Project CRISS:
A History of Reliable, Replicable Research

By Dr. Carol M. Santa, original developer of Project CRISS®

Over these last few years, we have become more and more aware of the demand from school districts across the country for instructional practices that make a difference; for practices based on reliable, replicable research. What's more, federal and state mandates require the examination of student performance as part of educational practice.

Fortunately, Project CRISS has always been data driven. We have repeatedly asked and researched these questions: Do students in CRISS classrooms improve their reading, learning, and retention of content significantly more than students in non-CRISS classrooms? Do CRISS students have a better understanding of their own learning processes than non-CRISS students? Over multiple replications in various classrooms across the country, we found the same answer: CRISS does make a significant difference in student performance. We also have some evidence that CRISS students perform better on state assessments.

INITIAL PROJECT DEVELOPMENT

Collecting data began immediately. In fact, it started 23 years ago, when I was hired as the facilitator of a high school reading program which later became Project CRISS. Steve Nelson, an evaluation expert from Northwest Regional Educational Laboratory in Portland, Oregon, and I spent that first week huddled around a table developing a process for program development and evaluation. During my first two years on the job, Steve continued to help with the development and evaluation procedures.

By the third year, the project had progressed to the point where the Kalispell high school teachers involved in the project development began to conduct in-service training for outlying districts. Our informal teacher research studies indicated our students were doing better in their classes as a function of our teaching, but we needed more objective measures. Could our ideas be exported to other districts and have similar effects to those in our high school? Steve helped us think through a research design which included specifying experimental and control groups and measuring project effectiveness outside the Kalispell School District. We conducted a workshop for teachers in Columbia Falls High School, which we had designated as the experimental school, and we identified Whitefish High School as the control school with the promise of a CRISS workshop the following year at the completion of the study.

We did an assortment of evaluations from classroom tests to pre- and post-assessments which involved multiple choice and essay examinations. In most situations, the experimental students did better than the controls. However, the effects were always stronger with essay-type examinations following a delay between reading and studying the materials and the test. If students took a multiple choice test immediately after reading a selection, the differences between experimental and control students were at best marginal. It started to make sense to us that recall rather than immediate recognition measures would be a more sensitive measure of project effects. When you read an article and then immediately take a multiple choice test, the only mental requirement is to hold information in memory long enough to answer the question. You don't have to do much else with it. But, the memory demands are different for recall tests where one writes down or retells what they remember from a selection. In order to do this successfully, one needs to structure or transform information by creating internal representations. The effects were even stronger with a delayed recall measure. When students read a selection and then waited 24 hours to take the recall test, the differences between the experimental and control students became more pronounced. This, too, made sense given that CRISS strategies assist with organizing information for long term retention.

These initial studies not only showed the project could produce results outside of Kalispell schools, but provided us with a laboratory for exploring measures sensitive to CRISS instruction. We had figured out a research design that started to make sense for evaluating project effectiveness. The results were also good enough for Project CRISS to be designated as a state validated program, so we could accept state funds to conduct workshops for schools throughout Montana.

NATIONAL VALIDATION

By the fifth year of the project, we felt confident enough in the project's effectiveness and reliability to begin the process of National Validation. We hired another third party evaluator, Stu Horsfall from Sopris West in Longmont, Colorado, to insure our research design was unbiased and appropriate for our research questions. With his guidance, we conducted a major research study which I will describe in more detail momentarily. Stu Horsfall developed the final report for the Joint

Dissemination and Review Panel in Washington, D.C., (Horsfall and Santa, 1985). In March of 1985, Stu and I went before the research panel to answer any questions about the program, its research design, and the results. The panel unanimously gave their stamp of approval, and we became a part of the National Diffusion Network validated for high schools. For the next 8 years, we received federal funds to disseminate the project throughout the country.

During these years, elementary and middle school teachers kept pressuring us to include them in our CRISS workshops. They told us Project CRISS was just as important for elementary and middle school students as it was for high school students. Even though we welcomed their participation, we could not officially count elementary and middle school teachers as participants for grant funding because our validation was only for grades 10-12. The solution was to expand our levels of validation.

In 1993-94, we replicated our original study. This time we included students from fourth, sixth, eighth, and eleventh grades. The study encompassed experimental and control classrooms from Kalispell, Montana; