

Summary of 2006 Striving Readers Projects: Profile of San Diego Unified School District's Striving Readers Project and Evaluation

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Setting

The San Diego Unified School District Striving Readers project is being implemented in four high schools, two of which are small schools in a larger high school complex, and the four middle schools that feed into them.¹ The district serves approximately 138,000 students in 187 schools, making it the eighth largest school district in the nation. In the study schools, 64 percent of students are eligible for free and reduced priced lunch, 39 percent are Hispanic and 16 percent are African American, and 22 percent are identified as English Language Learners.

Intervention Models

Targeted Intervention

Classroom Model as Planned: *Strategies for Literacy Independence across the Curriculum model (SLIC)* is a professional development-based model developed by T. McDonald & C. Thornley, Education Associates in New Zealand, which presents students with a set of literacy strategies to enhance skills in reading and writing. SLIC is based on the theory that comprehension of text requires understanding the ways text forms present particular types of information and how surface features of text (e.g., titles, subtitles, captions, font style, graphics) convey information about meaning. It therefore is designed to teach students strategic reading behaviors such as cross-checking text features and running text to verify understanding, using contextual clues to understand new vocabulary, note-making/other forms of writing to organize text information from readings, and breaking writing prompts into component questions. Students are assumed to gradually build independence in using these through scaffolded instruction and independent reading and writing practice. SLIC uses expository, narrative, and persuasive text, including textbooks, novels, short stories, and magazines that are either provided by the developer or selected by teacher. The program includes periodic administrations (every 2-3 months) of students using an assessment tool aligned with SLIC, the BEAR Literacy Assessment System, which was developed jointly by SLIC developers, San Diego Unified School District, and UC Berkeley/BEAR.²

¹ In Year 1 of the project (2006-07), there were 3 high schools and 2 middle schools.

² For more information SLIC, please see the SLIC Intervention Profile by Abt Associates, available at <http://www2.ed.gov/programs/strivingreaders/performance.html>.

Professional Development Model as Planned: SLIC involves extensive professional development for teachers. The program includes a two-day introductory workshop, three all-day follow-up training sessions, monthly meetings with district staff and teachers to discuss implementation, and four rounds of discussions between teachers and developers that last between 3 and 4 days per school. Together, these activities total approximately 200 hours of professional development time per teacher in each of the three years of implementation. In addition, on-site school literacy coaches are available for daily in-class support and district staff and program consultants provide regular monitoring and support approximately two days a month per school. The same level of in-class coaching support continues throughout the three years of implementation.

Context for Implementation: SLIC is being implemented in middle schools and high schools for students in grades 7-10, as a supplement to the regular English Language Arts classes. SLIC replaces an hour-long elective course for students in treatment schools. Students are eligible for SLIC if they are two years below grade level as measured by the Degrees of Reading Power (DRP) assessment at the end of the prior school year, are reading at a 'basic' level or below as measured by the California Standards Test—English Language Arts score, or are labeled 'intermediate' or below on the California English Language Development Test (CELDT). Struggling readers can continue to receive SLIC for up to four years. In the first year of the program, SLIC was implemented in two high schools and 3 middle schools, in grades 7 and 9. In the second year (2007-08), SLIC was implemented in 4 middle schools and 4 high schools. In Year 2 of implementation, students were served in grades 7 and 8 in the middle schools and grades 9 and 10 in the high schools. Altogether, in grades 7-10, approximately 600 students were assigned to SLIC classes. The targeted intervention will be implemented for a total of four years.³

Whole School Intervention

Classroom Model as Planned: The whole-school intervention is based on the same SLIC literacy strategies used in the targeted intervention. The SLIC developer provides professional development to content-area teachers in teaching the literacy strategies. The whole school professional development is introduced gradually to content-area teachers, to build momentum and increase teacher buy-in. Priority is given to teachers serving students who are also attending the SLIC supplemental classes and to those teachers who express the most interest in being trained. The program is intended for teachers in all content areas.

Professional Development Model as Planned: The content area teachers who implementing SLIC as a whole school model are offered approximately 25 hours of professional development. This includes 15 to 20 hours of conferences on the whole school program for teachers from all content areas and another 8 hours of smaller group seminars for teachers in the same content areas. In addition, the on-site literacy coaches provide individual in-class support to teachers on an as-needed basis. The same level of professional development activities continues throughout the implementation of SLIC.

