

Summary of 2006 Striving Readers Projects: Profile of Springfield and Chicopee Public Schools' Striving Readers Project and Evaluation

Grantee: Springfield Public Schools

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Setting

The Springfield-Chicopee Striving Readers project is being implemented in two high schools in Chicopee, Massachusetts and three high schools in Springfield, Massachusetts. In Springfield, the high schools serve a majority of non-white students. In the 2006-07 school year, twenty-nine percent of the students were African American, 52 percent were Hispanic, and 14 percent were white. Approximately 71 percent of the students were identified as low-income, and 13 percent were identified as Limited English Proficiency (LEP) students. In Chicopee, the students were largely white (78 percent); three percent of the students were African American and 18 percent were Hispanic. Approximately 35 percent of the students were identified as low-income, and less than 2 percent were identified as LEP students. All five schools were eligible for Title I.

Intervention Models

Targeted Interventions

Classroom Model as Planned: Two targeted interventions for struggling readers are being implemented: READ 180 Enterprise Edition and Xtreme Reading, Level 3 of the Content Literacy Continuum (SIM-CLC). Treatment group students receive either READ 180 or Xtreme Reading, but not both.¹

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

Xtreme Reading is one of the levels of instruction in the Content Literacy Continuum (CLC), a framework within the Strategic Instruction Model (SIM) developed by the University of Kansas Center for Research on Learning. The Xtreme Reading program focuses on 7 reading strategies: Vocabulary/LINCing, Word Mapping, Word Identification, Self-Questioning, Visual Imagery, Paraphrasing, and Inference. Xtreme Reading's core instructional approaches include direct instruction, teacher modeling, paired student practice, and independent practice. The program provides end-of-unit assessments to track student progress.

Professional Development Model as Planned: In the first year of implementation, READ 180 teachers are offered 42 hours of professional development, involving a 2-day initial training, 8 follow-up seminars, and the Scholastic online course. In the second year of implementation, new READ 180 teachers are offered the same professional development as are the teachers in Year 1, while returning teachers are offered only the online course, if they did not complete it in Year 1. In the third year of implementation, new teachers have the 2-day initial training and 6 rather than 8 follow-up seminars, for a total of 36 hours. Returning teachers with one year of experience are again encouraged to complete the Scholastic online course. Returning teachers with two or more years of experience using READ 180 are offered the online course and two follow-up seminars. In the first two years of implementation, teachers are also offered monthly in-class technical assistance visits by the developer. In the third year of implementation, new teachers and returning teachers with one year of experience with READ 180 are offered this same level of in-class support, while teachers with two years of experience with READ 180 are offered 4 in-class visits rather than 8.

In the first and second years of implementation, Xtreme Reading teachers are offered a similar amount (42 hours) of professional development, across initial training and follow-up workshops. In the third year of implementation, new teachers receive slightly reduced professional development (36 hours). Returning teachers are offered 1 full-day workshop in the second year of implementation and no additional training in the third year of implementation. In each of the implementation years, teachers receive approximately monthly in-class coaching visits from the professional developers.

Context for Implementation: Both models are being implemented as supplements to the district regular English language arts curriculum in the schools, replacing an elective course. Ninth-grade students reading at least two levels below grade level (but not lower than a fourth grade reading level) are eligible to be randomly assigned to participate in the one of the two targeted interventions, or to the control condition. Incoming ninth grade students are screened using the Scholastic Reading Inventory (SRI) to determine their reading level and eligibility for the targeted intervention, and eligible students can receive the interventions for up to three years. It is important to note, however, that the evaluation is focused only on ninth graders in their first year of participation in the interventions. Special education students are eligible for the interventions, unless their Individual Educational Plans (IEPs) prohibit them from being assigned to one of the intervention classes or their overall level of functionality precludes them from participating. In Year 1, 72 9th grade students were served by the READ 180 intervention and 70 9th grade students were served by Xtreme Reading. In Year 2, 66 9th grade students were served by the READ 180 intervention and 57 9th grade students were served by Xtreme Reading. The targeted interventions will each be implemented for a total of four years.

Whole School Intervention

Classroom Model as Planned: The Strategic Instruction Model (SIM) Content Enhancement Routines for Teachers (SIM-CERT) is a school-wide literacy-across-the-curriculum intervention developed by the Center for Research on Learning at the University of Kansas as part of the Content Literacy Continuum (CLC). The intervention is organized around a set of Content Enhancement Routines that teachers are trained to use in their instruction to help ensure mastery of critical content for all students (Level 1 of CLC) and to provide embedded learning strategy instruction in core curriculum courses (Level 2 of CLC). The goal of the program is to help teachers implement strategic teaching to ensure mastery of critical content for all students (Level 1 of CLC) and to provide embedded learning strategy instruction in core curriculum courses (Level 2 of CLC). Content Enhancement routines include unit organizers, framing, vocabulary LINCing, and concept mastery. The professional developers also offered optional training on concept anchoring, concept comparison, lesson organizer, and course organizer.

