

Summary of 2006 Striving Readers Projects: Profile of Memphis City Schools' Striving Readers Project and Evaluation

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Setting

Eight middle schools serving over 6,000 students in grades six through eight in Memphis, Tennessee are participating in the Striving Readers project. Four middle schools are implementing both the targeted and the whole school interventions; four are control schools. Ninety-five percent of the students served by these schools are African American and five percent are Hispanic. Eighty-eight percent of these students are eligible for free or reduced priced lunch, and 3 percent are identified as English Language Learners.

Intervention Models

Targeted Intervention

Classroom Model as Planned: READ 180 Enterprise Edition, developed by Scholastic Inc, aims to address the individual needs of struggling adolescent readers who are reading below grade level through adaptive and instructional software, teacher-directed instructional rotations, and the use of tailored textbooks and independent or modeled reading of literature intended to be of high interest to adolescents. The program focuses on elements of phonics, fluency, vocabulary, comprehension, spelling, writing and grammar, and aims to promote self-directed learning. Weekly and monthly assessments are provided by the READ 180 Topic Software and the Scholastic Achievement Manager (SAM) software provides feedback to teachers on student assessments. In addition, diagnostic testing using the Scholastic Reading Inventory (SRI) is conducted three times a year.¹

Professional Development Model as Planned: In the first year of the implementation, teachers are offered an initial two-day training and an additional one day of follow-up training on the model, provided by the developer, and six networking meetings throughout the year led by district staff. Together, these training sessions total 32 hours per teacher. In the second and third years of implementation, teachers who are new to READ 180 receive the two-day initial training from the developer and four networking meetings throughout the year led by district staff; these total 28 hours of professional development. Returning teachers are provided with a one-day initial training and the same four networking meetings. In addition, both new and returning

¹ For more information on READ 180, please see the READ 180 Enterprise Edition Intervention Profile by Abt Associates, available at <http://www2.ed.gov/programs/strivingreaders/performance.html>.

teachers are encouraged to complete a six-hour online training module from Scholastic on “Best Practices for Reading Intervention.” In addition, in the second and third years of the implementation, all teachers receive one observation and follow-up meeting from the developer.

Context for Implementation: The READ 180 program is being implemented as a supplement to the district’s regular English language arts curriculum in the schools, replacing an elective course. Students in grades 6-8 are eligible for READ 180 if they score in the bottom quartile of the Tennessee Comprehensive Assessment Program (TCAP). All special education students who are struggling readers are eligible for the interventions. Eligible students can receive the intervention for up to two years. In Year 1 of implementation, 698 students in grades 6-8 were served by the intervention. In the second year (2007-08), the students in grade 8 in Year 1 (2006-07) graduated out of the program and a new cohort of 6th graders were added to READ 180, for a total of 608 students being served in Year 2 of implementation. The targeted intervention will be implemented for a total of four years.

Whole School Intervention

Classroom Model as Planned: The Memphis Content Literacy Academy (MCLA) professional development model is being implemented as the whole school intervention. The model, which was developed by team members from the University of Memphis and Memphis City Schools, trains core content area teachers to teach students research-based strategies to help them strengthen their fluency, vocabulary, and comprehension skills before, during, and after reading.

Professional Development Model as Planned: English language arts, mathematics, science, and social studies teachers in four of the middle schools are offered professional development in the MCLA model. New teachers of the Memphis Content Literacy Academy are offered a two year course with 30 weekly classes per year provided by model developers, totaling 90 hours per teacher per year. Literacy coaches are also available on-site to provide technical assistance on the whole school model on an as-needed basis. The teachers’ professional development in their second year consists of the second half of the MCLA course, totaling 90 hours per teacher per year.

Context for Implementation: The whole school intervention is being implemented only in the 4 treatment middle schools in the first two years of the program but the four control schools are being added in Year 3. In Years 1 and 2 of implementation, the whole school intervention serves approximately 2,400 students in grades 6-8 in each school year in the four treatment schools and Year 3 of implementation will include approximately another 2,400 students. The whole school intervention will be implemented for a total of four years.

Evaluation Design

Targeted Intervention

Research Question:

1. What is the immediate impact of Read 180 on the reading and subject area achievement of struggling readers at the end of the first year of student participation?

Research Design and Methods: Students scoring in the lowest quartile on the English/Language Arts component of the TCAP are randomly assigned to receive the supplemental Read 180 class or to a control group. Students continue to receive instruction in the regular language arts curriculum. The impact of Read 180 on student outcomes will be modeled using multilevel models to account for the nesting of students within schools.

Control Condition: Students randomized to the control group receive their regular elective courses in place of the treatment class.

Sample Size: The samples for the impact evaluation include a treatment group of 1,066 struggling readers in grades 6–8 who have received READ 180 for one year, and 1,578 struggling readers in the control group, across 8 schools. The analysis of the impact of two years of READ 180 includes 549 students in the treatment group and 840 students in the control group.

