementation in order to understand the degree to which PRJ was implemented as planned. SEDL worked closely with the curriculum developer during the first planning year of the study to develop and pilot test implementation fidelity measures and to measure features of high quality implementation of the two primary intervention components: professional development and classroom implementation. The research team collected data through classroom observations as well as interviews or surveys with teachers, administrators, district coordinators, and state and Voyager support staff as part of the implementation study.

Research Questions

The implementation study was designed to address the issue of fidelity overall by focusing on Research Question 1:

Fidelity of Implementation (FOI). Describe the extent to which the intervention was delivered as the grant indicated it should be implemented. Was there significant variation in implementation fidelity among the schools and classrooms in the treatment group?

The study focused on three areas to understand the degree to which the program was implemented with fidelity. Questions addressed in these areas included:

Target Population:

- Did the students, teachers, and schools in the PRJ program have the characteristics specified in the implementation model?

Professional Development Model:

- What was the nature of the professional development provided to teachers in PRJ schools?
- What type and amount of follow-up support/TA were provided to PRJ teachers?
- How much variation of professional development, including follow-up support/TA, was there across districts, schools, and classrooms?

Classroom Implementation Model:

- To what extent to was the intervention delivered as the curriculum developers indicated it should be implemented?
- Was there significant variation in implementation fidelity among the schools and classrooms in the treatment group?
- What were the major facilitators and barriers to implementation fidelity?

Data Collection Plan

Instrument Development

Interview Protocols. Protocols were developed for use in interviews with intervention teachers, school administrators, Voyager coaches, and LDOE personnel (see Appendix B). Teacher interview protocols were designed to collect background information on the teachers and elicit comments about the various forms of training and support they received to implement the PRJ program, progress of implementation in their classrooms (including overall facilitators and barriers to FOI as they experienced them), and their perceptions of student response to PRJ. School administrators were asked to provide background information and comment on the types of support they offered to intervention teachers, their perceptions of support received from Voyager, district coordinators, and LDOE in implementing the program at their school, and challenges and successes experienced in their efforts to oversee PRJ classroom implementation as well as in their role as research study participants.

Interviews with Voyager coaches focused on their background experience, their perceptions of the progress being made (and challenges experienced) by the intervention teachers they worked with directly, how PRJ implementation in the SR schools compared with the "typical" implementation in other districts they had observed, and their perceptions about the various forms of support being offered for the grant. Interview protocols developed for LDOE personnel asked about their background experience, their perceptions of how PRJ implementation was proceeding, and challenges/successes they were having in the process of supporting program and grant implementation. All of the interview protocols developed for and utilized in the implementation study were designed to address specific issues encompassed by the research questions used in the overall design of the study.

Classroom Observation Instrument. The PRJ observation instrument (see Appendix B) was developed by SEDL specifically for this study and served as the primary measure of fidelity to the PRJ classroom implementation model defined by the developer. The development process began with the research team identifying the essential components of the PRJ program (i.e., those elements that are fundamental to implementing the curriculum according to the developer). Program components were originally identified through a thorough review of PRJ curriculum materials and Training Guides. Members of the research team also examined two of Voyager's observation tools: the PRJ Five Keys Reflection Tool, used by coaches during their classroom observations, and the PRJ Implementation Checklist, provided for teachers in the PRJ Training Manual. This review generated a list of 17 essential components of the program, further delineated into 40 sub-components. Eleven of these component categories focused on classroom delivery of the program and became the basis for developing the measure.

The next step in development was to create a rubric aligning the degree of fidelity of implementation for the essential classroom components, measured on a 4-point scale (1 = poor, 2 = fair, 3 = good, 4 = excellent). At the item level, the rubric included descriptions of implementation in each of the eleven primary categories, at each of the four levels. The descriptions provided observable characteristics of classroom implementation that would need to be present in order to assign scores at the various levels. The process of defining observable characteristics for each item was an iterative one with multiple stages, each of which was

reviewed by members of the research team. Once a draft of the instrument was completed, it was sent to Voyager to confirm that the correct classroom components had been included, and that item descriptions matched developer expectations for classroom implementation.

The instrument was then piloted by members of the research team who would be conducting the classroom observations - first through independent viewings of a videotape from Voyager modeling high quality PRJ instruction, and later in actual PRJ classrooms in a local school district using the program. Following this pilot testing, the instrument was revised to improve its validity and reliability, and a training manual was developed for use in preparing observers to use the tool in LA Striving Readers study classrooms.

Study data were collected by research team observers using the instrument in November, 2010. Observers went in pairs to each school and spent one day observing both 6th and 7th grade PRJ classroom instruction. The number of classrooms observed ranged from two to five for each teacher based on the number of sections they taught. The total number of observations completed in the fall of 2010 was 53. Consensus scores were calculated between each pair of observers for each observation.

After further pilot testing and minor refinements, reliability on the instrument for the spring data collection had improved to 80% for two research team members, and these two individuals conducted observations in all of the LA SR Schools in March, 2011. A total of 20 classrooms were observed in the second round of data collection (one 6th and one 7th grade class for each teacher). Further testing was done on the PRJ Observation Instrument by conducting an exploratory factor analysis at the conclusion of first year data collection (discussed below).

Data Collection

Interviews were conducted in the fall and spring with teachers, Voyager coaches, and LDOE staff members to provide a variety of perspectives on the implementation process. Principals or other school administrators involved in the project were also interviewed in the spring. Teacher and administrator interviews were conducted in person at the schools, and Voyager and LDOE personnel were interviewed over the phone. A brief survey was administered online to get feedback from district coordinators and their role in the implementation of the program. Classroom observations were conducted in the fall and spring, and involved observing at least two classroom periods, followed by an interview with the teacher. The observations were scheduled well in advance in cooperation with the teachers and school liaisons to ensure that researchers were observing a typical day of class instruction and so that their visits to the school did not interfere with the coaches' site visit schedule. Members of the research team also attended the PD trainings conducted by Voyager to observe and collect data on what was presented, as well as participant responses. In addition, school and district records, classroom visit logs, and training attendance were provided for review by school liaisons, administrators, teachers, and district and state-level staff. Voyager agreed to make all VPORT records available to the research team.

All data collection staff attended a training conducted by SEDL prior to the fall data collection period. A field procedures manual was developed with all the information needed for field staff to conduct the school visits, including an overview of all instruments and administration

procedures, as well as guidelines for appropriate behavior in the schools. Members of the field staff team who were not on the research team were introduced to the purpose and goals of the study and background information on the program. To ensure the ongoing quality of the data collected in the field, school visits were made by site coordinators to monitor field staff performance and provide feedback and additional training when necessary. School liaisons were trained at the beginning of the study to familiarize them with the research plan and their responsibilities, including procedures for managing data collection efforts at their schools.

The primary types and sources of implementation data collected, along with the research questions they address, are summarized in Table 2.1.

Table 2.1. Crosswalk of Research Questions on Implementation and Related Data Sources

	Interviews				Survey	Observations	Record Review			
Research Questions	Teacher	Administrator	Voyager Staff	LDOE Staff	District Staff	Evaluators	School/District Records	Classroom Visit Logs	Attendance Logs	VPORT
Did the students, teachers, and schools in the PRJ program have the characteristics specified in the implementation model?	√	√	√				√			
What was the nature of the professional development provided to teachers in PRJ schools?	√	√	√	√		√			√	√
How much variation of professional development was there across districts, schools, and classrooms?	√	√	√			√			√	
What type and amount of follow-up support/TA were provided to PRJ teachers?	√	√	√	√	√			√		√
How much variation in follow up support/TA was there across districts, schools, and classrooms?	√	√	√	√	√			√		√
To what extent to was the intervention delivered as the curriculum developers indicated it should be implemented?	√	√	√	√		√	√	√	√	√
Was there significant variation in implementation fidelity among the schools and classrooms in the treatment group?	√	√	√	√		√	√	√	√	√
What were the major facilitators and barriers to implementation fidelity?	√	√	√	√	√	√		√	√	√

Analysis Plan for Assessing Fidelity of Implementation

Given that the goal of any implementation analysis is to describe the intervention, initial analytic efforts involved a strong mixed-method approach, using both quantitative and qualitative measures of implementation to describe the intervention as completely as possible. SEDL tabulated and described the type and amount of services delivered in the treatment condition using data from classroom observations, teacher interviews and other extant data sources. These tabulations used classroom or setting as the unit of analysis and were reported separately for participating schools. In addition, as discussed above, quantitative indices were developed to establish implementation benchmarks for the study regarding the extent to which the program was being implemented with fidelity in each treatment classroom and the length of time the program was implemented according to PRJ program standards. As a result, evidence from multiple methods and sources were used to triangulate on the concepts embedded in the program model to assess implementation fidelity.

Overview of Analytic Plan

The question of the degree of fidelity of implementation and the extent of variation by teacher and school was addressed several ways. Quantitative and qualitative mixed-methods approaches were applied to specific aspects of the research question and also used together to triangulate and interpret findings. Bulleted descriptions below briefly summarize the overall analytic approach.

- Classroom observation scores were the core data source for the classroom FOI analysis; therefore, work began with the establishment of internal reliability for the PRJ observation instrument.
- General descriptive data on FOI classroom observation codes for each teacher and class section observed were compiled. The data was also aggregated, in some cases across classes by teacher and by visit (fall and spring);
- Comparisons of mean differences to determine the extent of classroom FOI as designed by end-of-study were conducted using total and subscales identified through factor analyses in paired sample t-tests;
- Qualitative analysis of interview data was conducted to support and translate quantitative findings; target areas were teachers' professional development experiences, site-specific information about facilitators of and barriers to fidelity of implementation, important contextual factors at sites, and variations in the quality of professional development delivered at sites;
- Adequacy of classroom implementation fidelity was determined by a numeric threshold tied to observation score anchors (i.e., higher than threshold 2.5 on 1- to 4-point scale considered adequate FOI);
- The professional development fidelity index was based on the number of PD training and support hours received by various recipients, as defined in the overall PD model established in the initial year of the study. Total FOI scores for each recipient were divided into high, medium, and low categories defined by pre-determined levels of adequacy of PD implementation.

Exploratory factor analysis: PRJ observation instrument reliability and validity. The analytic plan was designed to measure key components of fidelity of implementation to the intervention as designed. Classroom observation scores were the core data source for the classroom FOI analysis; therefore, work began with the establishment of internal reliability for the PRJ observation instrument.

A preliminary phase of analysis was undertaken to establish internal consistency on observation scores according to key latent domains proposed to underlie the items. The observation instrument was designed to measure constructs generally conceptualized as *adherence* to instructional delivery materials and *process* that focuses on the quality of instructional delivery (O'Donnell, 2008). The individual items and the proposed domains had not undergone initial reliability or validity testing before data collection began. Under these conditions exploratory factor analysis (EFA) is recommended to determine underlying dimensionality and to establish baseline internal reliability of the data; principal axis factoring (PAF) and oblique rotation to allow correlation between the factors are the most commonly specified techniques for these purposes (Tabachnick & Fidell, 2001).

Using data collected during the fall and spring semesters, the rated items were subjected to an EFA using PAF and oblique rotation. Each code of the instrument was considered the unit of analysis, providing a sample of 583 items, which corresponds to 11 items rated during each observation session across all classes observed at both time points for 9 teachers.[3] The first run was not specified for any factor constraints, resulting in an unstable 4-factor solution that could not be interpreted but gave an indication that two factors may be emerging (i.e., based on inspection of the scree plot and the pattern of factor loadings). Constraining the extraction to a 2-factor solution, inspection of the pattern matrix revealed that the emerging factors were stable statistically and explained a substantial amount of the underlying meaning captured by the items (i.e., 55% of the cumulative variance). The pattern matrix was examined to determine reliability and inspected for item loadings that reached the .32 approximate cut-off threshold used to determine underlying factors and interpretability. Table 2.2 displays the item loadings for each factor.

Table 2.2. Item Loadings from Exploratory Factor Analysis of PRJ Observation Instrument

Observation Code Label	Adherence (Loadings)	Process (Loadings)
1 Guide	.295	-.008
2 Components	.827	-.030
8 Grouping	.465	-.255
3 Strategies	.296	.718
4 Feedback	-.032	.655
5 Pacing	.563	.547
6 Involvement	.099	.747
7 Monitoring	-.048	.672
9 Tasks	-.130	.572
10 Routines	-.224	.514
11 Management	-.111	.835

[3] One teacher's observations were excluded because no data were available for fall and the factor scores were intended for comparisons between fall (baseline) and spring data.

Results indicated three items loading on Factor 1 that corresponded meaningfully to the label "Adherence," the extent to which teachers used program materials in adherence with their intended design. The three items were "Guide," the teacher's close and consistent referencing of the curriculum guide to organize lesson content; "Components," the teacher's consistent use of lesson components described in the curriculum guide; and "Grouping," which refers to whole, small, and individual or paired groupings used in instruction and guided practice for delivery of the program components. The item loading for "Guide" did not meet the cut-off point specified for this analysis (i.e., .32), but based on the pattern of item correlations and the interpretation of meaning for this item, it was retained.

Results indicated seven items[4] loading on Factor 2, which was labeled "Process." All of the items were coherent in content and conveyed teachers' quality of delivery of the program as designed. The seven items described different components of the quality of program delivery: "Strategies," the teacher's use of reading strategies considered common in the field of reading instruction; "Feedback," the positive or corrective feedback provided to students; "Involvement," teachers ability to elicit student involvement by asking questions, encouraging participation, and making connections between the readings and students' experiences; "Monitoring," teachers' awareness of student learning, understanding, and students' progress on tasks or assignments; "Tasks," the frequency of student engagement on tasks and their focus on class activities; "Routines," students' responsiveness to and transition between activities clearly established by daily program routines; and, "Management," teachers' actions related to running the class and managing student behavior.

Factors emerging from the analysis were fairly distinct (r = -.07) and mapped onto theoretically derived constructs that differentiate the use of program materials from the processes involved in delivering the program and using instructional strategies, contributing initial verification of construct validity for the PRJ observation instrument. This distinction increased the specificity with which the question of level of implementation fidelity was addressed. The two-factor structure encompassed 10 of the 11 items in the full set (i.e., after dropping the item for pacing that did not load meaningfully) while partitioning them into two meaningful groups, thereby increasing the dimensionality within teacher (i.e., pre-post scores) and between teacher (i.e., scores may vary more on one domain than another).

Year One Implementation Study Findings

Treatment Schools

Number and characteristics of treatment schools. Ten schools across four districts were recruited by LDOE to participate in the study. All schools met the inclusion criteria for the Striving Readers grant, and memoranda of understanding were arranged by LDOE and signed by principals at each participating school. Members of the research team also met with school and district administrators to explain the parameters and requirements of the proposed research and

[4] The results revealed that the item for "Pacing" double-loaded on the factors and therefore was dropped from further analyses.

to discuss procedures for minimizing disruptions to normal school routines during the study. Demographic characteristics for each participating school are shown in Table 2.3.

Table 2.3. School Demographics

	SCHOOL									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Total Middle School Students	N=646	N=606	N=493	N=385	N=588	N=589	N=545	N=491	N=342	N=450
Gender										
Male	52.5%	52.6%	51.9%	47.0%	50.3%	53.0%	51.6%	51.7%	51.5%	49.6%
Female	47.5%	47.4%	48.1%	53.0%	49.7%	47.0%	48.4%	48.3%	48.5%	50.4%
Race										
White	62.8%	7.4%	4.3%	1.0%	14.6%	35.8%	62.0%	20.2%	27.2%	46.4%
Black	34.1%	90.6%	93.3%	98.4%	84.2%	61.3%	27.0%	74.7%	65.5%	44.4%
Hispanic	1.9%	0.8%	1.6%	0.0%	0.9%	2.4%	6.4%	2.4%	6.4%	8.4%
Other	1.2%	1.2%	0.8%	0.5%	0.7%	0.5%	4.6%	2.6%	0.9%	0.7%
Special Ed.	5.1%	6.8%	6.3%	9.1%	6.0%	5.4%	7.3%	10.6%	2.9%	3.8%
LEP	0.5%	0.0%	0.2%	0.0%	0.0%	0.8%	5.1%	0.8%	4.7%	4.2%
Free/reduced Lunch Eligible	65.6%	78.4%	91.5%	93.8%	88.3%	81.0%	63.9%	85.5%	96.5%	84.0%

Interventionists Hired for Year 1

Number. PRJ was implemented by literacy intervention teachers hired by the school districts based on selection criteria established by LDOE and provided below. LDOE worked closely with districts to hire one intervention teacher per school. Prior to the beginning of the school year, intervention teachers were in place across all of the 10 participating schools.

Desired Characteristics of the interventionists for the SR project. LDOE determined the selection criteria and requirements for intervention teachers delivering the supplemental program activities during elective periods at each school. LDOE criteria and requirements, included: 1) valid Louisiana teaching certificate; meeting NCLB definition of Highly Qualified; 2) knowledge of reading intervention and scientifically-based research instructional strategies; 3) knowledge of specific strategies used before, during, and after reading to build comprehension; 4) knowledge of strategies and activities to increase vocabulary and oral language development; 5) ability to communicate effectively with students, school personnel, and parents, and an ability to work collaboratively with others; 6) ability to promote student motivation and engagement in learning; 7) knowledge of technology and how it is used to facilitate instruction and track student progress in reading; and 8) a minimum of three years of demonstrated effective classroom instruction, including teaching reading or core reading program and experience in improving student performance in diverse populations. In addition, an advanced degree in reading or

reading specialist certification was preferred. LDOE ensured the major responsibilities of the interventionist's position were primarily related to the implementation of the PRJ program and the SR grant within the SR schools.

Selection of Study Intervention Teachers. LDOE worked closely with districts to staff literacy intervention teachers who taught exclusively in the intervention classrooms rather than in addition to their duties in the regular ELA classrooms and to have one intervention teacher per school. Special care was also taken to ensure that treatment teachers did not interact with students assigned to the control condition.

In the fall round of data collection, interviews were conducted with 9 out of the 10 intervention teachers due to the departure of one teacher prior to SEDL's fall data collection visit. In the spring, information was gathered on the replacement for this intervention teacher. Based on demographic information gathered on 9 of the 10 teachers during fall interviews, all of the interviewed interventionists hired by the schools held valid Louisiana teacher certificates and met the NCLB definition of Highly Qualified.[5] Table 2.4 provides demographic information on the intervention teachers' qualifications and experience.

Table 2.4. Demographics for PRJ Interventionists

Teacher	Years Teaching	Years Teaching ELA/Reading	Highest Degree	Certification
1	6	2	BA	Secondary Ed. English
2	32	5	MA	Reading Specialist/Ed Leadership & Supervision
3	15	5	MA	Business/English
4	28	2	MA	Reading
5	15	4	BA	Language Arts
6	Missing	Missing	Missing	Missing
6	10	10	BA	Reading
7	9	4	MA	Reading
8	10	6	BS	Language Arts/Elementary Ed.
9	10	8	BA	All subjects K-6/Reading K-12
10	13	13	MA	Reading

In the spring, all 10 of the intervention teachers met these criteria as well. On average, the interventionists had 14.8 years of teaching experience (range of 6 to 32 years) across various grade levels and subjects, with an average of 6 years of teaching experience focused on reading (range of 2 to 13 years). Five out of the 10 intervention teachers had earned an advanced degree in a field related to education (i.e., Supervision, Reading, and Education). All 10 intervention

[5] To be deemed highly qualified based on NCLB, teacher must have: 1) a bachelor's degree; 2) full state certification or licensure, and 3) prove that they know each subject they teach.

teachers in the spring were certified in either Reading or English Language Arts demonstrating their knowledge related to the content area of the supplemental reading program. The intervention teachers, as a group, represent a highly qualified and experienced pool of teachers who met and exceeded the standards established by the LDOE for literacy intervention teachers hired to deliver the PRJ supplemental reading program.

Turnover. One intervention teacher opted to leave her position mid-year (in November) due to challenges associated with implementing the program and for personal reasons (as reported by the school principal and district coordinator). Her departure occurred prior to the collection of demographic and implementation data. Shortly after her departure, the district coordinator collaborated with the school's leadership to ensure that a qualified replacement intervention teacher was hired. The new intervention teacher's demographic and implementation information was gathered during spring data collection visits and included in the description provided.

Fidelity of Implementation of Professional Development for Interventionists (and Other School Staff)

Professional Development Model. The professional development model delivered and/or facilitated by LDOE staff and Voyager implementation specialists included five formats for literacy intervention teachers and project support staff: Launch Training, Online Product Training, Ongoing Consultative Support, Cohort Meetings, and Principal Training.

Assessing Implementation of Professional Development. Data assessing the implementation of the professional development model was collected through staff interviews, observations of professional development sessions, and record review (i.e., site visit logs, PD sign-in sheets, training agendas, and TA logs). These sources provided data to establish the implementation of the professional development model across the treatment schools and intervention teachers. SEDL researchers tracked Voyager's PRJ program PD attendance through PD attendance records and site visit records completed by invention specialists. In addition to these measures, the evaluation team developed interviews for teachers, district and school staff, Voyager staff, and LDOE staff to collect data on the implementation of all aspects of the PD model, and VPORT was utilized to track intervention teachers' participation in the online PD modules.

PD Trainings

Initial Cohort Meeting. During the first year of the grant a cohort meeting with key partners (i.e., LDOE staff, district and school staff, Voyager implementation specialists, and SEDL researchers) was held. The goals of the cohort meeting were to: 1) discuss programmatic activities related to the grant, 2) preview Voyager Passport Reading Journeys, and 3) review evaluation requirements. All of the participating districts were represented by their district coordinators on the first day of the training; however on the second day one of the district coordinators was unable to attend the meeting. Principals were also included in the intended audience for the information shared. On the first day of training, nine of the ten principals were in attendance and all were present on the second day of training.

Teacher Launch Training. Initial group or "launch" training with intervention teachers, school principals, and district coordinators was planned over two days in early August 2010 with the intent of covering the key features of the PRJ program, including: assessment measures, student

grouping, classroom set-up, curriculum materials, implementation models, classroom management, and lesson delivery practice. Launch training was delivered by Voyager implementation specialists. SOLO® (Strategic Online Learning Opportunities) is part of the PRJ curriculum, which provides opportunities for students to practice skills learned during face-to-face instruction. VPORT® (Voyager's online data management system) imports assessment data, monitors progress, and generates reports.

In the fall, 9 of the 10 intervention teachers attended both days of the initial launch training. The teacher who was unable to attend the launch training had a scheduling conflict and could not attend; however, she completed the Online Product Training (OPT) prior to the first day of school. Based on fall interview data, the nine teachers who attended the launch training indicated they found it beneficial in understanding the PRJ program and some described it as 'more in-depth' compared to other introductory trainings they had attended. Two of the intervention teachers felt that key information was glossed over (i.e., scoring assessments, timing of assessments vs. SOLO®). However, all of the teachers who attended the launch training felt adequately prepared to implement the program by the first day of school.

In addition to the teachers, administrators from each of the ten schools and district representatives were also present at the initial launch training. Administrators from the schools provided support for the implementation of the Striving Readers grant across the school year and some aspects of implementation of the PRJ program. During spring interviews, the school administrators indicated the launch training had prepared their teachers for implementing the program and was helpful in establishing expectations. A few administrators acknowledged that their school had not been prepared to implement the program due to lack of resources (i.e., computers); however this limitation was not related to the training provided.

Online Product Training (OPT). On VPORT®, under the Training tab, teachers were able to access the OPT modules. These are interactive, self-paced tutorials, which provide professional development targeted to the use of the PRJ curriculum. Teachers were required to log 8 hours of PRJ online training via the VPORT® system and complete 4 modules (i.e., Introduction, Curriculum Overview, Assessment Overview, and Implementation Overview). Upon completion of each module, the teacher received a certificate of completion. In addition, teachers were asked to participate in an additional 8 hours of online training on topics self-selected from a menu of available online support materials including video presentations, demonstrating before, during, and after reading strategies, advanced word study, reading, and classroom management. Based on the VPORT® system reports and teacher reports, by the spring, each of the 10 intervention teachers had completed her online training component.

The online training had served as the launch training for the two intervention teachers who were unable to attend the two day in-person training help in August (1 had a schedule conflict and one was hired in November). One of the teachers felt the online training sufficiently prepared her to implement the training, while the other felt she would have benefited from additional support prior to implementing the program. It should be noted that the teacher who viewed the online training as insufficient was replacing an intervention teacher mid-year and was completing the online training and implementing the program simultaneously. Both of these teachers reported seeking out additional launch training opportunities; however, they were not able to attend a launch training due to scheduling conflicts.

The remaining intervention teachers (n = 8) had mixed reactions to the OPT modules. Two of them found the OPT helpful 'as a refresher' as they prepared for the second half of the school year. The remaining six teachers felt the OPT was repetitive of the fall training and not helpful. One teacher indicated that completing the OPT modules closer to the fall would have 'helped reinforce the training' versus waiting until December when she was already familiar with implementing the material.

Cohort Meeting. In Spring 2011, a cohort meeting was conducted with the goal of bringing together all teachers and staff associated with the grant together to network, share successes and challenges, review data, and receive updates and information on program activities. During the first year of the project, the spring cohort meeting was attended by the 10 intervention teachers, 3 district coordinators, 5 principals/school representatives, 2 LDOE staff, 3 SEDL evaluators, and 6 Voyager PRJ representatives.

The majority of the intervention teachers (9 out of 10) found the cohort meeting informative. They indicated the most productive aspect of the meeting was the data (i.e., Benchmark testing and VPORT data) shared during the presentations made by Voyager. The goal of data sharing was met, based upon teacher feedback.

A second goal established by LDOE and Voyager for the meeting was the opportunity for attendees to network with one another and share successes and challenges. Three of the teachers indicated they had sufficient time to network; however, the remaining teachers described limited opportunities to interact with teachers, principals, and Voyager representatives. One teacher expressed the desire to have a Voyager coach's perspective on her data in comparison to her principal's; however, time was limited. Another teacher thought more discussion about implementation would have been beneficial. The one teacher who did not find the cohort meeting helpful indicated the presentation and data lacked clarity.

Principal Meeting. A principal meeting was proposed to be held in year 2 of the grant. The purpose of the meeting in year 2 (fall 2010) was to explain the principal's role in program implementation (e.g., walkthroughs, scheduling, technology needs). Due to budget limitations and travel restrictions this meeting was not held in the fall of year 2.

Ongoing Support for Interventionists

In addition to trainings, the PD model provided for several forms of classroom support for the interventionists, including various types of assistance from Voyager coaches, school administrators, district coordinators, and the LDOE.

Coaching. Each teacher was assigned a coach from Voyager who was responsible for providing direct assistance with classroom implementation of the PRJ curriculum. Coaches scheduled monthly visits to each teacher's school to observe PRJ classroom instruction and to discuss any problems or issues the interventionist might be experiencing with program delivery. The original PD plan called for coaches to make 9 (2-4 hour) visits over the course of the school year. Each teacher received either 6 or 7 visits from their coach between October 2010 and May 2011, and visits generally lasted 1-3 hours. Conference calls with interventionists were conducted in

September, 2010, in lieu of classroom visits, due to the timing of the release of grant funding. Coaches also did not visit teachers' classrooms in March, 2011, because of the follow-up Cohort Training that month. During classroom visits, the coaches observed at least one PRJ class, scoring the teacher's level of implementation on Voyager's PRJ Implementation Checklist. Following the observation, the coach talked with the teacher about any issues she had noted during the observation and provided guidance about any problems the teacher might be having. In addition, the Voyager coaches were available to answer questions via email or phone between classroom visits. Voyager coaches assigned to the grant also conducted the Launch and Cohort PRJ trainings for teachers and administrators.

School Administrators. Principals or other school administrators attended the PRJ launch training, the spring cohort training, and offered on-site assistance to their teachers to implement the curriculum. The majority of support offered by administrators was in the form of scheduling, providing equipment and supplies to the classroom interventionists, handling budgetary matters, and communicating with district and state representatives about various issues that arose during the first year of implementation. They were also helpful to the research team in scheduling site visits and arranging for student testing. Although the original professional development plan for the grant included regularly scheduled classroom observations by school administrators (i.e., up to 20 visits 90 minutes in length), Classroom visitor logs indicate that these observations did not occur in the majority of the SR schools. Classroom logs recorded multiple visits (12 throughout the year) by an administrator in one school, but most were brief "check-ins" rather than formal observations. Single classroom visits were recorded by administrators at three other schools - two at the request of the teacher and one for a general observation "required by the district." In interviews conducted by the research team, administrators reported that they had either done brief "walk through" observations of PRJ classes or more formal annual observations required by the district. These visits were not recorded in the Classroom logs, but most interventionists confirmed that they had occurred. In general, principals, assistant principals, and curriculum and instruction administrators in the schools offered more logistical support to the grant than instructional monitoring.

District Coordinators. Support was also provided by district representatives who were designated by the grant to facilitate implementation in the schools. The type of assistance most frequently provided by the district was logistical in nature (e.g., providing needed equipment and supplies, handling budgetary issues, assisting school administrators with scheduling, and facilitating communication between the schools, the state, and the research staff). While district staff did attend the PRJ trainings in the fall and spring and were somewhat knowledgeable about the PRJ curriculum, their support of implementation was generally more technical in nature, rather than providing direct instructional assistance to the interventionists in the classroom. Classroom logs indicated that district representatives associated with the grant visited the classrooms of seven out of the ten interventionists and, when times were recorded, these visits lasted anywhere from ten minutes to two hours (average time recorded was 40 minutes). Nine of the total 14 visits documented were during the fall semester. District coordinators were also available to grant participants via phone and email communications.

LDOE. Two representatives from LDOE were assigned to monitor and support the SR grant throughout the year. As with the administrators and district representatives, LDOE support consisted primarily of logistical, rather than substantive program assistance (e.g., the most

frequently requested form of support from LDOE was budgetary in nature). A total of ten classroom visits were recorded in Classroom Visitor Logs to eight of the ten interventionists. All but one of these visits were in the fall semester, and times recorded in the logs indicated that LDOE classroom observation visits lasted for an average time of about one hour and 15 minutes. State representatives indicated in interviews that classroom visits dropped off in the spring semester due to the demands of other duties in the LDOE office and budgetary limitations. Both LDOE monitors did, however, remain available to grant participants at all levels throughout the school year via phone and email. The state office also arranged and hosted the Launch and Cohort PRJ trainings.

During the initial phase of planning, SEDL researchers collaborated with LDOE and Voyager to establish a professional development model, which outlined the format, purpose, and allocation of time for each type of professional development that teachers and school and district administrators would receive over the course of the grant, which was presented earlier. Table 2.5 provides an abbreviated version of the intended PD model for all recipients for reference in this section.

Table 2.5. Professional Development Model: Method, Frequency, Purpose, and Contact Hours[6]

Method/Format	Frequency	Target/Audience	Hours
Initial Cohort Meeting	Spring 2010	• School Administrators • Districts Administrators • LDOE	12
Launch Training	August 2010	• Teachers • School Administrators • District Administrators • LDOE	12
Online Product Training	Ongoing	• Teachers	8 to 16
Ongoing Consultative Support	2x in September 1x in Oct. – Jan. 1x in March – May 2 to 4 hours per visit	• Teachers	18-36
Cohort Meeting	February 2011	• Teachers • School Administrators • District Administrators • LDOE	6
Principal Meeting	Fall 2010	• Principals	6
Principal Classroom Observations	Aug.–Sept. 2010 Oct.–May 2010-11 (bi-weekly) 90 minutes/visit	• Teachers	6 24
LDOE Staff Site Visits	8(+) times/yr. 90 minutes/visit May overlap with Voyager visits	• Teachers	12
LDOE Staff TA	Ongoing	Online availability to all project participants, as needed	--

[6] LDOE has enhanced Voyager's PD model by providing additional supports highlighted in yellow, for each year of the study.

Method/Format	Frequency	Target/Audience	Hours
		Total Hours (Teachers)	86
		Total Hours (District)	30
		Total Hours (LDOE Staff)	18
		Total Hours (Principals)	36

It is important to note that the model was developed and agreed upon during the planning year of the grant by all partners: LDOE, Voyager and SEDL researchers. It was understood that the number of hours and the occurrence of professional development events would be tracked by SEDL researchers to accurately reflect the implementation of the grant and deviations from the planned PD model. In the analyses presented below, any deviations from the above model are presented and noted; however, overall levels of implementation are based upon the model as agreed upon during the planning year. In addition, hours have been combined across the planning year and the first year of implementation for the district and school administrators to determine implementation levels.

Data were gathered across the first and second years of the grant via training sign-in sheets, classroom visits logs, teacher, administrator, LDOE, and Voyager coach interviews, as well as Voyager conference call notes. In the case of missing classroom visit logs, interview data was used to determine if the visits actually took place (i.e., teacher and Voyager coach reported visit occurred, but logs were missing). The number of hours were tracked for each teacher across the various types of professional development and an implementation index was then developed based upon the minimum number of hours identified in the professional development model (i.e., range of 8 to 16 hours for OPT - minimum of 8 was used to determine implementation index). The minimum number of required professional development hours for fidelity to implementation is 86 hours (26 training hours and 60 coaching/support hours) across the first year of implementation for teachers and 36 hours of training for school administrators. Applying the number of professional development hours actually received by teachers, levels of PD implementation fidelity are as follows: 0 = 51 or fewer hours (low); 1 = 52 to 68 hours (medium); and 2 = 69 or more hours (high). The proposed scales and cut-scores were based on previous Striving Readers grantees levels of implementation with the benchmarks of 80% of total hours or higher indicating "high" levels of implementation, 60% to 79% as "medium" levels of implementation, and less than 60% as "low" levels of implementation. Adequate amounts of PD were defined as having a high level of implementation of the PD model or having received 80% or more of the proposed PD hours. Table 2.6 focuses on the number of hours teachers participated in the different types of professional development provided during the first year of implementation: training and coaching support and the implementation level of the PD model and achieved adequacy.

Table 2.6. Teacher by Amount of Training and Coaching Support Received

Teacher	Total Number of PD Hours Combined	Level of Implementation
1	24	0 = Low
2	52	1 = Medium
3	46.5	0 = Low
4	40	0 = Low
5	36.5	0 = Low
6[7]	18.8	0 = Low
7[8]	17.5	0 = Low
8	34.8	0 = Low
9	39.8	0 = Low
10	34.8	0 = Low
11	34.5	0 = Low

Only one of the ten teachers reached the level of medium implementation in relation to the professional development model when training and coaching support were combined. All of the teachers were below adequate, meaning they received less than 80% of the planned PD identified in the agreed upon model.

In order to understand the challenge in implementing and receiving the planned professional development model, SEDL researchers opted to differentiate the types of professional development provided to teachers during the first year of implementation. Table 2.7 provides the number of training hours in comparison to the number of coaching support provided to PRJ intervention teachers, with levels of implementation (based upon the same scaling as detailed above 80% = high, 60% to 79% = medium and below 59% of hours = low) and adequacy.

Table 2.7. Differential PD Hours by Training and Coaching Support

Teacher	Hours of Training (Total Possible 26)	Training Implementation	Hours of Coaching Support (Total Possible 60)	Coaching Support Implementation
1	12	Low	20.50	0 = Low
2	24	High	28.50	0 = Low
3	24	High	23.00	0 = Low
4	24	High	18.50	0 = Low
5	24	High	13.00	0 = Low
6[9]	12	High	7.25	0 = Low

[7] Teacher left school after third month of implementation.
[8] Classroom visit logs were not provided to SEDL researchers for one of the teachers, instead interview data was relied upon to provide this data – both the teacher and Voyager coach collaborated that the visits occurred and average length of the visit was used to represent missing data
[9] Teacher left school after third month of implementation.

Teacher	Hours of Training (Total Possible 26)	Training Implementation	Hours of Coaching Support (Total Possible 60)	Coaching Support Implementation
7[10]	12	High	5.50	0 = Low
8	24	High	11.25	0 = Low
9	24	High	16.25	0 = Low
10	24	High	11.25	0 = Low
11	24	High	11.00	0 = Low

When the types of professional development are separated, it becomes clear that ten of the eleven intervention teachers received adequate levels of training based on the professional development model outlined in the Louisiana Striving Readers grant. The one teacher who received a low adequacy level of training was unable to attend the launch training.

None of the teachers received adequate levels of coaching support, as defined by the Louisiana Striving Readers' grant professional development model. Within the model, coaching support was provided by multiple sources, including Voyager coaches, LDOE, and principals. A qualitative discussion was presented in the previous section that provides limitations and barriers to the implementation of the coaching support and the amount of time support was available to the intervention teachers. It should be noted that while the amount of time allocated for coaching supports was well below the adequate level, only the number of visits conducted by Voyager coaches was similar to that proposed within the model (average of 7 visits and 1 conference call in comparison to proposed 9 visits in the PD model).

While teachers were the primary targets of professional development, within the implementation model proposed by Louisiana Striving Readers project key members of LDOE, district, and school staff also received professional development in order to support their teacher's implementation of the PRJ program. An implementation index was also determined for the amount of PD principals and district representatives received. Table 2.8 provides the number of PD hours and the adequacy levels for district and school administrators.

Table 2.8. School and District Administrators' Professional Development Adequacy Level

District Administrator	Professional Development Hours	Implementation Level
1	25	2 = High
2	25	2 = High
3	21	1 = Medium
4	25	2 = High

[10]Classroom visit logs were not provided to SEDL researchers for one of the teachers, instead interview data was relied upon to provide this data – both the teacher and Voyager coach collaborated that the visits occurred and average length of the visit was used to represent missing data

School Administrator	Professional Development Hours	Implementation Level
1	25	1 = Medium
2	25	1 = Medium
3	25	1 = Medium
4	25	1 = Medium
5	15	0 = Low
6	21	0 = Low
7	21	0 = Low
8	25	1 = Medium
9	19	0 = Low
10	16	0 = Low

The PD model was implemented at high levels for three of the four district administrators. School administrators were equally split between medium to low levels of implementation. This was primarily due to the cancellation of the principal meeting, which was meant to be held in the fall of the first year of implementation. The principal meeting was cancelled and not rescheduled; however, since it was part of the intended PD model the hours remained in the adequacy level reported here. If the 6 hours allocated to the principal meeting are removed from the calculation, then five of the school administrators would move to a high level of adequacy, three would move from low to medium and two would remain in the low category.

Based upon the assigned implementation levels, the majority of the district coordinators received adequate levels of the intended professional development, while none of the school administrators received adequate levels of PD related to PRJ in order to implement the program as intended by the grant.

Implementation of the Classroom Model

Number and characteristics of students served. The total number of students served by the grant (i.e., were enrolled in PRJ classes at the beginning of the 2010-11 school year) was 617; of these, 288 were 6th graders and 329 were 7th graders. All of these students had scored in the *Below Basic* category in the ELA section of the 2010 *i*LEAP. Based on fall assessments using the GRADE measure (86% of students in the ITT treatment condition), the majority of students (79%) were two or more grade levels behind in reading which was the primary target population for the grant. Of the other students served, 15% were one grade level behind and 6% of students scored at or above reading level for their grade. Demographically, students in the treatment group did not differ significantly from those in the control group, and demographic data for all students in the ITT sample is presented in Table A.7 in Appendix A. The total sample of students served was relatively similar across the 10 schools and four districts served by the grant.

Actual class sizes and student:teacher ratios. Each teacher's number of PRJ classes, class sizes, and average student:teacher ratios are shown in Table 2.9. The number of classes assigned to each teacher was determined by the number of eligible students randomized to treatment

classes in her school. Class size was limited to a maximum of 20 students, according to recommendations from the developer. Student:teacher ratios across all classes ranged from 19:1 to 8:1, with an average of 13:1.

Table 2.9. Class Sizes and Student:Teacher Ratios

TEACHER	NUMBER OF CLASSES	CLASS SIZES						AVERAGE STUDENT:TEACHER RATIOS
1	6	15	13	13	13	12	12	13:1
2	6	15	12	10	9	9	8	12:1
3	4	13	12	9	6			10:1
4	4	12	8	7	5			8:1
5	4	17	16	13	10			14:1
6	4	19	18	16	13			17:1
7	5	18	15	14	12	5		13:1
8	5	11	10	9	8	7		9:1
9	2	13	9					11:1
10	2	19	19					19:1

Actual intensity/dose of intervention students received. Several sources of data provide information about the dosage of intervention materials delivered. At the teacher level, available data include: class length, teacher attendance, and lesson pacing. The amount of class time available to the 10 interventionists in the study was fairly consistent. Nine out of the ten teachers taught class periods that lasted approximately 45 to 50 minutes. One teacher's classes were 75 minutes long. Since PRJ is a supplemental program, elective periods were scheduled for treatment students rather than ELA blocks, which are normally 90 minutes.

Teacher attendance across the school year is another possible indicator of dosage, especially since most teachers in the study reported that when they were not in class, PRJ materials were not used by substitute teachers. However, the data on teacher attendance collected is not reliable, since it was based on teacher recall of number of class days missed for all possible reasons (e.g., sickness, staff development days, PRJ training, non-curricular activities in the school building, etc.) over the entire year. The number of days that teachers reported being out of their classroom for the year ranged from four to twenty.

Another measure of dosage for PRJ implementation is the number of lessons delivered in classrooms over the course of the academic year. Voyager defined the pacing schedule for the implementation of PRJ throughout the 2010-11 school year in study classrooms, and specified that the completion of 15 Expeditions (containing ten lessons each) constituted a "full dose" of the intervention. Data on each teacher's pacing came from two sources: what lesson they were teaching during the research team's spring classroom observations (in early May) and the number of Comprehension and Vocabulary Assessments (administered as a part of Lesson 9 in every Expedition) that were recorded for the year in VPORT®. There was agreement across these two sources of data on how many Expeditions each teacher completed over the course of the year,

and the final numbers ranged from 7 to 15, with an average number of 11.4 Expeditions completed.

A final potential measure of dosage is student attendance. At the end of each month, school liaisons were asked to report on attendance for both treatment and control students. As students in the control condition were not in a specific alternative program, school liaisons reported on the number of days students in the control condition attended school for at least half of the day. For students in the treatment condition, school liaisons reported the number of days the students attended PRJ classes. Descriptive statistics for treatment students are provided in Table 2.10.