Professional Development Model as Planned: In the first year of implementation, SIM-CERT teachers are offered about 24 hours of professional development, provided by Strategic Learning Center (SLC), a professional developer under contract to the model developer. This includes a 2-day initial summer training on the Content Enhancement Routines (CERs) and two days of ongoing professional development where teachers select from a menu of training sessions on new content enhancement routines. After the first year of implementation, returning teachers are offered approximately 12 hours of ongoing training on additional CERs. In Years 2 and 3, new teachers are offered the same level of training as the Year 1 teachers. In all three years of implementation, teachers are offered monthly classroom visit and feedback (approximately 16-18 hours), provided by the professional developers.

Context for Implementation: The districts are phasing in SIM-CERT over the five years of the project with the goal of training approximately 90 percent of all teachers by the end of the grant. The districts will train approximately 25 teachers per school, 125 across districts per year beginning first with ELA, social studies, math and science teachers in tenth through twelfth grade. As teachers receive whole school intervention training, all of their students, regardless of their reading ability, receive instruction informed by the whole school intervention. For students assigned to Xtreme Reading, SIM-CERT represents Levels 1 and 2 of an integrated model in which the targeted intervention is Level 3. For students assigned to READ 180, SIM-CERT represents a separate model. The whole school intervention is being delivered to all of the students in the 5 participating high schools. This includes approximately 7,100 students in grades 9-12 in each school year. The whole school intervention will be implemented for a total of four years.

Evaluation Design

Targeted Interventions

Research Questions:

U.S. Department of Education,
Office of Elementary and Secondary Education
Submitted by Abt Associates Inc.

Striving Readers: Springfield and Chicopee Public Schools, MA
Project Profile: Years 1 – 3 of Implementation

1. Does participation in READ 180 improve ninth-graders' reading achievement as compared to the control group?
2. Does participation in SIM Xtreme Reading improve ninth-graders' reading achievement as compared to the control group?

Research Design and Methods: The effectiveness of each targeted intervention is being tested in ninth grade.² Eligible ninth grade students are randomly assigned to participate in one of the two supplemental programs (READ 180 or Xtreme Reading) or to “business-as-usual,” which consists of the standard ELA curriculum. Eligible teachers are also randomly assigned to teach students randomly assigned to READ 180, Xtreme Reading, or the control group. Students in Xtreme Reading also receive instruction from ELA teachers trained as part of the whole school intervention, which is part of the same model as the targeted intervention. The evaluation is designed so that students in READ 180 and in the control group do not receive instruction from ELA or other content teachers who have received training in the whole school model; the whole school model is phased in over the five years of the grant, with the teachers serving READ 180 and control students being trained in the last cycle of training. Hierarchical linear models (students nested within schools) will be fit to assess the impact of each targeted intervention on student outcomes.

Control Condition: Students randomized to the control condition receive the regular ninth-grade English language arts curriculum as do students randomized to the targeted conditions. The business-as-usual condition for control students consists of any supplemental support as is normally provided in the district to students struggling in reading, such as tutoring. In the absence of supplemental support, students participate in other electives.

Sample Size: Across Years 1—3 of implementation, the evaluation of READ 180 included 175 9th grade treatment students and 159 control students across 5 high schools. For Xtreme Reading, the evaluation included 155 treatment students and 159 control students across 5 high schools.

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 .22 on the standardized test (Stanford Diagnostic Reading Tests – 4th Ed. (SDRT-4)) for grade 9.³ Because Springfield-Chicopee will continue to offer the interventions 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):

Stanford Diagnostic Reading Test, 4th Edition (External Test Publisher)

² Students who continue to read below grade level (including students in the control group in ninth grade) following one year of participation are assigned to continue with READ180 or Xtreme Reading for up to three years, although they are not included in the evaluation of the impacts of the two intervention models.

³ 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.

Whole School Intervention

Research Questions:

1. To what extent is the whole-school model (SIM-CERT) associated with improvements in students' reading proficiency each year and over time?
2. To what extent is the whole-school model (SIM-CERT) associated with additional indicators of student success (e.g., improved attendance rates) each year and over time?

Research Design and Methods: An interrupted time series analysis will be used to compare pre-program student achievement scores with post-program student achievement scores. As the whole-school model is phased in, students in the classrooms of trained teachers will receive instruction using this model. Therefore, variation in the timing of the whole school model (SIM-CERT) implementation will be used to identify pre- versus post- differences in student outcomes across the different schools. The outcome analysis will be conducted with cohorts of tenth graders' given the availability of state achievement test data over time. Future evaluation reports will include findings on the impact of the whole school intervention on student achievement. The interrupted time series evaluation design is made more rigorous with the inclusion of more than two years of post-implementation data.

Comparison Group: All schools in the study participate in the whole school intervention. Therefore, there is no comparison group.