The Year 3 evaluation report, which includes findings from the first three years of implementation, includes a sample of students large enough to detect an impact (in standard deviation units) of the intervention on reading achievement equivalent to:

- .13 on the ITBS and .18 on the TCAP after one year of the intervention for grades 6-8,² and
- .36 on the ITBS and .15 on the TCAP after two years of the intervention for grades 7-8.

Because Memphis will continue to offer the intervention to new groups of students for four school years, the Year 4 report will have larger sample sizes and be able to detect smaller impacts.

Key Measures of Student Reading Outcomes (Source):

Iowa Test of Basic Skills (ITBS) (External Test Publisher)

Tennessee Comprehensive Assessment Program (TCAP) (State Test)

Whole School Intervention

Research Question:

1. What are the separate and combined effects of MCLA and Read 180 on reading achievement levels?

Research Design and Methods: The eight study schools were matched based on school enrollment levels and 2005 TCAP Mean NCE scores in English/Language Arts and Mathematics (disaggregated by grade) and then randomly assigned to implement the MCLA model or to a control condition. Students in the treatment schools are taught by teachers trained in the MCLA model. Within any given MCLA school, some of the students are randomized to the Read 180 group and therefore receive both treatments while the other students only receive the whole-school intervention. Conversely, in non-MCLA schools, some of the students only receive the Read 180 treatment while the other students receive neither treatment. A cluster randomized

² Abt Associates staff calculated the MDE by multiplying the standard error of the impact estimate by 2.8. This calculation produces the MDE for a two-tailed test with 80% power, and with an alpha level of .05, and accounts for clustering and for the inclusion of the covariates in the model.

control trial analysis will be used to compare pre-program student achievement scores with post-program student achievement scores. Two-level hierarchical linear models (students nested within schools) will be fit to assess the impact of MCLA on student outcomes. A cross-level interaction term will be included to estimate the differential effect of MCLA on student outcomes with and without Read 180. A regression adjusted comparison of mean outcomes will also be used.

Future evaluation reports will include findings on the impact of the whole school intervention on student achievement.

Sample Size: Eight schools in the district were randomly assigned to implement the whole school intervention or to continue with business-as-usual for the first two years of the program. Starting in the third year of implementation, all 8 middle schools will implement the whole school evaluation. In the first two years of the program (2006-07 and 2007-08), the whole school intervention is being delivered to all students in the 4 treatment middle schools, which involves a sample of approximately 2400 students in grades 6-8. The sample in the four control schools is comparable, with a total estimated enrollment of total of 2,500 students in grades 6–8.

The Year 3 evaluation report, which includes findings from the first three years of implementation, includes a sample of students large enough to detect an impact (in standard deviation units) of the intervention on reading achievement equivalent to:

- .40 on the ITBS and TCAP after one year of the intervention for grades 6-8, and
- .43 on the ITBS and TCAP after two years of the intervention for grades 6-8.

Key Measures of Student Reading Outcomes (Source):

Iowa Test of Basic Skills (ITBS) (External Test Publisher)

Tennessee Comprehensive Assessment Program (TCAP) (State Test)

Year 3 Evaluation Findings

Targeted Intervention

Fidelity of Implementation of the Targeted Intervention Model: In terms of fidelity of implementation of the *professional development model*, in Year 1 (2006-07), the majority of teachers participated in the READ 180 professional development activities at an adequate level (68%). The level of participation in professional development increased in the second and third years of implementation, with 74% and 79% of teachers participating at an adequate level, respectively.

In terms of fidelity of implementation of the *classroom model*, ratings of the fidelity of implementation of the program model were based on classroom observations, teacher surveys and ratings from the SAM data management system. According to classroom observations, 63% of teachers implemented the model at an adequate level in Year 1, 78% in Year 2, and 79% in Year 3. According to teacher surveys, 79% of teachers implemented the model at an adequate level in Year 1, and 84% in Years 2 and 3. According to SAM data, 42% of teachers implemented the model at an adequate level in Year 1, 53% in Year 2, and 58% in Year 3.

Impact of the Targeted Intervention on Student Reading Outcomes: There were no statistically significant impacts on the reading achievement of struggling readers in grades 6-8 after one year of exposure to READ 180, with effect sizes of .05 on ITBS, and .04 on TCAP.

There were no statistically significant impacts on the reading achievement of struggling readers in grade 6-8 after two years of exposure to READ 180, with effect sizes of .01 on ITBS, and .05 on TCAP.