Table 2.10. Treatment Students' School Attendance, 2010-11

School	N (Treatment Only)	Min	Max	Mean	SD	Median
1	91	0	173	129	49	149
2	78	0	168	121	57	153
3	50	0	171	140	52	165
4	37	0	164	119	55	149
5	64	0	178	145	47	164
6	93	0	169	129	40	144
7	70	0	175	143	44	160
8	60	0	168	96	64	119
9	28	0	156	111	52	127
10	46	0	164	139	36	152
Total	**617**	**0**	**178**	**128**	**51**	**151**

Based on Louisiana law, districts are required to provide at least 177 instructional days for students per school year. For a variety of reasons such as school absence, school assemblies, or attrition from the PRJ program, students in the treatment condition at the ten schools attended PRJ class 128 days on average. The median days of PRJ attendance was 151 (85% of the maximum) with a range from 119 to 165 median days.

Student assessment procedures actually carried out. Delivery of PRJ curriculum materials is consistently informed by assessment procedures that are regularly scheduled throughout the school year. Primary assessments used include:

- Reading benchmarks (RB) administered at the beginning, midpoint, and end of year
- Reading Connected Text (RCT) administered at the beginning, midpoint, and end of year
- Comprehension and Vocabulary Assessment (CVA) administered after Lesson 9 of all 15 Expeditions
- SOLO® Student Self-Assessments -ongoing feedback provided in all SOLO® Lessons

Student scores on each of these assessments are entered into the VPORT® online data management system and used to monitor student progress and assign students to appropriate Lexile-level texts.

Data provided online via Voyager's VPORT® system and from presentations at the Cohort Training are provided in Table 2.11 and show the number of teacher-administered assessments completed and recorded for each teacher by grade. All of the required RB and RCT assessments were administered and recorded by all ten teachers. The reliability of the CVA assessments is uncertain (i.e., inconsistency of scores may be due to a failure to record student results in VPORT®, rather than a failure to administer the assessments).

Table 2.11. PRJ Assessments Completed

ASSESSMENT AND GRADE	TEACHER									
	1	2	3	4	5	6	7	8	9	10
Reading Benchmark (RB) [max = 3]										
6th	3	3	3	3	3	3	3	3	3	3
7th	3	3	3	3	3	3	3	3	3	3
Reading Connected Text (RCT) [max = 3]										
6th	3	3	3	3	3	3	3	3	3	3
7th	3	3	3	3	3	3	3	3	3	3
Comprehension and Vocabulary Assessments (CVA) [max = 15]										
6th	8	11	13	13	10	7	11	11	14	15
7th	8	11	13	13	10	7	12	11	14	15

Experience of control students. Students in the control group at 9 of the participating schools were enrolled in non-reading elective courses while treatment students attended PRJ classes. The elective courses offered across the schools varied (e.g., band, foreign languages, dance, art, chorus, physical education, and computers). The elective courses reflect the business as usual condition for the participating schools. Control group students at one of the participating schools were enrolled in a supplemental math program (TransMath). The supplemental math program was new to the school.

Evidence of reading-related supports. In all 10 schools, additional reading-related supports were provided to students through their regular English Language Arts (ELA) curriculum via small group work. Homework and/or tutoring support before and after school across subject areas (i.e., math, science, social studies, and reading) was offered to all students in 6 out of 10 participating schools.

A smaller proportion of schools (4 out of 10) reported using Achieve 3000 as an additional reading support as part of their regular ELA classroom time. Information on the use of Achieve 3000 was gathered from the principal at each school, and it was reported that all students were given the opportunity to interact with the program. The Accelerated Reader program was also implemented across all of the participating schools and was offered to all students.

Other Tier 2 Intervention Supports

To address the growing need of students, all of the schools offered additional Tier 2 reading intervention supports to students not participating in the Louisiana Striving Readers project. Students receiving these services included those not selected to participate (i.e. scores too high), those who enrolled after randomization occurred, and those who did not have *i*LEAP scores. The Tier 2 interventions offered varied (i.e., Read 180, Earobics, Destination Read, Language!, and FastForward). It was most common for the schools to opt to implement multiple programs to accommodate various learning styles among their students.

Fidelity of Implementation of Classroom Model

A quantitative analysis of classroom implementation fidelity was conducted to identify levels of variation in implementation between teachers (schools) and across grades.

Data Sources for Descriptive Analyses of Variation on PRJ Classroom Observation Scores. The 11-item observation scoring instrument used for each classroom observation session was rated on a scale from 1 to 4 points. The scores assigned by observers to each of the 11 items were summed for a "score total" and averaged for a "score average" for each classroom section observed. Teachers were observed multiple times (i.e., more than one class section per teacher) during the fall and spring semesters of data collection (n = 55 total observations). Table 2.12 displays descriptive statistics for the individual items contained in the instrument as well as the total score and average total score.

Table 2.12. Descriptive Statistics for Full Data Set PRJ Teacher Observations Scores

	N	Range	Minimum	Maximum	Mean	Std. Deviation
1 Guide	55	1	3	4	3.93	.262
2 Components	55	2	2	4	2.95	.803
3 Strategies	55	2	2	4	3.56	.631
4 Feedback	55	2	2	4	3.04	.576
5 Pacing	55	2	2	4	3.25	.673
6 Involvement	55	2	2	4	3.29	.658
7 Monitoring	55	2	2	4	3.33	.668
8 Grouping	55	1	3	4	3.91	.290
9 Tasks	55	2	2	4	3.09	.617
10 Routines	55	2	2	4	3.51	.540
11 Management	55	2	2	4	3.27	.732
Score total	55	14	28	42	37.13	3.830

Score average	55	1	3	4	3.38	.349

Note: Overall reliability as measured by Cronbach's Alpha was 0.77

The full data set was split for fall and spring observation data and descriptives were run separately for each time point. Descriptive data for fall and spring score totals and score averages are displayed in Tables 2.13 and 2.14.

Table 2.13. Descriptive Statistics for Fall 2010 Observation Codes[11]

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Score total	31	13	29	42	36.90	4.14
Score average	31	1.18	2.64	3.82	3.36	.38

Table 2.14. Descriptive Statistics for Spring 2011 Observation Codes[12]

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Score total	24	13	28	41	37.42	3.45
Score average	24	1.18	2.55	3.73	3.40	.31

Descriptive analyses revealed non-significant variations between the data collected for each semester. Spring semester total score means were higher than those for fall, but the differences were not significant (t -1.17, p .26); differences between fall and spring semester score averages also were non-significant (t -1.16, p .26).

Descriptive Analysis of Variation on Teacher-Level PRJ Observation Scores. The primary question of whether variation exists between teachers on the pattern of implementation fidelity scores is answered through several descriptive illustrations. Here, fidelity of implementation (FOI) is the extent to which teachers are observed using program materials and instructional strategies to deliver the program as designed. Observation score averages (i.e., the overall mean of scores averaged for each class section observed for each teacher) were used to operationalize teachers' FOI of the classroom model. Figure 2.1 shows the between-teacher variation on average FOI scores for fall 2010 and spring 2011 observation data. The average FOI scores plotted for each teacher represent the mean averages for all observed classrooms' average scores, merged for grades 6 and 7.The fall scores ranged from 2.66 to 3.73 and the spring scores ranged from 2.73 to 3.69.

[11] Descriptive data for PRJ observation codes compiled from fall 2010 data contained consensus scores only and includes data from only 9 teachers due to teacher resignation in one of the schools at the time of fall data collection.

[12] Descriptive data for PRJ observation codes compiled from spring 2011 data does not include consensus scores and includes all 10 teachers.

Figure 2.1. Fall and Spring Classroom FOI Averages by Teacher

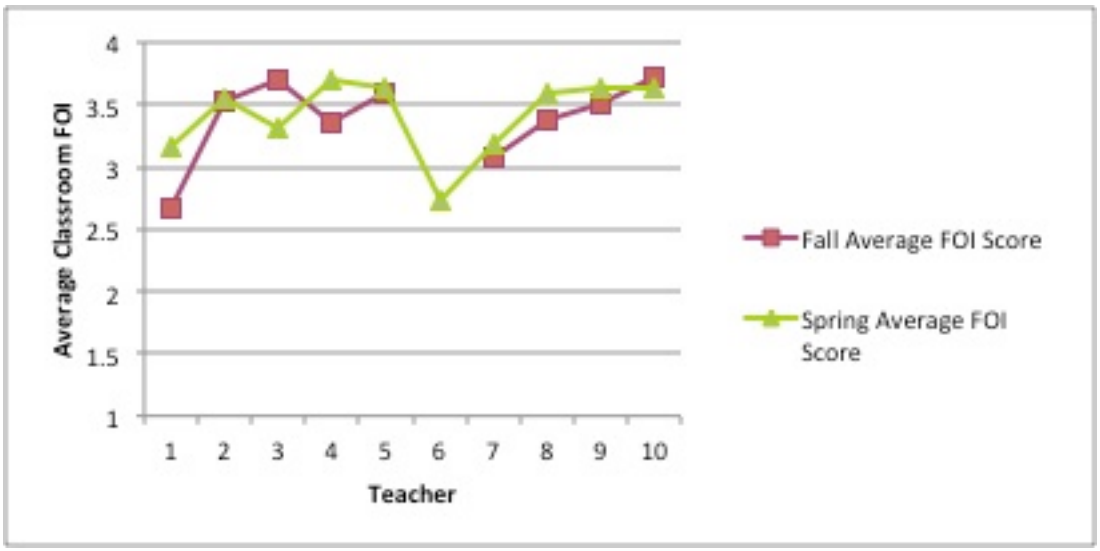
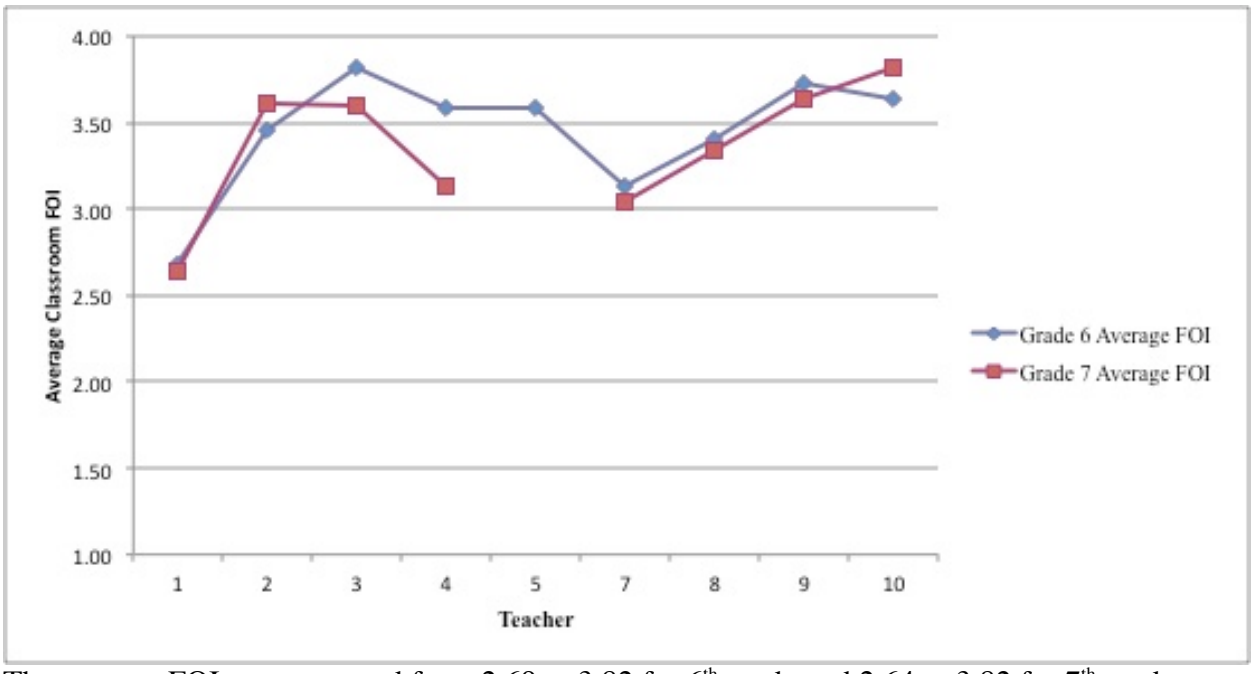


Figure 2.2 displays the the between-teacher variation on average FOI scores for fall 2010 observation data separated for 6th and 7th grades.

Figure 2.2. Fall Classroom FOI Averages by Teacher and Grade.[13]

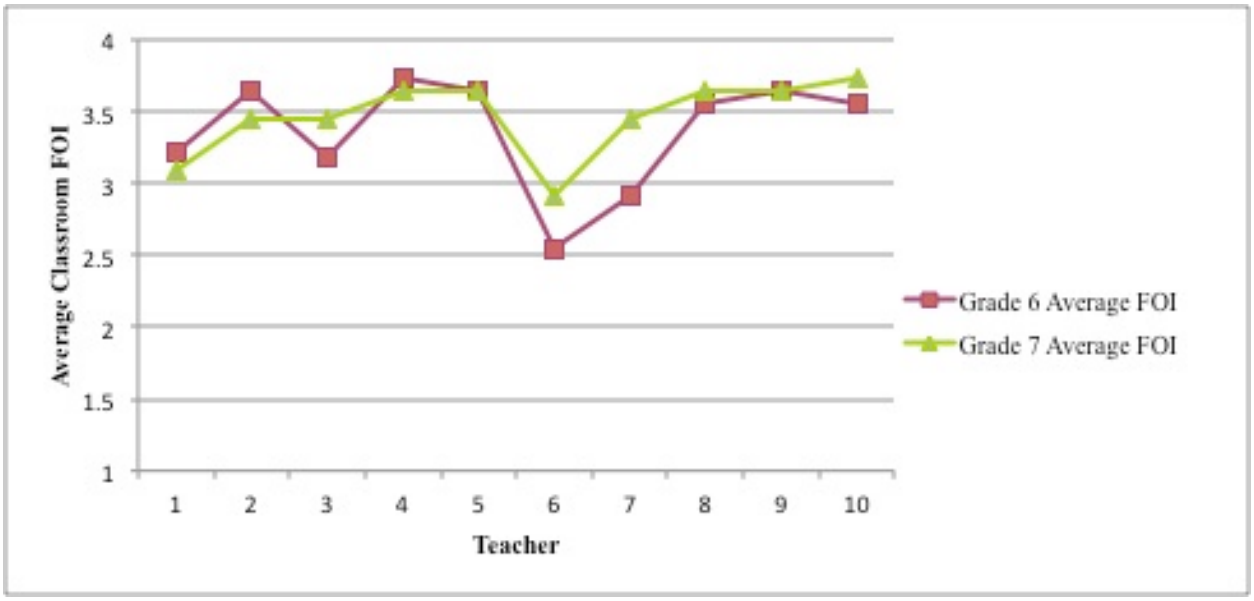


The average FOI scores ranged from 2.69 to 3.82 for 6th grade and 2.64 to 3.82 for 7th grade on a 1- to 4-point scale, with an average of 3.45 for 6th grade FOI scores and an average of 3.35 for 7th grade FOI scores for the 9 teachers for which fall data were collected.

[13] The 7th grade average classroom FOI for teacher 5 is not reflected in the graphic because consensus scores were not available (i.e., data were collected by only one coder due to scheduling conflicts).

Figure 2.3 displays the between-teacher variation on average FOI scores for spring 2011 observation data separated for 6th and 7th grades.

Figure 2.3. Spring Classroom FOI Averages by Teacher and Grade.



The average FOI scores ranged from 2.55 to 3.73 for 6th grade and 2.91 to 3.73 for 7th grade on a 1- to 4-point scale, with an average of 3.36 for 6th grade FOI scores and an average of 3.46 for 7th grade FOI scores for the 10 teachers for whom spring data were collected.

Determining Extent of Fidelity of Implementation as Designed (Baseline to End of Study). In order to determine whether there were differences between baseline (fall) and end-of-study (spring) FOI scores, paired t-tests were used. The unit of analysis for this test was teacher, and given the small sample size, statistical power was limited. The comparison of means between the fall and spring FOI scores gives an indication of trends that could be detected in the extent of FOI achieved over the course of the one-year study. Table 2.15 shows the findings for the comparison of fall to spring means on the average total classroom observation scores.

Table 2.15. Paired Samples T-Test Comparing Fall and Spring Average Total FOI Scores

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	FOI Totals Averaged Fall & Spring	-.90741	2.28917	.76306	-2.66702	.85220	-1.189	8	.268

Results of the analysis indicated that there were no statistically significant differences between fall and spring scores

(t -1.19, p .27).

Factor scores from previous analyses of the classroom observation data (i.e., adherence and process) were analyzed using paired t-tests. Fall and spring adherence and process scores were computed by summing the average scores of the items loading on each factor and then averaging by the number of items representing the factor (i.e., 3 and 7) for each teacher. Figures 2.4 and 2.5 show the average adherence and process scores for each teacher by semester.

Figure 2.4. Fall Average Adherence and Process Scores by Teacher.

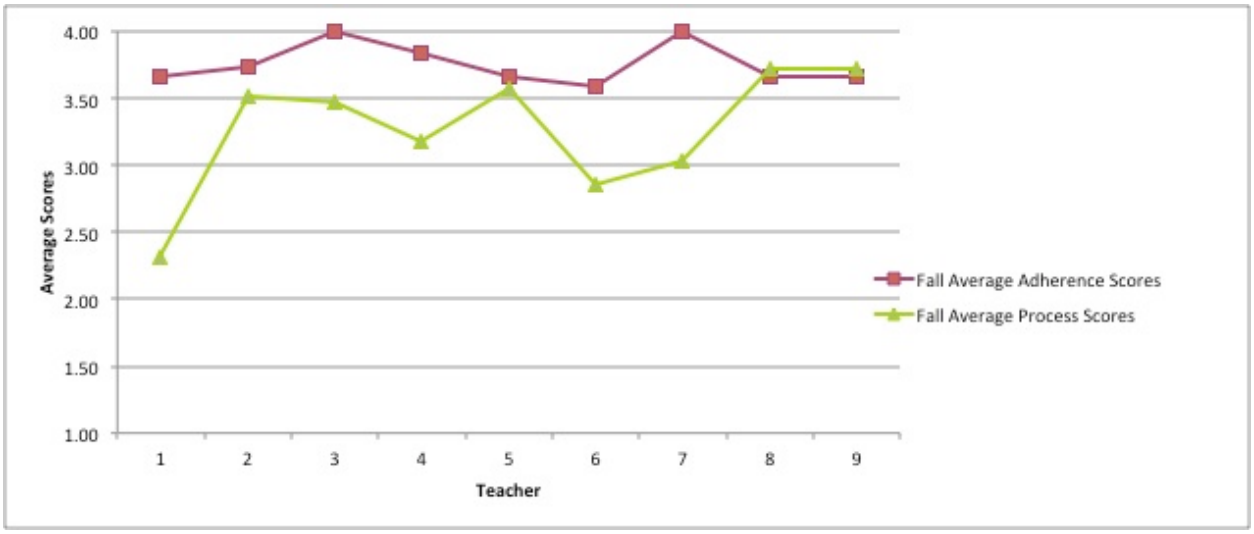
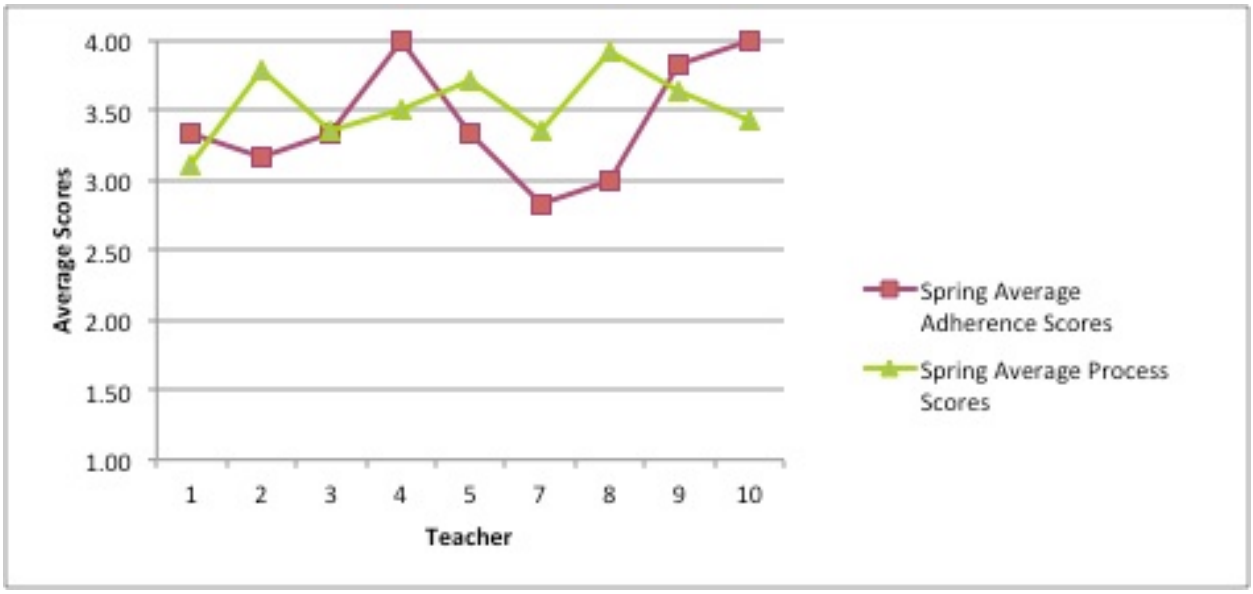


Figure 2.5. Spring Average Adherence and Process Scores by Teacher.



The average scores for items loading on Adherence and Process factors were then analyzed in a paired-samples t-test (two-tailed) to calculate the difference between means for the fall and spring FOI factor scores. Table 2.16 shows the findings for the comparison of factor means.

Table 2.16. Paired Samples T-Test Comparing Fall and Spring Adherence and Process Scores

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Adherence Fall & Spring	.33	.46	.15	-.025	.688	2.14	8	.065
Pair 2	Process Fall & Spring	-.27	.40	.13	-.582	.039	-2.01	8	.079

Results of the analysis indicated that there were no statistically significant differences between fall and spring scores on Adherence (t 2.14, p .07) and Process (t -2.01, p .08). Given these findings, the paired-samples t-test suggests that statistical power and the amount of time the teachers had to implement the program were both insufficient to conduct this analysis with any definitive findings. Taken together, however, the descriptive cross-sectional findings for fall and spring implementation revealed sufficient variation between time-points and grade-level implementation to suggest an underlying pattern that may have emerged more definitively over time and with a larger sample of teachers.

Another set of paired-sample t-tests was conducted on the average scores for items loading on Adherence and Process factors but analyzed separately for 6th and 7th grade to calculate the difference between fall and spring FOI scores. Tables 2.17 and 2.18 show the results of the paired t-test for fall and spring factor scores, separated for grade.

Table 2.17. Paired Samples T-Test Comparing Fall and Spring Adherence and Process Scores for 6th Grade

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Adherence Fall & Spring	1.17	1.37	.46	.114	2.219	2.55	8	.034
Pair 2	Process Fall & Spring	-1.33	3.27	1.09	-3.846	1.179	-1.22	8	.256

Results of the analysis showed that there was a statistically significant difference between fall and spring scores when grade level was taken into account, but for Adherence only (t 2.56, p .03), and only for 6th grade; no statistically significant difference was detected for the Process factor.

Table 2.18. Paired Samples T-Test Comparing Fall and Spring Adherence and Process Scores for 7th Grade

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Adherence Fall & Spring	.79	1.59	.56	-.534	2.117	1.41	7	.201
Pair 2	Process Fall & Spring	-2.56	3.32	1.17	-5.349	.214	-2.18	7	.065

As shown in Table 2.18, findings for the 7th grade were non-significant for both Adherence (*t* 1.41, *p* .20) and Process (*t* -2.18, *p* .07) factors.

Factors in Fidelity of Implementation

Data related to the identification of primary factors affecting the overall level of classroom FOI during the first year came primarily from interviews with teachers, school administrators, Voyager coaches, and support staff at the LDOE. Additional contextual information was compiled from project files, researcher observations, and the results of a brief survey sent to district coordinators at the end of the first year. The interviewees provided a variety of perspectives on the primary facilitators and barriers to first year implementation of the PRJ program, depending upon their roles and positions in the effort. For instance, the teachers' (n=10) and coaches' (n=3) perspectives were largely focused on what happened in the classroom (i.e., implementation of the program), while comments from school administrators (n=10) and LDOE staff (n=2) focused on their particular roles outside of the classroom (i.e., implementation of the grant and/or the research study). The following discussion takes into account all of these perspectives and provides an overall summative account of the factors that most influenced classroom FOI during Year 1.

Facilitators

Support. There was general agreement across all informants that the most significant factor positively affecting program implementation was the strong support provided to the teachers and schools involved. Among the multiple forms of support provided to teachers, the most helpful was the guidance they received from Voyager coaches, who visited on a monthly basis to observe their classrooms and discuss any issues they might be having with their students or with technical aspects of implementing PRJ (e.g., conducting, recording, and using assessment data). The coaches, all of whom were working with other districts implementing PRJ, said that the amount of support provided to the SR interventionists was more than in their other districts. The grant itself allowed for this, since schools and districts are normally required to buy this level of support as an "add on" to the basic program package. Some of the teachers also specifically mentioned the support they received from networking with other interventionists either through informal communications (especially in one district where several teachers created their own

internal support network) or the opportunity to talk with others teachers at the Cohort Training in March 2011.

School administrators received direct support primarily from the district-level coordinators designated by the SR grant to facilitate program implementation within each of the four districts. Forms of support most frequently requested and provided by the district representatives were: 1) procurement of materials and equipment needed for classroom implementation, 2) management of funding allocations for the schools, 3) assistance with scheduling treatment and control students, 4) coordination of release time for teachers and administrators to attend PRJ trainings, and 5) facilitation of communication between the schools, LDOE, and the research team. All of the district coordinators attended the Launch and Cohort Trainings and therefore had some content knowledge about PRJ, but their roles in supporting implementation were more facilitative than substantive in terms of direct assistance to the interventionists. As a group, they received support from staff members at the LDOE - most frequently in the form of assistance with budgetary issues. The general picture, then, is that the SR grant provided for multiple layers of assistance to support the implementation of PRJ, and that these various forms of support were a primary reason that a relatively high level of classroom FOI was achieved in all of the 10 schools involved.

Curriculum. The second most important facilitator of implementation, according to the teachers and administrators interviewed, was the nature of the program itself. PRJ is a highly structured and scripted program that allows little room for personalized approaches to alternative implementation. Several teachers commented that it was easier than some other programs to implement with fidelity because of the extensiveness and coherence of the materials provided. The subject matter of the DVDs and readings were interesting to students overall, which increased their responsiveness in class and supported teachers' ability to implement the program correctly. Both teachers and administrators also mentioned that the highly structured nature of the program was particularly well suited for students who need supplemental assistance in reading. For instance, the (quick) pacing of material presentation and the variety of activities provided (including the SOLO® technology component) helped less advanced students stay engaged.

Interventionists. A third reported facilitator of implementation was the quality of the teachers involved in the SR grant. The experience of the10 teachers implementing PRJ across all four districts ranged from 6 to 32 years, with an average of 14.8 years teaching experience overall. They were also highly trained - half had earned Master's degrees and all were certified in Reading, English, and/or Language Arts instruction. In addition, all of the teachers were specifically hired for, and funded by, the SR grant (and the majority did not teach any other classes in their schools). The importance of this factor was emphasized by one of the Voyager coaches who pointed out that many of the teachers she coached in implementing PRJ in districts outside of the grant were assigned to teach a section of PRJ in addition to their normal schedule, which often did not include reading or English instruction. These circumstances greatly enhanced the ability of the SR interventionists to focus and quickly become adept at implementing the program.

Barriers

Pacing. Eight of the teachers and all three Voyager coaches interviewed reported that the biggest challenge they faced in implementing the program was the required pacing. All but one of the teachers were scheduled with approximately 45-50 minute classes, which was not enough time to cover all of the required components in a lesson (the one teacher who had longer class times - 75 minutes - did not experience this problem and also completed more Expeditions over the course of the year than the others). This barrier to implementation was more pronounced in the fall interview data, when the teachers were new to the program and trying to follow the instructions for pacing that they had received during the Launch Training at the beginning of the year. The problem was reduced for most when the coaches advised the teachers that they could spread the presentation of some lessons over two days when necessary. The expectation was that they would be able to "catch up" to the required pacing schedule over time by using parts of days assigned to SOLO® activities and re-teach days to cover material that hadn't been included during a previous lesson. Both teachers and students also became more adept at dealing with PRJ in-class pacing requirements as their experience with the program increased.

Materials/Equipment. The second most frequently discussed barrier to implementation was the lack of sufficient materials - especially computers and other technological equipment or support (e.g., internet connectivity, Promethean Boards, or printers). The PRJ program requires that students complete one lesson per week on the computer (SOLO®), and the ideal circumstance is for teachers to be supplied with enough computers for all of their students' use in their classroom environment. Few of the SR interventionists were set up in this way, especially at the beginning of the year. Some reported having to use shared computer labs in their schools, which often meant that the SOLO® lesson was completed out of the correct sequence, since it was often not possible to reserve the lab when they needed it. Due to large classes and equipment shortages, other teachers had some computers in their classrooms, but not enough for all of the students. At the coaches' suggestion, they often devised ways to "rotate" computer use, with some students doing the SOLO® lesson while others did small group work, paired reading, or some other activity. While all of these solutions were ultimately effective, the general equipment problem was significant for the majority of the PRJ teachers. School administrators and district coordinators also reported being involved in trying to solve implementation issues around materials and insufficient equipment in several schools.

Student Engagement. A third challenge to implementation discussed by nearly all teachers was maintaining student interest and engagement. As mentioned above, the content of the PRJ materials was reported to be effective at consistently engaging students. The challenges faced here were more contextual. For instance, because PRJ is a supplemental reading course, students in the treatment group were assigned to PRJ classes instead of their regularly scheduled electives, and there was some resistance to this, especially during the fall semester. Some teachers, administrators, and all of the coaches also noted that there were a few students included in the treatment group who were actually either too advanced or not advanced enough for PRJ. For instance, a few students in the sample did not have a strong enough understanding of basic reading concepts (such as phonics) to fully grasp PRJ content. Others demonstrated behavioral problems in the classroom significant enough to be an ongoing challenge for the teachers. Two teachers also mentioned having students that didn't really need PRJ, and as a result were consistently bored or distracted. The issue of student engagement is a common one, especially in

adolescent classroom settings. It is therefore not surprising that PRJ teachers and coaches identified it as a challenge to implementation, and interesting to note that overall they did not think it was due to the content of the PRJ materials.

The major challenges discussed by school administrators had less to do with classroom program implementation and more to do with their role in implementing the grant and/or the research study. Participating in a research study inherently impacts the normal routine in a school to some degree, and where the administrators were most challenged was in the area of scheduling. The timing of student randomization for the research study (mid-summer) delayed class scheduling in some schools and, in some cases, created the need to re-schedule students who were incorrectly placed in treatment or control classes after the school year started. Several administrators also emphasized their concern with the fact that, due to the nature of the research study parameters, the control students in their schools were not able to benefit from the PRJ program.

Conclusions

Did students in the PRJ program receive the intervention as planned? The classroom FOI index was meant to evaluate the teacher's overall score for delivering the intervention as planned, which stands as a proxy measure of whether the students received the intervention as planned. The index scores generated from the classroom observations were derived from spring data only. This decision was based on the need for a cumulative rather than a temporal measure of implementation.

The data sources used to construct the classroom FOI index were translated into rubrics that were then compiled for an overall score for each teacher. The overall average observation scores were cut into ranges representing low, medium, and high categories of classroom FOI; low scores were assigned "0," medium scores were given "1," and high scores received "2." Teachers' FOI scores were considered low if they were on average below a score of "2.5" on the observation instrument – this threshold was determined from the actual PRJ observation instrument ratings, which were anchored by verbal descriptors that label score 2 "fair" and score 3 "good." Based on these metrics, the 2.5 cutoff represents an adequate or mid-point level of program implementation. The range of scores corresponding to each index category was 1 to 2.5 low, 2.51 to 3.44 medium, and 3.45 to 4 high. Forty percent of teachers were categorized medium and 60% were in the high category on average total FOI scores as presented in Table 2.19.

Table 2.19. Summary of Classroom FOI Index Scores by Teacher

		Teacher									
Classroom	**Maximum Score**	1	2	3	4	5	6	7	8	9	10
Average total FOI[14]	2	1	2	1	2	2	1	1	2	2	2

[14] Average fidelity of implementation score across all class sections rated on 11-item observation instrument.

All teachers in this study achieved adequacy and a majority (60%) were implementing with high FOI index scores. The observation data used for the FOI index was merged on grade and on all classroom sections observed for each teacher. All 10 teachers were delivering the program at medium or high levels of implementation according to the fidelity index, which could be translated as an affirmative indication that the PRJ program was delivered with fidelity to students.

How much variation in classroom fidelity of implementation was there between teachers (schools)? The question of how much variation in implementation fidelity was detected between teachers was answered through a series of descriptive data analyses comparing means for fall and spring observation data. Descriptive data showed that mean scores aggregated on grade and semester were not significantly different between teachers; the same finding held when data were disaggregated by semester. The average time between observations was five months, limiting the likelihood that differences would be detected between time points over such a short period of program implementation. Another possible interpretation is that teacher qualifications were so high overall that between-teacher variation on implementation was not likely to be significant.

Overall, implementation fidelity was high and with limited variation between teachers, but some within-teacher variation existed in the factor scores to suggest a possible pattern. Findings from paired t-tests comparing fall to spring average implementation scores on "Adherence" and "Process" revealed a significant difference for scores on 6th grade Adherence, suggesting that teachers increased their fidelity to the use of PRJ 6th grade program materials as designed.

Analysis of teacher interviews revealed a number of patterns that support and extend the interpretations of the quantitative patterns. Teachers mentioned the receipt of high levels of support to implement the program, corroborated by high attendance rates for professional development training. The program itself, especially in terms of its highly structured design, was reported by teachers as easy to implement. These specific program features, in combination with a highly qualified teacher sample, contributed to the overall high implementation scores.

Did teachers in the PRJ program receive the intervention (professional development) as planned? Only one of the ten teachers received a medium level of PD (training and ongoing support) based upon the planned PD model for the grant, while the other nine were at a low level, and none reached the 80% designation for high or "adequate" PD. One explanation for these low overall PD FOI scores is evident when required PD hours are split between training and ongoing support/coaching. When the types of PD are separated, the data indicate that all but one of the teachers reached a high level of implementation in the training category, but all remained in the low category for coaching and ongoing support. The threshold for adequacy of PD support in the original PD model for the Striving Readers grant was set at a very high level which included a number of additions to a more standard definition of PD support for the PRJ program (e.g., 30 additional hours for school administrator classroom observations and 12 additional hours for LDOE site visits). As noted previously, the time available for these additional forms of support was limited.

Five of the ten school administrators reached a medium level of PD implementation, and five were in the low category. This was primarily due to the cancellation of a scheduled 6-hour training for administrators in the fall of 2010 that was included in the original PD model. When

these 6 hours are removed from the calculation, half of the administrators move to a high level of PD implementation, and three move from a low to medium level. Three of the four district coordinators reached a high level of PD implementation as defined by the grant.

Overall, the PD FOI results indicate low to medium levels of implementation for the majority of recipients listed in the original PD model. It is unclear how much impact these ratings had on actual classroom implementation of the program, which was relatively high.

How well was the intervention implemented, based on a PRJ Combined FOI index? The classroom FOI index scores presented above and scores for the professional development and support received by teachers were combined to create a more inclusive version of the index. The combined FOI index was drawn from multiple sources of data collected over the span of the study, including the amount of professional development delivered, ongoing support provided by the developer's coaches, and observation scores of teachers' program implementation. Scores used for the Professional Development portion of the combined FOI index were derived from the more extensive PD model discussed earlier. However, only those components of the model specified by the developer as training and support necessary for implementation of the PRJ program (i.e., not the SR grant) are included in the PRJ combined FOI index. Given these parameters, Professional Development components included in the combined FOI index are: a composite score for training (combined Launch, Cohort, and online trainings) and a total score for amount of Voyager coaching hours received by teachers. PD scores are based on the number of accumulated hours in each category for teachers discussed earlier, and assigned a 0-2 total value, according to the low, medium, and high adequacy ratings established for overall PD (0-.59=low adequacy or 0, .60-.79=medium adequacy or 1, and .80-1.0=high adequacy or 2). The classroom FOI components were calculated as above for the total, as well as the adherence and process factors, of the classroom implementation model. A total index score range of 0 to 10 points is possible for each teacher and represents a cumulative measure for the combined PRJ FOI index (see Table 2.20).

Table 2.20. Summary of PRJ Combined FOI Index Scores by Teacher

Professional Development	Maximum Score	Teacher									
		1	2	3	4	5	6	7	8	9	10
Training	2	2	2	0	2	2	2	2	2	2	2
Support: On-site Coaching	2	2	1	2	2	0	0	0	1	1	1
Classroom											
Adherence	2	1	1	1	2	1	1	1	1	2	2
Process	2	1	2	1	2	2	1	1	2	2	1
Average Total Classroom FOI	2	1	2	1	2	2	1	1	2	2	2
Total FOI score	**10**	**7**	**8**	**5**	**10**	**7**	**5**	**5**	**8**	**9**	**8**

Since the scores for the PD and classroom fidelity indices shown in Table 2.20 were derived from different scales, the total FOI scores shown are cumulative and intended for descriptive and comparative purposes only. The combined PRJ FOI index scores indicate that 50% of teachers demonstrated 80% (8 out of 10) or higher levels of implementation, 20% demonstrated 70% levels of implementation, and 30% demonstrated 50% levels of implementation. These results indicate that relative to a more "typical" PRJ combined (professional development and classroom) implementation model, the program was implemented with medium to high levels of adequacy across the 10 schools in the study.

Impact Study Design and Results

Impact Study Design

The impact of the PRJ program on student motivation and reading outcomes is based on a multi-site randomized control trial study design. The RCT study design included student-level random assignment of eligible 6th and 7th grade students within participating schools. Students were randomly assigned to either a treatment group in which students received PRJ program services or to a control group in which students did not receive program services but may have received a range of other services available in their school (i.e., tutoring, study hall). The following sections reviews the design in more detail, including the research questions, sampling plan, random assignment plan, data collection, and impact analyses

Research Questions

The impact study addressed the following major research questions and hypotheses.

Research Question: Does student-level assignment to the PRJ supplemental literacy program produce impacts on reading achievement for 6th and 7th grade students significantly behind their peers (i.e., scoring *Below Basic* on the state assessment) in reading relative to student assignment to a supplemental non-reading elective services control condition?

Overall Impact on reading achievement

PRJ has statistically significant effects on students' reading achievement in 6-7th grade compared to the reading achievement outcomes of control students assigned to supplemental non-reading elective services.

Overall Impact by specific reading subtest

PRJ has statistically significant effects on specific student reading composite/subtest outcomes in 6-7th grade compared to the reading achievement outcomes of control students assigned to supplemental non-reading elective services.

Research Question: Does student-level assignment to the PRJ supplemental literacy program produce impacts on students' motivation to read for 6th and 7th grade students significantly behind their peers (i.e., scoring *Below Basic* on the state assessment) in reading relative to student assignment to a supplemental non-reading elective services control condition?

Overall Impact on motivation to read

PRJ has statistically significant effects on student motivation to read outcomes in 6-7th grade compared to the motivation outcomes of control students assigned to supplemental non-reading elective services.

Research Question: For which subgroups and under which conditions does the program have its greatest impact?

Student-level by poverty subgroup

PRJ has statistically significant impacts on student reading achievement, specific student reading composite/subtests, and other student outcomes for 6th-7th grade students from low-income backgrounds compared to the outcomes of control students assigned to supplemental non-reading elective services.

Student-level by ethnicity subgroup

PRJ has statistically significant effects on student reading achievement, specific student reading composite/subtests, and other student outcomes for 6-7th grade students from ethnic minority backgrounds compared to the outcomes of control students assigned to supplemental non-reading elective services.

Student- level by grade subgroup

PRJ has statistically significant effects on student reading achievement, specific student reading composite/subtests, and other student outcomes in 6th and 7th grade compared to the outcomes of control students assigned to supplemental non-reading elective services.

Student-level by gender subgroup

PRJ has statistically significant effects on student reading achievement, specific student reading composite/subtests, and other student outcomes for 6-7th grade students for males compared to the outcomes of control students assigned to supplemental non-reading elective services

Student-level by baseline proficiency in reading subgroup

PRJ has statistically significant effects on student reading achievement, specific student reading composite/subtests, and other student outcomes for 6-7th grade students who enter the program reading significantly worse than their peers compared to the outcomes of control students assigned to supplemental non-reading elective services.

Student Sampling Plan

Random assignment procedures

The SEDL data manager was responsible for procedures involved in the within-school random assignment of the eligible 6th and 7th grade students either to a treatment group in which students received PRJ program services or to a control group in which students did not receive program services but may have received a range of other services available in their school (i.e., tutoring, study hall). Student eligibility criteria include recorded scores in the *Below Basic* category on previous spring administration of the *i*LEAP ELA assessment. SEDL received and processed the 2010 *i*LEAP scores from LDOE staff in May. From June through August, SEDL staff worked with school and district personnel to obtain school rosters for the 6th and 7th grades. These rosters were then matched with the 2010 *i*LEAP results to create a list of students eligible for participation.

Based on rosters received, 1437 6th and 7th grade students at the ten participating schools scored *Below Basic* on the 2010 *i*LEAP and were randomized into the treatment and control conditions. Students were blocked by grade and school yielding an equal chance for all students to be selected into the treatment and control conditions. Analysis of mean differences provided evidence that the treatment and control groups were statistically similar in terms of demographic characteristics as well as reading and other outcomes (see Table A.7 in Appendix A).

Students eligible for random assignment were those who scored *Below Basic* on the spring 2010 *i*LEAP ELA subscale. During the first round of randomization, eligible students were sorted based on school and grade to establish a pool for each school prior to the first day of school. Eligible students were then assigned and sorted in ascending order by a random number to ensure they were not previously sorted by unknown variables (i.e., race, gender, free and reduced lunch status) for each grade in each school. From this list students were randomly assigned to first treatment and then control condition in order of the list (one to treatment, one to control) until the list of students had been exhausted. The SEDL data manager then assigned participant status based solely on ID number and sent the status directly to the site coordinator who in turn sent it to the school liaison and/or principal at each school.