Sample Size: In the first year of implementation, districts reported training 110 teachers. Based on anonymous survey responses, 90 teachers indicated that they had received the whole school intervention training (SIM-CERT). Of the 90 teachers, 21 taught Xtreme reading and ELA, 21 taught History and Social Studies, 19 taught Science, 18 taught Math, and 18 taught other content such as Art (7 reported teaching in more than one content area). Each year, the district serves approximately 2,400 students in grade 9. The interrupted time series will include all 9th grade students in the five participating schools in each of the school years included in the analysis.

Key Measures of Student Reading Outcomes (Source):

Massachusetts Comprehensive Assessment System: English Language Arts (State Test)

Year 3 Evaluation Findings

Targeted Interventions

Fidelity of Implementation of the Targeted Intervention Model: For READ 180, on fidelity of implementation of the *professional development model*, in Year 1 of implementation, 33% of teachers had an adequate level of participation and another 33% had a moderate level of implementation. In Years 2 and 3, all teachers had either a high level or a moderate level of participation. In Year 2, 40% of teachers had an adequate level of participation and 60% had a moderate level. In Year 3, 80% of teachers had an adequate level of participation and 20% had a moderate level. No READ 180 teachers reached even a moderate level of participation for *coaching support*. However, in Year 2, 40% of teachers had adequate participation; and, and in Year 3, 100% of teachers had adequate participation.

For READ 180, fidelity of implementation of the *classroom model* was rated based on a combination of classroom observations and staff surveys. In all three years of implementation, 100% of teachers had adequate or moderate levels of fidelity of implementation. In Year 1, 67% of the teachers were rated as having an adequate level of fidelity and 33% of teachers as moderate. In Year 2, 80% of teachers were rated as adequate and 20% as moderate; and in Year 3, the comparable percentages were 40% adequate and 60% moderate.

For Xtreme Reading, on fidelity of implementation of the *professional development model*, in Year 1 of implementation, 40% of teachers had an adequate level of participation and another 40% had a moderate level of implementation. For *coaching support*, 67% of teachers had adequate levels of participation in Year 1. This rose to 80% in Year 2 and 100% in Year 3. On fidelity of implementation of the *classroom model*, in Year 1, 60% of the teachers were rated as having reached an adequate level of fidelity and 20% of teachers as having reached a moderate level of implementation. In Year 2, 0% of teachers were rated as adequate and 40% as moderate. In Year 3, the numbers increased, with 40% of teachers at an adequate level of implementation and 40% at a moderate level.

Impact of the Targeted Interventions on Student Reading Outcomes: After one year of implementation, READ 180 had statistically significant impacts on students reading scores at the end of grade 9. The effect size was .20. Xtreme Reading had no statistically significant impacts on student reading scores at the end of grade 9 after one year of implementation. The effect size was .04.

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 (Scholastic Reading Inventory (SRI)).
- 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 Read180 or Xtreme Reading.
- The reading tests used as outcome measure, the SDRT-4, assess decoding, vocabulary, and reading comprehension, and was developed by an external test publisher. There is no reason to believe that students assigned to the treatment group have more experience taking the test than do the control group students, or that the test measures 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. A pre-study measure of reading achievement was included in the statistical models to increase the precision of the impact estimate.

Weaknesses

- Some students were unable to participate in follow-up data collection, and the level of attrition differed across the treatment and control groups. This suggests that the integrity of the original randomized design was not preserved, and that the treatment and control groups may not continue to be equivalent on all measured and unmeasured characteristics at follow-up.
 - Some students (11.6% of students in the study of READ 180 and 14.2% of students in the study of Xtreme Reading) were unable to participate in follow-up data collection; the levels of attrition differed across the treatment and control groups (differential attrition rate was 11.3% in the study of READ 180 and 16.4% in the study of Xtreme Reading). This amount of attrition is considered high according to standards established by the WWC.⁴
- With respect to measured characteristics, no differences in pre-study reading achievement or other demographics were noted between the treatment and control students included in the analysis at follow-up.

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 of implementation, nearly all of the teachers who were designated to be trained (92%) attended the initial training, and 35% participated fully in the follow-up training seminars during the year. In Year 2 of the program, comparable numbers of new teachers participated in the initial training (98%) and ongoing training (24%). Among teachers in their second year of implementation, 65% participated in the follow-up training. In Year 3, 29% of the teachers participated in the professional development activities at an adequate level.

The fidelity of implementation of the *classroom model* was not calculated in Year 1. In Year 2, 94% of teachers met or exceeded requirements. In Year 3, 81% of teachers met or exceeded requirements.

Impact of the Whole School Intervention on Student Reading Outcomes: The impact of the whole school intervention on student reading outcomes will be reported in the Year 4 evaluation report. The evaluator chose to wait until the Year 4 report to estimate the impact of the whole school model because the evaluation design will be strengthened by the additional year of data.

⁴ 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/idocviewer/Doc.aspx?docId=19&tocId=7>.