

What Works Clearinghouse



Project CRISS® (CReating Independence through Student-owned Strategies)

Program Description¹

Project CRISS® (CReating Independence through Student-owned Strategies) is a professional development program for teachers² that aims to improve reading, writing, and learning for 3rd- through 12th-grade students. The implementation of *Project CRISS®* does not require a change in the curriculum or materials being used in the classroom, but instead calls for a change in teaching style to focus on three primary concepts derived from cognitive psychology and brain research. These three concepts include students (1) monitoring their learning to assess when they have understood content, (2) integrating new information with prior knowledge, and (3) being actively

involved in the learning process through discussing, writing, organizing information, and analyzing the structure of text to help improve comprehension.

In *Project CRISS®*, teachers incorporate these concepts into their regular classroom instruction through the use of comprehension strategies (such as using background knowledge, questioning, organizing graphically, and summarizing). *Project CRISS®* calls for students to apply these comprehension strategies to content they encounter, to gain an understanding of when and how it is most appropriate to use these strategies, and to learn to use the strategies that work best for them.

Research³

Two studies of *Project CRISS®* that fall within the scope of the Adolescent Literacy review protocol meet What Works

Clearinghouse (WWC) evidence standards. The two studies included 2,569 students, ranging from grade 4 through grade

1. The descriptive information for this program was obtained from a publicly available source: the developer's website (<http://www.projectcriss.com>, downloaded October 2009). The WWC requests developers to review the program description sections for accuracy from their perspective. Further verification of the accuracy of the descriptive information for this program is beyond the scope of this review. The literature search reflects documents publicly available by August 2009.
2. *Project CRISS®* also has several other training programs and support materials available, including: (1) *CRISS for Administrators*, which is designed to provide guidance to administrators on how to plan, implement, and maintain *Project CRISS®* in a school or district; (2) *CRISS for Students*, which is designed to teach *CRISS* principles and strategies directly to 6th- through 9th-grade students; (3) *CRISS for Parents*, which is designed to acquaint parents with *CRISS* principles and strategies; and (4) *CRISS for Homeschool Parents*, which is designed to help parents that are home schooling their children incorporate *CRISS* strategies and principles into their instruction.
3. The studies in this report were reviewed using WWC Evidence Standards, Version 2.0 (see the WWC Procedures and Standards Handbook, Chapter III), as described in protocol version 2.0.

Additional program information *(continued)*

text, engage actively in the learning process, write reports and essays, and learn new vocabulary. The training also addresses ways teachers can help students become more reflective (metacognitive) about their learning processes. Participants in *Project CRISS*[®] workshops receive a teacher resource guide that is designed to assist them in incorporating *CRISS* principles into their classroom instruction.

Cost

Project CRISS[®] offers two levels of workshops for teachers. Level I training, which is 12 to 24 hours, is designed to prepare teachers to incorporate *CRISS* principles and strategies into the classroom. Costs for Level I training—which typically range from \$50 to \$200 per participant—depend on whether the

training takes place in the teachers' own district or another district, and whether it is conducted by a national trainer, who receives a \$1,000 per day honorarium.⁶ Level II training, which is a minimum of 28 hours over a 4-day period, is designed to prepare experienced *CRISS* teachers to become *CRISS*-certified trainers who can take on more *CRISS*-related support and training responsibilities.⁷ The cost for materials—which ranges from \$250 to \$700 per participant—depends on whether teachers are trained in their own district or another district.⁶ The training is facilitated by a *CRISS* Master Trainer (additional costs include a \$1,000 per day honorarium and travel expenses). Implementation support options are available, including administrator training, collaborative learning team tools, parent workshops, and tailor-made workshops.

Research

Thirty-one studies reviewed by the WWC investigated the effects of *Project CRISS*[®] on adolescent learners. Two studies (Horsfall & Santa, 1994, and James-Burdumy et al., 2009) are randomized controlled trials that meet WWC evidence standards. The remaining 29 studies do not meet either WWC evidence standards or eligibility screens.

Meets evidence standards

Horsfall and Santa (1994) conducted a random assignment study of *Project CRISS*[®] in 4th-, 6th-, 8th-, and 11th-grade classrooms across three school settings: (1) rural Montana, (2) a working class community in central Florida, and (3) suburban Virginia. Teachers within each school were randomly assigned either to *Project CRISS*[®] or to a regular instruction control condition. The WWC based its effectiveness ratings on comparisons of 120 students attending six *Project CRISS*[®] classrooms and 111 students

attending six control classrooms.⁸ The study measured changes in comprehension outcomes after one semester (approximately 18 weeks) of program participation.