During the second round of randomization, SEDL worked with principals and school liaisons to identify an additional pool of eligible students who were not originally identified by early attendance rosters, but later enrolled. Student's IDs were matched with the state data set to ensure they had not been randomized during the first round and to establish eligibility. Randomization procedures for the second round mirrored those used for the first round. Students were sorted by school and grade, then assigned a random number and sorted. Once sorted in ascending order by random number, students were randomly assigned to first treatment and then control conditions until the list of eligible students had been exhausted. As with the first round, randomization was performed by the data manager. Revised rosters were sent to the school liaisons and /or principals at each school.

Approximately two weeks before the first day of school, rosters containing the names and state IDs for treatment students were sent to each school. Schools used this information to develop students' schedules and plan for the number of PRJ sections required. In addition, the school liaison and/or principal reviewed the roster to confirm students were still registered at their school. After the second round of randomization, based upon updated rosters provided within the first week of classes, a revised roster was sent to schools. This version also contained information on students assigned to the control condition. The school liaison and/or principal reviewed this list and provided tracking information within the first two to three weeks of school.

Numbers of students excluded from sample post RA and reasons why

Though 1,437 students were randomized, 211 students were determined to be ineligible post-random assignment. Of these, 104 students had been randomized into the treatment condition and 107 students had been randomized into the control condition. As presented in Table 3.1, the majority of post-RA ineligible students (n=171 or 81%) never enrolled in the study school as anticipated by school personnel. Thirty-five (17%) students were also deemed ineligible for participation after they were promoted to 8th grade. Three students passed away over the summer, one student was homebound, and one student scored *Below Basic* and never attended a study

school but had a duplicate identification number to a student who scored Basic and enrolled at a study school.

Table 3.1. Frequency of students discovered to be ineligible after random assignment

	Overall	Treatment	Control
Promoted to 8th grade or higher	35	18	17
Students deceased	3	1	2
Student not enrolled in study school	171	84	87
Other	2	1	1
Total	*211*	*104*	*107*

Crossovers

A common source of contamination is that a small but significant proportion of the sample in the control condition may receive similar services to the treatment condition students: Crossovers or students assigned to the control condition may enroll in a similar program or the same program in another school. One strategy used to address this was to maintain an active implementation component that monitored both conditions to detect ways that the intervention might be leaking and then address problems quickly. Perhaps more important than measuring implementation fidelity to safeguard against contamination, any randomization system needs to be closely supervised and leave no loopholes for deviations. Researchers provided school principals a roster of all students' assignments as a way of tracking original randomized student groups and to provide a method for maintaining students in their original assigned groups if they transferred to other study schools. Students transferring to another study school were rostered to receive the intervention or to continue in control conditions, allowing them to remain in the original ITT sample.

SEDL targeted resources to ensure that participants remained in their conditions over the length of the study. Monitoring the fidelity of randomization involved intensive and regular communication between site coordinators and school liaisons. Site coordinators worked with school liaisons to review participation, enrollment, and attendance records for students in both conditions. School liaisons also monitored vigilantly that students enrolled in specific electives in the control condition were attending those classes throughout the school year.

When mistakes were discovered with student placement, site coordinators and school liaisons reviewed the records for each student and made a plan for correction based on collected information and on a case by case evaluation of the circumstances (e.g., how long the student has been in the wrong placement, how far into the school year before the mistake was discovered). During the course of the study, 3 students who were assigned to the control condition crossed over into PRJ treatment condition but were identified and moved out in less than one week. An additional 18 students from one district who were control students received other Tier-2 reading interventions (not PRJ) for, on average, less than 9 weeks. Taken together the study had a very small number of crossovers representing 3% of the ITT control group sample.

Description of ITT sample

After students who were ineligible were removed from the study, the study sample included 1226 eligible 6th and 7th grade students who scored *Below Basic* and attended the participating schools for at least one day. Six hundred nine students were randomized into the control group; 284 6th graders and 325 7th graders. Six hundred seventeen students were randomized into the treatment group, 288 6th graders and 329 7th graders.

As presented in Table 3.2, slightly more than half of the students in the ITT sample (57%) were male. Most students were Black or African American (71%), 24% of students were White or Caucasian, and 5% of students were Other (Hispanic, Asian, Native Alaskan, or two or more ethnicity/race categories). Approximately half of the students were in the 6th grade (49%). Fifteen percent of students were classified as Special Education students and 11% were classified as Section 504. Four percent of students had Limited English Proficiency (LEP) and 1% was classified as from migrant families. Nearly nine out of ten students were eligible for free or reduced price lunch (88%).

Table 3.2. Description of ITT Sample

Overall ITT Sample		
	N = 1226	
	N	%
Sex (Male)	696	56.8%
Race		
Black/AA	865	70.6%
White/Anglo	298	24.3%
Other	63	5.1%
Grade		
6th	588	48.0%
7th	578	47.1%
8th	60	4.9%
Special education	186	15.2%
Limited English proficiency	44	3.6%
Free/reduced lunch status	1075	87.7%
Migrant	13	1.1%
Section 504 Status	129	10.5%

Cases of Attrition

The ITT sample included 1226 eligible 6th and 7th grade students though outcome data is not available for all students. Throughout the evaluation period during the 2010-2011 school year, incomplete data on the ITT sample can be attributed to missing pre- and post-test data as well as student attrition.

School liaisons reported information to help track student attrition. This also helped ensure that any movement of a randomized student between participating schools would be caught and the student would continue in their original condition even across schools. The completed consort diagrams documenting attrition for both the state test (*i*LEAP), as well as the local evaluation baseline assessments (GRADE and MRQ) can be found in Tables A.2-A.4 in Appendix A.

As presented in Table 3.3, during the course of the school year, students left and returned to the study schools for a variety of reasons which were classified into six categories: expulsion, parent opt out, removal from program by school administrators, transfer to a non-study school, promotion to 8th grade or higher, and other reasons.

Most attrition events were triggered by students transferring to non-study schools after the first day of school. Although nearly 200 students had attrition events reported during the evaluation period, post-test data is available for many of these students who stayed within the Louisiana school system.

Table 3.3. Frequency of attrition events as reported by school liaisons during school year

	Overall	Treatment	Control
Expelled	5	3	2
Parent opt out of PRJ participation	16	13	3
Removed from PRJ by school administrators	35	31	4
Transferred to another school	103	48	55
Promoted to 8th grade or higher	16	10	6
Other	3	2	1
Total	*178 (14.5%)*	*107 (17.3%)*	*71 (11.7%)*

Missing Outcome (Pre- and Post-Test) Data

The completeness of data is best described in two veins: one description for *i*LEAP data and one description of GRADE and MRQ data.

iLEAP

As eligibility criteria for inclusion in the evaluation depended on the spring 2010 iLEAP score, all 1226 students had completed pre-test data for the iLEAP. One thousand one hundred two students (90%) had post-test iLEAP scores. Seventy-seven students took alternative tests, based on promotion to 8th grade or other academic constraints, and 47 students had no test scores in the spring 2011 Louisiana database.

GRADE & MRQ

In fall 2010, pre-test data for the GRADE and MRQ were collected for all students in both the treatment and control conditions. Overall for both pre-tests, 1097 students completed the assessments, 532 treatment students and 565 control students. As presented in Tale 3.4, most students without pre-test data had moved to another non-study school.

Table 3.4. Reason for missing pretest data for GRADE and MRQ (Fall 2010)

	Total	Treatment	Control
Moved to non-SR school	41	17	24
Unable to locate	30	19	11
No test scores	15	8	7
Parent opt out	18	16	2
Other (SpEd, IEP, Ed Reqs)	25	24	1
Total	*129*	*84*	*45*

In spring 2011, post-test data for the GRADE and MRQ were collected for all students who were currently attending the participating schools. Nine hundred eighty three students completed the GRADE assessment. Nine hundred seventy seven students completed the MRQ assessment. Again, the most common reason for missing data was related to student mobility (see Tables 3.5 and 3.6).

Table 3.5. Reasons for missing posttest data for GRADE (Spring 2011)

	Total	Treatment	Control
Moved to non-SR school	103	48	55
Unable to locate, No test scores	62	23	39
Promoted to 8th grade or higher	17	11	6
Removed from PRJ by administrator	35	31	4
Parent opted out of PRJ	16	13	3
Expelled	5	3	2
Other	3	2	1
Total	*241*	*131*	*110*

Table 3.6. Reasons for missing posttest data for MRQ (Spring 2011)

	Total	Treatment	Control
Moved to non-SR school	103	48	55
Unable to locate, No test scores	70	24	46
Promoted to 8th grade or higher	17	11	6
Removed from PRJ by administrator	35	31	4
Parent opted out of PRJ	16	13	3
Expelled	5	3	2
Other	3	2	1
Total	*249*	*132*	*117*

Data Collection for the Evaluation of Student Impacts

Researchers selected outcome measures for the study based upon their widespread use and reliability in impact studies of reading comprehension, including several recently funded by the Institute of Education Sciences (James-Burduny et al., 2009; Kemple et al., 2008) and the Office of Elementary and Secondary Education (Cantrell et al., 2008). The following section briefly describes instruments used in the study.

Measures

The data for the impact study relied on three student outcome measures: *i*LEAP, GRADE, and MRQ. *i*LEAP and GRADE address the student reading assessment outcome domain and MRQ addresses the student efficacy, motivation, and engagement in reading outcome domain.

iLEAP

The Integrated Louisiana Educational Assessment Program (*i*LEAP) tests have been administered to students in grades 3, 5, 6 and 7 to test in English, math, science and social studies since 2006. The *i*LEAP consists of norm referenced test (NRT) components supplemented with items developed to align with the Louisiana Grade-Level Expectations (GLEs). The additional GLE-based items combine with The Iowa Test of Basic Skills (ITBS) items that align with GLEs to form the criterion-referenced test (CRT) component of *i*LEAP. The difference between the two components (NRT and CRT) is the manner in which test results are interpreted. The two components yield two types of test scores: scores that represent students' performance according to the Louisiana content standards (CRT scores) and scores that represent students' performance compared to the national norms (NRT scores). Similar to state assessments, scores are measured in terms of the state's achievement levels: *Advanced*, *Mastery*, *Basic*, *Approaching Basic,* and *Unsatisfactory*.

The *i*LEAP assessment is carried out across the state by LDoE each year in March. After LDoE completed data collection and management for the *i*LEAP, SEDL was sent a file with the scores

for all students in June 2010 for the pretest data and June 2011 for the post-test data. The data file included two test scores that were used in these analyses: the overall ELA scaled score and a reading scaled score that is a subtest of the ELA score. Results will be presented in both the original form of the scaled scores and converted to normal curve equivalents (NCEs).

GRADE

To capture a broader range of reading abilities, the evaluation included two additional assessments of reading: the GRADE and the MRQ. The Group Reading Assessment and Diagnostic Evaluation (GRADE; American Guidance Services, 2001) is a standardized norm-referenced, research-based reading assessment that can be administered to groups. The GRADE is organized into 11 levels of tasks or subtests that are designed to assess reading skill development from prekindergarten through early college. The GRADE contains a separate level for each year of school and each subtest is designed to measure skills that are developmentally appropriate for students at each level. Each level contains two equivalent forms to facilitate progress monitoring from fall to spring of each year and provides a normal curve equivalent (NCE) score in a standardized format. The GRADE measures four components of reading: reading readiness, vocabulary, reading comprehension, and oral language. For this study targeting grades 6 and 7, the focus is on vocabulary (nouns, verbs, adjectives, adverbs subtests), reading comprehension (sentence comprehension, passage comprehension, and metacognition subtests), oral language (listening comprehension subtest), and fluency (reading time, miscues, and comprehension subtests). Each individual GRADE level is designed to assess the reading skills of a wide range of performance at the recommended grade in school. Guidelines for out-of-level assessment are provided for striving students that may possess reading skills that are lower than what is typical of students at that grade level.

The GRADE provides standard scores, percentile ranks, normal curve equivalents, stanines, and grade equivalent scores for individual subtests, composite scores, and total test score based on norms established for fall and spring at each level. The GRADE also provides a GSV score (total test score only) to track reading growth in students across years. In addition, the GRADE provides criterion-referenced scores for each of the subtests, categorizing student performance by number and percent correct as well as providing classroom profiles at the item level. A diagnostic analysis can be conducted in which a student's item-by-item performance can be compared to a national sample or to peers in their classroom or in the study. Probability levels indicating the probability that a student will answer a particular item correctly can be developed for each student based on the national sample as well as for specific classroom or study samples.

The GRADE is not a timed test and estimates of administration range from 45-90 minutes depending on the level. GRADE has strong evidence of reliability and validity for outcomes related to literacy and reading. Technical information compiled by AGS Publishing (2001) indicates the GRADE has a high degree of internal consistency for total, composite, and subtest scores for grades 6 and 7 (alphas between .95 and .98). Alternate form reliability was high (.88) and test-retest reliability coefficients were high (.90 and .94). Concurrent validity studies on grades 4-8 indicate moderate to strong correlations between GRADE and the Iowa Test of Basic Skills (.69-.83) and strong correlations with the Gates-MacGinitie Reading Tests (.87-.90) for grades 6 and 7. For these analyses, the NCE score were evaluated for the overall GRADE reading assessment, the vocabulary subtest, and the comprehension subtest.

The assessment was administered to the students twice during the 2010-2011 school year. The pre-test assessment of the GRADE was administered between the last week in August and the last week in September 2010 for all students. The post-test assessments were administered during the last two weeks of April and the first two weeks of May 2011.

MRQ

Researchers used a modified version of the Motivations for Reading Questionnaire (MRQ) (Cantrell, Almasi, Carter, & Rintamaa, 2008) to examine students' intrinsic (e.g., curiosity, preference for challenging reading) and extrinsic (e.g., desire for recognition, reading for grades) motivation to read, reading involvement, and efficacy at using reading strategies (Baker & Wigfield, 1999). Confirmatory factor analyses have demonstrated that the student reading motivation subscales were reliable (Baker & Wigfield, 1999). Research has established the influence of students' internal motivation, involvement or engagement in reading, and use of reading strategies on their improvement in reading comprehension (Guthrie et al., 2004; Taboada, Tonks, Wigfield, & Guthrie, 2009).

The measure included 48 items that were answered on a one to four point Likert scale where students indicated how much they disagreed or agreed with each item. The students were not given a time limit to complete the measure. A confirmatory factor analysis was completed to match the four factor structure found by Wigfield and Guthrie (1995). The overall motivation score consists of a mean score of all 48 items. The subscales are mean scores of 17 items for intrinsic motivation, 11 items for extrinsic motivation, ten items for social motivation, and ten items for efficacy. The Cronbach alpha for the overall motivation score was 0.91 and the alphas for the subscales ranged from 0.71 to 0.78.

The assessment was administered to the students twice during the 2010-2011 school year. The pre-test assessment of MRQ was administered between the last week in August and the last week in September 2010 for all students. The post-test assessments were administered during the last two weeks of April and the first two weeks of May 2011.

Data Collection Methods

This multi-year study required a comprehensive, well-defined, and at the same time flexible data collection plan. Data collection efforts involved two waves (fall and spring) over the data collection year. Each wave was organized around brief site visits to collect information from multiple sources using multiple methods. To implement this approach, SEDL created four major roles:

- **Data Manager**. This experienced individual was the "director of operations" for the data collection plan and was responsible for implementing the plan and coordinating the efforts of key individuals and teams to complete all recruitment, random assignment, data collection, monitoring and quality control tasks for all field staff.
- **Site Coordinators**. Two site coordinators were selected from among SEDL's experienced research staff, with each coordinator assigned to two districts. Coordinators served as the primary study team contact for each school, assisting with final recruitment activities, facilitating random assignment, providing support for the school liaisons to

maintain participation in the study, and conducting quality control checks on field staff during data collection. It has been SEDL's experience that staffing this position with PhDs who are trained to implement RCT designs with fidelity improves compliance with research methods and ultimately improves the quality of the data.

- **School Liaisons**. A local staff person at each school was provided a stipend to support the site coordinators, helping them establish rapport with local staff and coordinating data collection efforts, obtaining informed consent, and scheduling interviews and other data collection activities during and after school visits.
- **Field Data Collectors**. A group of six field data collectors under the supervision of the data manager was responsible for scheduled data collection activities for each wave, including conducting in-person student reading assessments and administering student surveys.

Training and Quality Control. All data collection staff attended a two-day training conducted by SEDL prior to each data collection period. A field procedures manual was developed with all the information needed for field staff to conduct the school visits, including an overview of all instruments and administration procedures, as well as guidelines for appropriate behavior in the schools. Trainees were introduced to the purpose and goals of the study and background information on the program. Each field interviewer was given adequate practice and assessed to determine appropriate reliability levels on all instruments before being allowed to conduct school visits. Field interviewers also were trained to fill out data forms were checked in the field and then electronically scanned to ensure accuracy and efficiency. To ensure the ongoing quality of the data collected in the field, school visits were made by site coordinators to monitor field staff performance, re-check reliabilities in the field, and provide feedback and additional training, if necessary. School liaisons were trained at the beginning of the study to familiarize them with the study and their responsibilities, including procedures for recruiting students into the study and managing data collection efforts at their schools.

Statistical Analysis of Impacts on Students

Confirmatory and exploratory ITT analyses were conducted to address the two major research questions and their associated hypotheses: Overall program impacts and program impacts for particular subgroups.

HLM Impact Analyses

The principal goal of this evaluation is to investigate the effect of participating in the treatment (PRJ) versus business as usual for reading outcomes. All analyses are two-level (students within schools) fixed effects hierarchical linear models to account for variation in student and school level reading performance. Impact models include the fall pretest variable and a dummy variable for the treatment condition. Three main primary impact models are presented.

- Overall Impact on reading achievement – PRJ has statistically significant effects on students' reading achievement in 6-7th grade compared to the reading achievement outcomes of control students assigned to supplemental non-reading elective services.
- Overall Impact by specific reading subtest – PRJ has statistically significant effects on

specific student reading composite/subtest outcomes in 6-7th grade compared to the reading achievement outcomes of control students assigned to supplemental non-reading elective services.

- Overall Impact on motivation to read – PRJ has statistically significant effects on student motivation to read outcomes in 6-7th grade compared to the motivation outcomes of control students assigned to supplemental non-reading elective services.

HLM Subgroup Analyses

Several subgroup analyses were proposed to investigate for potential differences in the treatment effect between groups of students.

- Student-level by poverty subgroup – PRJ has statistically significant impacts on student reading achievement, specific student reading composite/subtests, and other student outcomes for 6th-7th grade students from low-income backgrounds compared to the outcomes of control students assigned to supplemental non-reading elective services.
- Student-level by ethnicity subgroup – PRJ has statistically significant effects on student reading achievement, specific student reading composite/subtests, and other student outcomes for 6-7th grade students from ethnic minority backgrounds compared to the outcomes of control students assigned to supplemental non-reading elective services.
- Student- level by grade subgroup – PRJ has statistically significant effects on student reading achievement, specific student reading composite/subtests, and other student outcomes in 6th and 7th grade compared to the outcomes of control students assigned to supplemental non-reading elective services.
- Student-level by gender subgroup – PRJ has statistically significant effects on student reading achievement, specific student reading composite/subtests, and other student outcomes for 6-7th grade students for males compared to the outcomes of control students assigned to supplemental non-reading elective services
- Student-level by baseline proficiency in reading subgroup – PRJ has statistically significant effects on student reading achievement, specific student reading composite/subtests, and other student outcomes for 6-7th grade students who enter the program reading significantly worse than their peers compared to the outcomes of control students assigned to supplemental non-reading elective services.

Year One Impact Study Findings

Descriptive Analyses

The following section provides the descriptive statistics, ITT impact findings, and subgroup findings for each outcome variable of interest for students participating in the evaluation. For each outcome variable, the descriptive statistics section provides a brief description of the variable, overall summary statistics, and results for treatment and control conditions. The descriptive statistics can be found in Table 3.7.

Table 3.7. Descriptive Statistics for Spring 2011 Outcome Variables

	Overall			Treatment Condition			Control Condition		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
iLEAP State Test									
ELA Scaled Score	1102	253.16	42.30	548	253.93	42.61	554	252.41	42.02
Reading Scaled Score	1102	252.09	56.83	548	251.41	58.57	554	252.76	55.10
Below Basic	1102	77%	0.42	548	76%	0.43	554	78%	0.41
GRADE									
Overall Standard Score	983	83.44	8.97	485	84.70	8.96	498	82.22	8.81
Overall NCE	983	26.88	12.33	485	28.62	12.35	498	25.18	12.08
Vocabulary Scale Score	983	86.92	9.91	485	87.45	9.94	498	86.40	9.87
Vocabulary NCE	983	31.77	13.65	485	32.56	13.57	498	30.99	13.69
Comprehension Standard Score	983	82.95	9.39	485	84.47	9.36	498	81.46	9.18
Comprehension NCE	983	26.26	12.79	485	28.33	12.91	498	24.25	12.35
Motivation to Read									
Overall Motivation	977	2.76	0.44	484	2.78	0.41	493	2.75	0.46
Intrinsic Motivation	977	2.82	0.41	484	2.84	0.39	493	2.81	0.43
Extrinsic Motivation	977	2.86	0.56	484	2.87	0.54	493	2.86	0.58
Social Motivation	977	2.52	0.56	484	2.54	0.54	493	2.51	0.58
Efficacy	977	2.80	0.54	484	2.82	0.52	493	2.77	0.56

HLM Impact and Subgroup Analyses

In this section, proposed models exploring treatment differences for subgroups will be discussed. HLM treatment effect estimates and effect sizes are presented in Table 3.8 below. The proposed subgroup exploratory analyses include models for gender, ethnicity, grade, poverty status, and pretest score. All other supporting detail, including HLM model specifications, tables with all predictors and estimations, statistical power analyses, effect size calculation, as well as discussions of treatment of covariates and missing data can be found in Appendix A.

Table 3.8. Overall Impact of the Intervention on Student Reading Achievement

State Test Score - *i*LEAP											
	Control Group				Treatment Group				Estimated Impact	Effect Size	P-value
	Mean (Scaled Score)	SD (Scaled Score)	Mean (Converted NCE)		Mean (Scaled Score)	SD (Scaled Score)	Mean (Converted NCE)				
ELA Scaled Score	251.91	51.41	31.00		254.43	51.69	31.73		2.520	0.060	0.252
Reading Scaled Score	252.23	73.90	27.83		251.94	74.30	27.48		-0.289	-0.005	0.927
Standardized Test – GRADE											
	Control Group					Treatment Group				Scaled Score Model	
	Mean (Scaled Score)	SD (Scaled Score)	Mean (NCE)	SD (NCE)		Mean (Scaled Score)	SD (Scaled Score)	Mean (NCE)	SD (NCE)	Estimated Impact	Effect Size	P-value
Overall Score	82.265	10.095	25.25	13.78		84.648	10.23	28.55	13.97	2.383	0.271	0.000
Vocabulary	86.275	12.277	30.86	16.83		87.573	12.441	32.70	17.06	1.298	0.132	0.021
Comprehension	81.568	11.333	24.38	15.17		84.364	11.485	28.20	15.37	2.796	0.304	0.000
Motivation Test – MRQ											
	Control Group				Treatment Group				Estimated Impact	Effect Size	P-value
	Mean	SD			Mean	SD					
Overall Score	2.75	0.51			2.78	0.51			0.028	0.061	0.227
Intrinsic	2.81	0.52			2.84	0.52			0.027	0.063	0.248
Extrinsic	2.86	0.69			2.86	0.70			0.004	0.007	0.892
Social	2.51	0.69			2.54	0.69			0.036	0.063	0.246
Efficacy	2.77	0.65			2.82	0.65			0.043	0.078	0.143

*i*LEAP ELA Score

Descriptive Statistics

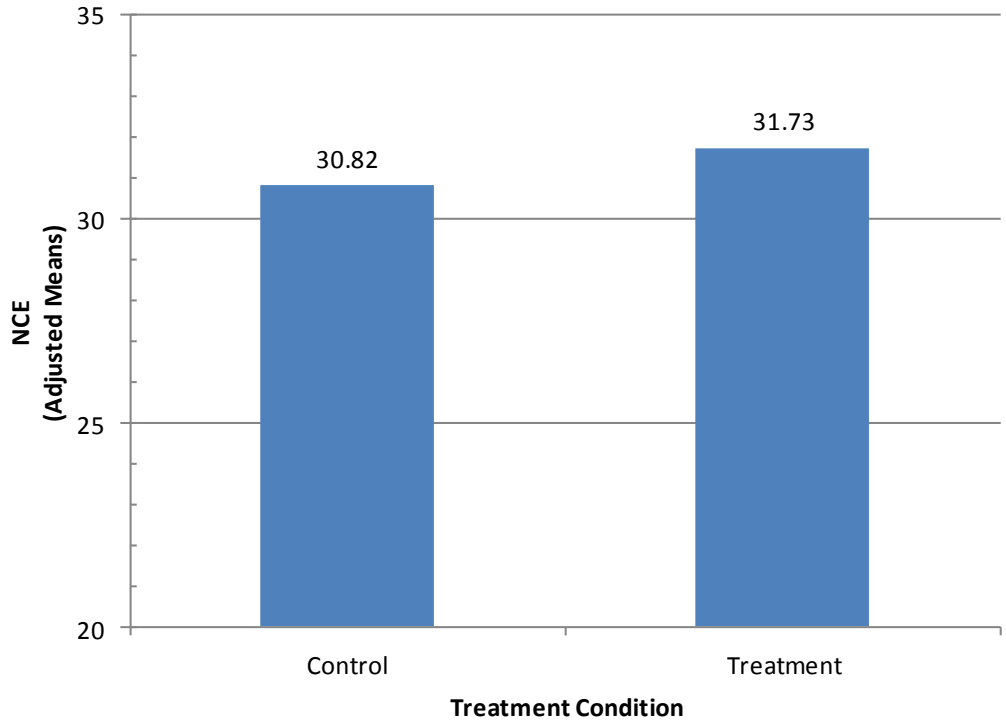
The *i*LEAP ELA score is computed from the ELA items that aligned with Louisiana's GLEs. For 6th graders, the overall range of ELA scores is from 100 to 500 where any score below 280 is classified as *Below Basic*. For 7th graders, the overall range of ELA scores is also 100 to 500 where any score below 286 is classified as *Below Basic*. Complete *i*LEAP data is available for 1,102 students. All 1,102 students participating in this study scored *Below Basic* in their 2010 ELA *i*LEAP tests. In the 2011 *i*LEAP, 77.2% of all study students scored *Below Basic*. In the treatment condition, 76% of the students scored *Below Basic* with an average ELA scaled score of 253.9. In the control condition, 78% of the students scored *Below Basic* with an average ELA scaled score of 252.4.

*i*LEAP ELA Impact Model

The Interclass Correlation (ICC) was .012, indicating that approximately 1% of the variance in ELA scaled scores could be accounted for by school membership.

In the two-level hierarchical linear model of *i*LEAP scaled score, there was not an overall significant treatment effect. As presented in Table 3.8 and Figure 3.1 below, after controlling for 2010 ELA test scores and within-school differences, students in the treatment condition did not have significantly different scores than students in the control condition. Full model results are presented in Table A.8I in Appendix A.

Figure 3.1. Adjusted mean differences in iLEAP ELA NCE scores for treatment and control conditions



*i*LEAP ELA Subgroup Impact Models

As presented in Tables A.8A-E (Appendix A), none of the five hierarchical linear models exploring subgroup differences in the treatment effect were significant. The treatment did not have differential effects on student *i*LEAP performance based on grade, gender, race, poverty status, or the 2010 pretest performance.

*i*LEAP ELA Reading Subscale

Descriptive Statistics

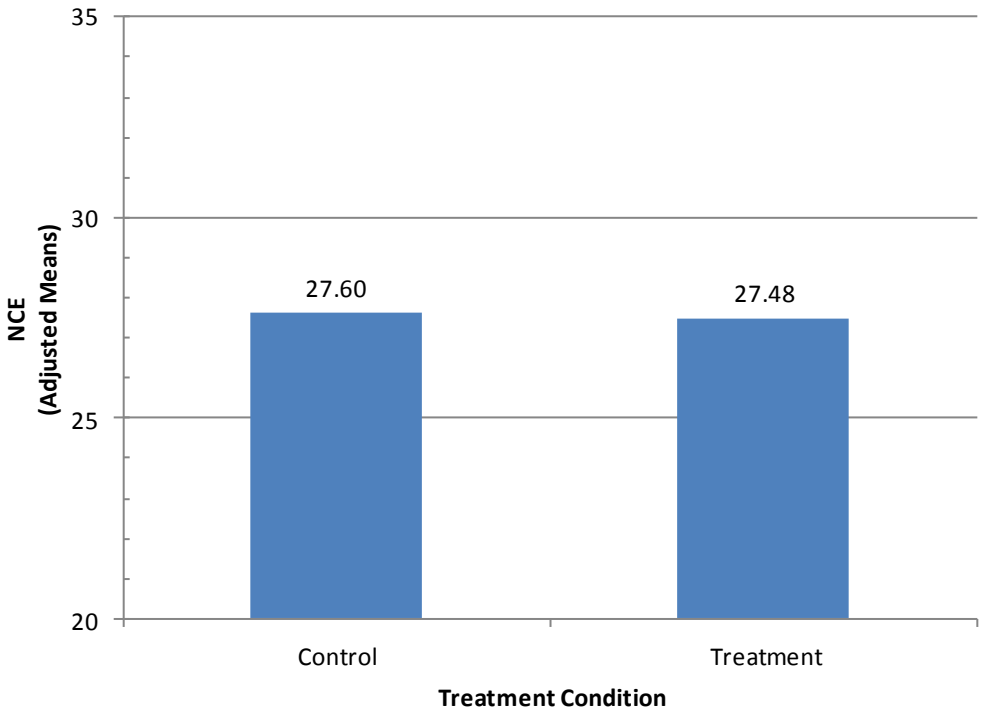
The *i*LEAP ELA test actually consists of two subscales (Reading and Language) that are combined to give an overall ELA score. Given the hypothesized effects of the PRJ on students reading achievement, the Reading subscale, which is comprised by items on vocabulary and reading comprehension, was also analyzed for treatment effects. In 2010, 81% of students with complete *i*LEAP data scored *Below Basic* on the Reading portion of the ELA *i*LEAP. In 2011, 69% of students scored *Below Basic* with an average Reading scaled score of 252.1.

In the treatment condition, 69% of the students scored *Below Basic* on the posttest with an average ELA scaled score of 251.4. In the control condition, 69% of the students scored *Below Basic* on the posttest with an average ELA scaled score of 252.8.

*i*LEAP ELA Reading Subscale Impact Model

The Interclass Correlation (ICC) was .027, indicating that approximately 3% of the variance in Reading scaled scores could be accounted for by school membership. In the two-level hierarchical linear model of Reading scaled score, there was no significant treatment effect (see Table 3.8 and Figure 3.2 below). Students in the treatment and control conditions did not have significantly different Reading scores. Full model results are presented in Table A.9I in Appendix A.

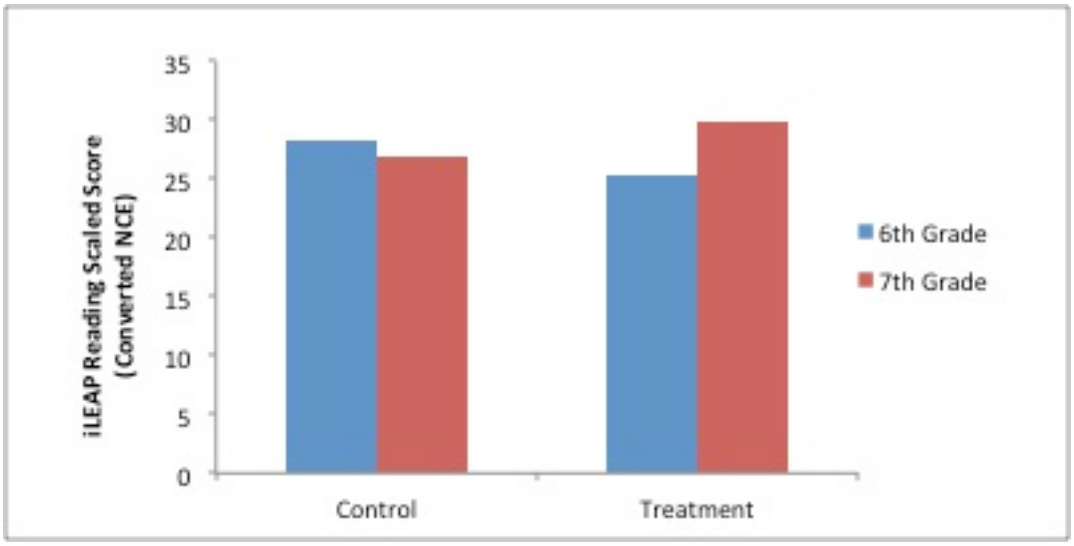
Figure 3.2. Adjusted mean differences in iLEAP Reading NCE scores for treatment and control conditions



*i*LEAP ELA Reading Subscale Subgroup Impact Models

As presented in Tables A.9A-E (Appendix A) and Figure 3.3 below, only one of the proposed exploratory analyses of subgroup differences resulted in a significant treatment difference, comparisons of the treatment effect for 6th and 7th graders. Seventh graders in the treatment condition scored significantly higher than 7th grade students in the control condition. Sixth graders in the treatment condition scored significantly lower than their counterparts in the control condition.

Figure 3.3. Adjusted mean differences in iLEAP ELA NCE scores for treatment and control conditions by grade



GRADE Overall Reading Score

Descriptive Statistics

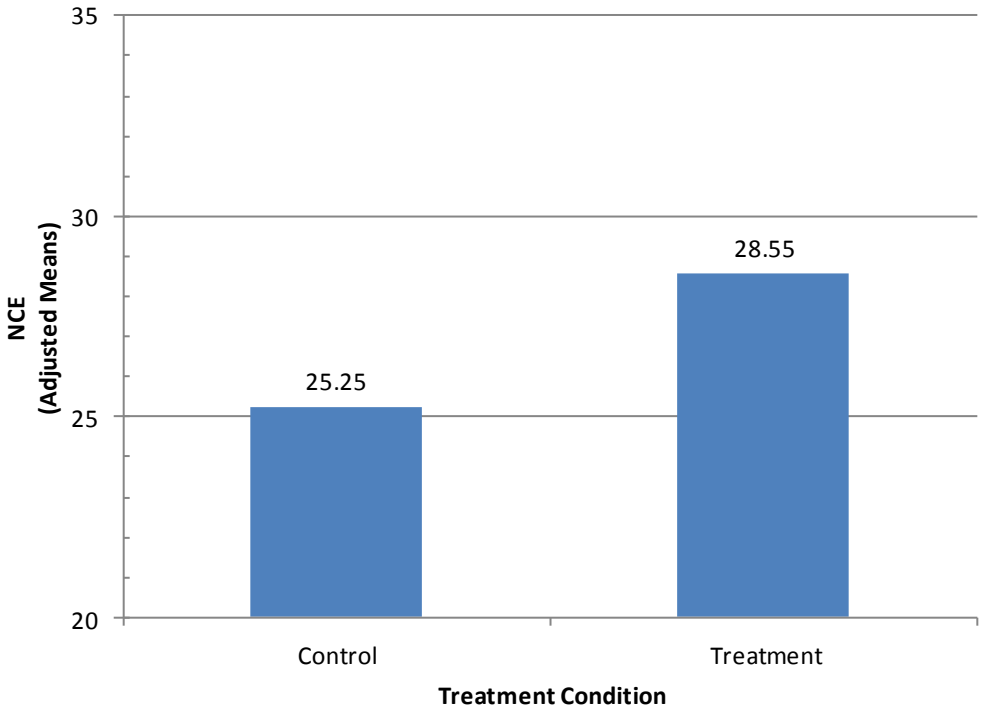
Of the 1226 participating students, 983 had valid posttest scores for the GRADE assessment. The GRADE assessment produces the standardized score and the normal curve equivalent (NCE) for an overall reading score and for vocabulary and comprehension subscales. This section includes the results for the overall reading scores; vocabulary and comprehension subscales are covered in following sections.

Students in the treatment condition had an average NCE of 28.6 and standard score of 84.7 while students in the treatment group had an average NCE of 25.2 and standard score of 82.2.

GRADE Overall Reading Score Impact Model

The ICC value for the overall GRADE was 0.02. In the HLM model, the treatment effect on the overall GRADE was significant (see Table 3.8 and Figure 3.4 below). Students in the treatment condition scored significantly higher on the GRADE than students in the control group. The adjusted mean NCE for treatment students was 28.6 while only 25.2 for control students. The adjusted mean standard scores for treatment students were 84.6 and 82.3 for control students. The effect size was 0.27. Full model results are presented in Table A.10I (standard score) and A.11I (NCE score) in Appendix A.

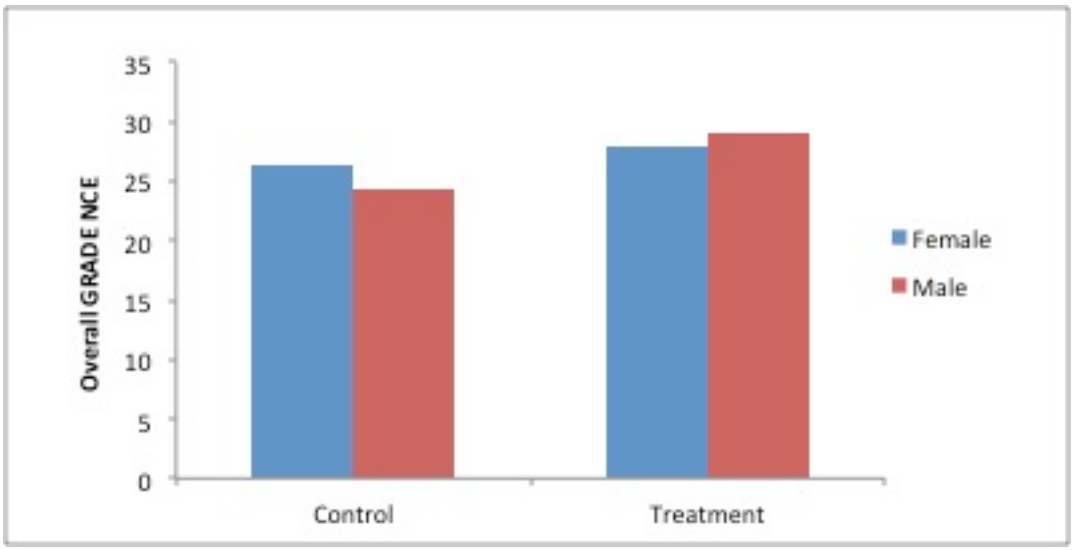
Figure 3.4. Adjusted mean differences in GRADE NCE for treatment and control conditions



GRADE Overall Reading Score Subgroup Impact Models

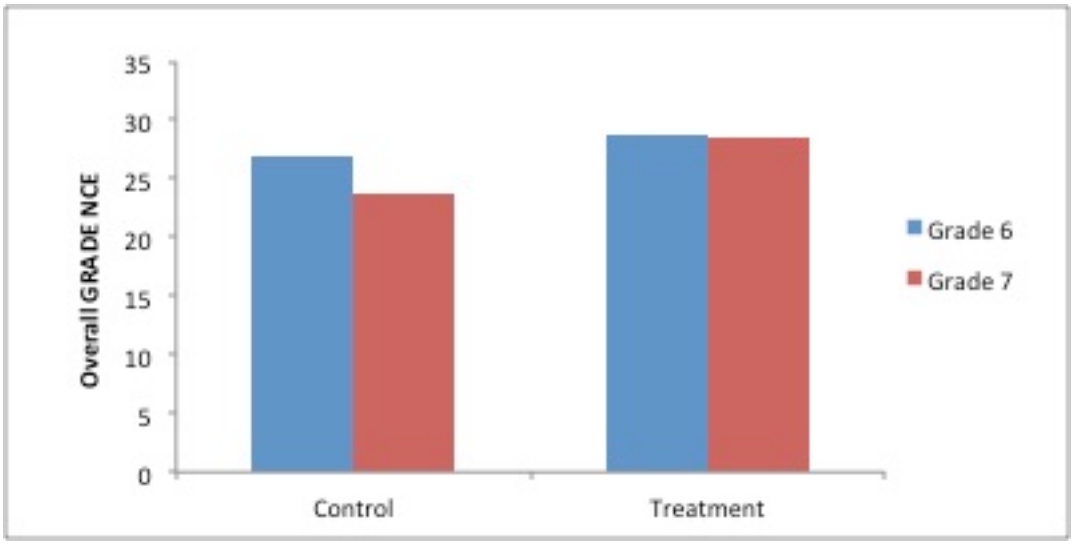
Of the five proposed subgroup models for the overall GRADE NCE, there were significant interactions between the treatment condition and grade and gender (see Tables A.10A-E (standard score) and Tables A.11A-E (NCE score) in Appendix A and Figures 3.5 and 3.6 below). For gender, the treatment had little effect on females. However, males in the treatment condition scored significantly better than males in the control group.

Figure 3.5. Adjusted mean differences in GRADE NCE scores for treatment and control conditions by gender



Similar results existed by grade. For grade, the treatment also had little effect on 6th graders reading. For 7th graders though, students in the treatment condition scored significantly better than students in the control condition.