³ San Diego Unified School District will implement the targeted intervention for a total of four years, but only three years will be included in the evaluation.

Context for Implementation: For the whole school intervention, SLIC is being implemented by all content teachers in the treatment schools (4 middle schools and 4 high schools starting in Year 2 of implementation). Altogether, in grades 6-12, approximately 6,300 students are being taught by content teachers trained in SLICs. The whole school intervention will be implemented for a total of four years.

Evaluation Design

Evaluation of the Targeted Intervention

Research Questions:

1. Will struggling readers assigned to the SLIC targeted intervention class improve their literacy outcomes, as measured by standardized tests and the project monitoring (SLIC) assessment, significantly more than struggling readers who do not receive the SLIC targeted intervention but who do receive the SLIC whole school intervention?
2. Will students in the SLIC intervention group be more likely to read at grade level, pass the California High School Exit Exam in tenth-grade, enroll and successfully complete AP classes in eleventh/twelfth-grades, graduate from high school, and enroll in college than SLIC-eligible students who do not receive the SLIC targeted intervention but who do receive the SLIC whole school intervention?
3. Will struggling readers classified as English Learners in the SLIC intervention class improve their literacy outcomes compared to those classified as English Learners who do not receive the SLIC targeted intervention but receive the SLIC whole school intervention?

Research Design and Methods: In the second year of the program, eligible incoming seventh and ninth grade students were randomly assigned to participate in the SLIC intervention class or a regular elective class.⁴ Both treatment and control students also participate in the regular language arts class as well as receive instruction from teachers trained as part of the whole school intervention. New cohorts of students in grades 7-10 will be randomized in each of the first three years of the study. Treatment group students who continue to read at least two years behind grade level can receive the targeted intervention for up to four years (through tenth grade).

Control Condition: Students in the control condition participate in their regular elective classes, regular language arts classes, and receive instruction from teachers trained as part of the whole school intervention.

Sample Size: Across Years 1—3 of implementation, in the 4 middle schools, , the evaluation of the impact on the CST included 503 grade 7 and 8 treatment students and 533 control students. In the 4 high schools, the evaluation included 371 grade 9 and 10 treatment students and 405 control students.

⁴ Due to difficulties implementing random assignment in the 2006-07 school year, this year was considered a pilot year and was subsequently excluded from the evaluation. Therefore, the first school year of implementation is 2006-07 while the first school year of the evaluation is 2007-08.

The Year 3 evaluation report, which includes findings from the second and third years of implementation, includes a sample of students large enough to detect an impact (in standard deviation units) of the intervention on student outcomes equivalent to:

- .14 and .29 on the standardized test (CST-ELA) of reading achievement after one year of SLIC for middle and high school students, respectively,⁵
- .14 and .37 on the standardized test (DRP) of reading achievement after one year of SLIC for middle and high school students, respectively,
- .20 and .22 on the standardized test (CST-ELA) of reading achievement after two years of SLIC for middle and high school students, respectively,
- .37 and .39 on the standardized test (DRP) of reading achievement after two years of SLIC for middle and high school students, respectively,
- .37 and .35 on the measure of student reading motivation after one year of SLIC for middle and high school students, respectively, and
- .36 and .48 on the measure of student reading motivation after two years of SLIC for middle and high school students, respectively.

San Diego will not randomly assign a new group of students next year; therefore, the Year 4 report will not have additional students to add to the estimates of the impact of one year of SLIC. However, San Diego will continue to offer the intervention to previously randomized students, so the Year 4 report will have larger sample sizes and be able to detect smaller impacts for the estimates of the impact of SLIC after multiple years.

Key Measures of Student Reading Outcomes (Source):

Degrees of Reading Power (DRP) – reading comprehension (External Test Publisher)
California Standards Test (CST) (State Test)

Evaluation of the Whole School Intervention

Research Questions:

1. Will students attending schools that implemented both the whole school and targeted components of the SLIC intervention program demonstrate more improvement in literacy skills, as measured by student scores on standardized assessments, than will students attending comparison schools that did not implement either component?
2. Will the outcomes of students in schools that implemented both the whole school and targeted components of the SLIC intervention program improve more each year over the course of the study, than will the outcomes of students attending comparison schools that did not implement either component?

⁵ 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.