Summary of the Strengths and Weaknesses of the Impact Evaluation of the Targeted Intervention:

Strengths

- Eligibility for random assignment was determined systematically, using a predetermined cutoff score on a test of reading achievement (Reading Language Arts subtest of the Tennessee Comprehensive Assessment Program (TCAP)).
- Random assignment was faithfully executed, with no evidence of students receiving the intervention after being randomized to the control condition.
- There is no evidence that there are other factors (e.g., other reading programs or district policies) that were implemented in ways that would undermine the evaluators' ability to attribute impacts to READ 180.
- The evaluation employs two reading tests as outcome measures. The first (ITBS) assesses vocabulary, word analysis, listening and comprehension, and was developed by an external test publisher. The second (TCAP) assesses reading and language arts, and was developed by the state. There is no reason to believe that students assigned to the treatment group have more experience taking the tests than do the control group students, or that the tests measure skills specific to the intervention, both of which could undermine confidence in the impact estimates.
- When estimating impacts, appropriate analytic steps were taken to account for the clustering of students within schools.
- While some students were unable to participate in follow-up data collection, the level of attrition did not differ substantially across the treatment and control groups. This suggests that the integrity of the original randomized design was preserved, and that treatment and control groups continue to be statistically equivalent on all measured and unmeasured characteristics at follow-up.
 - Some grade 6-8 students who received one year of READ 180 were unable to participate in follow-up data collection on the ITBS and TCAP (29.7% for the ITBS and 6% for the TCAP); the levels of attrition did not differ substantially across the treatment and control groups (differential attrition rate was 4.9% for

the ITBS and 1.8% on the TCAP). This amount of attrition is within the acceptable range established by WWC standards.³

- Some grade 7-8 students who received two years of READ 180 were unable to participate in follow-up data collection on the ITBS and the TCAP (46.5% of students for the ITBS and 34% for the TCAP); the levels of attrition did not differ substantially across the treatment and control groups (differential attrition rate was 3.3% for the ITBS and 1.6% on the TCAP). This amount of attrition is within the acceptable range established by WWC standards.
- Small, statistically significant differences in pre-study reading achievement favoring the control group were noted on the students included in the analysis at follow-up. The effects of this difference are mitigated by the inclusion of the pre-test measure in the statistical models estimating the impact of the program.

Weaknesses

- None.

Whole School Intervention

Fidelity of Implementation of the Whole School Intervention Model: In terms of fidelity of implementation of the *professional development model* in Year 1 (2006-07), 62% of teachers attended 80% or more of the PD offered. In Year 2, no teachers were given a course participation score indicating participation at a high level; 75% of teachers received scores indicating a medium level of participation. In Year 3, 25% of teachers were participating at a high level and 75% of teachers were participating at a medium level.

Fidelity of implementation for the *classroom model* was not calculated in Year 1. All schools were given a principal involvement score indicating implementation at a high level of fidelity in both Years 2 and 3. No schools were given a materials use rating indicating implementation at either a high or medium level of implementation in either Years 2 or 3. In Year 3, 25% of schools were given a coach-assigned rating indicating high implementation and 75% were given a rating indicating medium implementation.

Impact of the Whole School Intervention on Student Reading Outcomes:⁴ There were no statistically significant impacts of the whole school intervention on student reading outcomes after one or two years of the intervention. The non-significant impacts were .01 and .08 respectively on the ITBS, and .18 and .34 respectively on the TCAP.

³ For more information, please see Appendix A-Assessing Attrition Bias, of the WWC Procedures and Standards Handbook, available at: <http://ies.ed.gov/ncee/wwc/help/docviewer/Doc.aspx?docId=19&tocId=7>.

⁴ The findings presented on the evaluation of Memphis' MCLA whole school intervention are based on Years 1 and 2 of their Striving Readers Program. Prior to implementation, the 8 Striving Readers schools were paired, then, within each pair one school was assigned to the intervention and one school was assigned to the control condition. However, in Years 3 and 4, the schools assigned to the control condition participate in the whole school intervention.

Summary of the Strengths and Weaknesses of the Impact Evaluation of the Whole School Intervention:

Strengths

- *Comparison Group.* Randomization was used to construct a control group of schools. Randomization ensures that the control schools are similar to the Striving Readers schools on both observed and unobserved characteristics prior to the implementation of the intervention.
- *Presence of Confounding Factors.* There is no evidence that there are other factors (e.g., other reading programs or district policies) that were implemented in ways that would undermine the evaluators' ability to attribute impacts MCLA professional development activities.
- *Outcomes.* The evaluation employs two reading tests as outcome measures. The first (ITBS) assesses vocabulary, word analysis, listening and comprehension, and was developed by an external test publisher. The second (TCAP) assesses reading and language arts, and was developed by the state. There is no reason to believe that students assigned to the treatment group have more experience taking the tests than do the control group students, or that the tests measures skills specific to the intervention, both of which could undermine confidence in the impact estimates.
- *Attrition.* The full sample of eight schools is included in the analyses of impacts. Within schools, few students were unable to participate in either the one- or two-year follow-up data collections, suggesting that the integrity of the original randomized design was preserved, and that treatment and control groups continue to be equivalent on all measured and unmeasured characteristics at the one- and two-year follow-up time points.
- *Analysis.* When estimating impacts, appropriate analytic steps were taken to account for the clustering of students within schools.

Weaknesses

- None.