Figure 3.6. Non-adjusted mean differences in GRADE NCE scores for treatment and control conditions by grade



GRADE Vocabulary Subscale Score

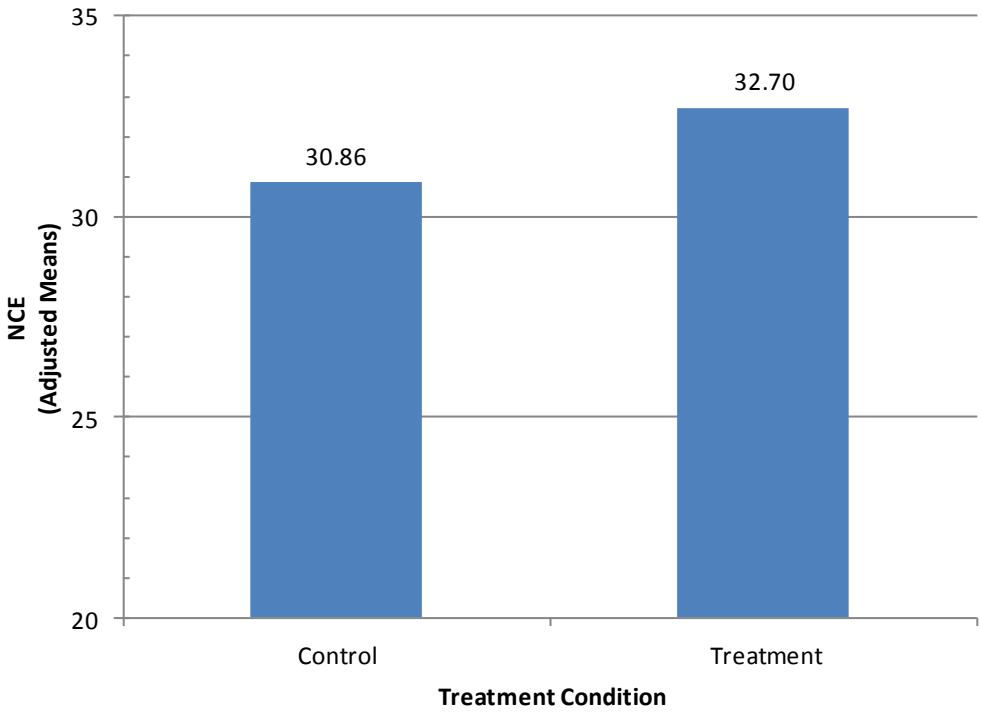
Descriptive Statistics

Students in the treatment condition had an average NCE of 32.6 and standard score of 87.5 and students in the control condition had an average NCE of 31.0 and standard score of 86.4.

GRADE Vocabulary Subscale Score Impact Model

The treatment effect for student impacts on GRADE vocabulary subscale scores was statistically significant (see Table 3.8 and Figure 3.7 below). The adjusted NCE for the treatment condition was 32.7 and the adjusted NCE for the control condition was 30.9. For the standard score, the adjusted mean for the treatment condition was 87.6 and 86.3 for the control condition. The treatment had a positive and significant effect on students' vocabulary performance. The effect size was 0.13. Full model results are presented in Table A.12I (scale score) and A.13I (NCE score) in Appendix A.

Figure 3.7. Adjusted mean differences in GRADE Vocabulary NCE scores for treatment and control conditions



GRADE Vocabulary Subscale Score Subgroup Impact Models

None of the subgroup models exploring differential treatment effects produced any significant results (see Tables A12A-E (standard score) and Tables A13A-E (NCE score) in Appendix A).

GRADE Reading Comprehension Subscale Score

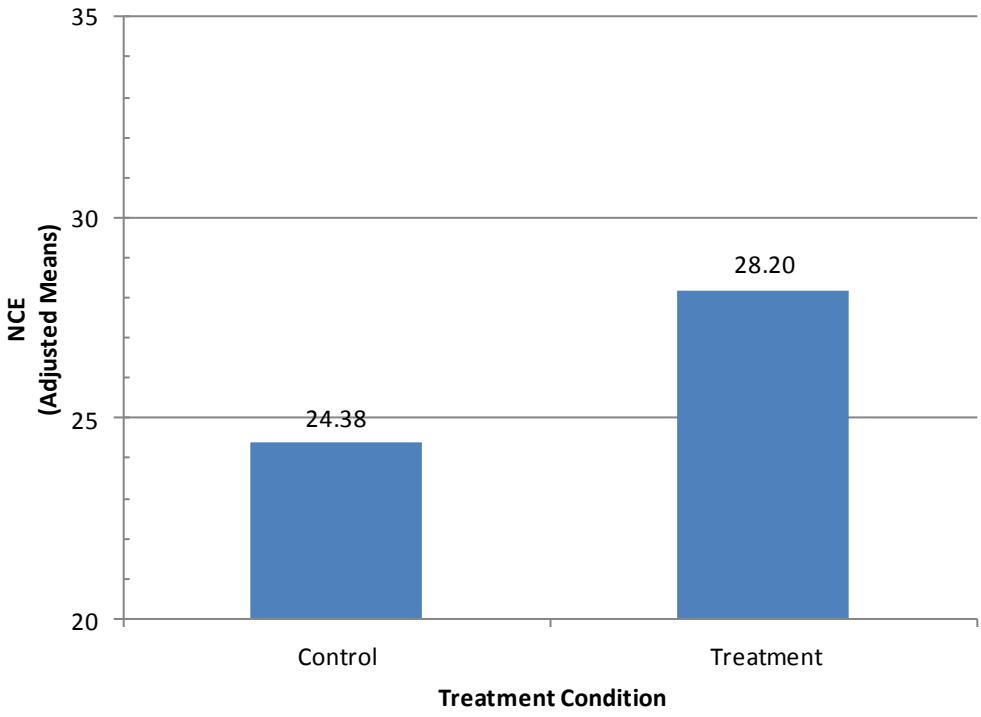
Descriptive Statistics

The comprehension subscale consists of measures of Listening, Passage, and Reading Comprehension. Students in the treatment condition had an average NCE of 28.3 and students in the control group had an average NCE of 24.2. For the standardized score, students in the treatment students had an average score of 84.5 and 81.5 for students in the control condition.

GRADE Reading Comprehension Subscale Impact Model

The HLM model also produced evidence of a significant treatment effect (see Table 3.8). Students in the treatment condition scored significantly better than students in the control group. The effect size was .31 and the adjusted mean difference in NCE across treatment and control conditions was 3.8 (see Figures 3.8 below). The adjusted mean standard score for the treatment condition was 84.4 and 81.6 for the control condition. Full model results are presented in Table A.14I (standard score) and A.15I (NCE score) in Appendix A.

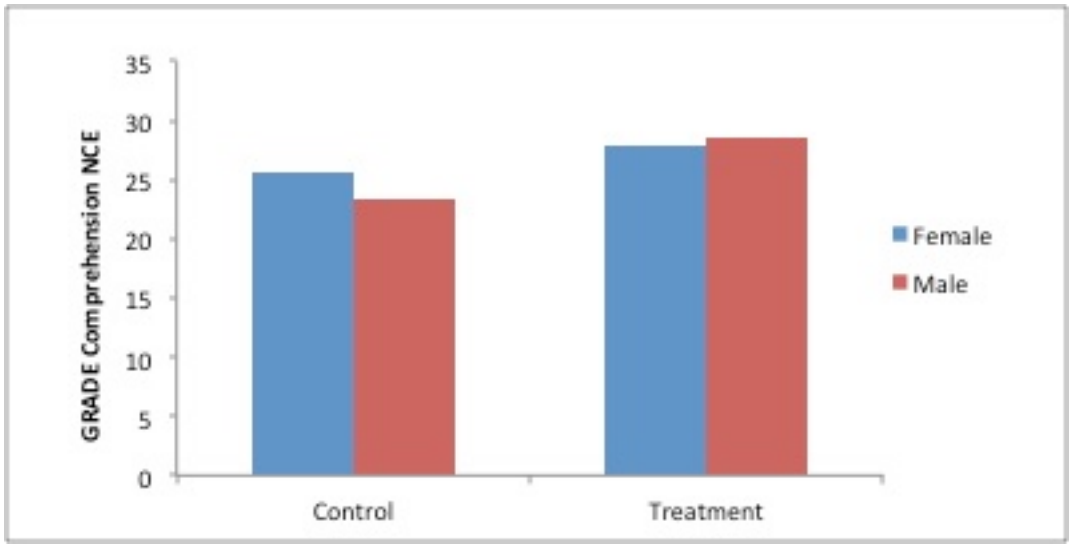
Figure 3.8. Adjusted mean differences in GRADE Comprehension NCE scores for treatment and control conditions



GRADE Reading Comprehension Subscale Subgroup Impact Models

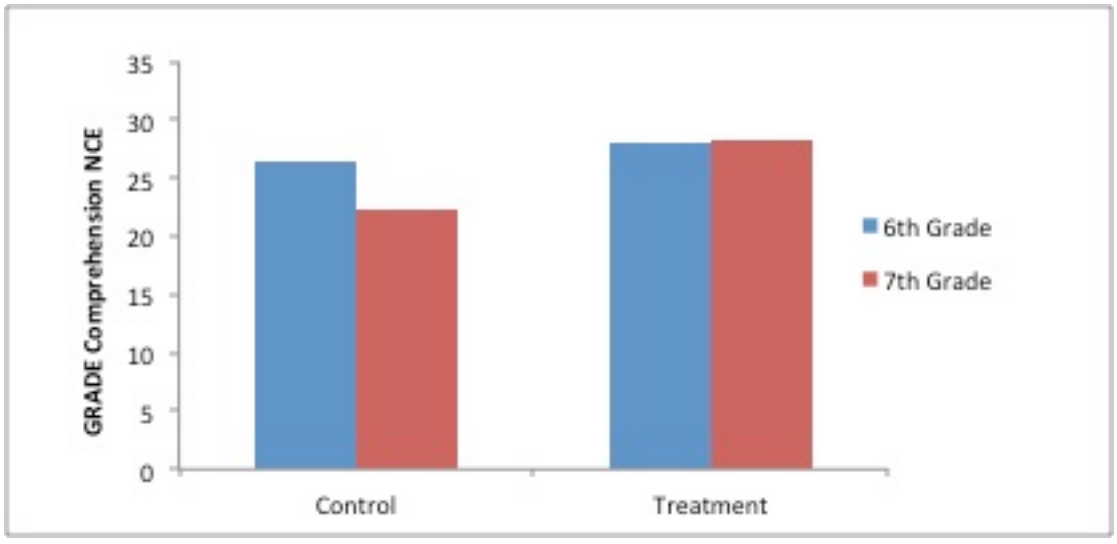
As presented in Tables A.14A-E (standard score) and Tables A.15A-E (NCE score) in Appendix A and Figures 3.9 and 3.10 below, two of the subgroup HLM models revealed differential treatment effects. For gender, the effect of the treatment was positive for all students but strongest for males. For males, students in the treatment condition scored significantly better than students in the control condition. The treatment had little effect on females' scores.

Figure 3.9. Adjusted mean differences in GRADE Comprehension NCE scores for treatment and control conditions by gender



Similar results existed by grade for the Comprehension subscale. The treatment had little effect on female students' scores. However, the treatment had significant effects for male students. For males, students in the treatment condition scored significantly higher than students in the control condition.

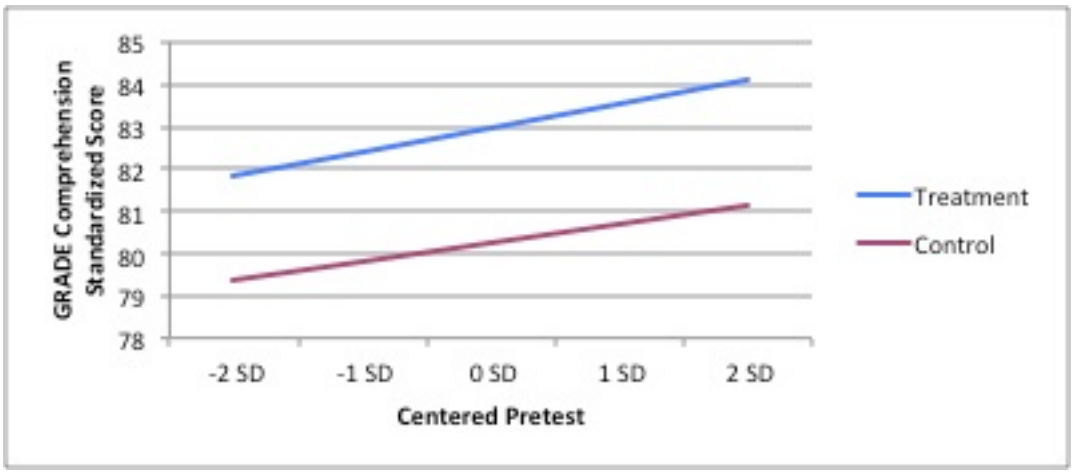
Figure 3.10. Adjusted mean differences in GRADE Comprehension NCE scores for treatment and control conditions by grade



There was also a significant interaction effect between pretest score and treatment condition for GRADE Comprehension, although only for the standardized score model and not the NCE model. The significant interaction term indicates that students with higher pretest scores had higher posttest scores; however, this relationship was stronger for treatment students (see Figure 3.11). Given the lack of consistency of this finding between two different measures of the same

subscale, this finding may be a statistical artifact of some kind, so it will not be included it in the summary of findings.

Figure 3.11. Adjusted mean differences in GRADE Comprehension scores for treatment and control conditions with pretest interaction



Motivation to Read Questionnaire: Overall Score

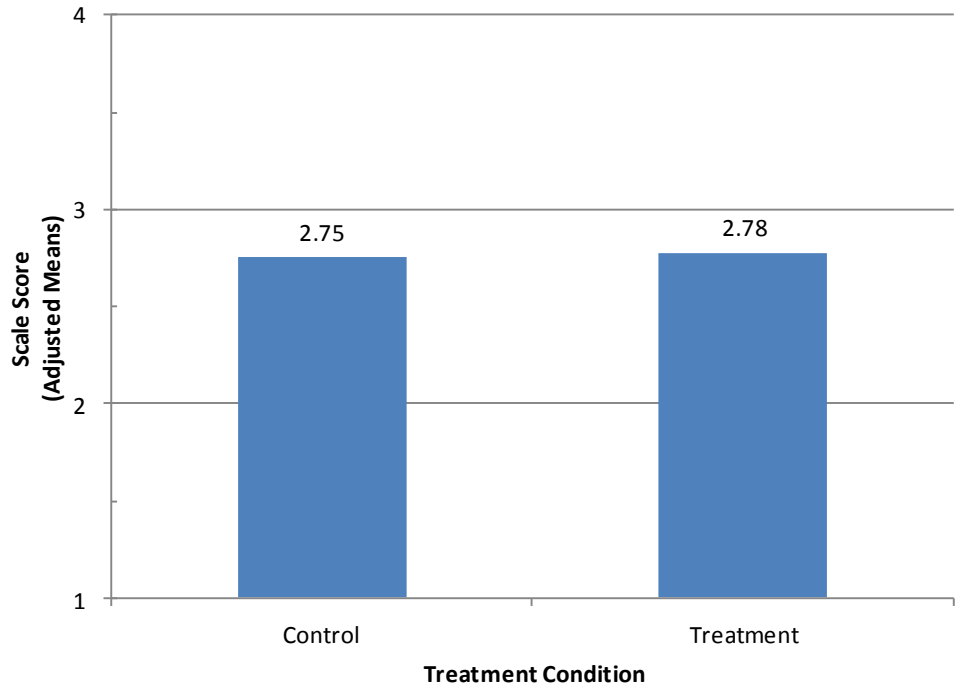
Descriptive Statistics

Overall, students in both the treatment and control conditions reported high levels of motivation to read. Nine hundred seventy seven students completed the MRQ at the posttest. On a scale of one to four, students in the treatment condition had an average score of 2.78. Students in the control condition had an average score of 2.75.

MRQ Impact Model

There was no significant treatment effect on students' overall motivation to read as presented in Table 3.8 and Figure 3.12 below. Full model results are presented in Table A.16I in Appendix A.

Figure 3.12. Adjusted mean differences in MRQ scores for treatment and control conditions



MRQ Subgroup Impact Models

There were no significant interactions of the treatment effect by student demographics on students' overall motivation to read (see Tables A.16A-E in Appendix A).

Motivation to Read Questionnaire: Intrinsic Motivation Subscale

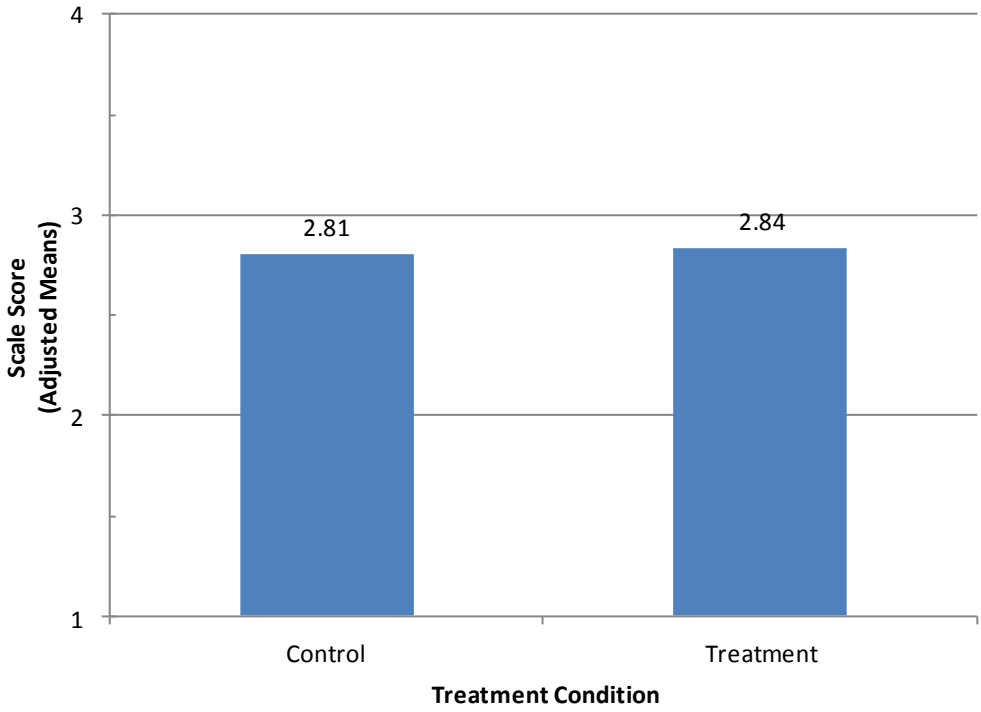
Descriptive Statistics

On a scale of one to four, students in the treatment condition had an average score of 2.84. Students in the control condition had an average score of 2.82.

MRQ Intrinsic Subscale Impact Model

As presented in Table 3.8 and Figure 3.13 below, there was no significant treatment effect on students' intrinsic motivation. Full model results are presented in Table A.17I in Appendix A.

Figure 3.13. Adjusted mean differences in MRQ Intrinsic Motivation scores for treatment and control conditions



MRQ Intrinsic Subscale Subgroup Impact Models

There were no significant interactions of the treatment effect by student demographics on students' intrinsic motivation (see Tables A.17A-E in Appendix A).

Motivation to Read Questionnaire: Extrinsic Motivation Subscale

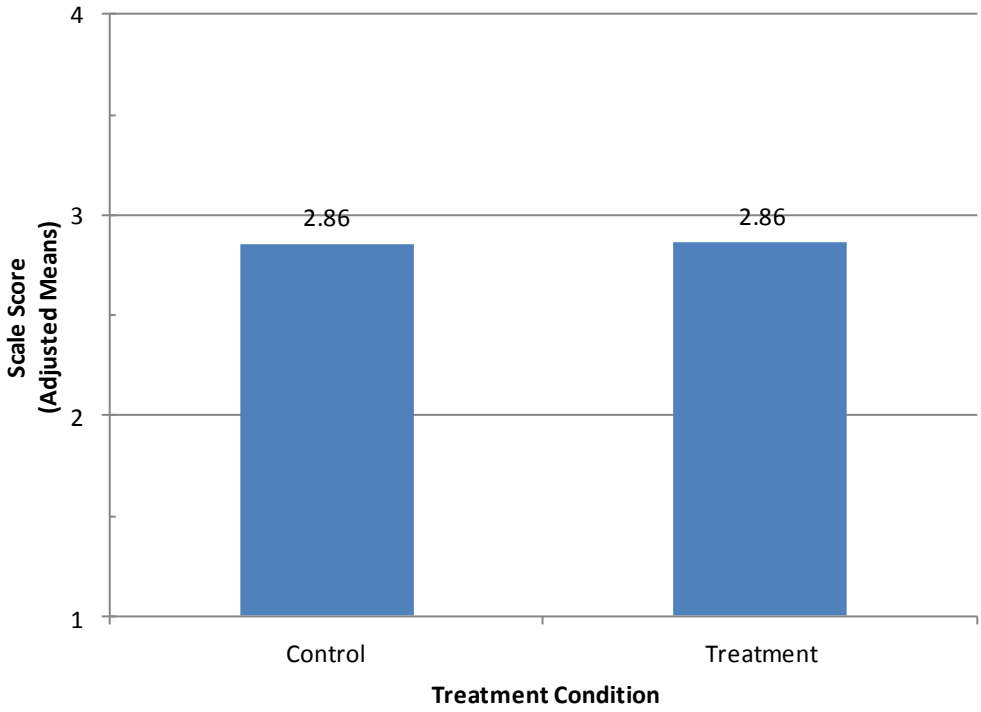
Descriptive Statistics

On a scale of one to four, students in the treatment condition had an average score of 2.87. Students in the control condition had an average score of 2.86.

MRQ Extrinsic Subscale Impact Model

There was no significant treatment effect on students' extrinsic motivation as presented in Table 3.8 and Figure 3.14 below. Full model results are presented in Table A.18I in Appendix A.

Figure 3.14. Adjusted mean differences in MRQ Extrinsic Motivation scores for treatment and control conditions



MRQ Extrinsic Subscale Subgroup Impact Models

There were no significant interactions of the treatment effect by student demographics on students' extrinsic motivation as presented in Tables A.18A-E in Appendix A.

Motivation to Read Questionnaire: Social Motivation Subscale

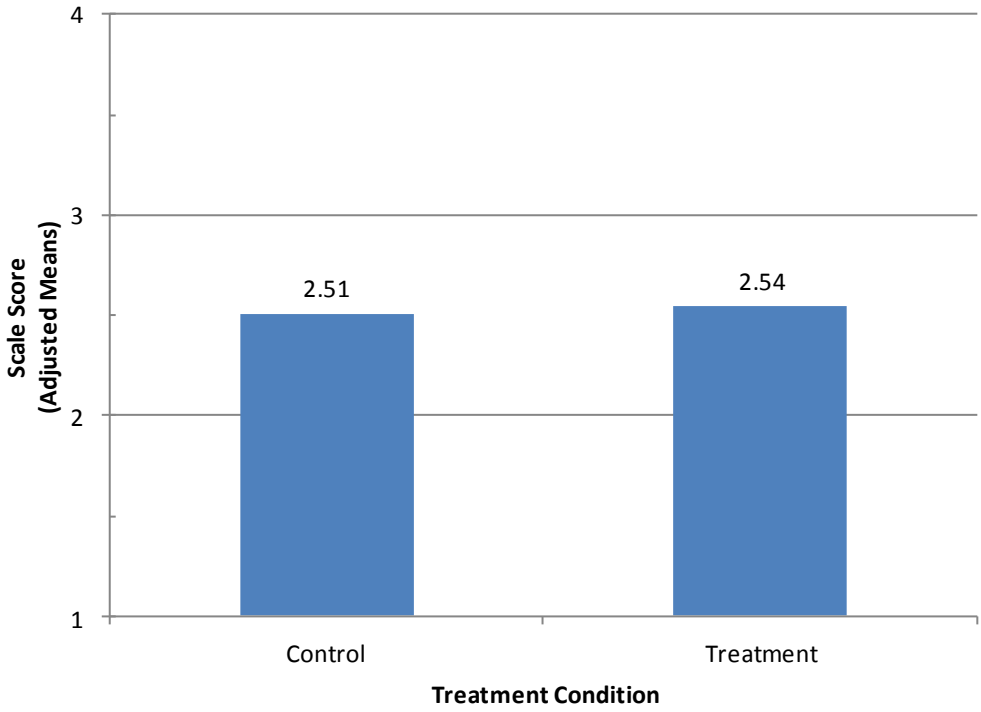
Descriptive Statistics

On a scale of one to four, students in the treatment condition had an average score of 2.54. Students in the control condition had an average score of 2.51.

MRQ Social Motivation Subscale Impact Model

As presented in Table 3.8 and Figure 3.15 below, there was no significant treatment effect on students' social motivation. Full model results are presented in Table A.19I in Appendix A.

Figure 3.15. Adjusted mean differences in MRQ Social Motivation scores for treatment and control conditions



MRQ Social Motivation Subscale Subgroup Impact Models

There were no significant interactions of the treatment effect by student demographics on students' social motivation (see Tables A.19A-E in Appendix A).

Motivation to Read Questionnaire: Efficacy Subscale

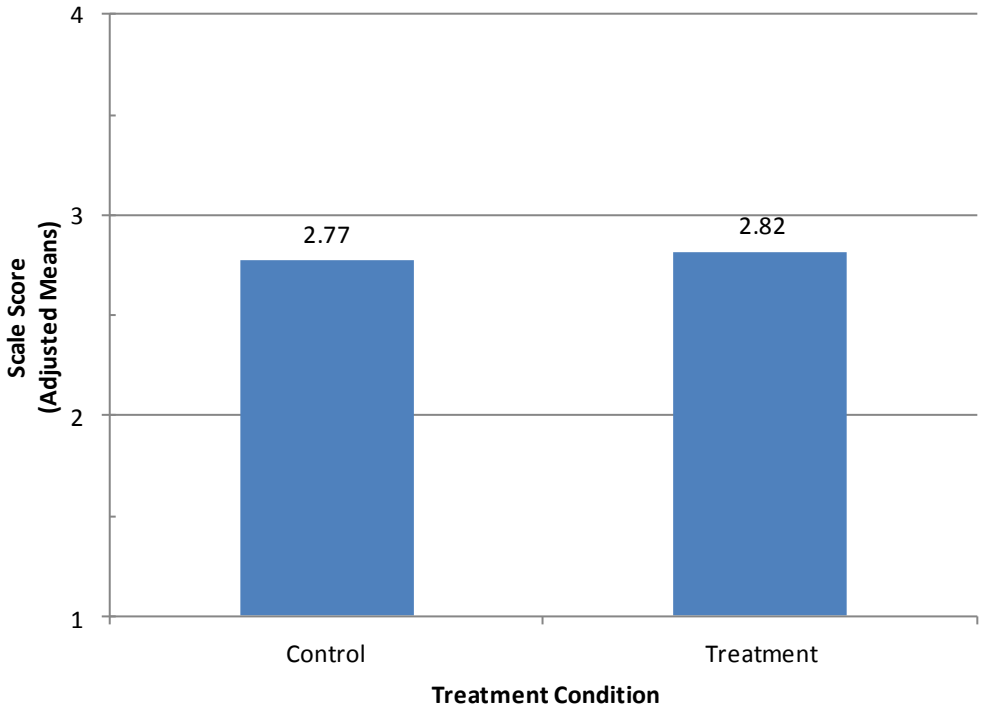
Descriptive Statistics

On a scale of one to four, students in the treatment condition had an average score of 2.82. Students in the control condition had an average score of 2.77.

MRQ Efficacy Subscale Impact Model

There was no significant treatment effect on students' efficacy as presented in Table 3.8 and Figure 3.16 below. Full model results are presented in Table A.20I in Appendix A.

Figure 3.16. Adjusted mean differences in MRQ Efficacy scores for treatment and control conditions



MRQ Efficacy Subscale Subgroup Impact Models

There were no significant interactions of the treatment effect by student demographics on students' efficacy (see Tables A.20A-E in Appendix A).

Conclusions

What were the ITT sample characteristics? The ITT analytic sample included 1226 6th and 7th grade students from 10 middle schools across the state of Louisiana that scored *Below Basic* on the state assessment in reading. The students assigned to the treatment and control condition in the ITT sample were largely male (57%), economically disadvantaged (88%), and minority (76%). The ITT sample included smaller proportions of students who were classified as special education (15%), needing additional accommodations (11%), limited English proficient (4%) or migrant (1%). Although the fixed effects impact analyses were not intended to generalize the findings to a larger population of schools, the students in the ITT sample assigned to treatment and control conditions appear to be a fairly diverse and representative sample of students from Title I schools geographically dispersed across the state of Louisiana.

Levels of overall and differential attrition were within reasonable ranges. Overall attrition for the state *i*LEAP assessment was 10% and differential attrition was 2.5%. Overall attrition for the GRADE and MRQ assessments were 20% while differential attrition was 3.5% and 2.6%, respectively. These levels of attrition result in low levels of potential bias for the study findings (What Works Clearinghouse, 2011). These levels of attrition also still enabled the study to

provide adequate statistical power for a minimum detectable effect size of 0.12 for the state reading assessment (*i*LEAP) and 0.13 for the standardized reading outcome assessment (GRADE). Additionally, the treatment and control groups maintained equivalence at all points in the study – post-randomization, in comparisons after pretest attrition, and in comparisons in after posttest attrition. There were never any significant demographic differences in the treatment and control groups.

Along with low levels of attrition, the study design ensured high levels of random assignment integrity. There was a high degree of cooperation between study personnel and school liaisons and administrators. This helped largely avoid cases of crossover in treatment and control conditions, contamination of control students, and maintained original random assignment.

What were the overall impacts of PRJ on student reading and other outcomes? This study of the PRJ program found evidence of a significant treatment effect on students' reading performance as measured by the overall GRADE reading assessment. Even after controlling for pretest scores, students in the treatment condition, on average, scored over three NCE points higher than students in the control condition (28.6 NCE vs. 25.3 NCE). The standardized effect size of the treatment was 0.27.

Evidence of positive treatment effects were also found for the vocabulary and reading comprehension subscales on the GRADE assessment. Students in the treatment condition scored nearly 2 NCE points higher on the vocabulary subscale and nearly 4 NCE points higher on reading comprehension than students in the control group. The standardized effect size for GRADE vocabulary was 0.13 and 0.31 for reading comprehension.

There was no evidence that assignment to the treatment condition had an effect on the state assessment scores. We found no evidence that students' treatment assignment resulted in improvements in the overall ELA score or Reading subscore on the state *i*LEAP assessment.

Study hypotheses also proposed that assignment to the treatment condition would impact students' motivation to read. Analyses found no evidence that the treatment impacted students' motivation to read as measured by the MRQ for this study, either the total MRQ score or any of the four subscales.

Were there differential impacts of PRJ on student subgroups? The results demonstrated significant differential impacts of the PRJ program by gender and grade for the overall GRADE reading and comprehension scores. The results suggest that for males and 7th graders especially, assignment to the PRJ treatment condition yielded positive and substantial gains in reading scores. Males in the treatment condition had significantly higher reading and comprehension scores (four to five NCE points) than their counterparts in the control condition, while the treatment condition had little effect on females' GRADE reading outcomes. Similar results were found for 6th and 7th graders. For 6th graders, assignment to the treatment condition had a small, positive impact on the reading assessment. The differences between scores for treatment and control conditions were significantly larger for 7th graders. Seventh graders in the treatment condition scored nearly 2 NCE points higher than their counterparts in the control condition on the GRADE reading and comprehension assessments as well as on the *i*LEAP reading subscale score. No significant differential impacts were found for the MRQ outcomes. In addition, no

significant differential impact findings were found for poverty, ethnicity, or baseline proficiency subgroups on any of the measured outcomes.

The overall impact and differential subgroup impact results are encouraging. This study provides evidence that PRJ is effective at improving struggling 6th and 7th grade students' reading performance on a standardized nationally norm referenced assessments after only one year of the intervention. The size of the effects, particularly for overall reading (0.27) and reading comprehension (0.31) were statistically significant as well as educationally meaningful (PRJ student scores increased 3 and 4 NCE points, respectively). The vocabulary effect size (0.13) was statistically significant but relatively smaller (PRJ student scores increased 2 NCE points). Males appeared to benefit more from the PRJ program than females (males in PRJ increased 4-5 NCE points relative to females) as well as older 7th grade students relative to 6th grade students (7th grade students in PRJ scores increased 2 NCE points relative to 6th grade students). These findings are particularly promising given the relatively small number of proven adolescent literacy programs for the struggling readers, who were the targets of this study.

Appendix A: Impact Analysis Methods

Treatment of Missing Data

Multilevel modeling techniques provide model estimates taking into account certain types of missing data. In multilevel regression, the data are not actually imputed but the model is estimated making use of the incomplete data in a way that does not bias estimates under certain conditions. The estimation in HLM software (and more generally, REML estimation with other packages) is related to the missing data estimation for more general applications using the EM algorithm. There are a number of approaches to data analysis with incomplete data, including listwise deletion (in which all variables must be complete), pairwise deletion (in which only pairs of variables need to be complete), mean imputation (average value is substituted for the missing data), hot-deck imputation etc. Under certain restrictive conditions, when the data are missing at random (MAR) or missing completely at random (MCAR), missing data estimation with EM algorithm produces unbiased estimations of the complete data and better estimation than alternative approaches.

There was the possibility of missing data for the demographic characteristics as well as the reading assessments. The demographic variables for students were compiled from the *i*LEAP data file provided by LDoE and were used to create subgroup analyses. There were no instances of missing data for gender, grade, and race/ethnicity. However, five students from the 1,226 randomized students did not have information about their poverty status in 2010. Rather than exclude these students due to missing data, their poverty status was assigned based on previous years' poverty classification which was also available in the data file.

There was more substantial missing data for the reading assessments. The reading assessments were used as pretest predictor variables and as posttest outcome variables. For iLEAP, there was no missing data for the pretest as this was a condition for random assignment. Study students did have missing data for the posttest spring 2011 iLEAP assessment; 1,102 of the 1,226 students completed the 2011 iLEAP assessment (89.8%). Students who did not have posttest data were listwise deleted and not included in the final models.

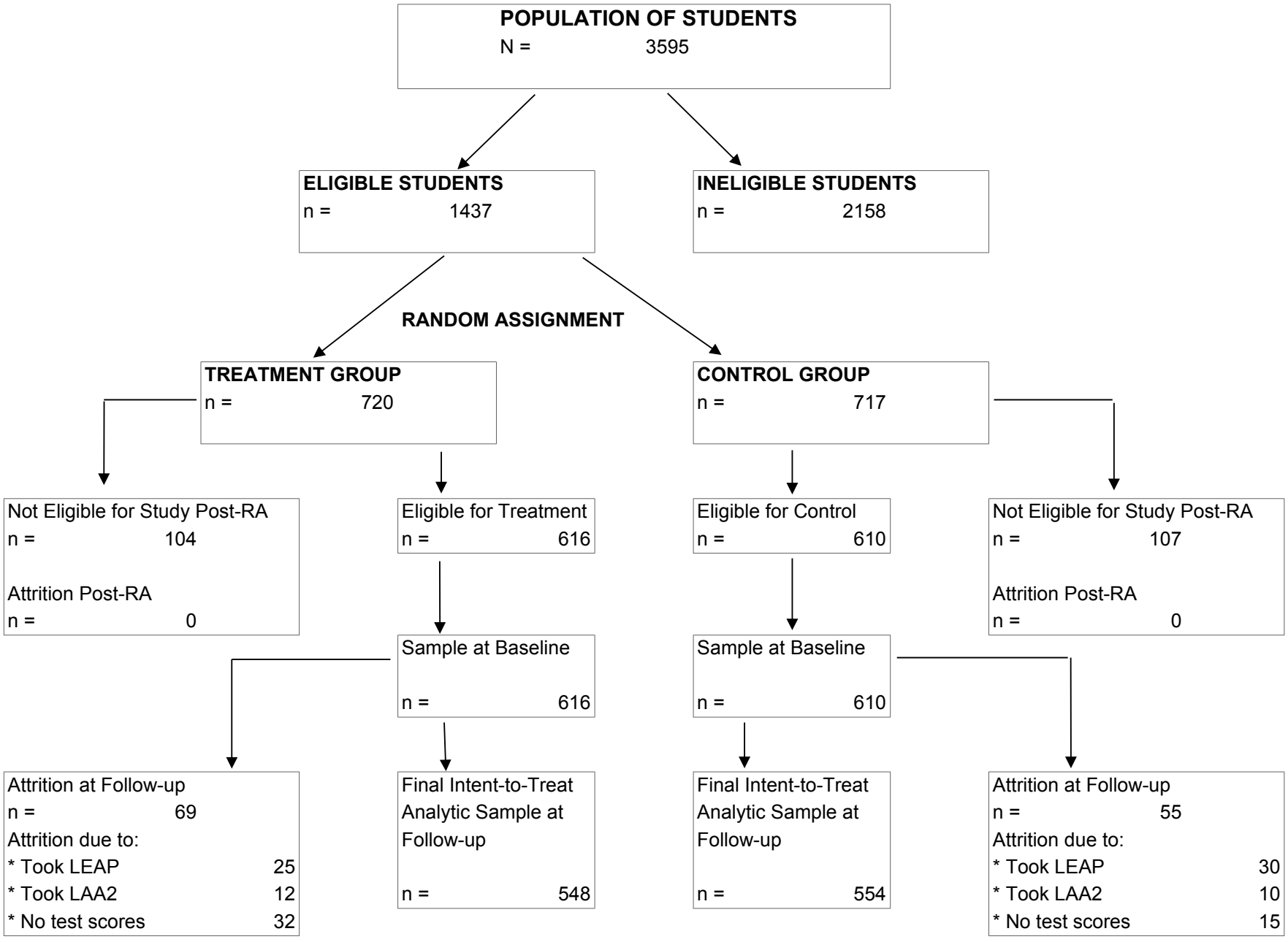
For the GRADE and MRQ, there were missing data for both the pretest and posttest. Nearly 90% of the sample completed the pretest assessments for the GRADE and MRQ. At the follow up posttest assessment, the completion rate was approximately 80%. All students with posttest assessments were included in the analyses. There were some cases of students (37 – 39 depending on the assessment score used) where students had posttest but no pretest data. For these students, a dummy variable was set to one and their pretest score was set to zero, based on recommendations by Abt Associates. In no models did the dummy variable for missing pretest variable account for significant variation in the outcome variable, indicating the cases of missing pretest data did not represent serious bias.

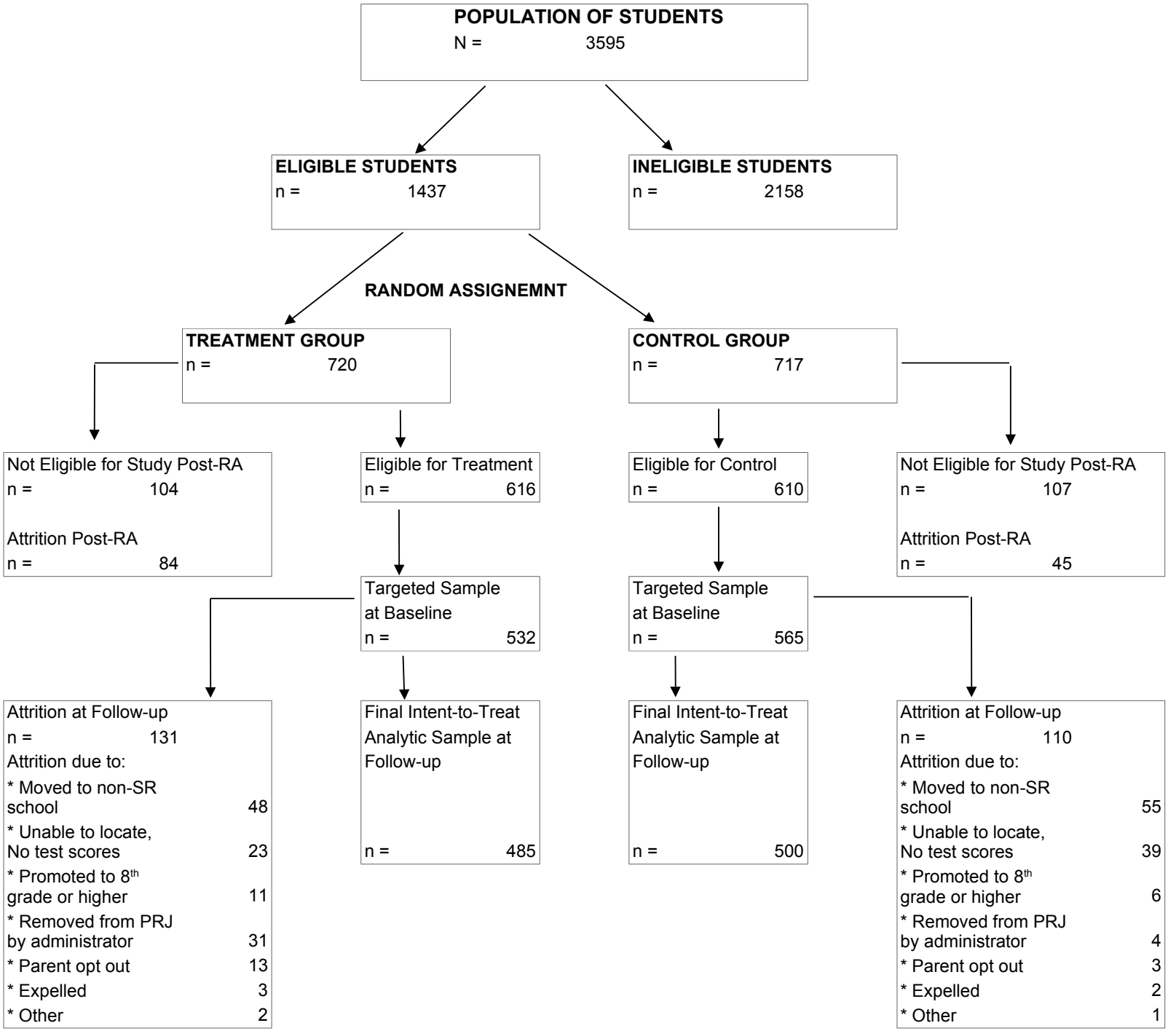
Table A.1. Frequency and percent of complete data for pretest and posttest assessments

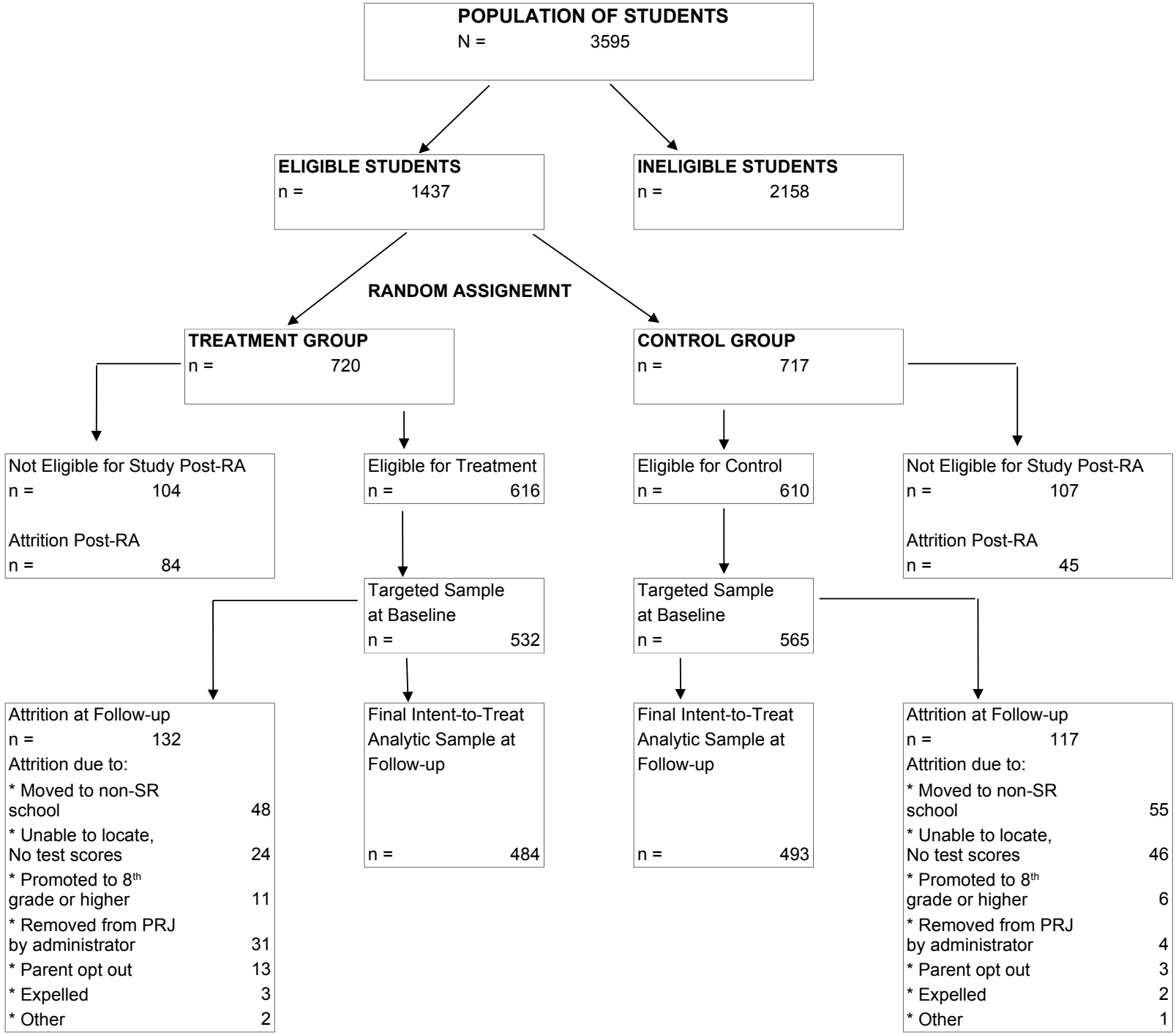
	Missing Data (Total Randomized = 1,226)			
	Pretest		Posttest	
	N	% Complete	N	% Complete
iLEAP	1226	100.0%	1102	89.9%
GRADE	1096	89.4%	983	80.2%
MRQ	1097	89.5%	977	79.7%

The completed consort diagrams for both the state test (iLEAP), as well as the local evaluation baseline assessments (GRADE and MRQ) provide a graphical demonstration of the causes and timing of missing data. Tables A.2 – A.4 provide the consort diagrams for the three outcome variables.