James-Burdumy et al. (2009) conducted a randomized controlled trial that examined the effects of *Project CRISS*[®] (as well as three other reading comprehension curricula) on comprehension of 5th-grade students across the United States. Authors randomly assigned 89 schools in ten geographically diverse low income school districts either to one of four curricula: (1) *Project CRISS*[®], (2) *ReadAbout*, (3) *Read for Real*, and (4) *Reading for Knowledge*, or to a control condition that had no access to these curricula. The WWC based its effectiveness ratings for the *Project CRISS*[®] portion of this analysis on 1,155 students attending 17 *Project CRISS*[®] schools and 1,183 students attending 21 comparison schools. The study measured reading comprehension outcomes after nine months of program implementation.

6. For more detailed information on the costs of *CRISS* trainings and support materials, consult: <http://www.projectcriss.com/costs.php#levell>.
7. The Level II trainings are designed to provide four levels of *CRISS* certification, ranging from Facilitator certification, which allows a teacher to provide follow-up support to *CRISS* teachers in their district, up to a Master Trainer certification, which allows one to conduct Level I and II trainings anywhere in the United States.
8. Only the 4th and 6th grade samples are included in the calculations the WWC used to rate the effectiveness of *Project CRISS*[®]. The 8th and 11th grade samples are excluded from the WWC ratings of effectiveness because the measures of effectiveness cannot be attributed solely to the intervention—there was only one teacher assigned to *Project CRISS*[®] and one teacher assigned to the control condition in the 8th and 11th grade samples.

References *(continued)*

- study is ineligible for review because it does not examine the effectiveness of an intervention.
- Santa, C. (1991). Cutting loose: A district's story of change. In D. Strickland & J. Feeley (Eds.), *Process reading and writing: A literature-based approach*. New York: Teacher's College Press. The study is ineligible for review because it does not use a comparison group.
- Santa, C. (2006). Teaching for executive functioning. *Journal of Therapeutic Schools & Programs*, 1(1), 32–42. The study is ineligible for review because it does not examine the effectiveness of an intervention.
- Santa, C. (2007). Immaturity and the struggling teen. In J. Lewis & G. Moorman (Eds.), *Adolescent literacy instruction: Policies and promising practices*. Newark, DE: International Reading Association. The study is ineligible for review because it does not examine the effectiveness of an intervention.
- Santa, C., & Santa, J. (1995). Teacher as researcher. *Journal of Reading Behavior*, 27(3), 439–451. The study is ineligible for review because it does not examine the effectiveness of an intervention.
- Santa, C., & Vick, L. (2004). Project CRISS: *Las Vegas study*. Unpublished manuscript. The study does not meet WWC evidence standards because it uses a quasi-experimental design in which the analytic intervention and comparison groups are not shown to be equivalent.
- Additional source:**
- Santa, C. (2004). Project CRISS: *Evidence of effectiveness*. Unpublished manuscript.
- Santa, C., Dailey, S., & Nelson, M. (1985). Free response and opinion proof: A reading and writing strategy for middle and secondary teachers. *Journal of Reading*, 28(4), 346–352. The study is ineligible for review because it does not occur within the time frame specified in the protocol.
- Santa, C., Isaacson, L., & Manning, G. (1987). Changing content instruction through action research. *The Reading Teacher*, 40(4), 434–438. The study is ineligible for review because it does not occur within the time frame specified in the protocol.
- Santa, C., Ostsrem, V., & Scalf, J. (1986). Writing to learn in social studies. *Wisconsin State Reading Journal*, 30(3), 61–66. The study is ineligible for review because it does not occur within the time frame specified in the protocol.
- Shanahan, C. (2005). *Adolescent literacy intervention programs: Chart and program review guide*. Naperville, IL: Learning Point Associates/North Central Regional Educational Laboratory. The study is ineligible for review because it is not a primary analysis of the effectiveness of an intervention, such as a meta-analysis or research literature review.
- Slavin, R. E., Cheung, A., Groff, C., & Lake, C. (2008). Effective reading programs for middle and high schools: A best-evidence synthesis. *Reading Research Quarterly*, 43(3), 290–322. The study is ineligible for review because it is not a primary analysis of the effectiveness of an intervention, such as a meta-analysis or research literature review.

Appendix A2 Outcome measures for the comprehension domain

Outcome measure	Description
Reading comprehension construct	
Staff-developed (CRISS) free recall assessment	The outcome is a staff-developed “free recall” measure that requires students to read a passage (2–4 pages, depending on grade level) over a 40-minute period; then, 24 hours later, students write down from memory as much as they can remember from the passage. Students are scored based on the number of idea units (one point per idea) they remember. The topics varied across grade levels, and care was taken to choose readings that had a content base similar to what students would experience in their regular coursework but with actual topics that would not normally have been covered in those courses. The Grade 4 assessment covered <i>The Western Movement</i> (770 words, 2 single-spaced pages), and the Grade 6 assessment covered <i>The Mystery of Thirst</i> (920 words, 3 single-spaced pages). Inter-rater reliability ranged from 0.93 to 0.95 (as cited in Horsfall & Santa, 1994).
Group Reading Assessment and Diagnostic Evaluation (GRADE)–Passage Comprehension subtest	This standardized measure is a norm-referenced diagnostic test for all reading abilities. The Passage Comprehension subtest measures a student’s understanding of an extended text through explicit and implicit multiple choice questions requiring questioning, predicting, summarizing, and clarifying information from several paragraphs (as cited in James-Burdumy et al., 2009).
Educational Testing Service (ETS) science reading comprehension assessment	This assessment, designed by the ETS, focuses on students’ reading comprehension of science text. The test measures the ability to comprehend five science-related expository text passages based on responses to six multiple choice questions per passage. Internal consistency was reported as 0.85 (as cited in James-Burdumy et al., 2009).
ETS social studies reading comprehension assessment	This assessment, designed by the ETS, focuses on students’ reading comprehension of social studies text. The test measures the ability to comprehend five social studies-related expository text passages based on responses to six multiple choice questions per passage. Internal consistency was reported as 0.84 (as cited in James-Burdumy et al., 2009).

Appendix A3 Summary of study findings included in the rating for the comprehension domain¹ *(continued)*

6. The improvement index represents the difference between the percentile rank of the average student in the intervention condition and that of the average student in the comparison condition. The improvement index can take on values between –50 and +50, with positive numbers denoting favorable results for the intervention group.
7. The level of statistical significance was reported by the study authors or, when necessary, calculated by the WWC to correct for clustering within classrooms or schools and for multiple comparisons. For the formulas the WWC used to calculate the statistical significance, see WWC Procedures and Standards Handbook, Appendix C for clustering and WWC Procedures and Standards Handbook, Appendix D for multiple comparisons. In the case of Horsfall and Santa (1994), corrections for clustering and multiple comparisons were needed, so the significance levels may differ from those reported in the original study. In the case of James-Burdumy et al. (2009), the authors adjusted for clustering and applied a correction for multiple comparisons.
8. The *Project CRISS*[®] group mean outcome values for Horsfall and Santa (1994) are the unadjusted control group posttest means plus the difference in mean gains between the intervention and control groups. Control group means are unadjusted.
9. The WWC-computed average effect sizes for each study and for the domain across studies are simple averages rounded to two decimal places. The average improvement indices are calculated from the average effect sizes.
10. Sample sizes, regression-adjusted means, and standard deviations were provided to the WWC by the study authors and thus differ slightly from the information presented in the original study.

Appendix A5 Extent of evidence by domain

Outcome domain	Number of studies	Sample size		Extent of evidence ¹
		Schools	Students	
Alphabetics	na	na	na	na
Reading fluency	na	na	na	na
Comprehension	2	41	2,569 ²	Medium to large
General literacy achievement	na	na	na	na

na = not applicable/not studied

1. A rating of “medium to large” requires at least two studies and two schools across studies in one domain and a total sample size across studies of at least 350 students or 14 classrooms. Otherwise, the rating is “small.” For more details on the extent of evidence categorization, see the WWC Procedures and Standards Handbook, Appendix G.
2. This sample size varies slightly from the sample sizes presented in Appendix A3 because in James-Burdumy et al. (2009), the total sample size includes students who had outcomes for at least one of the three tests.