Research Design and Methods: An interrupted time series approach with a comparison group will be used to examine reading and other academic outcomes for all students in treatment and comparison schools before and after the implementation of SLIC.

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 and comparison schools.

Comparison Group: The evaluation includes a set of 8 similar comparison schools that are not implementing the SLIC model and instead are using the district's regular language arts program. All students in both the treatment and comparison groups of schools are included in the evaluation of the whole school intervention.

Sample Size: All Grade 6–12 students in the participating schools will be included in the evaluation of the whole school intervention.

The Year 3 evaluation report, which includes findings from the second and third years of implementation, includes a sample of students large enough to detect an impact (in standard deviation units) of the intervention on student outcomes equivalent to:

- .19 and .27 on the standardized test (CST-ELA) of reading achievement after one year of the whole school intervention for middle and high school students, respectively,
- .31 and .16 on the standardized test (DRP) of reading achievement after one year of the whole school intervention for middle and high school students, respectively, and
- .37 and .13 on motivation after one year of the whole school intervention for middle and high school students, respectively.

Key Measures of Student Reading Outcomes (Source):

Degrees of Reading Power (DRP) (External Test Publisher)

California Standards Test (CST) (State Test)

California English Language Development Test (CELDT) (State Test)

CAHSEE standardized tests (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 the first year of implementation, all schools reached either a high level of participation in the professional development activities (60%) or a medium level (40%). The level of participation declined substantially in Years 2 and 3, with no schools reaching a high level of participation in either year and 13% and 26% of schools at a medium level of participation in Years 2 and 3, respectively. For implementation of *coaching support*, in each of the three years of implementation, 100% of the schools were at a high or medium level of participation. In Year 1, 60% of schools had a high level of participation and 40% had a medium level. In Year 2, 13% of schools had a high level of participation and 88% of schools had a medium level of participation. In Year 3, 25% of schools had a high level of participation, and 75% of schools had a medium level.

The fidelity of implementation of the *classroom model* was not calculated for the first year of the program. In both Year 2 and Year 3 of implementation, none of the schools reached a high level of fidelity of implementation and 88% were at a medium level of fidelity.

Impact of the Targeted Interventions on Student Reading Outcomes: After one year of intervention, there were no significant impacts on the reading achievement of grade 7 and 8 or grade 9 and 10 struggling readers. The effect sizes were .04 and .05, respectively, on the California Standards Test. The effect sizes were .12 and .05, respectively, on the DRP.

After two years of intervention, there were no significant impacts on the reading achievement of grade 7 and 8 or grade 9 and 10 struggling readers. The effect sizes were .08 and -.01, respectively, on the CST. The effect sizes were .09 and .00, on the DRP respectively.

After one year of intervention, there were no significant impacts on the 2 year reading motivation of grade 7 and 8 or grade 9 and 10 struggling readers. The effect sizes were -.03 and .02, respectively. After one year of intervention, there were no significant impacts on the 3 year reading motivation of grade 7 and 8 or grade 9 and 10 struggling readers. The effect sizes were .02 and .04, respectively.

After two years of intervention, there were no significant impacts on the 2 year reading motivation of grade 7 and 8 or grade 9 and 10 struggling readers. The effect sizes were .03 and .04, respectively. After two years of intervention, there were no significant impacts on the 3 year reading motivation of grade 7 and 8 or grade 9 and 10 struggling readers. The effect sizes were -.10 and -.02, respectively.

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 one of three tests of reading achievement (CA Standards Test- English Language Arts (CST-ELA), CA English Language Development Test (CELDT) or Degrees of Reading Power (DRP)).
- 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 SLIC. The evaluators note that there is a possibility that students in both the treatment and control groups may have taken classes with teachers who have been taught SLIC instructional strategies as part of the Whole-School Striving Readers program. This might make it more difficult for researchers to detect an effect of SLIC.
- Assessment of outcome measures
 - The evaluation employs two reading tests as outcome measures. The first (CST-ELA) assesses English and language arts, and was developed by the state. The second (DRP) assesses 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 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.
- The evaluation also measures students’ motivation to read, using a 12-item survey on which students respond using a 5-point Likert style scale. There is no reason to believe that students assigned to the treatment group have more experience taking the measure than do the control group students, or that the survey measures skills specific to the intervention, both of which could undermine confidence in the impact estimates.
 - While some students were unable to participate in follow-up data collection, the level of attrition for some outcomes did not differ substantially across the treatment and control groups. This suggests that the integrity of the original randomized design was preserved, and that the treatment and control groups continue to be equivalent on all measured and unmeasured characteristics at follow-up.
 - Some students who received one year of SLIC (21.7% for the CST-ELA and 34.8% for the DRP) and some students who received two years of SLIC (33.9% for the CST-ELA and 49.5% for the DRP) were unable to participate in follow-up data collection; the levels of attrition did not differ substantially across the treatment and control groups (differential attrition rate for one year was 1.6 for the CST-ELA and 3.9% for the DRP, and for two years was 2.9% for the CST-ELA and .2% for the DRP). This amount of attrition is within the acceptable range established by WWC standards.⁶
 - When estimating impacts, appropriate analytic steps were taken to account for the clustering of students within schools.