Table A.2: Consort Chart for Integrated Louisiana Educational Assessment Program (iLEAP)




POPULATION OF STUDENTS
N = 3595
ELIGIBLE STUDENTS
n = 1437
INELIGIBLE STUDENTS
n = 2158
RANDOM ASSIGNEMNT
TREATMENT GROUP
n = 720
CONTROL GROUP
n = 717
Not Eligible for Study Post-RA
n = 104
Attrition Post-RA
n = 84
Eligible for Treatment
n = 616
Eligible for Control
n = 610
Not Eligible for Study Post-RA
n = 107
Attrition Post-RA
n = 45
Targeted Sample at Baseline
n = 532
Targeted Sample at Baseline
n = 565
Attrition at Follow-up
n = 131
Attrition due to:
* Moved to non-SR school 48
* Unable to locate, No test scores 23
* Promoted to 8th grade or higher 11
* Removed from PRJ by administrator 31
* Parent opt out 13
* Expelled 3
* Other 2
Final Intent-to-Treat Analytic Sample at Follow-up
n = 485
Final Intent-to-Treat Analytic Sample at Follow-up
n = 500
Attrition at Follow-up
n = 110
Attrition due to:
* Moved to non-SR school 55
* Unable to locate, No test scores 39
* Promoted to 8th grade or higher 6
* Removed from PRJ by administrator 4
* Parent opt out 3
* Expelled 2
* Other 1


POPULATION OF STUDENTS
N = 3595
ELIGIBLE STUDENTS
n = 1437
INELIGIBLE STUDENTS
n = 2158
RANDOM ASSIGNEMNT
TREATMENT GROUP
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CONTROL GROUP
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Not Eligible for Study Post-RA
n = 104
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n = 84
Eligible for Treatment
n = 616
Eligible for Control
n = 610
Not Eligible for Study Post-RA
n = 107
Attrition Post-RA
n = 45
Targeted Sample at Baseline
n = 532
Targeted Sample at Baseline
n = 565
Attrition at Follow-up
n = 132
Attrition due to:
* Moved to non-SR school 48
* Unable to locate, No test scores 24
* Promoted to 8th grade or higher 11
* Removed from PRJ by administrator 31
* Parent opt out 13
* Expelled 3
* Other 2
Final Intent-to-Treat Analytic Sample at Follow-up
n = 484
Final Intent-to-Treat Analytic Sample at Follow-up
n = 493
Attrition at Follow-up
n = 117
Attrition due to:
* Moved to non-SR school 55
* Unable to locate, No test scores 46
* Promoted to 8th grade or higher 6
* Removed from PRJ by administrator 4
* Parent opt out 3
* Expelled 2
* Other 1

Statistical Power

The sample size necessary for this study was estimated based on a desired statistical power of .80, for an alpha level of $p < .05$, and the ability to detect an effect size of $d = .10$ (i.e., 0.10 standard deviation). Minimum detectable effects (MDEs) are the smallest true impact one would expect to identify as statistically significant and are often scaled into standard deviation units or effect size units to improve comparability across studies or measures (Schochet, 2005). Power calculations were completed using *Optimal Design for Multi-level and Longitudinal Design Version 2.0* software (Spybrook, Raudenbush, Congdon, & Martinez, 2009). Original estimates used the following parameters: the use of a pretest covariate (R^2=.49), an intraclass correlation to accommodate for clustering of students within schools of 0.10 (James-Burdumy et al., 2009), and an effect size variability parameter of 0.00 to accommodate for modeling fixed effects at the school level, an estimated sample size of 1,200 students. We determined we could adequately detect an MDEs of .10 between the two conditions which is within our expected sample size estimate.

Researchers anticipated retaining 80% of the target sample through the spring. In addition, Table A.5 presents the MDEs for subgroup analyses and demonstrates that the proposed study will have adequate power to detect an effect size of .16 or higher in subgroup analyses involving a sample as low as 25% of the total sample and will be able to detect an effect size of .23 - .26 in subsamples as low as 10% depending on the response/attrition rate. This table demonstrates the study would have adequate power to detect small effects (i.e., d =.14-.16) in the proposed subgroup analyses given that most, if not all, will involve subgroups of 25% or higher (e.g. grade, gender, years of program exposure – 50%, minority students – 50-75%).[1]

[1] The MDE estimates for subgroup analyses are based on an alpha=.05 and do not include corrections for the FWER which will be specified in later iterations of the analysis plan as we identify confirmatory hypotheses and specify models to test each hypothesis as well as preferred approaches to correcting for specific multiple hypotheses tested.

Table A.5. Statistical Power and Minimum Detectable Effect (MDE) Sizes, by Response Rate and Student Subgroup Configuration, full sample, 75 percent subsample, 50 percent subsample, 25 percent subsample, and 10% subsample

Number of Districts (K)/ Schools (J)	Response Rate	100% Target Sample	75% Subsample	50% Subsample	25% Subsample	10% Subsample
K=4 J=10	100%	1,200 n=120 MDE[2]=.10	900 n=90 MDE=.11	600 n=60 MDE=.12	300 n=30 MDE=.14	120 n=12 MDE=.23
K=4 J=10	90%	1080 n=108 MDE=.11	820 n=82 MDE=.11	540 n=54 MDE=.12	280 n=28 MDE=.15	100 n=10 MDE=.26
K=4 J=10	80%	960 n=96 MDE=.11	720 n=72 MDE=.12	480 n=48 MDE=.12	240 n=24 MDE=.16	100 n=10 MDE=.26

Note. n = student n per school

After posttest assessments were completed, power estimations were repeated using Optimal Design to determine the minimal detectable effect size based on the actual sample parameters as opposed to predicted sample parameters. For iLEAP, we estimated a fixed-effects model with approximately 1100 students and a pretest correlation of 0.49 to determine that we were powered to detect a MDES of 0.10. For GRADE, the MDES for a fixed-effects model with approximately 980 students and a pretest correlation of 0.49 was 0.11. Attrition and missing data was not a substantial enough problem to seriously impact our ability to achieve a reasonable minimal detectable effect size.

[2] MDEs were calculated using Optimal Design Software for longitudinal and multilevel research version 2.0 assuming 80% power, alpha=.05, intraclass correlation=.10, and covariate (pretest) explained variance (R^2 = .49) at the student level for GRADE, an unblocked design (i.e., no blocking variables at the site (district) or school levels, and a balanced design (i.e., 50/50 random assignment).

Figure A.1. Power Estimation based on posttest counts for iLEAP

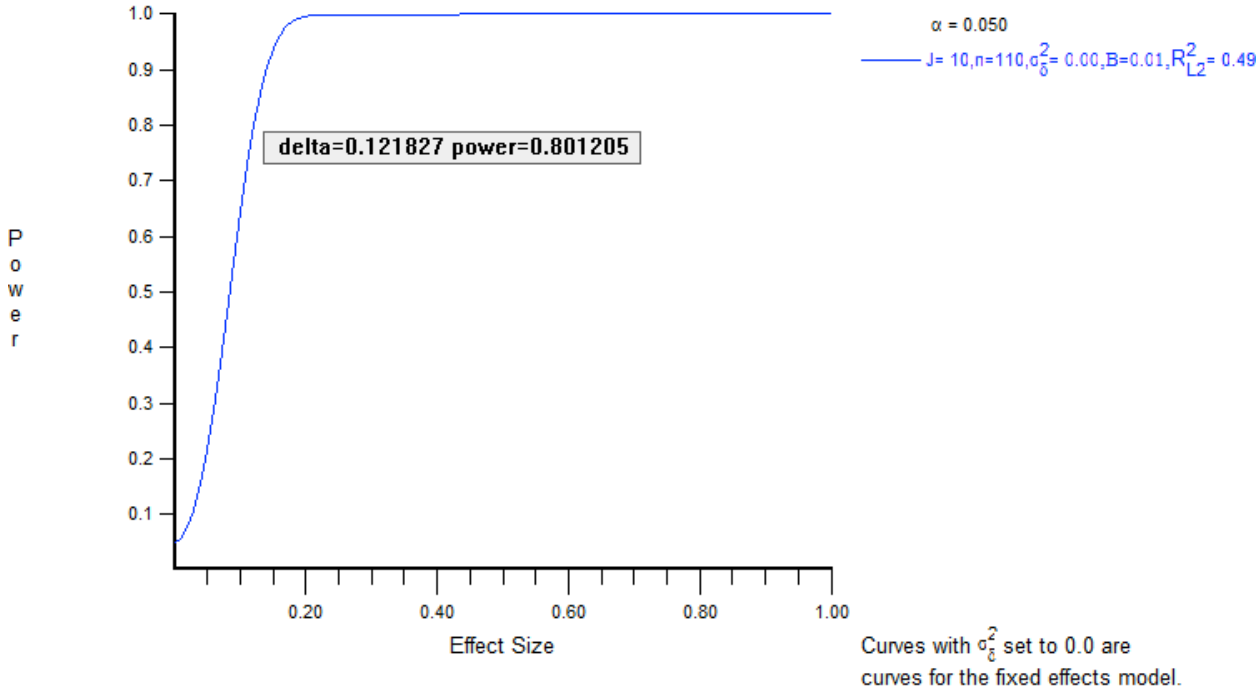
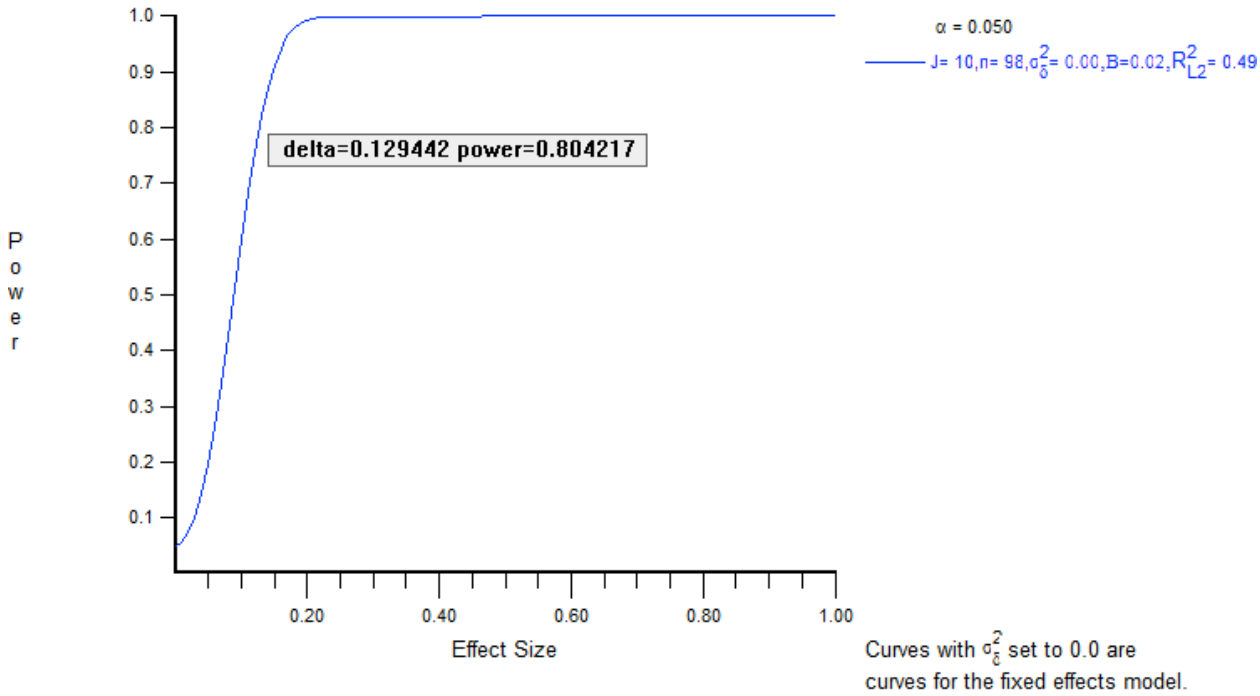


Figure A.2 Power Estimation based on posttest counts for GRADE & MRQ



Results

Model Specifications

The principal goal of this evaluation is to investigate the effect of participating in the treatment (PRJ) versus business as usual for reading outcomes.

Research Question: Does student-level assignment to the PRJ supplemental literacy program produce stronger effects on *reading achievement* for 6th and 7th grade students significantly behind their peers (i.e., scoring "below basic" on the state assessment) in reading than assignment to supplemental non-reading elective services control condition?

Two dependent variables will be used to assess the impacts of the program on reading fluency in ITT analyses:

- GRADE (Group Reading Assessment and Diagnostic Evaluation) standard scores from the spring of each year on total reading, and four component scores and related subtests, including vocabulary (nouns, verbs, adjectives, adverbs subtests), reading comprehension (sentence comprehension, passage comprehension, and metacognition subtests) and oral language (listening comprehension subtest), and fluency (reading time, miscues, and comprehension subtests).
- *i*LEAP (Integrated Louisiana Educational Assessment Program) norm-referenced English Language Arts and Reading Subscale test scores from the spring of each year.

Research Question: Does student-level assignment to the PRJ supplemental literacy program produce stronger effects on student's *motivation to read* for 6th and 7th grade students significantly behind their peers (i.e., scoring "below basic" on the state assessment) in reading than assignment to supplemental non-reading elective services control condition?

Testing the Direct Effects of the Intervention on Student Outcomes

The first two research questions involve testing the intention-to-treat (ITT) effects of the intervention on reading achievement and motivation. That is, what is the impact on student reading achievement outcomes of assignment to the PRJ supplemental intervention? This section of the analysis plan discusses the analytic approach to addressing this question.

Methodological advances are still evolving regarding the best ways to model and test the impact of multi-site RCTs where, as in this study, the unit of randomization and the primary outcomes of interest are at the individual level. Increasing numbers of studies involve multilevel modeling techniques, sometimes referred to as Hierarchical Linear Modeling (HLM), as an analytic strategy for estimating the impact of multi-site RCTs. HLM or multilevel models are appropriate when, as in this study, outcomes are nested in a naturally occurring hierarchy of levels of analysis (e.g., when students are nested within schools). HLM in these situations is more appropriate than other regression techniques since such modeling properly accounts for the natural clustering and its associated correlation between students in the same school as well as correlations within students over time in a longitudinal study.

Even within this analytic approach, the analyses for both individual-level and school-level outcomes can be thought of in the simplest form as a comparison of means for the treatment and control groups at the end of the intervention. One important advantage of an RCT design is that it greatly simplifies the data analysis task while providing an unbiased estimate of the program's

impact on individual outcomes. Although this is a valid approach, randomization does not always ensure that groups are equal at the beginning of the intervention (pretest), and the reliability of the impact estimates can be substantially improved by the use of statistical control variables (other independent variables collected during the pretest). The most common multilevel model given the design of this study involves a two-level model[3] that simultaneously accounts for student and school-level variation and clustering in outcomes and estimates the impact of the intervention as an individual-level effect. Researchers will estimate the impact of treatment assignment on the mean posttest achievement outcomes for students. Researchers will also include an individual-level covariate pretest score and school-level school membership/attendance dummy variable to assist in accounting for unexplained variance in outcomes and to improve the precision and corresponding power of the treatment effects estimates (Bloom, Bos, & Lee, 1999; Raudenbush, 1997).

The fully specified level-1, or within-school model, will nest students within schools and assume within school j, the outcome Yij for participant i depends an individual-level covariate (pretest) and a treatment effect according to the regression model:

$$\text{Level 1 Model} \qquad Y_{ij} = \beta_{0j} + \beta_{1j}*X1_{ij} + \beta_{2j}*X2_{ij} + r_{ij}$$

Where Y_{ij} is the spring posttest achievement for student *i* in school *j;* β_{0j} is the mean outcome for school *j*; $X1_{ij}$ is a covariate (fall pretest) variable and $X2_{ij}$ is a treatment contrast, $i = 1\ldots n$; β_{1j} is the average covariate estimate on the outcome within school *j*; β_{2j} is the mean difference between outcomes of the experimental and control groups within school *j*; and r_{ij} is a individual-specific residual.

In the level 2 model, the coefficients at level-1 become outcomes at level-2. Thus, the school-specific pretest covariate and treatment effect are fixed according to the model:

$$\text{Level 2 Model} \qquad \beta_{0j} = \gamma_{00} + \gamma_{01}*\text{School 1} + \gamma_{02}*\text{School 3} + \gamma_{03}*\text{School 4} + \gamma_{04}*\text{School 5} + \gamma_{05}*\text{School 6} + \gamma_{06}*\text{School 7} + \gamma_{07}*\text{School 8} + \gamma_{08}*\text{School 9} + \gamma_{09}*\text{School 10}$$

$$\beta_{1j} = \gamma_{10}$$

$$\beta_{2j} = \gamma_{20}$$

Where γ_{00} is the grand mean outcome, and γ_{01} through γ_{09} is the school specific mean differences; γ_{10} is the average pretest covariate effect, and γ_{20} is the average treatment effect; no random error term is included as it is a fixed effects model.

The parameter of central interest in the analysis is at level-1 in the model – the individual-level effect of assignment to the PRJ treatment (β_{2j}). This model is specified as a fixed-effects model

[3] We will assess the value of modeling classroom-level variability and whether the three-level model explains appreciably more between-classroom variance and improves the precision of the treatment effect estimates. If it does not, we will fit a more parsimonious two-level model.

based on the assumptions of a conditional inference model (Hedges, 2009) in which there is not an intention to generalize effects beyond the current sample of purposively selected districts and schools to a larger population.

For each outcome, models will be specified as part of an incremental modeling approach commonly used in multilevel modeling. A preliminary unconditional model is fit to partition the variance among the levels of analysis and as a basis for comparing the fit of subsequent models, which introduce student- and school-level predictors of posttest outcomes, including an ultimate model that adds an indicator of the treatment condition at the individual-level.

Covariates

We planned for the possibility that random assignment did not result in treatment and control conditions that were not equivalent and proposed including covariates in the impact analyses. The value of covariates in multilevel models used at multiple levels of analysis are to assist in accounting for unexplained variance in outcomes and to improve the precision and corresponding power of the treatment effects estimates. A list of proposed covariates can be found in Table A.6.

Table A.6. Proposed Independent Variables and Covariates, Data Sources, and Variable Descriptions

Independent Variables and Covariates:	Data Source	Variable Description
Student grade level	Archival student demographic profile	Grade-level (i.e.,1= 6th and 0=7th) of each child in the study
Student gender	Archival student demographic profile	Gender (male=1; female =0) of each child in the study
Student race/ethnicity	Archival student demographic profile	Race/ethnicity of each child in the study (1=black; 0=non-black)
Student SES Status	Archival student demographic profile	Student Free- and reduced price lunch status (i.e., no=0; yes=1)
Student and School Reading Status at entry into program	GRADE	Standardized pre-test (fall) score
Student Reading Status in Spring of Previous School Year	*i*LEAP	Norm referenced test score from previous spring
Student motivation and engagement	Student Survey	MRQ total score and subscales
Student exposure to the program	SEDL Implementation Study database	Exposure to program for each child in the study.
Teacher Qualifications	SEDL Implementation Study database	Teacher Experience (i.e. total years teaching), Education (i.e., highest degree attained), and Certifications.
Teacher/Classroom Fidelity of Implementation	SEDL Implementation Study database	Specific and general implementation fidelity scores
Teacher/Classroom Implementation duration	SEDL Implementation Study database	Duration of program implementation with fidelity (i.e., hours/days/weeks)

Fortunately, the treatment and control conditions did not evidence any significant differences for either demographic characteristics or pretest reading scores. Analysis of variance provided evidence that the treatment and control groups were statistically similar when compared by iLEAP scores and demographic characteristics. The equivalence between treatment conditions remained even after pretest scores for the GRADE and MRQ assessment were collected. Thus, the proposed covariates (gender, grade, race/ethnicity, pretest) were used only as predictors (i.e., subgroup analyses to determine if these variables distinguish variation in impacts) rather than

covariates (i.e., to control for student or teacher factors) in the impact analyses. Comparisons of treatment and control condition demographic characteristics and pretest assessments are found in Table A.7.

Table A.7. Treatment and control condition equivalence

	Overall			Treatment Condition			Control Condition			
	N	**%**	**SD**	**N**	**%**	**SD**	**N**	**%**	**SD**	**P value**
Male	1226	56.8%	0.5	617	56.6%	0.5	609	57.0%	0.5	0.880
Race/Ethnicity										
Black	1226	70.6%	0.46	617	72.0%	0.45	609	69.1%	0.46	0.280
White	1226	24.3%	0.43	617	22.9%	0.42	609	25.8%	0.44	0.230
Other	1226	5.1%	0.22	617	5.2%	0.22	609	5.1%	0.22	0.940
Grade										
6th	1226	48.0%	0.5	617	48.3%	0.5	609	47.6%	0.5	0.810
7th	1226	47.1%	0.5	617	47.2%	0.5	609	47.1%	0.5	0.990
8th	1226	4.9%	0.22	617	4.5%	0.21	609	5.3%	0.22	0.560
Special Education	1226	15.2%	0.36	617	15.4%	0.36	609	14.9%	0.36	0.820
LEP	1226	3.6%	0.19	617	3.7%	0.19	609	3.4%	0.18	0.790
Poverty status	1226	87.7%	0.33	617	88.3%	0.32	609	87.0%	0.34	0.490
Migrant	1226	1.1%	0.1	617	0.7%	0.08	609	1.5%	0.12	0.160
Section 504	1226	10.5%	0.31	617	11.0%	0.31	609	10.0%	0.3	0.570
	N	**mean**	**SD**	**N**	**mean**	**SD**	**N**	**mean**	**SD**	**P Value**
Pretest Equivalence of Analysis Sample										
iLEAP ELA	1102	246.8	36.3	548	246	37.1	554	247.6	35.5	0.470
GRADE Overall	944	83.2	8.9	455	83.3	8.8	489	83	9.0	0.580
GRADE Vocabulary	941	87.5	10.7	454	87.3	10.2	487	87.7	11.1	0.620
GRADE Comprehension	944	82	9.0	455	82.4	9.0	489	81.7	9.0	0.300
MRQ	940	2.8	0.4	455	2.8	0.4	485	2.8	0.4	0.980

Subgroup Analyses

While the analyses presented above will address the overall ITT effects of the intervention, it is possible that particular subgroups of students will benefit more from PRJ than other subgroups. For instance, students with low pretest scores may benefit to a greater extent from PRJ than relatively higher-scoring students. By adding a cross-level interaction term to these basic models assessing the ITT effects of the treatment on student reading outcomes, researchers will be able to examine potential aptitude-by-treatment interactions or other forms of interactions of the treatment effect by varying student subgroups.

These interaction effects between the treatment condition variable and particular baseline characteristics of students (e.g., grade, gender, ethnic minority status, initial reading proficiency, motivation) can assess whether the impacts were greater or smaller in magnitude under particular circumstances. For instance, testing the interaction effect between gender of the students and the treatment condition will address whether the impacts of the treatment on student outcomes were moderated by gender. Multilevel models are advantageous in such analyses due to the ability to accurately estimate the variance at the different levels of analysis. These analyses will be guided by a strategy for multiple comparisons testing in impact evaluations of educational interventions (Schochet, 2008) with particular consideration given to using confirmatory analytic approaches that control family-wise error rates for correlated test statistics, such as generalized Tukey and bootstrapping that will be specified in the analysis plan and informed by the technical assistance team.

Several subgroup analyses were proposed to investigate for potential differences in the treatment effect between groups of students.

Student-level by poverty subgroup – PRJ has statistically significant impacts on student reading achievement, specific student reading composite/subtests, and other student outcomes for 6th-7th grade students from low-income backgrounds compared to the outcomes of control students assigned to supplemental non-reading elective services.

Student-level by ethnicity subgroup – PRJ has statistically significant effects on student reading achievement, specific student reading composite/subtests, and other student outcomes for 6-7th grade students from ethnic minority backgrounds compared to the outcomes of control students assigned to supplemental non-reading elective services.

Student- level by grade subgroup – PRJ has statistically significant effects on student reading achievement, specific student reading composite/subtests, and other student outcomes in 6th grade compared to the outcomes of control students assigned to supplemental non-reading elective services.

Student-level Time by Treatment subgroup – PRJ has statistically significant effects on student reading achievement, specific student reading composite/subtests, and other student outcomes at the end of the 1st year of student participation compared to the outcomes of control students assigned to supplemental non-reading elective services

Student-level by gender subgroup – PRJ has statistically significant effects on student reading achievement, specific student reading composite/subtests, and other student outcomes for 6-7th grade students for males compared to the outcomes of control students assigned to supplemental non-reading elective services

Student-level by baseline proficiency in reading subgroup – PRJ has statistically significant effects on student reading achievement, specific student reading composite/subtests, and other student outcomes for 6-7th grade students who enter the program reading significantly worse than their peers compared to the outcomes of control students assigned to supplemental non-reading elective services.

Student Motivation as Moderator/Mediator of Achievement – Students with higher motivation to read scores will show significantly greater improvement on student reading achievement and other specific composite and subtest reading outcomes.

The HLM models resemble the ITT analyses but include an additional predictor variable that represents subgroup membership and an interaction term between the treatment condition and subgroup membership.

Level 1 Model

$$Posttest_{ij} = \beta_{0j} + \beta_{1j}*X1_{ij} + \beta_{2j}*X2_{ij} + \beta_{3j}*X3_{ij} + \beta_{4j}*X2_{ij}*X3_{ij} + r_{ij}$$

Where Y_{ij} is the spring posttest achievement for student *i* in school *j;* β_{0j} is the mean outcome for school *j*; $X1_{ij}$ is a covariate (fall pretest) variable, $X2_{ij}$ is a treatment contrast, $i = 1…n$, and $X3_{ij}$ is a subgroup contrast; β_{1j} is the average covariate estimate on the outcome within school *j*; β_{2j} is the mean difference between outcomes of the experimental and control groups within school *j*; β_{3j} is the mean difference between outcomes of the subgroups within school *j*, and β_{4j} is the interaction term between the treatment effect and subgroup membership within school *j*, and r_{ij} is a individual-specific residual.

Level 2 Model

$$\beta_{0j} = \gamma_{00} + \gamma_{01}*\text{School 1} + \gamma_{02}*\text{School 3} + \gamma_{03}*\text{School 4} + \gamma_{04}*\text{School 5} + \gamma_{05}*\text{School 6} + \gamma_{06}*\text{School 7} + \gamma_{07}*\text{School 8} + \gamma_{08}*\text{School 9} + \gamma_{09}*\text{School 10}$$

$$\beta_{1j} = \gamma_{10}$$

$$\beta_{2j} = \gamma_{20}$$

$$\beta_{3j} = \gamma_{30}$$

$$\beta_{4j} = \gamma_{40}$$

Where γ_{00} is the grand mean outcome, and γ_{01} through γ_{09} is the school specific mean differences; γ_{10} is the average pretest covariate effect, γ_{20} is the average treatment effect, γ_{30} is the average subgroup effect, and γ_{40} is the average interaction effect; no random error term is included as it is a fixed effects model.

Analytical Models

The results for the models presented above are described in the body of the report. However, a complete listing of the overall impacts, model specifications, and analysis results can be found in Tables A.8- A.20. These tables provide the full HLM notation for the models as well as the regression estimates for all ITT and subgroup analyses.

Table A.8: *i* LEAP ELA Overall Score

I. Treatment Impact Results

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}*Pretest + \beta_{2j}*Treatment + r_{ij}$

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}*School\ 1 + \gamma_{02}*School\ 3 + \gamma_{03}*School\ 4 + \gamma_{04}*School\ 5 + \gamma_{05}*School\ 6 + \gamma_{06}*School\ 7 + \gamma_{07}*School\ 8 + \gamma_{08}*School\ 9 + \gamma_{09}*School\ 10$

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	248.003	3.207	1090	77.338	0.000
	School 1, γ_{01}	1.096	4.045	1090	0.271	0.787
	School 3, γ_{02}	9.720	4.869	1090	1.996	0.046
	School 4, γ_{03}	-3.046	5.615	1090	-0.542	0.588
	School 5, γ_{04}	13.476	4.622	1090	2.916	0.004
	School 6, γ_{05}	-1.516	4.194	1090	-0.361	0.718
	School 7, γ_{06}	2.393	4.432	1090	0.540	0.589
	School 8, γ_{07}	3.636	4.811	1090	0.756	0.450
	School 9, γ_{08}	6.059	5.628	1090	1.077	0.282
	School 10, γ_{09}	2.389	5.044	1090	0.474	0.636
	Pretest, β_{1j}	0.585	0.031	1090	19.132	0.000
	Treatment, β_{2j}	2.520	2.197	1090	1.147	0.252

Fixed Effects

Level	Variance Components	Variance	ICC	$Sigma^2$		
Student	Level 1	0.259	0.012	1326.854		

Table A.8: *i* LEAP ELA Overall Score

A: Poverty*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0i} + \beta_{1i}$*Pretest + β_{2i}*Treatment + β_{3i}*Poverty + β_{4i}*Poverty*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4i} = \gamma_{40}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	255.286	5.205	1088	49.042	0.000
	School 1, γ_{01}	0.203	4.077	1088	0.05	0.960
	School 3, γ_{02}	9.767	4.868	1088	2.006	0.045
	School 4, γ_{03}	-2.782	5.614	1088	-0.496	0.620
	School 5, γ_{04}	13.463	4.621	1088	2.913	0.004
	School 6, γ_{05}	-1.581	4.192	1088	-0.377	0.706
	School 7, γ_{06}	1.7	4.454	1088	0.382	0.703
	School 8, γ_{07}	3.914	4.811	1088	0.814	0.416
	School 9, γ_{08}	6.587	5.635	1088	1.169	0.243
	School 10, γ_{09}	2.511	5.043	1088	0.498	0.619
	Pretest, β_{1j}	0.584	0.031	1088	19.095	0.000
	Treatment, β_{2j}	-3.201	6.133	1088	-0.522	0.602
	Poverty, β_{3j}	-8.221	4.637	1088	-1.773	0.077
	Treatment*Poverty, β_{4j}	6.616	6.57	1088	1.007	0.314

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.258	1325.362			

Table A.8: *i* LEAP ELA Overall Score

B: Gender*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*Treatment + β_{3j}*Gender + β_{4j}*Gender*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10
	$\beta_{1j} = \gamma_{10}$
	$\beta_{2j} = \gamma_{20}$
	$\beta_{3j} = \gamma_{30}$
	$\beta_{4j} = \gamma_{40}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	254.451	3.660	1088	69.518	0.000
	School 1, γ_{01}	1.325	4.005	1088	0.331	0.741
	School 3, γ_{02}	10.201	4.813	1088	2.119	0.034
	School 4, γ_{03}	-3.414	5.552	1088	-0.615	0.539
	School 5, γ_{04}	12.745	4.574	1088	2.786	0.005
	School 6, γ_{05}	-0.934	4.148	1088	-0.225	0.822
	School 7, γ_{06}	3.302	4.396	1088	0.751	0.453
	School 8, γ_{07}	4.550	4.768	1088	0.954	0.340
	School 9, γ_{08}	7.014	5.566	1088	1.260	0.208
	School 10, γ_{09}	2.595	4.988	1088	0.520	0.603
	Pretest, β_{1j}	0.568	0.030	1088	18.683	0.000
	Treatment, β_{2j}	2.233	3.310	1088	0.675	0.500
	Male, β_{3j}	-11.875	3.110	1088	-3.819	0.000
	Treatment*Male, β_{4j}	0.533	4.403	1088	0.121	0.904

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.276	1296.446			

Table A.8: *i* LEAP ELA Overall Score

C: Grade*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*Treatment + β_{3j}*Grade 6 + β_{4j}*Grade 6*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10
	$\beta_{1j} = \gamma_{10}$
	$\beta_{2j} = \gamma_{20}$
	$\beta_{3j} = \gamma_{30}$
	$\beta_{4j} = \gamma_{40}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	252.721	3.614	1088	69.920	0.000
	School 1, γ_{01}	0.595	4.025	1088	0.148	0.883
	School 3, γ_{02}	8.086	4.860	1088	1.664	0.096
	School 4, γ_{03}	-5.237	5.618	1088	-0.932	0.351
	School 5, γ_{04}	13.749	4.597	1088	2.991	0.003
	School 6, γ_{05}	-1.832	4.172	1088	-0.439	0.661
	School 7, γ_{06}	2.102	4.408	1088	0.477	0.634
	School 8, γ_{07}	4.591	4.790	1088	0.958	0.338
	School 9, γ_{08}	5.386	5.599	1088	0.962	0.336
	School 10, γ_{09}	1.670	5.018	1088	0.333	0.739
	Pretest, β_{1j}	0.607	0.031	1088	19.596	0.000
	Treatment, β_{2j}	2.619	3.133	1088	0.836	0.403
	Grade 6, β_{3j}	-8.598	3.150	1088	-2.730	0.006
	Treatment*Grade 6, β_{4j}	0.035	4.377	1088	0.008	0.994

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.267	1311.812			

Table A.8: *i* LEAP ELA Overall Score

D: Race*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*Treatment + β_{3j}*Black + β_{4j}*Black*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10
	$\beta_{1j} = \gamma_{10}$
	$\beta_{2j} = \gamma_{20}$
	$\beta_{3j} = \gamma_{30}$
	$\beta_{4j} = \gamma_{40}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	248.553	4.501	1088	55.224	0.000
	School 1, γ_{01}	0.529	4.286	1088	0.123	0.902
	School 3, γ_{02}	9.762	4.873	1088	2.003	0.045
	School 4, γ_{03}	-3.015	5.619	1088	-0.537	0.592
	School 5, γ_{04}	13.458	4.632	1088	2.905	0.004
	School 6, γ_{05}	-1.855	4.292	1088	-0.432	0.666
	School 7, γ_{06}	1.478	4.870	1088	0.303	0.762
	School 8, γ_{07}	3.597	4.815	1088	0.747	0.455
	School 9, γ_{08}	5.950	5.652	1088	1.053	0.293
	School 10, γ_{09}	1.744	5.208	1088	0.335	0.738
	Pretest, β_{1j}	0.585	0.031	1088	19.090	0.000
	Treatment, β_{2j}	4.017	3.995	1088	1.006	0.315
	Black, β_{3j}	-0.372	3.709	1088	-0.100	0.920
	Treatment*Black, β_{4j}	-2.083	4.798	1088	-0.434	0.664

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.257	1328.764			

Table A.8: *i* LEAP ELA Overall Score

E: Treatment*Pretest Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*Treatment + β_{3j}*Pretest*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10
	$\beta_{1j} = \gamma_{10}$
	$\beta_{2j} = \gamma_{20}$
	$\beta_{3j} = \gamma_{30}$

Fixed Effects						
Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	248.051	3.207	1089	77.349	0.000
	School 1, γ_{01}	0.995	4.046	1089	0.246	0.806
	School 3, γ_{02}	9.520	4.872	1089	1.954	0.051
	School 4, γ_{03}	-3.111	5.615	1089	-0.554	0.580
	School 5, γ_{04}	13.375	4.623	1089	2.893	0.004
	School 6, γ_{05}	-1.620	4.195	1089	-0.386	0.699
	School 7, γ_{06}	2.191	4.436	1089	0.494	0.621
	School 8, γ_{07}	3.203	4.828	1089	0.663	0.507
	School 9, γ_{08}	6.120	5.628	1089	1.087	0.277
	School 10, γ_{09}	2.271	5.045	1089	0.450	0.653
	Pretest, β_{1j}	0.619	0.044	1089	14.040	0.000
	Treatment, β_{2j}	2.624	2.199	1089	1.193	0.233
	Treatment*Pretest, β_{3j}	-0.064	0.061	1089	-1.051	0.293

Fixed Effects						
Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.259	1326.725			

Table A.9: *i* LEAP Reading Subscale Score

I. Treatment Impact Results

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}*Pretest + \beta_{2j}*Treatment + r_{ij}$

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}*School\ 1 + \gamma_{02}*School\ 3 + \gamma_{03}*School\ 4 + \gamma_{04}*School\ 5 + \gamma_{05}*School\ 6 + \gamma_{06}*School\ 7 + \gamma_{07}*School\ 8 + \gamma_{08}*School\ 9 + \gamma_{09}*School\ 10$

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	246.125	4.613	1090	53.357	0.000
	School 1, γ_{01}	4.365	5.830	1090	0.749	0.454
	School 3, γ_{02}	16.531	7.002	1090	2.361	0.018
	School 4, γ_{03}	-8.440	8.072	1090	-1.045	0.296
	School 5, γ_{04}	19.669	6.638	1090	2.963	0.003
	School 6, γ_{05}	7.607	6.022	1090	1.263	0.207
	School 7, γ_{06}	10.133	6.398	1090	1.584	0.114
	School 8, γ_{07}	-1.005	6.923	1090	-0.145	0.885
	School 9, γ_{08}	-4.355	8.093	1090	-0.538	0.591
	School 10, γ_{09}	3.420	7.273	1090	0.470	0.638
	Pretest, β_{1j}	0.354	0.028	1090	12.829	0.000
	Treatment, β_{2j}	-0.289	3.159	1090	-0.092	0.927

Fixed Effects

Level	Variance Components	Variance	ICC	$Sigma^2$		
Student	Level 1	0.151	0.027	2741.816		

Table A.9: *i*LEAP Reading Subscale Score

A: Poverty*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0i} + \beta_{1i}$*Pretest + β_{2i}*Treatment + β_{3i}*Poverty + β_{4i}*Poverty*Treatment + r_{ij}

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4i} = \gamma_{40}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	255.37	7.482	1088	34.131	0.000
	School 1, γ_{01}	3.015	5.873	1088	0.513	0.608
	School 3, γ_{02}	16.758	7.001	1088	2.394	0.017
	School 4, γ_{03}	-8.073	8.07	1088	-1	0.317
	School 5, γ_{04}	19.788	6.636	1088	2.982	0.003
	School 6, γ_{05}	7.494	6.019	1088	1.245	0.213
	School 7, γ_{06}	8.989	6.425	1088	1.399	0.162
	School 8, γ_{07}	-0.728	6.923	1088	-0.105	0.916
	School 9, γ_{08}	-3.504	8.101	1088	-0.433	0.665
	School 10, γ_{09}	3.795	7.274	1088	0.522	0.602
	Pretest, β_{1j}	0.351	0.028	1088	12.693	0.000
	Treatment, β_{2j}	-3.194	8.818	1088	-0.362	0.717
	Poverty, β_{3j}	-10.407	6.667	1088	-1.561	0.119
	Treatment*Poverty, β_{4j}	3.418	9.449	1088	0.362	0.718

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.162	2738.335			

Table A.9: *i*LEAP Reading Subscale Score

B: Gender*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*Treatment + β_{3j}*Gender + β_{4j}*Gender*Treatment + r_{ij}

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	247.737	5.328	1088	46.501	0.000
	School 1, γ_{01}	4.536	5.839	1088	0.777	0.437
	School 3, γ_{02}	16.594	7.002	1088	2.370	0.018
	School 4, γ_{03}	-8.550	8.075	1088	-1.059	0.290
	School 5, γ_{04}	19.438	6.647	1088	2.924	0.004
	School 6, γ_{05}	7.777	6.024	1088	1.291	0.197
	School 7, γ_{06}	10.605	6.417	1088	1.653	0.099
	School 8, γ_{07}	-0.405	6.944	1088	-0.058	0.954
	School 9, γ_{08}	-3.836	8.101	1088	-0.473	0.636
	School 10, γ_{09}	3.481	7.276	1088	0.479	0.632
	Pretest, β_{1j}	0.357	0.028	1088	12.907	0.000
	Treatment, β_{2j}	1.253	4.815	1088	0.260	0.795
	Male, β_{3j}	-3.156	4.511	1088	-0.700	0.484
	Treatment*Male, β_{4j}	-2.672	6.404	1088	-0.417	0.677

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$
Student	Level 1	0.151	2741.513

Table A.9: *i*LEAP Reading Subscale Score

C: Grade*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*Treatment + β_{3j}*Grade 6 + β_{4j}*Grade 6*Treatment + r_{ij}

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	244.588	5.226	1088	46.803	0.000
	School 1, γ_{01}	4.285	5.824	1088	0.736	0.462
	School 3, γ_{02}	15.873	7.014	1088	2.263	0.024
	School 4, γ_{03}	-8.651	8.106	1088	-1.067	0.286
	School 5, γ_{04}	20.116	6.627	1088	3.035	0.002
	School 6, γ_{05}	7.884	6.013	1088	1.311	0.190
	School 7, γ_{06}	10.256	6.390	1088	1.605	0.109
	School 8, γ_{07}	-0.598	6.921	1088	-0.086	0.931
	School 9, γ_{08}	-4.704	8.081	1088	-0.582	0.561
	School 10, γ_{09}	3.113	7.265	1088	0.428	0.668
	Pretest, β_{1j}	0.354	0.028	1088	12.703	0.000
	Treatment, β_{2j}	6.936	4.523	1088	1.533	0.125
	Grade 6, β_{3j}	3.018	4.539	1088	0.665	0.506
	Treatment*Grade 6, β_{4j}	-13.990	6.326	1088	-2.212	0.027

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.154	2730.665			

Table A.9: *i* LEAP Reading Subscale Score

D: Race*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*Treatment + β_{3j}*Black + β_{4j}*Black*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	258.474	6.429	1088	40.201	0.000
	School 1, γ_{01}	-2.763	6.120	1088	-0.452	0.652
	School 3, γ_{02}	17.279	6.961	1088	2.482	0.013
	School 4, γ_{03}	-8.211	8.022	1088	-1.024	0.306
	School 5, γ_{04}	18.907	6.605	1088	2.863	0.004
	School 6, γ_{05}	3.191	6.113	1088	0.522	0.602
	School 7, γ_{06}	-0.504	6.956	1088	-0.073	0.942
	School 8, γ_{07}	-1.650	6.882	1088	-0.240	0.811
	School 9, γ_{08}	-6.655	8.077	1088	-0.824	0.410
	School 10, γ_{09}	-3.458	7.441	1088	-0.465	0.642
	Pretest, β_{1j}	0.340	0.028	1088	12.299	0.000
	Treatment, β_{2j}	4.532	5.702	1088	0.795	0.427
	Black, β_{3j}	-12.755	5.314	1088	-2.400	0.017
	Treatment*Black, β_{4j}	-6.177	6.846	1088	-0.902	0.367

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$
Student	Level 1	0.162	2707.583

Table A.9: *i* LEAP Reading Subscale Score

E: Treatment*Pretest Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*Treatment + β_{3j}*Pretest*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10
	$\beta_{1j} = \gamma_{10}$
	$\beta_{2j} = \gamma_{20}$
	$\beta_{3j} = \gamma_{30}$

Fixed Effects						
Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	245.982	4.619	1089	53.258	0.000
	School 1, γ_{01}	4.582	5.841	1089	0.785	0.433
	School 3, γ_{02}	16.868	7.021	1089	2.403	0.016
	School 4, γ_{03}	-8.256	8.079	1089	-1.022	0.307
	School 5, γ_{04}	19.901	6.648	1089	2.994	0.003
	School 6, γ_{05}	7.831	6.033	1089	1.298	0.195
	School 7, γ_{06}	10.360	6.408	1089	1.617	0.106
	School 8, γ_{07}	-0.737	6.936	1089	-0.106	0.915
	School 9, γ_{08}	-4.416	8.095	1089	-0.546	0.585
	School 10, γ_{09}	3.664	7.284	1089	0.503	0.615
	Pretest, β_{1j}	0.335	0.039	1089	8.523	0.000
	Treatment, β_{2j}	-0.332	3.160	1089	-0.105	0.916
	Treatment*Pretest, β_{3j}	0.037	0.054	1089	0.684	0.494

Fixed Effects						
Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.151	2743.154			

Table A.10: GRADE Overall Standard Score

I. Treatment Impact Results	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$

Fixed Effects						
Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	81.357	0.702	970	115.870	0.000
	School 1, γ_{01}	0.202	0.880	970	0.229	0.819
	School 3, γ_{02}	3.127	1.034	970	3.023	0.003
	School 4, γ_{03}	2.644	1.194	970	2.215	0.027
	School 5, γ_{04}	1.803	0.955	970	1.887	0.059
	School 6, γ_{05}	-0.717	0.884	970	-0.811	0.418
	School 7, γ_{06}	0.897	0.944	970	0.950	0.342
	School 8, γ_{07}	-0.691	1.055	970	-0.655	0.513
	School 9, γ_{08}	1.796	1.196	970	1.501	0.134
	School 10, γ_{09}	0.512	1.060	970	0.483	0.629
	Pretest, β_{1j}	0.596	0.027	970	22.304	0.000
	D_{GRADE}[a], β_{2j}	-1.857	1.187	970	-1.565	0.118
	Treatment, β_{3j}	2.383	0.460	970	5.179	0.000

Fixed Effects						
Level	Variance Components	Variance	ICC	$Sigma^2$		
Student	Level 1	0.363	0.020	51.217		

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.10: GRADE Overall Standard Score

A: Poverty*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Poverty + β_{5j}*Poverty*Treatment + r_{ij}

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

$\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	81.955	1.066	968	76.853	0.000
	School 1, γ_{01}	0.066	0.885	968	0.075	0.940
	School 3, γ_{02}	3.218	1.035	968	3.11	0.002
	School 4, γ_{03}	2.667	1.193	968	2.236	0.026
	School 5, γ_{04}	1.87	0.955	968	1.957	0.051
	School 6, γ_{05}	-0.727	0.884	968	-0.823	0.411
	School 7, γ_{06}	0.749	0.948	968	0.79	0.430
	School 8, γ_{07}	-0.682	1.055	968	-0.647	0.518
	School 9, γ_{08}	1.931	1.197	968	1.613	0.107
	School 10, γ_{09}	0.608	1.06	968	0.574	0.566
	Pretest, β_{1j}	0.593	0.027	968	22.139	0.000
	D_{GRADE}[a], β_{2j}	-1.848	1.186	968	-1.558	0.120
	Treatment, β_{3j}	3.338	1.234	968	2.706	0.007
	Poverty, β_{4j}	-0.69	0.92	968	-0.749	0.454
	Treatment*Poverty, β_{5j}	-1.081	1.328	968	-0.814	0.416

Fixed Effects

Level	Variance Components	Variance	Sigma^2			
Student	Level 1	0.364	51.126			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.10: GRADE Overall Standard Score

B: Gender*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Male + β_{5j}*Male*Treatment + r_{ij}

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

$\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	82.239	0.785	968	104.811	0.000
	School 1, γ_{01}	0.160	0.878	968	0.183	0.855
	School 3, γ_{02}	3.133	1.032	968	3.037	0.002
	School 4, γ_{03}	2.654	1.191	968	2.228	0.026
	School 5, γ_{04}	1.746	0.953	968	1.831	0.067
	School 6, γ_{05}	-0.693	0.883	968	-0.785	0.433
	School 7, γ_{06}	0.844	0.943	968	0.896	0.371
	School 8, γ_{07}	-0.746	1.053	968	-0.708	0.479
	School 9, γ_{08}	1.879	1.194	968	1.573	0.116
	School 10, γ_{09}	0.527	1.058	968	0.498	0.619
	Pretest, β_{1j}	0.599	0.027	968	22.430	0.000
	D_{GRADE}[a], β_{2j}	-1.789	1.186	968	-1.508	0.132
	Treatment, β_{3j}	1.154	0.687	968	1.680	0.093
	Male, β_{4j}	-1.584	0.646	968	-2.453	0.014
	Treatment*Male, β_{5j}	2.217	0.919	968	2.412	0.016

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.366	50.956			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.10: GRADE Overall Standard Score

C: Grade*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Grade 6 + β_{5j}*Grade 6*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	80.094	0.779	968	102.817	0.000
	School 1, γ_{01}	0.286	0.875	968	0.327	0.744
	School 3, γ_{02}	3.31	1.03	968	3.212	0.001
	School 4, γ_{03}	3.029	1.193	968	2.539	0.011
	School 5, γ_{04}	1.837	0.95	968	1.934	0.053
	School 6, γ_{05}	-0.579	0.88	968	-0.658	0.511
	School 7, γ_{06}	1.012	0.939	968	1.077	0.282
	School 8, γ_{07}	-0.715	1.05	968	-0.681	0.496
	School 9, γ_{08}	1.969	1.191	968	1.654	0.099
	School 10, γ_{09}	0.613	1.055	968	0.581	0.561
	Pretest, β_{1j}	0.591	0.027	968	22.217	0.000
	D_{GRADE}[a], β_{2j}	-1.951	1.189	968	-1.641	0.101
	Treatment, β_{3j}	3.504	0.651	968	5.385	0.000
	Grade 6, β_{4j}	2.346	0.642	968	3.651	0.000
	Treatment*Grade 6, β_{5j}	-2.246	0.914	968	-2.457	0.014

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.370	50.624			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.10: GRADE Overall Standard Score

D: Race*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Black + β_{5j}*Black*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	81.279	0.956	968	85.027	0.000
	School 1, γ_{01}	0.044	0.926	968	0.047	0.962
	School 3, γ_{02}	3.198	1.034	968	3.092	0.002
	School 4, γ_{03}	2.702	1.193	968	2.265	0.024
	School 5, γ_{04}	1.834	0.955	968	1.920	0.055
	School 6, γ_{05}	-0.805	0.898	968	-0.897	0.370
	School 7, γ_{06}	0.581	1.028	968	0.566	0.572
	School 8, γ_{07}	-0.691	1.055	968	-0.655	0.512
	School 9, γ_{08}	1.786	1.199	968	1.490	0.137
	School 10, γ_{09}	0.254	1.089	968	0.233	0.816
	Pretest, β_{1j}	0.594	0.027	968	22.118	0.000
	D_{GRADE}[a], β_{2j}	-1.961	1.187	968	-1.652	0.099
	Treatment, β_{3j}	3.601	0.834	968	4.315	0.000
	Black, β_{4j}	0.246	0.769	968	0.319	0.750
	Treatment*Black, β_{5j}	-1.709	0.998	968	-1.713	0.087

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.364	51.115			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.10: GRADE Overall Standard Score

E: Treatment*Pretest Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Pretest*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$

Fixed Effects						
Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	81.367	0.703	969	115.820	0.000
	School 1, γ_{01}	0.197	0.880	969	0.223	0.823
	School 3, γ_{02}	3.148	1.035	969	3.041	0.002
	School 4, γ_{03}	2.608	1.196	969	2.181	0.029
	School 5, γ_{04}	1.772	0.957	969	1.852	0.064
	School 6, γ_{05}	-0.732	0.885	969	-0.827	0.408
	School 7, γ_{06}	0.912	0.945	969	0.965	0.335
	School 8, γ_{07}	-0.649	1.058	969	-0.613	0.540
	School 9, γ_{08}	1.743	1.199	969	1.454	0.146
	School 10, γ_{09}	0.512	1.061	969	0.482	0.630
	Pretest, β_{1j}	0.580	0.037	969	15.761	0.000
	D_{GRADE}[a], β_{2j}	-1.852	1.187	969	-1.560	0.119
	Treatment, β_{3j}	2.366	0.461	969	5.131	0.000
	Treatment*Pretest, β_{4j}	0.034	0.053	969	0.639	0.523

Fixed Effects						
Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.363	51.248			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.11: GRADE Overall NCE

I. Treatment Impact Results

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}*Pretest + \beta_{2j}*D_{GRADE} + \beta_{3j}*Treatment + r_{ij}$

Level 2 Model:
$\beta_{0j} = \gamma_{00} + \gamma_{01}*School\ 1 + \gamma_{02}*School\ 3 + \gamma_{03}*School\ 4 + \gamma_{04}*School\ 5 + \gamma_{05}*School\ 6 + \gamma_{06}*School\ 7 + \gamma_{07}*School\ 8 + \gamma_{08}*School\ 9 + \gamma_{09}*School\ 10$
$\beta_{1j} = \gamma_{10}$
$\beta_{2j} = \gamma_{20}$
$\beta_{3j} = \gamma_{30}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	23.931	0.959	970	24.965	0.000
	School 1, γ_{01}	0.297	1.202	970	0.247	0.805
	School 3, γ_{02}	4.395	1.412	970	3.112	0.002
	School 4, γ_{03}	3.745	1.629	970	2.298	0.022
	School 5, γ_{04}	2.552	1.304	970	1.956	0.051
	School 6, γ_{05}	-1.054	1.207	970	-0.873	0.383
	School 7, γ_{06}	1.383	1.289	970	1.073	0.283
	School 8, γ_{07}	-0.793	1.441	970	-0.550	0.582
	School 9, γ_{08}	2.904	1.633	970	1.778	0.076
	School 10, γ_{09}	0.636	1.448	970	0.439	0.661
	Pretest, β_{1j}	0.603	0.027	970	22.759	0.000
	D_{GRADE}[a], β_{2j}	-2.066	1.620	970	-1.275	0.203
	Treatment, β_{3j}	3.303	0.628	970	5.257	0.000

Fixed Effects

Level	Variance Components	Variance	ICC	$Sigma^2$		
Student	Level 1	0.372	0.020	95.458		

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.11: GRADE Overall NCE

A: Poverty*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Poverty + β_{5j}*Poverty*Treatment + r_{ij}

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

$\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	24.862	1.455	968	17.087	0.000
	School 1, γ_{01}	0.091	1.207	968	0.075	0.940
	School 3, γ_{02}	4.531	1.412	968	3.209	0.001
	School 4, γ_{03}	3.781	1.627	968	2.323	0.020
	School 5, γ_{04}	2.652	1.304	968	2.034	0.042
	School 6, γ_{05}	-1.069	1.206	968	-0.887	0.376
	School 7, γ_{06}	1.159	1.294	968	0.896	0.371
	School 8, γ_{07}	-0.779	1.439	968	-0.541	0.588
	School 9, γ_{08}	3.109	1.634	968	1.902	0.057
	School 10, γ_{09}	0.78	1.447	968	0.539	0.590
	Pretest, β_{1j}	0.6	0.027	968	22.596	0.000
	D_{GRADE}[a], β_{2j}	-2.052	1.618	968	-1.268	0.205
	Treatment, β_{3j}	4.688	1.683	968	2.785	0.005
	Poverty, β_{4j}	-1.073	1.256	968	-0.855	0.393
	Treatment*Poverty, β_{5j}	-1.567	1.813	968	-0.864	0.388

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.374	95.212			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.11: GRADE Overall NCE

B: Gender*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Male + β_{5j}*Male*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	25.059	1.072	968	23.386	0.000
	School 1, γ_{01}	0.239	1.199	968	0.200	0.842
	School 3, γ_{02}	4.404	1.409	968	3.126	0.002
	School 4, γ_{03}	3.763	1.626	968	2.314	0.021
	School 5, γ_{04}	2.482	1.302	968	1.906	0.057
	School 6, γ_{05}	-1.028	1.205	968	-0.853	0.394
	School 7, γ_{06}	1.307	1.288	968	1.015	0.311
	School 8, γ_{07}	-0.869	1.438	968	-0.604	0.546
	School 9, γ_{08}	3.002	1.631	968	1.841	0.066
	School 10, γ_{09}	0.652	1.445	968	0.451	0.652
	Pretest, β_{1j}	0.606	0.026	968	22.876	0.000
	D_{GRADE}[a], β_{2j}	-1.991	1.619	968	-1.229	0.219
	Treatment, β_{3j}	1.655	0.938	968	1.764	0.078
	Male, β_{4j}	-2.021	0.882	968	-2.292	0.022
	Treatment*Male, β_{5j}	2.971	1.255	968	2.367	0.018

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.375	95.027			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.11: GRADE Overall NCE

C: Grade*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Grade 6 + β_{5j}*Grade 6*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	22.217	1.064	968	20.886	0.000
	School 1, γ_{01}	0.414	1.195	968	0.347	0.729
	School 3, γ_{02}	4.648	1.407	968	3.303	0.001
	School 4, γ_{03}	4.273	1.628	968	2.624	0.009
	School 5, γ_{04}	2.597	1.297	968	2.003	0.046
	School 6, γ_{05}	-0.866	1.202	968	-0.721	0.471
	School 7, γ_{06}	1.541	1.283	968	1.201	0.230
	School 8, γ_{07}	-0.828	1.433	968	-0.578	0.564
	School 9, γ_{08}	3.14	1.626	968	1.932	0.054
	School 10, γ_{09}	0.776	1.44	968	0.539	0.590
	Pretest, β_{1j}	0.598	0.026	968	22.66	0.000
	D_{GRADE}[a], β_{2j}	-2.181	1.623	968	-1.344	0.179
	Treatment, β_{3j}	4.794	0.888	968	5.397	0.000
	Grade 6, β_{4j}	3.18	0.877	968	3.625	0.000
	Treatment*Grade 6, β_{5j}	-2.99	1.248	968	-2.395	0.017

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.379	94.370			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.11: GRADE Overall NCE

D: Race*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0i} + \beta_{1i}$*Pretest + β_{2i}*D_{GRADE} + β_{3i} *Treatment + β_{4j}*Black + β_{5j}*Black*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	23.898	1.305	968	18.318	0.000
	School 1, γ_{01}	0.037	1.265	968	0.029	0.977
	School 3, γ_{02}	4.500	1.412	968	3.188	0.001
	School 4, γ_{03}	3.831	1.628	968	2.353	0.019
	School 5, γ_{04}	2.592	1.304	968	1.989	0.047
	School 6, γ_{05}	-1.199	1.226	968	-0.978	0.328
	School 7, γ_{06}	0.885	1.403	968	0.631	0.528
	School 8, γ_{07}	-0.796	1.440	968	-0.553	0.580
	School 9, γ_{08}	2.877	1.637	968	1.757	0.079
	School 10, γ_{09}	0.239	1.487	968	0.161	0.872
	Pretest, β_{1j}	0.601	0.027	968	22.557	0.000
	D_{GRADE}[a], β_{2j}	-2.214	1.620	968	-1.367	0.172
	Treatment, β_{3j}	5.012	1.139	968	4.400	0.000
	Black, β_{4j}	0.260	1.050	968	0.248	0.804
	Treatment*Black, β_{5j}	-2.394	1.362	968	-1.758	0.079

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.373				

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.11: GRADE Overall NCE

E: Treatment*Pretest Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Pretest*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$

Fixed Effects						
Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	23.947	0.959	969	24.972	0.000
	School 1, γ_{01}	0.290	1.202	969	0.242	0.809
	School 3, γ_{02}	4.435	1.413	969	3.138	0.002
	School 4, γ_{03}	3.691	1.631	969	2.263	0.024
	School 5, γ_{04}	2.499	1.306	969	1.914	0.056
	School 6, γ_{05}	-1.081	1.208	969	-0.895	0.371
	School 7, γ_{06}	1.412	1.290	969	1.095	0.274
	School 8, γ_{07}	-0.714	1.444	969	-0.494	0.621
	School 9, γ_{08}	2.808	1.637	969	1.715	0.087
	School 10, γ_{09}	0.636	1.448	969	0.440	0.660
	Pretest, β_{1j}	0.583	0.037	969	15.933	0.000
	D_{GRADE}[a], β_{2j}	-2.057	1.620	969	-1.269	0.205
	Treatment, β_{3j}	3.274	0.629	969	5.202	0.000
	Treatment*Pretest, β_{4j}	0.043	0.053	969	0.818	0.414

Fixed Effects						
Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.372				

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.12: GRADE Vocabulary Scale Score

I. Treatment Impact Results

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}*Pretest + \beta_{2j}*D_{GRADE} + \beta_{3j}*Treatment + r_{ij}$

Level 2 Model:
$\beta_{0j} = \gamma_{00} + \gamma_{01}*School\ 1 + \gamma_{02}*School\ 3 + \gamma_{03}*School\ 4 + \gamma_{04}*School\ 5 + \gamma_{05}*School\ 6 + \gamma_{06}*School\ 7 + \gamma_{07}*School\ 8 + \gamma_{08}*School\ 9 + \gamma_{09}*School\ 10$
$\beta_{1j} = \gamma_{10}$
$\beta_{2j} = \gamma_{20}$
$\beta_{3j} = \gamma_{30}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	86.222	0.854	970	100.927	0.000
	School 1, γ_{01}	-0.385	1.071	970	-0.360	0.719
	School 3, γ_{02}	1.333	1.258	970	1.060	0.290
	School 4, γ_{03}	1.198	1.452	970	0.825	0.410
	School 5, γ_{04}	1.407	1.163	970	1.210	0.227
	School 6, γ_{05}	-1.720	1.077	970	-1.597	0.111
	School 7, γ_{06}	-0.747	1.149	970	-0.650	0.516
	School 8, γ_{07}	-0.135	1.284	970	-0.105	0.916
	School 9, γ_{08}	1.789	1.455	970	1.230	0.219
	School 10, γ_{09}	0.455	1.291	970	0.352	0.725
	Pretest, β_{1j}	0.451	0.027	970	16.622	0.000
	D_{GRADE}[a], β_{2j}	-2.737	1.392	970	-1.966	0.050
	Treatment, β_{3j}	1.298	0.559	970	2.320	0.021

Fixed Effects

Level	Variance Components	Variance	ICC	$Sigma^2$		
Student	Level 1	0.228	0.006	75.825		

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.12: GRADE Vocabulary Scale Score

A: Poverty*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}*Pretest + \beta_{2j}*D_{GRADE} + \beta_{3j}*Treatment + \beta_{4j}*Poverty + \beta_{5j}*Poverty*Treatment + r_{ij}$

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}*School\ 1 + \gamma_{02}*School\ 3 + \gamma_{03}*School\ 4 + \gamma_{04}*School\ 5 + \gamma_{05}*School\ 6 + \gamma_{06}*School\ 7 + \gamma_{07}*School\ 8 + \gamma_{08}*School\ 9 + \gamma_{09}*School\ 10$

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

$\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	87.401	1.298	968	67.314	0.000
	School 1, γ_{01}	-0.549	1.078	968	-0.509	0.611
	School 3, γ_{02}	1.398	1.26	968	1.11	0.267
	School 4, γ_{03}	1.22	1.453	968	0.84	0.401
	School 5, γ_{04}	1.433	1.164	968	1.232	0.218
	School 6, γ_{05}	-1.732	1.077	968	-1.608	0.108
	School 7, γ_{06}	-0.906	1.155	968	-0.784	0.433
	School 8, γ_{07}	-0.121	1.284	968	-0.094	0.925
	School 9, γ_{08}	1.915	1.458	968	1.314	0.189
	School 10, γ_{09}	0.519	1.292	968	0.402	0.688
	Pretest, β_{1j}	0.447	0.027	968	16.433	0.000
	D_{GRADE}[a], β_{2j}	-2.742	1.392	968	-1.97	0.049
	Treatment, β_{3j}	0.895	1.502	968	0.596	0.551
	Poverty, β_{4j}	-1.353	1.12	968	-1.208	0.227
	Treatment*Poverty, β_{5j}	0.489	1.618	968	0.302	0.762

Fixed Effects

Level	Variance Components	Variance	Sigma^2			
Student	Level 1	0.230	75.831			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.12: GRADE Vocabulary Scale Score

B: Gender*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Male + β_{5j}*Male*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	86.529	0.957	968	90.412	0.000
	School 1, γ_{01}	-0.418	1.071	968	-0.390	0.697
	School 3, γ_{02}	1.344	1.258	968	1.068	0.286
	School 4, γ_{03}	1.230	1.453	968	0.846	0.398
	School 5, γ_{04}	1.405	1.163	968	1.208	0.227
	School 6, γ_{05}	-1.734	1.077	968	-1.609	0.108
	School 7, γ_{06}	-0.814	1.151	968	-0.708	0.479
	School 8, γ_{07}	-0.192	1.285	968	-0.149	0.881
	School 9, γ_{08}	1.770	1.457	968	1.215	0.225
	School 10, γ_{09}	0.452	1.291	968	0.351	0.726
	Pretest, β_{1j}	0.450	0.027	968	16.582	0.000
	D_{GRADE}[a], β_{2j}	-2.790	1.395	968	-2.000	0.046
	Treatment, β_{3j}	0.466	0.837	968	0.557	0.577
	Male, β_{4j}	-0.521	0.787	968	-0.661	0.509
	Treatment*Male, β_{5j}	1.494	1.120	968	1.334	0.183

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.228	75.831			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.12: GRADE Vocabulary Scale Score

C: Grade*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Grade 6 + β_{5j}*Grade 6*Treatment + r_{ij}

Level 2 Model:
$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10
$\beta_{1j} = \gamma_{10}$
$\beta_{2j} = \gamma_{20}$
$\beta_{3j} = \gamma_{30}$
$\beta_{4j} = \gamma_{40}$
$\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	85.215	0.952	968	89.471	0.000
	School 1, γ_{01}	-0.282	1.069	968	-0.263	0.792
	School 3, γ_{02}	1.545	1.258	968	1.228	0.220
	School 4, γ_{03}	1.571	1.456	968	1.079	0.281
	School 5, γ_{04}	1.409	1.16	968	1.215	0.225
	School 6, γ_{05}	-1.598	1.075	968	-1.486	0.138
	School 7, γ_{06}	-0.64	1.147	968	-0.558	0.577
	School 8, γ_{07}	-0.195	1.281	968	-0.152	0.879
	School 9, γ_{08}	1.962	1.453	968	1.35	0.177
	School 10, γ_{09}	0.588	1.289	968	0.456	0.648
	Pretest, β_{1j}	0.442	0.027	968	16.224	0.000
	D_{GRADE}[a], β_{2j}	-2.653	1.397	968	-1.899	0.058
	Treatment, β_{3j}	1.726	0.793	968	2.178	0.030
	Grade 6, β_{4j}	1.832	0.789	968	2.322	0.020
	Treatment*Grade 6, β_{5j}	-0.887	1.116	968	-0.795	0.427

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.232	75.456			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.12: GRADE Vocabulary Scale Score

D: Race*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Black + β_{5j}*Black*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	86.956	1.163	968	74.755	0.000
	School 1, γ_{01}	-0.898	1.127	968	-0.797	0.426
	School 3, γ_{02}	1.441	1.258	968	1.145	0.253
	School 4, γ_{03}	1.275	1.451	968	0.878	0.380
	School 5, γ_{04}	1.393	1.162	968	1.199	0.231
	School 6, γ_{05}	-2.003	1.093	968	-1.833	0.067
	School 7, γ_{06}	-1.548	1.251	968	-1.237	0.216
	School 8, γ_{07}	-0.174	1.283	968	-0.135	0.892
	School 9, γ_{08}	1.646	1.459	968	1.128	0.260
	School 10, γ_{09}	-0.081	1.325	968	-0.061	0.951
	Pretest, β_{1j}	0.444	0.027	968	16.255	0.000
	D_{GRADE}[a], β_{2j}	-2.822	1.391	968	-2.028	0.043
	Treatment, β_{3j}	2.154	1.014	968	2.124	0.034
	Black, β_{4j}	-0.699	0.936	968	-0.746	0.456
	Treatment*Black, β_{5j}	-1.157	1.213	968	-0.953	0.341

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.230	75.673			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.12: GRADE Vocabulary Scale Score

E: Treatment*Pretest Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Pretest*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$

Fixed Effects						
Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	86.216	0.855	969	100.892	0.000
	School 1, γ_{01}	-0.392	1.071	969	-0.366	0.714
	School 3, γ_{02}	1.298	1.260	969	1.031	0.303
	School 4, γ_{03}	1.238	1.454	969	0.851	0.395
	School 5, γ_{04}	1.415	1.163	969	1.217	0.224
	School 6, γ_{05}	-1.703	1.077	969	-1.580	0.114
	School 7, γ_{06}	-0.752	1.150	969	-0.654	0.513
	School 8, γ_{07}	-0.183	1.286	969	-0.143	0.887
	School 9, γ_{08}	1.825	1.456	969	1.254	0.210
	School 10, γ_{09}	0.426	1.292	969	0.330	0.742
	Pretest, β_{1j}	0.469	0.036	969	12.922	0.000
	D_{GRADE}[a], β_{2j}	-2.736	1.392	969	-1.965	0.050
	Treatment, β_{3j}	1.310	0.560	969	2.340	0.019
	Treatment*Pretest, β_{4j}	-0.040	0.054	969	-0.744	0.457

Fixed Effects						
Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.228	75.860			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.13: GRADE Vocabulary NCE

I. Treatment Impact Results	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	30.803	1.171	970	26.308	0.000
	School 1, γ_{01}	-0.655	1.468	970	-0.446	0.656
	School 3, γ_{02}	1.657	1.725	970	0.960	0.337
	School 4, γ_{03}	1.783	1.990	970	0.896	0.371
	School 5, γ_{04}	1.727	1.593	970	1.084	0.279
	School 6, γ_{05}	-2.536	1.475	970	-1.719	0.086
	School 7, γ_{06}	-1.065	1.575	970	-0.677	0.499
	School 8, γ_{07}	-0.235	1.760	970	-0.133	0.894
	School 9, γ_{08}	2.214	1.993	970	1.111	0.267
	School 10, γ_{09}	0.401	1.769	970	0.226	0.821
	Pretest, β_{1j}	0.458	0.027	970	17.018	0.000
	D_{GRADE}[a], β_{2j}	-2.507	1.979	970	-1.267	0.205
	Treatment, β_{3j}	1.843	0.767	970	2.401	0.017

Fixed Effects

Level	Variance Components	Variance	ICC	$Sigma^2$		
Student	Level 1	0.235	0.006	142.418		

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.13: GRADE Vocabulary NCE

A: Poverty*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Poverty + β_{5j}*Poverty*Treatment + r_{ij}

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

$\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	32.293	1.78	968	18.143	0.000
	School 1, γ_{01}	-0.868	1.477	968	-0.588	0.557
	School 3, γ_{02}	1.75	1.727	968	1.013	0.311
	School 4, γ_{03}	1.81	1.991	968	0.909	0.363
	School 5, γ_{04}	1.768	1.595	968	1.109	0.268
	School 6, γ_{05}	-2.549	1.475	968	-1.728	0.084
	School 7, γ_{06}	-1.277	1.583	968	-0.807	0.420
	School 8, γ_{07}	-0.217	1.76	968	-0.123	0.902
	School 9, γ_{08}	2.385	1.997	968	1.194	0.233
	School 10, γ_{09}	0.495	1.772	968	0.279	0.780
	Pretest, β_{1j}	0.454	0.027	968	16.814	0.000
	D_{GRADE}[a], β_{2j}	-2.532	1.979	968	-1.279	0.201
	Treatment, β_{3j}	1.517	2.059	968	0.737	0.462
	Poverty, β_{4j}	-1.71	1.536	968	-1.113	0.266
	Treatment*Poverty, β_{5j}	0.409	2.217	968	0.185	0.854

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.236	142.446			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.13: GRADE Vocabulary NCE

B: Gender*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Male + β_{5j}*Male*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	31.239	1.312	968	23.817	0.000
	School 1, γ_{01}	-0.703	1.468	968	-0.479	0.632
	School 3, γ_{02}	1.671	1.725	968	0.969	0.333
	School 4, γ_{03}	1.828	1.991	968	0.918	0.359
	School 5, γ_{04}	1.726	1.594	968	1.082	0.279
	School 6, γ_{05}	-2.558	1.476	968	-1.734	0.083
	School 7, γ_{06}	-1.166	1.576	968	-0.740	0.460
	School 8, γ_{07}	-0.318	1.761	968	-0.181	0.857
	School 9, γ_{08}	2.185	1.995	968	1.095	0.274
	School 10, γ_{09}	0.396	1.769	968	0.224	0.823
	Pretest, β_{1j}	0.457	0.027	968	16.977	0.000
	D_{GRADE}[a], β_{2j}	-2.573	1.982	968	-1.298	0.195
	Treatment, β_{3j}	0.633	1.147	968	0.552	0.581
	Male, β_{4j}	-0.737	1.079	968	-0.683	0.495
	Treatment*Male, β_{5j}	2.173	1.535	968	1.415	0.157

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.235	142.391			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.13: GRADE Vocabulary NCE

C: Grade*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Grade 6 + β_{5j}*Grade 6*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	29.438	1.305	968	22.563	0.000
	School 1, γ_{01}	-0.509	1.465	968	-0.348	0.728
	School 3, γ_{02}	1.963	1.724	968	1.139	0.255
	School 4, γ_{03}	2.316	1.994	968	1.161	0.246
	School 5, γ_{04}	1.723	1.589	968	1.084	0.279
	School 6, γ_{05}	-2.372	1.473	968	-1.611	0.108
	School 7, γ_{06}	-0.917	1.571	968	-0.584	0.560
	School 8, γ_{07}	-0.33	1.756	968	-0.188	0.851
	School 9, γ_{08}	2.473	1.99	968	1.243	0.214
	School 10, γ_{09}	0.589	1.766	968	0.334	0.739
	Pretest, β_{1j}	0.45	0.027	968	16.645	0.000
	D_{GRADE}[a], β_{2j}	-2.277	1.988	968	-1.145	0.252
	Treatment, β_{3j}	2.232	1.088	968	2.052	0.040
	Grade 6, β_{4j}	2.472	1.081	968	2.288	0.022
	Treatment*Grade 6, β_{5j}	-0.831	1.531	968	-0.543	0.587

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.239	141.625			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.13: GRADE Vocabulary NCE

D: Race*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0i} + \beta_{1i}$*Pretest + β_{2i}*D_{GRADE} + β_{3i} *Treatment + β_{4j}*Black + β_{5j}*Black*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	31.643	1.595	968	19.836	0.000
	School 1, γ_{01}	-1.272	1.545	968	-0.823	0.411
	School 3, γ_{02}	1.794	1.725	968	1.040	0.299
	School 4, γ_{03}	1.875	1.990	968	0.942	0.346
	School 5, γ_{04}	1.715	1.593	968	1.077	0.282
	School 6, γ_{05}	-2.876	1.498	968	-1.920	0.055
	School 7, γ_{06}	-2.045	1.715	968	-1.192	0.233
	School 8, γ_{07}	-0.279	1.759	968	-0.159	0.874
	School 9, γ_{08}	2.048	1.999	968	1.024	0.306
	School 10, γ_{09}	-0.257	1.817	968	-0.142	0.887
	Pretest, β_{1j}	0.452	0.027	968	16.647	0.000
	D_{GRADE}[a], β_{2j}	-2.646	1.979	968	-1.337	0.182
	Treatment, β_{3j}	3.024	1.392	968	2.173	0.030
	Black, β_{4j}	-0.773	1.284	968	-0.602	0.547
	Treatment*Black, β_{5j}	-1.604	1.664	968	-0.964	0.335

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.236	142.216			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.13: GRADE Vocabulary NCE

E: Treatment*Pretest Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Pretest*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$

Fixed Effects						
Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	30.797	1.171	969	26.295	0.000
	School 1, γ_{01}	-0.667	1.468	969	-0.454	0.650
	School 3, γ_{02}	1.607	1.727	969	0.931	0.352
	School 4, γ_{03}	1.842	1.993	969	0.925	0.355
	School 5, γ_{04}	1.736	1.594	969	1.089	0.276
	School 6, γ_{05}	-2.523	1.476	969	-1.710	0.088
	School 7, γ_{06}	-1.068	1.575	969	-0.678	0.498
	School 8, γ_{07}	-0.297	1.763	969	-0.169	0.866
	School 9, γ_{08}	2.261	1.995	969	1.133	0.257
	School 10, γ_{09}	0.361	1.770	969	0.204	0.838
	Pretest, β_{1j}	0.474	0.036	969	13.230	0.000
	D_{GRADE}[a], β_{2j}	-2.503	1.979	969	-1.265	0.206
	Treatment, β_{3j}	1.861	0.768	969	2.423	0.016
	Treatment*Pretest, β_{4j}	-0.038	0.054	969	-0.705	0.481
Fixed Effects						
Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.235	142.492			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.14: GRADE Comprehension Standard Score

I. Treatment Impact Results

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}*Pretest + \beta_{2j}*D_{GRADE} + \beta_{3j}*Treatment + r_{ij}$

Level 2 Model:
$\beta_{0j} = \gamma_{00} + \gamma_{01}*School\ 1 + \gamma_{02}*School\ 3 + \gamma_{03}*School\ 4 + \gamma_{04}*School\ 5 + \gamma_{05}*School\ 6 + \gamma_{06}*School\ 7 + \gamma_{07}*School\ 8 + \gamma_{08}*School\ 9 + \gamma_{09}*School\ 10$
$\beta_{1j} = \gamma_{10}$
$\beta_{2j} = \gamma_{20}$
$\beta_{3j} = \gamma_{30}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	80.200	0.788	970	101.760	0.000
	School 1, γ_{01}	1.105	0.986	970	1.121	0.263
	School 3, γ_{02}	4.160	1.161	970	3.584	0.000
	School 4, γ_{03}	2.814	1.339	970	2.101	0.036
	School 5, γ_{04}	2.023	1.072	970	1.886	0.060
	School 6, γ_{05}	0.042	0.993	970	0.043	0.966
	School 7, γ_{06}	1.611	1.060	970	1.520	0.129
	School 8, γ_{07}	-0.974	1.185	970	-0.822	0.411
	School 9, γ_{08}	1.642	1.342	970	1.224	0.221
	School 10, γ_{09}	1.334	1.188	970	1.123	0.262
	Pretest, β_{1j}	0.506	0.029	970	17.202	0.000
	D_{GRADE}[a], β_{2j}	-1.556	1.332	970	-1.168	0.243
	Treatment, β_{3j}	2.796	0.517	970	5.411	0.000

Fixed Effects

Level	Variance Components	Variance	ICC	$Sigma^2$		
Student	Level 1	0.268	0.022	64.529		

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.14: GRADE Comprehension Standard Score

A: Poverty*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}*Pretest + \beta_{2j}*D_{GRADE} + \beta_{3j}*Treatment + \beta_{4j}*Poverty + \beta_{5j}*Poverty*Treatment + r_{ij}$

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}*School\ 1 + \gamma_{02}*School\ 3 + \gamma_{03}*School\ 4 + \gamma_{04}*School\ 5 + \gamma_{05}*School\ 6 + \gamma_{06}*School\ 7 + \gamma_{07}*School\ 8 + \gamma_{08}*School\ 9 + \gamma_{09}*School\ 10$

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

$\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	80.912	1.194	968	67.742	0.000
	School 1, γ_{01}	0.907	0.99	968	0.916	0.360
	School 3, γ_{02}	4.295	1.159	968	3.707	0.000
	School 4, γ_{03}	2.854	1.336	968	2.137	0.033
	School 5, γ_{04}	2.133	1.07	968	1.993	0.047
	School 6, γ_{05}	0.027	0.99	968	0.027	0.978
	School 7, γ_{06}	1.397	1.062	968	1.315	0.189
	School 8, γ_{07}	-0.959	1.182	968	-0.812	0.417
	School 9, γ_{08}	1.851	1.342	968	1.38	0.168
	School 10, γ_{09}	1.473	1.185	968	1.242	0.214
	Pretest, β_{1j}	0.504	0.029	968	17.158	0.000
	D_{GRADE}[a], β_{2j}	-1.53	1.329	968	-1.151	0.250
	Treatment, β_{3j}	4.576	1.382	968	3.311	0.001
	Poverty, β_{4j}	-0.822	1.03	968	-0.798	0.425
	Treatment*Poverty, β_{5j}	-2.027	1.489	968	-1.361	0.174

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.270	64.184			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.14: GRADE Comprehension Standard Score

B: Gender*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Male + β_{5j}*Male*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	81.316	0.880	968	92.377	0.000
	School 1, γ_{01}	1.067	0.984	968	1.084	0.279
	School 3, γ_{02}	4.166	1.157	968	3.600	0.000
	School 4, γ_{03}	2.809	1.335	968	2.103	0.036
	School 5, γ_{04}	1.939	1.070	968	1.813	0.070
	School 6, γ_{05}	0.087	0.990	968	0.088	0.930
	School 7, γ_{06}	1.571	1.058	968	1.485	0.138
	School 8, γ_{07}	-1.023	1.181	968	-0.865	0.387
	School 9, γ_{08}	1.772	1.339	968	1.323	0.186
	School 10, γ_{09}	1.363	1.184	968	1.151	0.250
	Pretest, β_{1j}	0.510	0.029	968	17.319	0.000
	D_{GRADE}[a], β_{2j}	-1.433	1.330	968	-1.077	0.282
	Treatment, β_{3j}	1.456	0.772	968	1.885	0.060
	Male, β_{4j}	-2.023	0.724	968	-2.792	0.005
	Treatment*Male, β_{5j}	2.418	1.034	968	2.339	0.020

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.272	64.127			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.14: GRADE Comprehension Standard Score

C: Grade*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Grade 6 + β_{5j}*Grade 6*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10
	$\beta_{1j} = \gamma_{10}$
	$\beta_{2j} = \gamma_{20}$
	$\beta_{3j} = \gamma_{30}$
	$\beta_{4j} = \gamma_{40}$
	$\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	78.579	0.872	968	90.098	0.000
	School 1, γ_{01}	1.184	0.979	968	1.21	0.227
	School 3, γ_{02}	4.358	1.153	968	3.779	0.000
	School 4, γ_{03}	3.29	1.335	968	2.463	0.014
	School 5, γ_{04}	2.077	1.064	968	1.953	0.051
	School 6, γ_{05}	0.218	0.986	968	0.221	0.825
	School 7, γ_{06}	1.752	1.052	968	1.665	0.096
	School 8, γ_{07}	-0.979	1.175	968	-0.833	0.405
	School 9, γ_{08}	1.868	1.333	968	1.401	0.162
	School 10, γ_{09}	1.425	1.178	968	1.209	0.227
	Pretest, β_{1j}	0.509	0.029	968	17.402	0.000
	D_{GRADE}[a], β_{2j}	-1.751	1.331	968	-1.316	0.189
	Treatment, β_{3j}	4.434	0.728	968	6.087	0.000
	Grade 6, β_{4j}	3.026	0.719	968	4.21	0.000
	Treatment*Grade 6, β_{5j}	-3.28	1.023	968	-3.205	0.001