Weaknesses

- Random assignment was faithfully executed in Years 2 and 3 of the study, and estimated impacts are based only on data collected in Years 2 and 3. However, the authors report that across the two years, there were 34 students (3.6%) in the control condition who received the intervention, and 188 students (21.6%) randomized to the treatment who did not receive it. While this represents a minimal amount of crossover, it reveals that approximately a fifth of the students that were randomized to the treatment were not treated. These students are, however, included in the estimates of the impact of SLIC.

Whole School Intervention

Fidelity of Implementation of the Whole School Intervention Model: For fidelity of implementation of the *professional development model*, in the first year of implementation, 20% of schools had a high level of participation. In Years 2 and 3, no school reached a high level of participation. For *coaching support*, no schools had a high level of participation in the first two years of implementation. In Year 3, 13% of schools had a high level of participation in coaching support.

⁶ 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/iddocviewer/Doc.aspx?docId=19&tocId=7>.

Level of fidelity to the *classroom model* was not calculated in Year 1. In subsequent years, fidelity ratings were based on classroom observations and interviews with teachers and coaches. In Year 2, no schools implemented the classroom model at a high level of fidelity. In Year 3, 13% of schools were rated as implementing the model at a high level.

Impact of the Whole School Intervention on Student Reading Outcomes: There were no statistically significant impacts of the whole school intervention on student reading outcomes or motivation after one year of the intervention. The non-significant impacts were .07 for grade 7 and 8 students and .10 for grade 9 and 10 students on the CST, and .11 and .06 on the DRP. The non-significant impacts on motivation were .13 for grade 7 and 8 students and .05 for grade 9 and 10 students.

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

Strengths

- *Comparison Group.* The study compared the reading achievement of students in grades 6-12 in treatment schools with students in a comparison group of schools chosen because they are somewhat similar on demographic characteristics and reading achievement prior to implementation of the intervention. However, we cannot assume that students in treatment and comparison schools are alike in all characteristics, observed and unobserved, that could affect their reading achievement.
- *Baseline Equivalence.* Students in the intervention and comparison groups were statistically equivalent in terms of their reading/language arts achievement at baseline, based on their scores on the California Standards Test-English Language Arts (CST-ELA) and the Degrees of Reading Power (DRP).
- *Outcome measures:*
 - The evaluation employs two reading tests as outcome measures. The first (CST-ELA) assesses English and language arts, and was developed by the state. The second (DRP) assesses 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 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.
 - The evaluation also measures students' motivation to read using a 12-item survey to which students respond, using a 5-point Likert style scale. There is no reason to believe that students assigned to the treatment group have more experience taking the measure than do the control group students, or that the survey measures skills specific to the intervention, both of which could undermine confidence in the impact estimates.
- *Attrition:* Achievement data and demographic data are available for the full study sample of schools over multiple time points (i.e., years).

- *Analysis.* When estimating impacts, appropriate analytic steps were taken to account for the clustering of students within schools.

Weaknesses

- *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 to the whole school intervention. However, they may be pre-existing differences between the two groups that might be responsible for any observed impacts. Therefore, we are unable to attribute observed impacts to the whole school intervention.
- *Limitations.* The impacts of the whole school intervention for struggling readers cannot be estimated independently from the targeted intervention because some students in the eight treatment schools also receive the targeted intervention. Also, in Year 3, three of the eight treatment schools are also implementing Literacy Advancement Academies, the same literacy program being implemented in all of the comparison schools.