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.279	63.491			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.14: GRADE Comprehension Standard Score

D: Race*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0i} + \beta_{1i}$*Pretest + β_{2i}*D_{GRADE} + β_{3i} *Treatment + β_{4j}*Black + β_{5j}*Black*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	80.208	1.071	968	74.873	0.000
	School 1, γ_{01}	0.856	1.039	968	0.824	0.410
	School 3, γ_{02}	4.248	1.160	968	3.663	0.000
	School 4, γ_{03}	2.893	1.338	968	2.163	0.031
	School 5, γ_{04}	2.057	1.071	968	1.920	0.055
	School 6, γ_{05}	-0.093	1.008	968	-0.092	0.926
	School 7, γ_{06}	1.157	1.152	968	1.004	0.316
	School 8, γ_{07}	-0.975	1.183	968	-0.824	0.410
	School 9, γ_{08}	1.621	1.345	968	1.206	0.228
	School 10, γ_{09}	0.968	1.221	968	0.793	0.428
	Pretest, β_{1j}	0.506	0.029	968	17.175	0.000
	D_{GRADE}[a], β_{2j}	-1.682	1.331	968	-1.264	0.207
	Treatment, β_{3j}	4.259	0.936	968	4.549	0.000
	Black, β_{4j}	0.183	0.861	968	0.212	0.832
	Treatment*Black, β_{5j}	-2.048	1.120	968	-1.829	0.068

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.270				

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.14: GRADE Comprehension Standard Score

E: Treatment*Pretest Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Pretest*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$

Fixed Effects						
Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	80.233	0.787	969	101.957	0.000
	School 1, γ_{01}	1.069	0.985	969	1.086	0.278
	School 3, γ_{02}	4.214	1.159	969	3.636	0.000
	School 4, γ_{03}	2.724	1.338	969	2.036	0.042
	School 5, γ_{04}	1.883	1.072	969	1.756	0.079
	School 6, γ_{05}	-0.009	0.991	969	-0.009	0.993
	School 7, γ_{06}	1.692	1.059	969	1.598	0.110
	School 8, γ_{07}	-0.820	1.185	969	-0.692	0.489
	School 9, γ_{08}	1.442	1.343	969	1.073	0.283
	School 10, γ_{09}	1.288	1.186	969	1.087	0.278
	Pretest, β_{1j}	0.447	0.041	969	10.886	0.000
	D_{GRADE}[a], β_{2j}	-1.525	1.330	969	-1.147	0.252
	Treatment, β_{3j}	2.734	0.517	969	5.292	0.000
	Treatment*Pretest, β_{4j}	0.123	0.059	969	2.088	0.037

Fixed Effects						
Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.270	64.306			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.15: GRADE Comprehension NCE

I. Treatment Impact Results	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$

Fixed Effects						
Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	22.481	1.055	970	21.310	0.000
	School 1, γ_{01}	1.532	1.320	970	1.160	0.246
	School 3, γ_{02}	5.725	1.553	970	3.685	0.000
	School 4, γ_{03}	4.092	1.793	970	2.283	0.023
	School 5, γ_{04}	2.750	1.435	970	1.916	0.056
	School 6, γ_{05}	-0.030	1.329	970	-0.023	0.982
	School 7, γ_{06}	2.538	1.419	970	1.789	0.074
	School 8, γ_{07}	-1.521	1.586	970	-0.959	0.338
	School 9, γ_{08}	2.504	1.797	970	1.394	0.164
	School 10, γ_{09}	1.532	1.590	970	0.964	0.335
	Pretest, β_{1j}	0.535	0.029	970	18.437	0.000
	D_{GRADE}[a], β_{2j}	-2.028	1.783	970	-1.138	0.256
	Treatment, β_{3j}	3.822	0.692	970	5.527	0.000

Fixed Effects						
Level	Variance Components	Variance	ICC	$Sigma^2$		
Student	Level 1	0.293	0.023	115.620		

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.15: GRADE Comprehension NCE

A: Poverty*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Poverty + β_{5j}*Poverty*Treatment + r_{ij}

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

$\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	23.431	1.599	968	14.651	0.000
	School 1, γ_{01}	1.278	1.326	968	0.964	0.335
	School 3, γ_{02}	5.895	1.551	968	3.8	0.000
	School 4, γ_{03}	4.143	1.789	968	2.316	0.021
	School 5, γ_{04}	2.889	1.433	968	2.015	0.044
	School 6, γ_{05}	-0.049	1.326	968	-0.037	0.970
	School 7, γ_{06}	2.265	1.423	968	1.592	0.112
	School 8, γ_{07}	-1.503	1.582	968	-0.95	0.342
	School 9, γ_{08}	2.769	1.797	968	1.541	0.124
	School 10, γ_{09}	1.708	1.588	968	1.076	0.282
	Pretest, β_{1j}	0.533	0.029	968	18.379	0.000
	D_{GRADE}[a], β_{2j}	-1.998	1.779	968	-1.123	0.262
	Treatment, β_{3j}	6.002	1.851	968	3.243	0.001
	Poverty, β_{4j}	-1.096	1.379	968	-0.795	0.427
	Treatment*Poverty, β_{5j}	-2.48	1.993	968	-1.244	0.214

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.295	115.097			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.15: GRADE Comprehension NCE

B: Gender*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Male + β_{5j}*Male*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	23.823	1.179	968	20.205	0.000
	School 1, γ_{01}	1.476	1.318	968	1.120	0.263
	School 3, γ_{02}	5.734	1.550	968	3.700	0.000
	School 4, γ_{03}	4.097	1.789	968	2.290	0.022
	School 5, γ_{04}	2.657	1.433	968	1.855	0.064
	School 6, γ_{05}	0.015	1.326	968	0.012	0.991
	School 7, γ_{06}	2.472	1.417	968	1.745	0.081
	School 8, γ_{07}	-1.593	1.582	968	-1.007	0.314
	School 9, γ_{08}	2.645	1.794	968	1.474	0.141
	School 10, γ_{09}	1.561	1.586	968	0.984	0.325
	Pretest, β_{1j}	0.539	0.029	968	18.541	0.000
	D_{GRADE}[a], β_{2j}	-1.905	1.782	968	-1.069	0.285
	Treatment, β_{3j}	2.066	1.034	968	1.998	0.046
	Male, β_{4j}	-2.419	0.970	968	-2.494	0.013
	Treatment*Male, β_{5j}	3.167	1.384	968	2.288	0.022

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.296	115.050			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.15: GRADE Comprehension NCE

C: Grade*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Grade 6 + β_{5j}*Grade 6*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	20.348	1.168	968	17.424	0.000
	School 1, γ_{01}	1.638	1.311	968	1.25	0.212
	School 3, γ_{02}	5.994	1.544	968	3.881	0.000
	School 4, γ_{03}	4.728	1.788	968	2.644	0.008
	School 5, γ_{04}	2.819	1.424	968	1.979	0.048
	School 6, γ_{05}	0.201	1.32	968	0.152	0.879
	School 7, γ_{06}	2.726	1.409	968	1.935	0.053
	School 8, γ_{07}	-1.534	1.574	968	-0.975	0.330
	School 9, γ_{08}	2.807	1.786	968	1.572	0.116
	School 10, γ_{09}	1.656	1.578	968	1.049	0.294
	Pretest, β_{1j}	0.537	0.029	968	18.629	0.000
	D_{GRADE}[a], β_{2j}	-2.26	1.782	968	-1.268	0.205
	Treatment, β_{3j}	5.915	0.975	968	6.065	0.000
	Grade 6, β_{4j}	3.979	0.962	968	4.134	0.000
	Treatment*Grade 6, β_{5j}	-4.193	1.37	968	-3.061	0.002

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.303	113.841			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.15: GRADE Comprehension NCE

D: Race*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0i} + \beta_{1i}$*Pretest + β_{2i}*D_{GRADE} + β_{3i} *Treatment + β_{4j}*Black + β_{5j}*Black*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	22.599	1.434	968	15.762	0.000
	School 1, γ_{01}	1.157	1.391	968	0.831	0.406
	School 3, γ_{02}	5.845	1.552	968	3.765	0.000
	School 4, γ_{03}	4.198	1.791	968	2.344	0.019
	School 5, γ_{04}	2.790	1.434	968	1.945	0.052
	School 6, γ_{05}	-0.234	1.349	968	-0.174	0.862
	School 7, γ_{06}	1.876	1.543	968	1.217	0.224
	School 8, γ_{07}	-1.528	1.584	968	-0.965	0.335
	School 9, γ_{08}	2.458	1.800	968	1.365	0.172
	School 10, γ_{09}	1.013	1.634	968	0.620	0.536
	Pretest, β_{1j}	0.534	0.029	968	18.393	0.000
	D_{GRADE}[a], β_{2j}	-2.195	1.782	968	-1.232	0.218
	Treatment, β_{3j}	5.701	1.253	968	4.549	0.000
	Black, β_{4j}	0.116	1.152	968	0.101	0.920
	Treatment*Black, β_{5j}	-2.622	1.499	968	-1.750	0.081

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.295	115.288			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.15: GRADE Comprehension NCE

E: Treatment*Pretest Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{GRADE} + β_{3j} *Treatment + β_{4j}*Pretest*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$

Fixed Effects						
Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	22.515	1.054	969	21.358	0.000
	School 1, γ_{01}	1.501	1.319	969	1.138	0.256
	School 3, γ_{02}	5.791	1.553	969	3.730	0.000
	School 4, γ_{03}	3.998	1.792	969	2.231	0.026
	School 5, γ_{04}	2.606	1.436	969	1.814	0.070
	School 6, γ_{05}	-0.076	1.328	969	-0.057	0.954
	School 7, γ_{06}	2.626	1.418	969	1.851	0.064
	School 8, γ_{07}	-1.343	1.588	969	-0.846	0.398
	School 9, γ_{08}	2.270	1.800	969	1.261	0.208
	School 10, γ_{09}	1.482	1.588	969	0.933	0.351
	Pretest, β_{1j}	0.486	0.041	969	11.810	0.000
	D_{GRADE}[a], β_{2j}	-2.001	1.781	969	-1.124	0.261
	Treatment, β_{3j}	3.760	0.692	969	5.433	0.000
	Treatment*Pretest, β_{4j}	0.098	0.058	969	1.685	0.092

Fixed Effects						
Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.294	115.401			

[a]D_{GRADE} - Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.16: Motivation to Read: Overall Motivation

I. Treatment Impact Results

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}*Pretest + \beta_{2j}*D_{MRQ} + \beta_{3j}*Treatment + r_{ij}$

Level 2 Model:
$\beta_{0j} = \gamma_{00} + \gamma_{01}*School\ 1 + \gamma_{02}*School\ 3 + \gamma_{03}*School\ 4 + \gamma_{04}*School\ 5 + \gamma_{05}*School\ 6 + \gamma_{06}*School\ 7 + \gamma_{07}*School\ 8 + \gamma_{08}*School\ 9 + \gamma_{09}*School\ 10$
$\beta_{1j} = \gamma_{10}$
$\beta_{2j} = \gamma_{20}$
$\beta_{3j} = \gamma_{30}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.832	0.036	964	79.679	0.000
	School 1, γ_{01}	-0.195	0.045	964	-4.386	0.000
	School 3, γ_{02}	-0.038	0.052	964	-0.736	0.462
	School 4, γ_{03}	-0.011	0.060	964	-0.174	0.862
	School 5, γ_{04}	-0.008	0.048	964	-0.167	0.868
	School 6, γ_{05}	-0.120	0.045	964	-2.674	0.008
	School 7, γ_{06}	-0.137	0.048	964	-2.850	0.004
	School 8, γ_{07}	0.011	0.053	964	0.199	0.842
	School 9, γ_{08}	-0.120	0.061	964	-1.981	0.048
	School 10, γ_{09}	-0.152	0.053	964	-2.852	0.004
	Pretest, β_{1j}	0.573	0.029	964	19.490	0.000
	D_{MRQ}[a], β_{2j}	-0.006	0.061	964	-0.097	0.923
	Treatment, β_{3j}	0.028	0.023	964	1.209	0.227

Fixed Effects

Level	Variance Components	Variance	ICC	$Sigma^2$		
Student	Level 1	0.323	0.064	0.130		

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.16: Motivation to Read: Overall Motivation

A: Poverty*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{MRQ} + β_{3j}*Treatment + β_{4j}*Poverty + β_{5j}*Poverty*Treatment + r_{ij}

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

$\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.763	0.054	962	51.308	0.000
	School 1, γ_{01}	-0.187	0.045	962	-4.17	0.000
	School 3, γ_{02}	-0.041	0.052	962	-0.787	0.432
	School 4, γ_{03}	-0.012	0.06	962	-0.194	0.846
	School 5, γ_{04}	-0.009	0.048	962	-0.181	0.857
	School 6, γ_{05}	-0.12	0.045	962	-2.679	0.008
	School 7, γ_{06}	-0.13	0.048	962	-2.697	0.007
	School 8, γ_{07}	0.009	0.053	962	0.172	0.864
	School 9, γ_{08}	-0.127	0.061	962	-2.091	0.037
	School 10, γ_{09}	-0.155	0.053	962	-2.893	0.004
	Pretest, β_{1j}	0.569	0.029	962	19.321	0.000
	D_{MRQ}[a], β_{2j}	-0.004	0.061	962	-0.063	0.950
	Treatment, β_{3j}	0.079	0.062	962	1.262	0.207
	Poverty, β_{4j}	0.08	0.047	962	1.711	0.087
	Treatment*Poverty, β_{5j}	-0.06	0.067	962	-0.892	0.373

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.339	0.129			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.16: Motivation to Read: Overall Motivation

B: Gender*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{MRQ} + β_{3j} *Treatment + β_{4j}*Male + β_{5j}*Male*Treatment + r_{ij}

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

$\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.824	0.040	962	70.675	0.000
	School 1, γ_{01}	-0.195	0.045	962	-4.367	0.000
	School 3, γ_{02}	-0.038	0.052	962	-0.736	0.462
	School 4, γ_{03}	-0.011	0.060	962	-0.177	0.859
	School 5, γ_{04}	-0.008	0.048	962	-0.158	0.875
	School 6, γ_{05}	-0.120	0.045	962	-2.670	0.008
	School 7, γ_{06}	-0.136	0.048	962	-2.821	0.005
	School 8, γ_{07}	0.012	0.053	962	0.216	0.829
	School 9, γ_{08}	-0.120	0.061	962	-1.984	0.048
	School 10, γ_{09}	-0.152	0.053	962	-2.849	0.004
	Pretest, β_{1j}	0.573	0.029	962	19.444	0.000
	D_{MRQ}[a], β_{2j}	-0.007	0.061	962	-0.108	0.914
	Treatment, β_{3j}	0.044	0.035	962	1.267	0.205
	Male, β_{4j}	0.015	0.033	962	0.463	0.643
	Treatment*Male, β_{5j}	-0.029	0.046	962	-0.618	0.537

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.322	0.130			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.16: Motivation to Read: Overall Motivation

C: Grade*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{MRQ} + β_{3j} *Treatment + β_{4j}*Grade 6 + β_{5j}*Grade 6*Treatment + r_{ij}

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

$\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.795	0.039	962	70.791	0.000
	School 1, γ_{01}	-0.194	0.045	962	-4.368	0.000
	School 3, γ_{02}	-0.033	0.052	962	-0.639	0.523
	School 4, γ_{03}	0.001	0.061	962	0.02	0.984
	School 5, γ_{04}	-0.007	0.048	962	-0.151	0.880
	School 6, γ_{05}	-0.116	0.045	962	-2.607	0.009
	School 7, γ_{06}	-0.135	0.048	962	-2.814	0.005
	School 8, γ_{07}	0.009	0.053	962	0.168	0.866
	School 9, γ_{08}	-0.115	0.061	962	-1.895	0.058
	School 10, γ_{09}	-0.151	0.053	962	-2.825	0.005
	Pretest, β_{1j}	0.566	0.03	962	19.18	0.000
	D_{MRQ}[a], β_{2j}	-0.008	0.062	962	-0.127	0.899
	Treatment, β_{3j}	0.059	0.033	962	1.793	0.073
	Grade 6, β_{4j}	0.071	0.033	962	2.184	0.029
	Treatment*Grade 6, β_{5j}	-0.062	0.046	962	-1.343	0.180

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.325	0.129			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.16: Motivation to Read: Overall Motivation

D: Race*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{MRQ} + β_{3j} *Treatment + β_{4j}*Black + β_{5j}*Black*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.708	0.048	962	56.921	0.000
	School 1, γ_{01}	-0.128	0.046	962	-2.763	0.006
	School 3, γ_{02}	-0.051	0.051	962	-0.983	0.326
	School 4, γ_{03}	-0.020	0.060	962	-0.329	0.742
	School 5, γ_{04}	-0.005	0.047	962	-0.102	0.919
	School 6, γ_{05}	-0.084	0.045	962	-1.882	0.060
	School 7, γ_{06}	-0.042	0.051	962	-0.814	0.416
	School 8, γ_{07}	0.013	0.053	962	0.243	0.808
	School 9, γ_{08}	-0.104	0.060	962	-1.729	0.084
	School 10, γ_{09}	-0.089	0.054	962	-1.650	0.099
	Pretest, β_{1j}	0.547	0.029	962	18.565	0.000
	D_{MRQ}[a], β_{2j}	0.001	0.061	962	0.020	0.984
	Treatment, β_{3j}	0.000	0.042	962	0.009	0.993
	Black, β_{4j}	0.137	0.039	962	3.537	0.000
	Treatment*Black, β_{5j}	0.030	0.050	962	0.613	0.540

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.340	0.126			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.16: Motivation to Read: Overall Motivation

E: Treatment*Pretest Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0i} + \beta_{1i}$*Pretest + β_{2i}*D_{MRQ} + β_{3i} *Treatment + β_{4i}*Pretest*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$

Fixed Effects						
Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.832	0.036	963	79.536	0.000
	School 1, γ_{01}	-0.195	0.045	963	-4.380	0.000
	School 3, γ_{02}	-0.038	0.052	963	-0.733	0.464
	School 4, γ_{03}	-0.010	0.061	963	-0.160	0.873
	School 5, γ_{04}	-0.008	0.048	963	-0.164	0.870
	School 6, γ_{05}	-0.119	0.045	963	-2.667	0.008
	School 7, γ_{06}	-0.137	0.048	963	-2.844	0.005
	School 8, γ_{07}	0.011	0.053	963	0.205	0.838
	School 9, γ_{08}	-0.119	0.061	963	-1.955	0.051
	School 10, γ_{09}	-0.152	0.053	963	-2.844	0.005
	Pretest, β_{1j}	0.577	0.039	963	14.896	0.000
	D_{MRQ}[a], β_{2j}	-0.006	0.061	963	-0.097	0.923
	Treatment, β_{3j}	0.028	0.023	963	1.211	0.226
	Treatment*Pretest, β_{4j}	-0.009	0.059	963	-0.157	0.875

Fixed Effects						
Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.322	0.130			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.17: Motivation to Read: Intrinsic Motivation

I. Treatment Impact Results

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}*Pretest + \beta_{2j}*D_{MRQ} + \beta_{3j}*Treatment + r_{ij}$

Level 2 Model:
$\beta_{0j} = \gamma_{00} + \gamma_{01}*School\ 1 + \gamma_{02}*School\ 3 + \gamma_{03}*School\ 4 + \gamma_{04}*School\ 5 + \gamma_{05}*School\ 6 + \gamma_{06}*School\ 7 + \gamma_{07}*School\ 8 + \gamma_{08}*School\ 9 + \gamma_{09}*School\ 10$
$\beta_{1j} = \gamma_{10}$
$\beta_{2j} = \gamma_{20}$
$\beta_{3j} = \gamma_{30}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.884	0.036	964	79.893	0.000
	School 1, γ_{01}	-0.202	0.045	964	-4.480	0.000
	School 3, γ_{02}	-0.007	0.053	964	-0.138	0.890
	School 4, γ_{03}	0.010	0.061	964	0.161	0.873
	School 5, γ_{04}	-0.012	0.049	964	-0.250	0.803
	School 6, γ_{05}	-0.081	0.046	964	-1.786	0.074
	School 7, γ_{06}	-0.134	0.049	964	-2.746	0.006
	School 8, γ_{07}	0.017	0.054	964	0.305	0.761
	School 9, γ_{08}	-0.093	0.062	964	-1.511	0.131
	School 10, γ_{09}	-0.173	0.054	964	-3.184	0.001
	Pretest, β_{1j}	0.445	0.031	964	14.484	0.000
	D_{MRQ}[a], β_{2j}	-0.012	0.062	964	-0.197	0.844
	Treatment, β_{3j}	0.027	0.024	964	1.156	0.248

Fixed Effects

Level	Variance Components	Variance	ICC	$Sigma^2$		
Student	Level 1	0.217	0.054	0.134		

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.17: Motivation to Read: Intrinsic Motivation

A: Poverty*Treatment Interaction Model

Level 1 Model	$Posttest_{ij} = \beta_{0i} + \beta_{1i}$*Pretest + β_{2i}*D_{MRQ} + β_{3i} *Treatment + β_{4i}*Poverty + β_{5i}*Poverty*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10
	$\beta_{1j} = \gamma_{10}$
	$\beta_{2j} = \gamma_{20}$
	$\beta_{3j} = \gamma_{30}$
	$\beta_{4j} = \gamma_{40}$
	$\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.829	0.055	962	51.609	0.000
	School 1, γ_{01}	-0.194	0.045	962	-4.269	0.000
	School 3, γ_{02}	-0.011	0.053	962	-0.2	0.842
	School 4, γ_{03}	0.009	0.061	962	0.141	0.888
	School 5, γ_{04}	-0.014	0.049	962	-0.284	0.777
	School 6, γ_{05}	-0.081	0.045	962	-1.789	0.074
	School 7, γ_{06}	-0.127	0.049	962	-2.593	0.010
	School 8, γ_{07}	0.015	0.054	962	0.281	0.779
	School 9, γ_{08}	-0.1	0.062	962	-1.622	0.105
	School 10, γ_{09}	-0.176	0.054	962	-3.241	0.001
	Pretest, β_{1j}	0.442	0.031	962	14.338	0.000
	D_{MRQ}[a], β_{2j}	-0.011	0.062	962	-0.177	0.859
	Treatment, β_{3j}	0.043	0.063	962	0.68	0.496
	Poverty, β_{4j}	0.064	0.047	962	1.348	0.178
	Treatment*Poverty, β_{5j}	-0.02	0.068	962	-0.286	0.775

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.229	0.134			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.17: Motivation to Read: Intrinsic Motivation

B: Gender*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{MRQ} + β_{3j} *Treatment + β_{4j}*Male + β_{5j}*Male*Treatment + r_{ij}

Level 2 Model:
$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10
$\beta_{1j} = \gamma_{10}$
$\beta_{2j} = \gamma_{20}$
$\beta_{3j} = \gamma_{30}$
$\beta_{4j} = \gamma_{40}$
$\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.857	0.041	962	70.418	0.000
	School 1, γ_{01}	-0.202	0.045	962	-4.472	0.000
	School 3, γ_{02}	-0.007	0.053	962	-0.135	0.892
	School 4, γ_{03}	0.012	0.061	962	0.189	0.850
	School 5, γ_{04}	-0.009	0.049	962	-0.192	0.847
	School 6, γ_{05}	-0.083	0.046	962	-1.819	0.069
	School 7, γ_{06}	-0.134	0.049	962	-2.741	0.006
	School 8, γ_{07}	0.017	0.054	962	0.316	0.752
	School 9, γ_{08}	-0.097	0.062	962	-1.572	0.116
	School 10, γ_{09}	-0.174	0.054	962	-3.198	0.001
	Pretest, β_{1j}	0.449	0.031	962	14.568	0.000
	D_{MRQ}[a], β_{2j}	-0.016	0.062	962	-0.255	0.799
	Treatment, β_{3j}	0.046	0.035	962	1.315	0.189
	Male, β_{4j}	0.051	0.033	962	1.515	0.130
	Treatment*Male, β_{5j}	-0.035	0.047	962	-0.738	0.461

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.218	0.134			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.17: Motivation to Read: Intrinsic Motivation

C: Grade*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{MRQ} + β_{3j} *Treatment + β_{4j}*Grade 6 + β_{5j}*Grade 6*Treatment + r_{ij}

Level 2 Model:
$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10
$\beta_{1j} = \gamma_{10}$
$\beta_{2j} = \gamma_{20}$
$\beta_{3j} = \gamma_{30}$
$\beta_{4j} = \gamma_{40}$
$\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.855	0.04	962	71	0.000
	School 1, γ_{01}	-0.201	0.045	962	-4.454	0.000
	School 3, γ_{02}	-0.004	0.053	962	-0.077	0.939
	School 4, γ_{03}	0.018	0.062	962	0.287	0.775
	School 5, γ_{04}	-0.011	0.049	962	-0.229	0.819
	School 6, γ_{05}	-0.079	0.046	962	-1.728	0.084
	School 7, γ_{06}	-0.132	0.049	962	-2.706	0.007
	School 8, γ_{07}	0.016	0.054	962	0.294	0.769
	School 9, γ_{08}	-0.09	0.062	962	-1.454	0.146
	School 10, γ_{09}	-0.172	0.054	962	-3.163	0.002
	Pretest, β_{1j}	0.442	0.031	962	14.367	0.000
	D_{MRQ}[a], β_{2j}	-0.018	0.063	962	-0.292	0.770
	Treatment, β_{3j}	0.06	0.034	962	1.769	0.077
	Grade 6, β_{4j}	0.055	0.033	962	1.665	0.096
	Treatment*Grade 6, β_{5j}	-0.064	0.047	962	-1.353	0.176

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.218	0.134			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.17: Motivation to Read: Intrinsic Motivation

D: Race*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0i} + \beta_{1i}$*Pretest + β_{2i}*D_{MRQ} + β_{3i} *Treatment + β_{4i}*Black + β_{5i}*Black*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5i} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.768	0.049	962	56.916	0.000
	School 1, γ_{01}	-0.141	0.047	962	-2.992	0.003
	School 3, γ_{02}	-0.016	0.053	962	-0.308	0.758
	School 4, γ_{03}	0.003	0.061	962	0.057	0.955
	School 5, γ_{04}	-0.008	0.049	962	-0.174	0.862
	School 6, γ_{05}	-0.050	0.046	962	-1.093	0.275
	School 7, γ_{06}	-0.051	0.052	962	-0.973	0.331
	School 8, γ_{07}	0.019	0.054	962	0.348	0.728
	School 9, γ_{08}	-0.077	0.061	962	-1.255	0.210
	School 10, γ_{09}	-0.120	0.055	962	-2.169	0.030
	Pretest, β_{1j}	0.426	0.031	962	13.813	0.000
	D_{MRQ}[a], β_{2j}	-0.008	0.062	962	-0.127	0.899
	Treatment, β_{3j}	0.026	0.043	962	0.623	0.534
	Black, β_{4j}	0.130	0.039	962	3.303	0.001
	Treatment*Black, β_{5j}	-0.006	0.051	962	-0.124	0.901

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.230	0.132			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.17: Motivation to Read: Intrinsic Motivation

E: Treatment*Pretest Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0i} + \beta_{1i}$*Pretest + β_{2i}*D_{MRQ} + β_{3i} *Treatment + β_{4i}*Pretest*Treatment + r_{ij}

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.884	0.036	963	79.821	0.000
	School 1, γ_{01}	-0.202	0.045	963	-4.477	0.000
	School 3, γ_{02}	-0.007	0.053	963	-0.137	0.891
	School 4, γ_{03}	0.010	0.062	963	0.167	0.868
	School 5, γ_{04}	-0.012	0.049	963	-0.248	0.804
	School 6, γ_{05}	-0.081	0.046	963	-1.786	0.074
	School 7, γ_{06}	-0.134	0.049	963	-2.745	0.006
	School 8, γ_{07}	0.017	0.054	963	0.305	0.761
	School 9, γ_{08}	-0.093	0.062	963	-1.497	0.135
	School 10, γ_{09}	-0.173	0.054	963	-3.178	0.002
	Pretest, β_{1j}	0.447	0.039	963	11.401	0.000
	D_{MRQ}[a], β_{2j}	-0.012	0.062	963	-0.197	0.844
	Treatment, β_{3j}	0.027	0.024	963	1.157	0.247
	Treatment*Pretest, β_{4j}	-0.006	0.063	963	-0.095	0.924

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$
Student	Level 1	0.216	0.134

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.18: Motivation to Read: Extrinsic Motivation

I. Treatment Impact Results

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}*Pretest + \beta_{2j}*D_{MRQ} + \beta_{3j}*Treatment + r_{ij}$

Level 2 Model:
$\beta_{0j} = \gamma_{00} + \gamma_{01}*School\ 1 + \gamma_{02}*School\ 3 + \gamma_{03}*School\ 4 + \gamma_{04}*School\ 5 + \gamma_{05}*School\ 6 + \gamma_{06}*School\ 7 + \gamma_{07}*School\ 8 + \gamma_{08}*School\ 9 + \gamma_{09}*School\ 10$
$\beta_{1j} = \gamma_{10}$
$\beta_{2j} = \gamma_{20}$
$\beta_{3j} = \gamma_{30}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.979	0.048	964	62.096	0.000
	School 1, γ_{01}	-0.221	0.060	964	-3.670	0.000
	School 3, γ_{02}	-0.074	0.070	964	-1.057	0.291
	School 4, γ_{03}	-0.038	0.082	964	-0.469	0.639
	School 5, γ_{04}	-0.055	0.065	964	-0.844	0.399
	School 6, γ_{05}	-0.197	0.060	964	-3.254	0.001
	School 7, γ_{06}	-0.215	0.065	964	-3.316	0.001
	School 8, γ_{07}	0.010	0.072	964	0.143	0.887
	School 9, γ_{08}	-0.167	0.082	964	-2.035	0.042
	School 10, γ_{09}	-0.138	0.072	964	-1.922	0.055
	Pretest, β_{1j}	0.483	0.031	964	15.567	0.000
	D_{MRQ}[a], β_{2j}	-0.008	0.083	964	-0.091	0.928
	Treatment, β_{3j}	0.004	0.031	964	0.135	0.892

Fixed Effects

Level	Variance Components	Variance	ICC	$Sigma^2$		
Student	Level 1	0.230	0.043	0.238		

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.18: Motivation to Read: Extrinsic Motivation

A: Poverty*Treatment Interaction Model

Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{MRQ} + β_{3j} *Treatment + β_{4j}*Poverty + β_{5j}*Poverty*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10
	$\beta_{1j} = \gamma_{10}$
	$\beta_{2j} = \gamma_{20}$
	$\beta_{3j} = \gamma_{30}$
	$\beta_{4j} = \gamma_{40}$
	$\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.858	0.073	962	39.229	0.000
	School 1, γ_{01}	-0.207	0.061	962	-3.416	0.001
	School 3, γ_{02}	-0.077	0.07	962	-1.099	0.272
	School 4, γ_{03}	-0.04	0.082	962	-0.49	0.624
	School 5, γ_{04}	-0.055	0.065	962	-0.84	0.401
	School 6, γ_{05}	-0.197	0.06	962	-3.257	0.001
	School 7, γ_{06}	-0.204	0.065	962	-3.132	0.002
	School 8, γ_{07}	0.008	0.072	962	0.114	0.909
	School 9, γ_{08}	-0.176	0.082	962	-2.151	0.032
	School 10, γ_{09}	-0.14	0.072	962	-1.948	0.052
	Pretest, β_{1j}	0.481	0.031	962	15.47	0.000
	D_{MRQ}[a], β_{2j}	-0.004	0.083	962	-0.042	0.966
	Treatment, β_{3j}	0.118	0.084	962	1.404	0.161
	Poverty, β_{4j}	0.139	0.063	962	2.201	0.028
	Treatment*Poverty, β_{5j}	-0.134	0.091	962	-1.476	0.140

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.252	0.237			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.18: Motivation to Read: Extrinsic Motivation

B: Gender*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{MRQ} + β_{3j} *Treatment + β_{4j}*Male + β_{5j}*Male*Treatment + r_{ij}

Level 2 Model:
$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10
$\beta_{1j} = \gamma_{10}$
$\beta_{2j} = \gamma_{20}$
$\beta_{3j} = \gamma_{30}$
$\beta_{4j} = \gamma_{40}$
$\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.993	0.054	962	55.631	0.000
	School 1, γ_{01}	-0.220	0.060	962	-3.653	0.000
	School 3, γ_{02}	-0.074	0.070	962	-1.057	0.291
	School 4, γ_{03}	-0.040	0.082	962	-0.493	0.622
	School 5, γ_{04}	-0.057	0.065	962	-0.875	0.382
	School 6, γ_{05}	-0.195	0.061	962	-3.220	0.001
	School 7, γ_{06}	-0.213	0.065	962	-3.278	0.001
	School 8, γ_{07}	0.011	0.072	962	0.158	0.874
	School 9, γ_{08}	-0.163	0.082	962	-1.989	0.047
	School 10, γ_{09}	-0.137	0.072	962	-1.902	0.057
	Pretest, β_{1j}	0.483	0.031	962	15.543	0.000
	D_{MRQ}[a], β_{2j}	-0.005	0.083	962	-0.060	0.952
	Treatment, β_{3j}	0.009	0.047	962	0.197	0.844
	Male, β_{4j}	-0.027	0.044	962	-0.617	0.537
	Treatment*Male, β_{5j}	-0.009	0.063	962	-0.136	0.892

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.229	0.238			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.18: Motivation to Read: Extrinsic Motivation

C: Grade*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{MRQ} + β_{3j}*Treatment + β_{4j}*Grade 6 + β_{5j}*Grade 6*Treatment + r_{ij}

Level 2 Model:
$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10
$\beta_{1j} = \gamma_{10}$
$\beta_{2j} = \gamma_{20}$
$\beta_{3j} = \gamma_{30}$
$\beta_{4j} = \gamma_{40}$
$\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.94	0.053	962	55.016	0.000
	School 1, γ_{01}	-0.22	0.06	962	-3.654	0.000
	School 3, γ_{02}	-0.07	0.07	962	-1	0.317
	School 4, γ_{03}	-0.029	0.082	962	-0.35	0.726
	School 5, γ_{04}	-0.053	0.065	962	-0.819	0.413
	School 6, γ_{05}	-0.193	0.06	962	-3.196	0.001
	School 7, γ_{06}	-0.213	0.065	962	-3.283	0.001
	School 8, γ_{07}	0.01	0.072	962	0.135	0.893
	School 9, γ_{08}	-0.162	0.082	962	-1.98	0.048
	School 10, γ_{09}	-0.137	0.072	962	-1.899	0.058
	Pretest, β_{1j}	0.479	0.031	962	15.331	0.000
	D_{MRQ}[a], β_{2j}	-0.017	0.084	962	-0.205	0.838
	Treatment, β_{3j}	0.049	0.045	962	1.103	0.270
	Grade 6, β_{4j}	0.073	0.044	962	1.644	0.101
	Treatment*Grade 6, β_{5j}	-0.09	0.063	962	-1.423	0.155

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.230	0.237			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.18: Motivation to Read: Extrinsic Motivation

D: Race*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{MRQ} + β_{3j} *Treatment + β_{4j}*Black + β_{5j}*Black*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.783	0.064	962	43.315	0.000
	School 1, γ_{01}	-0.116	0.062	962	-1.861	0.063
	School 3, γ_{02}	-0.090	0.069	962	-1.290	0.197
	School 4, γ_{03}	-0.052	0.081	962	-0.639	0.523
	School 5, γ_{04}	-0.048	0.064	962	-0.746	0.456
	School 6, γ_{05}	-0.141	0.060	962	-2.339	0.020
	School 7, γ_{06}	-0.069	0.069	962	-0.996	0.320
	School 8, γ_{07}	0.016	0.071	962	0.225	0.822
	School 9, γ_{08}	-0.137	0.081	962	-1.688	0.092
	School 10, γ_{09}	-0.041	0.073	962	-0.561	0.575
	Pretest, β_{1j}	0.460	0.031	962	14.904	0.000
	D_{MRQ}[a], β_{2j}	0.002	0.082	962	0.021	0.984
	Treatment, β_{3j}	-0.020	0.056	962	-0.351	0.726
	Black, β_{4j}	0.215	0.052	962	4.136	0.000
	Treatment*Black, β_{5j}	0.021	0.067	962	0.312	0.755

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.253	0.231			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.18: Motivation to Read: Extrinsic Motivation

E: Treatment*Pretest Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0i} + \beta_{1i}$*Pretest + β_{2i}*D_{MRQ} + β_{3i} *Treatment + β_{4i}*Pretest*Treatment + r_{ij}

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.976	0.048	963	61.912	0.000
	School 1, γ_{01}	-0.219	0.060	963	-3.632	0.000
	School 3, γ_{02}	-0.073	0.070	963	-1.032	0.302
	School 4, γ_{03}	-0.033	0.082	963	-0.396	0.692
	School 5, γ_{04}	-0.053	0.065	963	-0.821	0.412
	School 6, γ_{05}	-0.194	0.061	963	-3.200	0.001
	School 7, γ_{06}	-0.213	0.065	963	-3.279	0.001
	School 8, γ_{07}	0.013	0.072	963	0.185	0.853
	School 9, γ_{08}	-0.161	0.082	963	-1.960	0.050
	School 10, γ_{09}	-0.136	0.072	963	-1.888	0.059
	Pretest, β_{1j}	0.507	0.042	963	11.954	0.000
	D_{MRQ}[a], β_{2j}	-0.008	0.083	963	-0.094	0.925
	Treatment, β_{3j}	0.005	0.031	963	0.148	0.882
	Treatment*Pretest, β_{4j}	-0.051	0.062	963	-0.831	0.406

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.230	0.238			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.19: Motivation to Read: Social Motivation

I. Treatment Impact Results

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}*Pretest + \beta_{2j}*D_{MRQ} + \beta_{3j}*Treatment + r_{ij}$

Level 2 Model:
$\beta_{0j} = \gamma_{00} + \gamma_{01}*School\ 1 + \gamma_{02}*School\ 3 + \gamma_{03}*School\ 4 + \gamma_{04}*School\ 5 + \gamma_{05}*School\ 6 + \gamma_{06}*School\ 7 + \gamma_{07}*School\ 8 + \gamma_{08}*School\ 9 + \gamma_{09}*School\ 10$
$\beta_{1j} = \gamma_{10}$
$\beta_{2j} = \gamma_{20}$
$\beta_{3j} = \gamma_{30}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.590	0.048	964	54.070	0.000
	School 1, γ_{01}	-0.194	0.060	964	-3.230	0.001
	School 3, γ_{02}	-0.064	0.070	964	-0.917	0.359
	School 4, γ_{03}	0.019	0.081	964	0.235	0.815
	School 5, γ_{04}	0.031	0.065	964	0.475	0.635
	School 6, γ_{05}	-0.110	0.060	964	-1.827	0.068
	School 7, γ_{06}	-0.116	0.065	964	-1.797	0.073
	School 8, γ_{07}	-0.087	0.072	964	-1.213	0.225
	School 9, γ_{08}	-0.096	0.082	964	-1.174	0.241
	School 10, γ_{09}	-0.159	0.072	964	-2.217	0.027
	Pretest, β_{1j}	0.501	0.030	964	16.876	0.000
	D_{MRQ}[a], β_{2j}	-0.103	0.083	964	-1.243	0.214
	Treatment, β_{3j}	0.036	0.031	964	1.162	0.246

Fixed Effects

Level	Variance Components	Variance	ICC	$Sigma^2$		
Student	Level 1	0.252	0.035	0.235		

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.19: Motivation to Read: Social Motivation

A: Poverty*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}*Pretest + \beta_{2j}*D_{MRQ} + \beta_{3j}*Treatment + \beta_{4j}*Poverty + \beta_{5j}*Poverty*Treatment + r_{ij}$

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}*School\ 1 + \gamma_{02}*School\ 3 + \gamma_{03}*School\ 4 + \gamma_{04}*School\ 5 + \gamma_{05}*School\ 6 + \gamma_{06}*School\ 7 + \gamma_{07}*School\ 8 + \gamma_{08}*School\ 9 + \gamma_{09}*School\ 10$

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

$\beta_{5i} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.497	0.072	962	34.451	0.000
	School 1, γ_{01}	-0.182	0.06	962	-3.015	0.003
	School 3, γ_{02}	-0.069	0.07	962	-0.975	0.330
	School 4, γ_{03}	0.017	0.081	962	0.209	0.834
	School 5, γ_{04}	0.029	0.065	962	0.455	0.649
	School 6, γ_{05}	-0.11	0.06	962	-1.832	0.067
	School 7, γ_{06}	-0.106	0.065	962	-1.64	0.101
	School 8, γ_{07}	-0.089	0.072	962	-1.237	0.216
	School 9, γ_{08}	-0.106	0.082	962	-1.294	0.196
	School 10, γ_{09}	-0.163	0.072	962	-2.262	0.024
	Pretest, β_{1j}	0.497	0.03	962	16.737	0.000
	D_{MRQ}[a], β_{2j}	-0.1	0.082	962	-1.21	0.227
	Treatment, β_{3j}	0.1	0.084	962	1.196	0.232
	Poverty, β_{4j}	0.108	0.063	962	1.715	0.087
	Treatment*Poverty, β_{5j}	-0.076	0.09	962	-0.84	0.401

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.273	0.234			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.19: Motivation to Read: Social Motivation

B: Gender*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{MRQ} + β_{3j} *Treatment + β_{4j}*Male + β_{5j}*Male*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10
	$\beta_{1j} = \gamma_{10}$
	$\beta_{2j} = \gamma_{20}$
	$\beta_{3j} = \gamma_{30}$
	$\beta_{4j} = \gamma_{40}$
	$\beta_{5i} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.610	0.054	962	48.444	0.000
	School 1, γ_{01}	-0.193	0.060	962	-3.222	0.001
	School 3, γ_{02}	-0.066	0.070	962	-0.937	0.349
	School 4, γ_{03}	0.015	0.081	962	0.178	0.859
	School 5, γ_{04}	0.027	0.065	962	0.415	0.678
	School 6, γ_{05}	-0.108	0.060	962	-1.792	0.073
	School 7, γ_{06}	-0.113	0.065	962	-1.756	0.079
	School 8, γ_{07}	-0.085	0.072	962	-1.187	0.236
	School 9, γ_{08}	-0.092	0.082	962	-1.127	0.260
	School 10, γ_{09}	-0.159	0.072	962	-2.206	0.028
	Pretest, β_{1j}	0.495	0.030	962	16.570	0.000
	D_{MRQ}[a], β_{2j}	-0.099	0.083	962	-1.195	0.232
	Treatment, β_{3j}	0.054	0.047	962	1.160	0.246
	Male, β_{4j}	-0.037	0.044	962	-0.848	0.397
	Treatment*Male, β_{5j}	-0.031	0.062	962	-0.503	0.615

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.252	0.234			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.19: Motivation to Read: Social Motivation

C: Grade*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{MRQ} + β_{3j}*Treatment + β_{4j}*Grade 6 + β_{5j}*Grade 6*Treatment + r_{ij}

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

$\beta_{5i} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.54	0.053	962	47.826	0.000
	School 1, γ_{01}	-0.192	0.06	962	-3.208	0.001
	School 3, γ_{02}	-0.056	0.07	962	-0.8	0.424
	School 4, γ_{03}	0.037	0.082	962	0.456	0.648
	School 5, γ_{04}	0.03	0.065	962	0.465	0.642
	School 6, γ_{05}	-0.107	0.06	962	-1.772	0.077
	School 7, γ_{06}	-0.113	0.064	962	-1.761	0.079
	School 8, γ_{07}	-0.09	0.072	962	-1.263	0.207
	School 9, γ_{08}	-0.088	0.082	962	-1.075	0.283
	School 10, γ_{09}	-0.157	0.072	962	-2.185	0.029
	Pretest, β_{1j}	0.491	0.03	962	16.467	0.000
	D_{MRQ}[a], β_{2j}	-0.092	0.083	962	-1.098	0.273
	Treatment, β_{3j}	0.054	0.044	962	1.215	0.225
	Grade 6, β_{4j}	0.094	0.044	962	2.128	0.034
	Treatment*Grade 6, β_{5j}	-0.036	0.062	962	-0.584	0.559

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.255	0.234			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.19: Motivation to Read: Social Motivation

D: Race*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{MRQ} + β_{3j} *Treatment + β_{4j}*Black + β_{5j}*Black*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5i} = \gamma_{50}$

Fixed Effects						
Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.411	0.064	962	37.774	0.000
	School 1, γ_{01}	-0.094	0.062	962	-1.512	0.131
	School 3, γ_{02}	-0.083	0.069	962	-1.199	0.231
	School 4, γ_{03}	0.004	0.080	962	0.044	0.965
	School 5, γ_{04}	0.034	0.064	962	0.538	0.591
	School 6, γ_{05}	-0.059	0.060	962	-0.974	0.330
	School 7, γ_{06}	0.025	0.069	962	0.368	0.713
	School 8, γ_{07}	-0.081	0.071	962	-1.151	0.250
	School 9, γ_{08}	-0.074	0.081	962	-0.911	0.362
	School 10, γ_{09}	-0.067	0.073	962	-0.917	0.359
	Pretest, β_{1j}	0.481	0.030	962	16.289	0.000
	D_{MRQ}[a], β_{2j}	-0.092	0.081	962	-1.128	0.260
	Treatment, β_{3j}	-0.007	0.056	962	-0.132	0.895
	Black, β_{4j}	0.196	0.052	962	3.781	0.000
	Treatment*Black, β_{5j}	0.049	0.067	962	0.739	0.460

Fixed Effects						
Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.273	0.228			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.19: Motivation to Read: Social Motivation

E: Treatment*Pretest Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{MRQ} + β_{3j} *Treatment + β_{4j}*Pretest*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$

Fixed Effects						
Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.591	0.048	963	53.988	0.000
	School 1, γ_{01}	-0.194	0.060	963	-3.239	0.001
	School 3, γ_{02}	-0.065	0.070	963	-0.921	0.357
	School 4, γ_{03}	0.017	0.082	963	0.205	0.838
	School 5, γ_{04}	0.030	0.065	963	0.468	0.640
	School 6, γ_{05}	-0.111	0.060	963	-1.841	0.066
	School 7, γ_{06}	-0.118	0.065	963	-1.817	0.069
	School 8, γ_{07}	-0.089	0.072	963	-1.233	0.218
	School 9, γ_{08}	-0.099	0.082	963	-1.200	0.230
	School 10, γ_{09}	-0.160	0.072	963	-2.225	0.026
	Pretest, β_{1j}	0.489	0.041	963	11.943	0.000
	D_{MRQ}[a], β_{2j}	-0.103	0.083	963	-1.242	0.215
	Treatment, β_{3j}	0.036	0.031	963	1.152	0.250
	Treatment*Pretest, β_{4j}	0.024	0.059	963	0.407	0.684

Fixed Effects						
Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.251	0.235			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.20: Motivation to Read: Efficacy

I. Treatment Impact Results

Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}*Pretest + \beta_{2j}*D_{MRQ} + \beta_{3j}*Treatment + r_{ij}$
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}*School\ 1 + \gamma_{02}*School\ 3 + \gamma_{03}*School\ 4 + \gamma_{04}*School\ 5 + \gamma_{05}*School\ 6 + \gamma_{06}*School\ 7 + \gamma_{07}*School\ 8 + \gamma_{08}*School\ 9 + \gamma_{09}*School\ 10$ $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.877	0.045	964	63.803	0.000
	School 1, γ_{01}	-0.226	0.057	964	-3.984	0.000
	School 3, γ_{02}	-0.067	0.066	964	-1.008	0.314
	School 4, γ_{03}	-0.056	0.077	964	-0.727	0.467
	School 5, γ_{04}	0.003	0.061	964	0.052	0.958
	School 6, γ_{05}	-0.150	0.057	964	-2.650	0.008
	School 7, γ_{06}	-0.181	0.061	964	-2.969	0.003
	School 8, γ_{07}	0.038	0.068	964	0.558	0.577
	School 9, γ_{08}	-0.188	0.077	964	-2.440	0.015
	School 10, γ_{09}	-0.194	0.068	964	-2.859	0.004
	Pretest, β_{1j}	0.516	0.030	964	17.332	0.000
	D_{MRQ}[a], β_{2j}	0.102	0.078	964	1.304	0.193
	Treatment, β_{3j}	0.043	0.030	964	1.465	0.143

Fixed Effects

Level	Variance Components	Variance	ICC	$Sigma^2$		
Student	Level 1	0.283	0.066	0.209		

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.20: Motivation to Read: Efficacy

A: Poverty*Treatment Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{MRQ} + β_{3j} *Treatment + β_{4j}*Poverty + β_{5j}*Poverty*Treatment + r_{ij}

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

$\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.823	0.068	962	41.213	0.000
	School 1, γ_{01}	-0.219	0.057	962	-3.841	0.000
	School 3, γ_{02}	-0.069	0.066	962	-1.036	0.301
	School 4, γ_{03}	-0.056	0.077	962	-0.735	0.463
	School 5, γ_{04}	0.003	0.061	962	0.045	0.964
	School 6, γ_{05}	-0.15	0.057	962	-2.649	0.008
	School 7, γ_{06}	-0.175	0.061	962	-2.864	0.004
	School 8, γ_{07}	0.037	0.068	962	0.543	0.587
	School 9, γ_{08}	-0.193	0.077	962	-2.501	0.013
	School 10, γ_{09}	-0.195	0.068	962	-2.878	0.004
	Pretest, β_{1j}	0.514	0.03	962	17.226	0.000
	D_{MRQ}[a], β_{2j}	0.103	0.078	962	1.324	0.186
	Treatment, β_{3j}	0.084	0.079	962	1.059	0.290
	Poverty, β_{4j}	0.062	0.059	962	1.054	0.292
	Treatment*Poverty, β_{5j}	-0.048	0.085	962	-0.564	0.573

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.288	0.209			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.20: Motivation to Read: Efficacy

B: Gender*Treatment Interaction Model

Level 1 Model	$Posttest_{ij} = \beta_{0i} + \beta_{1i}$*Pretest + β_{2i}*D_{MRQ} + β_{3i} *Treatment + β_{4i}*Male + β_{5i}*Male*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10
	$\beta_{1j} = \gamma_{10}$
	$\beta_{2j} = \gamma_{20}$
	$\beta_{3j} = \gamma_{30}$
	$\beta_{4j} = \gamma_{40}$
	$\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.870	0.051	962	56.758	0.000
	School 1, γ_{01}	-0.226	0.057	962	-3.973	0.000
	School 3, γ_{02}	-0.067	0.066	962	-1.009	0.313
	School 4, γ_{03}	-0.056	0.077	962	-0.725	0.469
	School 5, γ_{04}	0.004	0.061	962	0.060	0.952
	School 6, γ_{05}	-0.151	0.057	962	-2.650	0.008
	School 7, γ_{06}	-0.180	0.061	962	-2.954	0.003
	School 8, γ_{07}	0.038	0.068	962	0.564	0.573
	School 9, γ_{08}	-0.189	0.077	962	-2.444	0.015
	School 10, γ_{09}	-0.194	0.068	962	-2.858	0.004
	Pretest, β_{1j}	0.516	0.030	962	17.313	0.000
	D_{MRQ}[a], β_{2j}	0.101	0.078	962	1.292	0.197
	Treatment, β_{3j}	0.054	0.044	962	1.215	0.225
	Male, β_{4j}	0.013	0.042	962	0.324	0.746
	Treatment*Male, β_{5j}	-0.019	0.059	962	-0.318	0.750

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.282	0.210			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.20: Motivation to Read: Efficacy

C: Grade*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{MRQ} + β_{3j} *Treatment + β_{4j}*Grade 6 + β_{5j}*Grade 6*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5j} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.815	0.05	962	56.256	0.000
	School 1, γ_{01}	-0.224	0.057	962	-3.954	0.000
	School 3, γ_{02}	-0.056	0.066	962	-0.852	0.394
	School 4, γ_{03}	-0.033	0.077	962	-0.434	0.664
	School 5, γ_{04}	0.004	0.061	962	0.066	0.948
	School 6, γ_{05}	-0.145	0.057	962	-2.558	0.011
	School 7, γ_{06}	-0.177	0.061	962	-2.907	0.004
	School 8, γ_{07}	0.035	0.068	962	0.515	0.607
	School 9, γ_{08}	-0.177	0.077	962	-2.306	0.021
	School 10, γ_{09}	-0.19	0.068	962	-2.809	0.005
	Pretest, β_{1j}	0.509	0.03	962	17.112	0.000
	D_{MRQ}[a], β_{2j}	0.107	0.079	962	1.354	0.176
	Treatment, β_{3j}	0.079	0.042	962	1.891	0.059
	Grade 6, β_{4j}	0.115	0.041	962	2.767	0.006
	Treatment*Grade 6, β_{5j}	-0.073	0.059	962	-1.237	0.217

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.287	0.208			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.20: Motivation to Read: Efficacy

D: Race*Treatment Interaction Model	
Level 1 Model	$Posttest_{ij} = \beta_{0i} + \beta_{1i}$*Pretest + β_{2i}*D_{MRQ} + β_{3i} *Treatment + β_{4i}*Black + β_{5i}*Black*Treatment + r_{ij}
Level 2 Model	$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10 $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40}$ $\beta_{5i} = \gamma_{50}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.800	0.061	962	45.903	0.000
	School 1, γ_{01}	-0.180	0.059	962	-3.026	0.003
	School 3, γ_{02}	-0.076	0.066	962	-1.151	0.250
	School 4, γ_{03}	-0.061	0.077	962	-0.801	0.423
	School 5, γ_{04}	0.004	0.061	962	0.074	0.941
	School 6, γ_{05}	-0.125	0.057	962	-2.181	0.029
	School 7, γ_{06}	-0.112	0.066	962	-1.703	0.089
	School 8, γ_{07}	0.039	0.068	962	0.583	0.560
	School 9, γ_{08}	-0.177	0.077	962	-2.308	0.021
	School 10, γ_{09}	-0.146	0.069	962	-2.111	0.035
	Pretest, β_{1j}	0.501	0.030	962	16.619	0.000
	D_{MRQ}[a], β_{2j}	0.109	0.078	962	1.404	0.161
	Treatment, β_{3j}	-0.007	0.053	962	-0.139	0.890
	Black, β_{4j}	0.081	0.050	962	1.626	0.104
	Treatment*Black, β_{5j}	0.065	0.064	962	1.027	0.305

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$			
Student	Level 1	0.289	0.208			

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Table A.20: Motivation to Read: Efficacy

E: Treatment*Pretest Interaction Model

Level 1 Model: $Posttest_{ij} = \beta_{0j} + \beta_{1j}$*Pretest + β_{2j}*D_{MRQ} + β_{3j} *Treatment + β_{4j}*Pretest*Treatment + r_{ij}

Level 2 Model:

$\beta_{0j} = \gamma_{00} + \gamma_{01}$*School 1 + γ_{02}*School 3+ γ_{03}*School 4+ γ_{04}*School 5+ γ_{05}*School 6+ γ_{06}*School 7+ γ_{07}*School 8+ γ_{08}*School 9+ γ_{09}*School 10

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30}$

$\beta_{4j} = \gamma_{40}$

Fixed Effects

Level	Effect	Impact (β)	S.E.	DF	*t*	*p*
Student	Intercept, β_{0j}	2.876	0.045	963	63.738	0.000
	School 1, γ_{01}	-0.226	0.057	963	-3.980	0.000
	School 3, γ_{02}	-0.067	0.066	963	-1.010	0.313
	School 4, γ_{03}	-0.052	0.077	963	-0.671	0.502
	School 5, γ_{04}	0.003	0.061	963	0.044	0.965
	School 6, γ_{05}	-0.150	0.057	963	-2.638	0.008
	School 7, γ_{06}	-0.181	0.061	963	-2.967	0.003
	School 8, γ_{07}	0.039	0.068	963	0.580	0.562
	School 9, γ_{08}	-0.182	0.077	963	-2.355	0.019
	School 10, γ_{09}	-0.193	0.068	963	-2.849	0.004
	Pretest, β_{1j}	0.535	0.039	963	13.672	0.000
	D_{MRQ}[a], β_{2j}	0.102	0.078	963	1.306	0.192
	Treatment, β_{3j}	0.043	0.030	963	1.473	0.141
	Treatment*Pretest, β_{4j}	-0.044	0.059	963	-0.747	0.455

Fixed Effects

Level	Variance Components	Variance	$Sigma^2$
Student	Level 1	0.283	0.209

[a]D_{MRQ} = Indicator for missing pretest data (0 = non-missing, 1 = missing).

Effect Size Analyses

In the results section, we illustrated the impact findings in terms of overall treatment effect size on the outcome variables. The analyses consisted of two-level models including the corresponding pretest measure (grand mean centered), a dummy variable indicating a missing pretest value (in non-iLEAP models), the treatment dummy variable evaluating the effect of being in the treatment condition, and fixed effects for the school level variable. The effect sizes presented in Table 3.8 were computed using the following formula.

$$Glass'\Delta = \frac{\bar{y}_{Treatment} - \bar{y}_{Control}}{SD\ of\ control\ group} = \frac{\hat{\beta}_1}{SD\ of\ control\ group}$$

For iLEAP ELA and Reading subscale impact findings, adjusted means are also presented as converted NCEs. The following formula and population statistics (see Table 3.9) were used to convert the scores to NCEs.

$$NCE_{Control} = 26.06 * \frac{\bar{y}_{Control.raw} - Population\ Mean}{Population\ SD} + 50$$

$$NCE_{Treatment} = 26.06 * \frac{\bar{y}_{Treatment.adj} - Population\ Mean}{Population\ SD} + 50$$

Table A.21. Population Statistics used to convert to NCEs for iLEAP

	Population Mean	Population SD
*i*LEAP ELA Overall Score	304.669	71.674
*i*LEAP Reading Subscale	305.012	61.424

Appendix B: Measures

Motivation for Reading Questionnaire for Adolescents
Spring 2011

Name: _____ Grade: _____

School: _____ Date: _____

This survey describes how students feel about reading. Read each sentence below and decide whether you agree or disagree with what it says. Circle the number that represents your opinion. There are no right or wrong answers. We only want to know how you feel. If you do not want to provide an answer, please leave it blank and move onto the next statement.

Strongly Disagree	Disagree	Agree	Strongly Agree
1	2	3	4

Based on the Motivation for Reading Questionnaire for Adolescents
(Cantrell, Almasi, & Rintamaa © 2006)

		Choose One			
		Strongly Disagree	Disagree	Agree	Strongly Agree
1.	I visit the library often with friends or family.	1	2	3	4
2.	I like hard, challenging books.	1	2	3	4
3.	I know that I will do well reading in my classes next year.	1	2	3	4
4.	If the teacher discusses something interesting I might read more about it.	1	2	3	4
5.	I like it when the questions in books make me think.	1	2	3	4
6.	I read about my hobbies to learn more about them.	1	2	3	4
7.	I am a good reader.	1	2	3	4
8.	I enjoy reading magazines.	1	2	3	4
9.	I often read to other people.	1	2	3	4
10.	I like being the only one who knows an answer in something we read.	1	2	3	4
11.	I read to learn new information about topics that interest me.	1	2	3	4
12.	My friends sometimes tell me I am a good reader.	1	2	3	4
13.	I learn more from reading than most students in the class.	1	2	3	4
14.	I like to read about new things.	1	2	3	4
15.	I like hearing the teacher say I read well.	1	2	3	4
16.	I sometimes read to my parents.	1	2	3	4
17.	My friends and I like to trade things to read.	1	2	3	4
18.	I don't like reading something when the words are too difficult.	1	2	3	4
19.	I make pictures in my mind when I read.	1	2	3	4
20.	I always read exactly as the teacher wants.	1	2	3	4
21.	I usually learn difficult things by reading.	1	2	3	4
22.	I don't like vocabulary questions.	1	2	3	4
23.	Complicated texts are no fun to read.	1	2	3	4
24.	I am happy when someone recognizes my reading.	1	2	3	4
25.	I feel like I make friends with people in good books.	1	2	3	4

		Choose One			
		Strongly Disagree	Disagree	Agree	Strongly Agree
26.	My parents often tell me what a good job I am doing with reading.	1	2	3	4
27.	Finishing every reading assignment is very important to me.	1	2	3	4
28.	I talk to my friends about what I am reading.	1	2	3	4
29.	If I am reading an interesting topic I sometimes lose track of time.	1	2	3	4
30.	I like to get compliments for my reading.	1	2	3	4
31.	Grades are a good way to see how well you read.	1	2	3	4
32.	I like to help my friends with the reading we do for school.	1	2	3	4
33.	I read to improve my grades.	1	2	3	4
34.	I enjoy a long, involved story or fiction book.	1	2	3	4
35.	I like to tell my family about what I am reading.	1	2	3	4
36.	I try to get more answers right than friends.	1	2	3	4
37.	If the project is interesting, I can read difficult material.	1	2	3	4
38.	I enjoy reading books about people in different countries.	1	2	3	4
39.	I enjoy searching for information on the internet.	1	2	3	4
40.	I always try to finish my reading on time.	1	2	3	4
41.	If a book is interesting, I don't care how hard it is to read.	1	2	3	4
42.	I like to finish my reading before other students.	1	2	3	4
43.	In comparison to my other school work I am best at reading.	1	2	3	4
44.	I am willing to work hard to read better than my friends.	1	2	3	4
45.	I don't like it when there are too many new ideas in the text.	1	2	3	4
46.	It is very important to me to be a good reader.	1	2	3	4
47.	In comparison to other activities I do, it is very important to me to be a good reader.	1	2	3	4
48.	I am a very good reader.	1	2	3	4

Thank you for taking time to fill out this survey!

Classroom Observation Protocol for PRJ

Teacher: _____ School: _____ Grade: _____

Date: _____ Start Time: _____ End Time: _____ Observer: _____

Number of Students Present: beg. of class _____ end of class _____

Pacing Calendar Expedition and Lesson: _____ Observed Expedition and Lesson: _____

FIDELITY OF IMPLEMENTATION

1. CURRICULUM USE

	1 Poor	2 Fair	3 Good	4 Excellent	SCORE
PRJ Guide	Teacher rarely refers to the curriculum guide or no guide is observable in the classroom.	Teacher sometimes refers to the guide, but there is no indication it is used to organize lesson content.	Teacher references the curriculum guide most of the time and uses it to organize some lesson content.	Teacher closely and consistently references the curriculum guide and uses it to organize lesson content.	
Notes/Comments:					

	1 Poor	2 Fair	3 Good	4 Excellent	SCORE
Specific Lesson Components	Teacher rarely presents materials using the specific lesson components described in the curriculum guide.	Teacher sometimes uses specific lesson components, but presentation is inconsistent with the design described in the guide. • Two or more components may be missing or taught out of order. • Lesson contains outside instructional material, rather than relying on PRJ.	Teacher uses specific lesson components most of the time. Most components are used as described in the curriculum guide. • A component may be missing or taught out of order. For example, the teacher may start with the pre-reading activity then go back to do Advanced Word Study. Or, a teacher may run out of time and not get to the After Reading Activity. OR • Lesson may contain minor elements of outside instructional material. For example, the teacher may teach summarization the way she has taught it previously, instead of using the methods described by PRJ.	Teacher consistently uses specific lesson components as suggested in the curriculum guide. Components are easily identifiable. • All components for the day are present and taught in order. • Lesson uses only PRJ components and not outside instructional material.	
	(See Training Guide for explanation of components appropriate for specific lesson observed – e.g., advanced word study, before reading, reading, after reading, and/or use of PRJ Library, (small group) word study, and assessments).				

2. TEACHING STRATEGIES

	1 Poor	2 Fair	3 Good	4 Excellent	SCORE
Use of Reading Strategies	The teacher rarely uses or helps students understand reading strategies.	The teacher sometimes uses reading strategies, but not as they were intended. • Reading strategies may be present in the lesson, but the teacher does not appear to have a clear understanding of their purpose.	The teacher helps students learn and use reading strategies most of the time, but explanations lack clarity. • Teacher uses at least 1 vocabulary or comprehension strategy, but not both OR • All appropriate strategies are used, but clarity is low • Teacher makes an attempt to explain strategies, but these may be unclear at times. This may be exemplified by students who are confused.	The teacher clearly and consistently helps students learn and use multiple reading strategies. • At least 1 vocabulary and 1 comprehension strategy are used at appropriate times in the lesson • Additional strategies may be presented (appropriate to the lesson being taught) • Teacher uses strategies correctly and clearly	
	(See Training Guide for specific reading strategies. This category focuses what was accomplished in class, not what was intended to be covered by the curriculum.)				

	1 Poor	2 Fair	3 Good	4 Excellent	SCORE
Feedback/Correction Procedures	The teacher rarely provides feedback to students. (e.g., allows students to get stuck on problem words without providing assistance or rarely lets students know that they are doing well).	The teacher sometimes provides feedback to students. Feedback may be inconsistent or delayed. • When feedback is given, it is rarely immediate. • The teacher misses opportunities to correct student errors.	The teacher provides students with feedback in a timely manner most of the time, but doesn't always allow students to correct their mistakes. • There may be minor delay in providing feedback, such as correcting a word at the end of a paragraph instead of when the error occurs. • Students may not always be expected to correctly practice a mistake. An example might be if a teacher provides a correction but moves on rather than having the student repeat the correct word or answer.	The teacher consistently provides students with immediate feedback (both corrective feedback in response to mistakes and reinforcement of correct responses). Students receive feedback about their initial responses followed by further opportunities to respond and practice new material correctly. • For example, teacher has student re-read a sentence correctly or repeat a mispronounced word while reading. • Teacher may use vocabulary and comprehension strategies to provide additional practice or check for mastery (e.g., "I say/you say/we say" exercise)	
	(See Training Guide for examples of feedback/correction procedures – e.g., help with automaticity and fluency, modeling)				

Notes/Comments:

3. INTERACTION WITH STUDENTS

	1 Poor	2 Fair	3 Good	4 Excellent	SCORE
Pace	The teacher is rarely organized and not prepared to lead the class.	The teacher only sometimes stays on task in guiding instructional activities. She is easily distracted or seems disorganized. • Teacher is unfocused or unprepared. For example, she might be reading ahead in the teacher's guide as student work or she might get distracted and off topic during student discussions rather than connecting student responses to the lesson content. • General pace during the class is INCONSISTENT.	The teacher is generally on task in guiding instructional activities. She is focused, organized, and sets an appropriate pace for instruction most of the time. • The teacher may have a "sense of urgency" in some aspects of the lesson but not others. Pace seems varied throughout the lesson. • Organization is apparent by having materials prepared and at hand. • There are MINOR LAPSES in appropriate pace during the class.	The teacher is organized and consistently stays on task in guiding instructional activities. She maintains a consistently appropriate pace throughout the class period. • The teacher has a "sense of urgency" in moving through lesson components. • Organization is apparent by having materials prepared and at hand. • There are NO LAPSES in appropriate pace during the class.	
Notes/Comments:					

	1 Poor	2 Fair	3 Good	4 Excellent	SCORE
Student Involvement in Learning	The teacher rarely provides opportunities for students to express their thoughts or ideas. Students are expected to listen to the teacher and most interactions are procedural or managerial.	The teacher sometimes provides opportunities for students to express their thoughts and ideas. The teacher asks few questions or does not integrate student responses into the lesson. • The teacher misses a substantial number of opportunities to make connections. • The teacher only occasionally asks questions or may answer questions herself. • There is little evidence that the teacher listens to or acknowledges student responses.	The teacher asks questions and listens to student responses most of the time and often connects student ideas to the lesson topic or to the ideas of other students. • The teacher misses some opportunities to make connections. • The teacher may inconsistently listen to or acknowledge student responses. • The teacher may repeatedly call on one or two students, rather than eliciting responses or participation from more students.	The teacher **deliberately** and **consistently** fosters an environment where student ideas and responses are valued. The teacher asks questions, listens attentively, and tries to connect the students' ideas to the lesson topic or the ideas of other students when possible. • The teacher has established an environment which offers opportunities for student to read or share their thoughts and ideas. • The teacher acknowledges student responses and uses student comments to build upon previous and existing knowledge.	
Notes/Comments:					

4. DIFFERENTIATED INSTRUCTION

	1 Poor	2 Fair	3 Good	4 Excellent	SCORE
Monitoring Student Progress and Use of Flexible Grouping	There is no evidence that the teacher is monitoring student progress and understanding during class.	The teacher inconsistently monitors student progress and understanding and only sometimes adjusts instruction or groupings in response to what happens in class.	Teacher monitors individual student progress and understanding most of the time and responds by adjusting instruction or grouping based on what happens in class. • The teacher checks in on some students but not all. For example, the teacher may consistently not monitor students in the back of the room. Or, the teacher may spend a disproportionate amount of time with some groups and not know how other groups are progressing. • The teacher may repeat strategies the same way to each group, rather than varying the approach based on the needs of the students.	Teacher consistently monitors individual student progress and understanding during class and strategically adjusts instruction or grouping assignments as needed. • The teacher moves around the classroom and monitors all students' progress and/or understanding. • The teacher listens to students reading or discussing assigned work, and adjusts grouping or instructional format based student needs. For example, a teacher might recognize that students do not understand a particular reading strategy, and has them work on the activity together rather than individually. Another example would be to offer alternative strategies or suggestions to individual students based on what they are struggling with.	
	(See Training Guide for explanation of types of student groupings – e.g., whole group, small group, pairs, independent practice)				
Notes/Comments:					

STUDENT ENGAGEMENT

5. STUDENT RESPONSIVENESS/ENGAGEMENT

	1 Poor	2 Fair	3 Good	4 Excellent	SCORE
Reading Modes and Completion of Tasks	Students are rarely responsive when they are asked to read and do not carry out assigned tasks.	Students are only sometimes engaged in reading activities and do not stay focused on assigned tasks. • Significant number (15-20%) of students are unfocused and not staying on task for the bulk (80%) of class time. Students who are disengaged might be staring into space, talking to neighbors, doing work for other classes, sleeping, drawing, etc.	Most students are engaged in a variety of reading activities, and most are able to focus on assigned tasks. • 1 or 2 students are consistently not engaged for the bulk (80%) of class time. OR • A larger group of students are not engaged for a shorter period of time, repeatedly over the course of the class period.	All students are consistently engaged in various reading activities and remain focused on assigned tasks. • Over the duration of the class, on average students are engaged and focused ("All students" = nearly all students, nearly all of the time). • Engaged students are reading aloud or following along (looking at the book), writing in student workbook on assignments, participating in discussions, etc.	
Notes/Comments:					

6. STUDENT BEHAVIOR

	1 Poor	2 Fair	3 Good	4 Excellent	SCORE
Follow Rules and Routines	Students appear to have a very limited understanding of rules and routines in the classroom, resulting in a significant amount of wasted class time.	Students appear to understand basic behavioral rules and routines, but transitions to new classroom activities are rough and result in wasted class time. • Rules and routines are not clearly followed. There is a significant amount of time wasted by the majority of students in moving to new activities. • Some routines may be new or unfamiliar to students, and the teacher has to explain routines, not just give reminders.	Students appear to understand and follow established rules and routines most of the time. Transitions between various activities are relatively smooth, and little class time is wasted. • At this level, it is clear that rules and routines exist, but students may need several (i.e., 3+) reminders from the teacher. Students may be slow to respond or may not quickly begin on the next activity. This lack of internalization of routines leads to some wasted class time.	Students appear to have internalized established classroom rules and routines and follow them consistently. Transition from one activity to the next goes smoothly, maximizing good use of class time for instruction. • If students have internalized routines, then the teacher will only have to give 1 or 2 reminders and most students will respond quickly to teacher requests. • Some routines are established by PRJ—such as reading words aloud in advanced word study, or partner reading in the PRJ Library. Other routines will be class and teacher specific, but these routines will be well known by students and will aid the flow of class. For example, the class may have a clear routine for how to work with a partner or how and when to get materials.	

Notes/Comments:

	1 Poor	2 Fair	3 Good	4 Excellent	SCORE
Classroom Management	The teacher does not have control of the classroom and students are not engaged in any purposeful classroom activities.	There are frequent disruptions during the lesson, and the teacher has minimal control over keeping students focused. Students only sometimes stay on task if they are not directly supervised by the teacher. • Teacher has to stop lesson several times to talk to students about behavior • Teacher does not anticipate disruptive behaviors • Teacher consistently responds to disruptive behavior by yelling at students or responding inappropriately (e.g., "Stop doing that – I told you to stop!")	Classroom activities remain free of disruptions most of the time, and when they do occur, the teacher responds to re-establish order. Students generally stay engaged in assigned activities, and teacher spends minimal time dealing with behavior management tasks. • Teacher has to stop lesson to deal with disruptive behavior only a few times • Teacher anticipates students' behavior and redirects attention to prevent a disruption (e.g., strategically pairing students for reading activities)	Disruptions in classroom activities are rare, and when they do occur, teacher responds quickly to get class back on track. Behavior management is not an issue because teacher anticipates and prevents problems before they occur. • Teacher <u>proactively</u> anticipates problems and heads them off (rather than reacting after the fact) • Teacher consistently redirects a potentially disruptive student by engaging him or her in classroom discussion or activities (e.g., "I don't hear you reading..." or "____, could you please read next.")	
Notes/Comments:					

PRJ Teacher Interview Protocol – Spring 2011

Thanks for talking to us again today about your experiences with the Passport Reading Journeys supplemental reading curriculum. Just to clarify, I work at SEDL, and am part of an independent external research team looking at the use and outcomes of the PRJ curriculum use in schools participating in the Striving Readers grant in Louisiana. We are independent from PRJ and LDE and so would encourage you to feel comfortable being candid about your experiences. We'll be talking about the same sort of issues we covered in the interview last fall. I'd like to tape our conversation again, if that's ok with you. All of your comments here will be kept confidential and anonymous, meaning that nothing you say will be connected with your specific name or classes (so – is it ok with you to tape our conversation?).

Date_____ Interviewer_____

Teacher Name_____ School_____

Background Information

Highest degree_____

Certified in any content area(s)? _____

Number of years: teaching?_____ reading classes?_____ in this district?_____

Support

Let's start with the types of support you have received since August to help you with implementing PRJ in your classes:

1) Did you attend the **Cohort Meeting** in Alexandria in March?
   - Was it helpful to you? (why or why not...)

2) Have you used any of the available VPORT online resources to assist you in implementing PRJ? (if yes):
   - Which one(s)?
   - Have they been helpful?

3) What assistance have you received from the **PRJ coaches**?
   - What contact have you had with them (number of classroom visits? telephone calls? emails? other?)
   - What happens on a "typical" visit from a PRJ coach?

4) What kind(s) of support have you received from administrators at your school (e.g., principal, assistant principal, director of curriculum and instruction)
   - Have they visited your classroom to observe PRJ lessons? (How many times and for how long?)
   - Discussed PRJ implementation with you?

5) Have you received any support from your school district representative (offer name of District Coordinator) in implementing PRJ? (if yes):
   - What type of assistance have you received?

6) Have you been in contact with representatives from the Louisiana Dept. of Education? (if yes):
   - What type(s) of contact have you had (and how often)? (e.g., classroom visit, phone contact, emails, etc.)
   - What kind(s) of assistance have you received from them?

7) Thinking about all forms of training and support that you have received, what has been the most helpful to you in implementing PRJ? Why?

General Classroom Experience

Now let's talk about your general experience with PRJ in the classroom so far this year.

8) Do you have adequate materials to provide PRJ instruction? (e.g., guides, student workbooks, access to computers, etc.)

9) Have you established a **pacing** calendar for the year? (if yes):
   - How many days do you spend on each Expedition (i.e., any **re-teach** days? how many and where are they placed in the Expedition cycle?)
   - Have you been able to stay within 5 lessons of the recommended pace so far? (if no, why not?)

10) Voyager has defined a number of essential elements that should be present in PRJ classrooms. I have a short list of some of these elements and would like your comments on them, based on your experience with teaching PRJ so far:
   - how closely you follow the PRJ Teacher's Guide script
   - different student groupings – what they look like and how well they work
   - student behavior issues
   - usually able to cover all of the material in a lesson?
   - how are re-teach days used?
   - do students generally complete work that is assigned? (i.e., in class assignments and SOLO)

11) How often do you use VPORT?
   - What do you use it for? (e.g., student enrollment data, entering/monitoring student progress data, pacing calendar, parent reports, tracking student SOLO work, etc.)
   - Have you received any assistance in learning how to use VPORT? (from whom?)

12) *(if not discussed in question 11):* How do you monitor your students' progress in PRJ classes?
   - Do you use PRJ benchmark or other assessments? (if yes: how/what for?)
   - *(if not already addressed):* How do you use these assessments specifically to help students who are having trouble?

13) How would you describe your students' general response to PRJ? Do you think it's helping them? (why/why not?)

14) How many school days have you missed this year? What happens with your PRJ classes when you are gone?

15) Are there any other comments you'd like to make about your experience with implementing PRJ so far?

Thanks so much for helping us get some information about how PRJ implementation is going. If you think of anything else later that you'd like to add, or if you have any questions about the research study, please feel free to call or email me (leave card).

Discussion Topics for SR School Administrators/Principals
Spring 2011

Date:_____ Interviewer:_____
School Administrator/Principal:_____

Experience

- How long have you been at this school as the principal?
- What is your primary role at school (if not principal)?
- Described your previous experience with Voyager's PRJ

Implementation Support Provided

- What is your role in supporting implementation of the PRJ program? How do you provide this support?
- How often do you visit the PRJ classroom? (i.e., frequency & length of visits)?
- Describe a typical visit to the classroom.
- What type of feedback have you provided to the PRJ teacher (format, content). Provide an example.
- What has been the most challenging aspect of the PRJ program to implement?
- What is your perception of how implementation is going in his/her school? What evidence are you using to reach this conclusion?

Implementation Support from Voyager

- What types of support have been provided to and your teacher by Voyager?
    - How often did you and/or your teacher receive support from Voyager?
- What type of interactions do you have with the Voyager coach either before or after they visit the PRJ classroom?
- What types of suggestions has the Voyager coach made for you and/or your teacher to increase implementation?
- Did you feel your school was adequately prepared to implement the PRJ program?
- What additional supports from Voyager would be beneficial in implementing the PRJ program?

Implementation Support from LDOE

- What type of support was provided by your LDOE support?
    - How helpful was the support provided?
    - How often did you receive support from LDOE?

- What type of interactions do you have with the LDOE representative either before or after they visit the PRJ classroom?

- How has your district coordinator supported implementation of the PRJ program?

- What additional supports for implementation would you recommend to LDOE?

Challenges/Barriers

- What are some challenges you have experienced with implementing the PRJ program at your school?

Successes

- What is going well with implementation – what's working well?

Participating in Research

- Given the evaluation was separate from implementing the PRJ program, what are some challenges you experienced with being involved in the evaluation (i.e., control group, randomization)?

Anything else you can tell us about the implementation of this program?

Discussion Topics for Voyager Coach Phone Discussion

Experience/Background

- How many years have you been training and providing support for Passport Reading Journeys (PRJ)?
- Describe your background prior to joining Voyager/Cambium.

Perception of Implementation

- How frequently did you visit each of your assigned schools? How did the length and number of visits vary between the schools? (specific to each Parish/teacher)
- Describe your typical visit with each teacher.
- What types and amount of TA/contact were you able to provide to teachers beyond the in-person visits?
- Based on your teachers, what was the most effective means of communication (i.e., email, phone, in-person)? Also, what was the most frequently requested type of interaction?
- What was the most frequent request for assistance (i.e., SOLO time, V-Port, Classroom Management, Time management)?
- How well was each of your teachers able to implement the PRJ program? (Ask about each teacher individually, but also overall)
- How the SR implementation compares to the 'typical' implementation in Louisiana(focus on different assistance not classroom implementation)?
- What is the role of the principal and/or school administrator in the implementation at each of your schools?
- What additional supports for teachers would you recommend to help teachers implement the program?

Challenges/Barriers

- What challenges are you having with implementing the grant? How are these barriers impacting your ability to support the implementation of PRJ?
- What challenges are teachers having (both school by school and overall) with implementing PRJ?

Successes

- What is going well with implementation – what is working well?

Anything else you can tell us about the implementation of this program?

LA SR District Coordinators Survey

Thank you for taking the time to complete our survey! We are interested in gathering information about your role, as district coordinator, in the implementation of the Louisiana Striving Readers (LA SR) grant, and the Passport Reading Journeys (PRJ) program. As part of the evaluation, your answers will be kept anonymous and reported at an aggregated level (e.g., three of the four district coordinators).

1) What is your title within the district (i.e., assistant superintendent)?

_____

2) How long have you been working within your district?

Years_____

3) What is your background with PRJ before the LA SR grant?

- ❑ New to PRJ this year
- ❑ Previously used PRJ as an administrator
- ❑ Previously used PRJ as a teacher
- ❑ Previously used PRJ as a reading coach

4) What activities did you engage in during the past year for the Louisiana Striving Readers grant?

- ❑ Attended LA SR project meetings and trainings.
- ❑ Coordinated release time for teachers and principals to attend trainings associated with the LA SR project and PRJ
- ❑ Assisted principals and teachers with scheduling.
- ❑ Assisted SEDL with evaluation activities.
- ❑ Supported the literacy intervention teachers with student assessments and records.
- ❑ Provided support and assistance to principals, teachers, and PRJ staff in securing and obtaining PRJ curriculum materials.
- ❑ Developed and maintained communication between the LA SR schools, LDOE, and SEDL.
- ❑ Prepared for and participated in LA SR project evaluation activities.
- ❑ Managed funding allocations for the schools.
- ❑
- ❑ Other (please specify)

If you selected other, please specify

_____

5) Please rank order, by frequency, the following types of requests you received from PRJ teachers and principals this past year.

PRJ materials _____
Classroom materials (i.e., computers) _____
PRJ implementation (i.e., SOLO and Vport) _____
Budget _____
Scheduling _____
Evaluation activities _____
Other (please specify) _____

6) What additional supports would have been helpful for your teachers and/or principals in implementing this grant and program?

_____
_____
_____

7) Please share any additional information you think would be helpful for us to know about the implementation of this project.

_____
_____
_____

Thank you for taking the time to complete our survey. We enjoyed working with all of you over the past year! Wishing you and your district all the best.

Discussion Topics for LDOE Consultant Phone Discussion

Experience/Background

- What is your background and training related to language and literacy programs?
- How long have you worked for LDOE and in what capacity?
- What is your previous experience with PRJ?
- Describe your background before joining LDOE

Perception of Implementation

- How frequently were you able to visit the participating Parishes, schools, and teachers?
- Describe your typical visit to an intervention teacher and/or district coordinator.
- What amount of TA/contact were you able to provide to teachers and district coordinators? Were the majority of your TA requests from teachers or district coordinators?
- What was the most frequent request for assistance or clarification (i.e., SOLO time, V-Port, Classroom Management, Time management) you received from teachers and/or district coordinators.
- How well do you feel teachers are implementing the PRJ program? What evidence do you have to support that perception?
- What role to the principals and other school administrators have in supporting implementation of the PRJ program?
- What additional supports would you recommend for the teachers to implement PRJ?

Challenges/Barriers

- Describe the challenges are you experiencing with monitoring implementation of the grant vs. PRJ?
- What challenges teachers are having – both school by school as well as overall teachers – with implementing PRJ?

Successes

- What is going well with implementation, both the grant and PRJ?

Anything else you can tell us about the implementation of this program?

Louisiana Striving Readers Project
Classroom Visitors Log

Date: _____ **Grade Level: 6th** ☐ **7th** ☐ **Number of Students:** _____

SR Teacher Interventionist: _____

District/School: _____

Visitor's Name: _____ **Position:** _____

Organization/Affiliation: ☐ **LDOE** ☐ **Voyager** ☐ **SEDL** ☐ **Other** _____

Time in/Time out _____ /_____

Purpose of visit:

☐ **Observation** ☐ **Coaching** ☐ **Technical Assistance** ☐ **Data Collection**

☐ **Other** _____

VISIT SUMMARY

Focus of visit _____

_____

Discussions with teacher _____

_____

_____

Knowledge gained _____

_____

_____

Teacher concerns _____

_____

_____

Is follow up required? ☐ **YES** ☐ **NO**

Follow-up suggestions _____

_____

_____

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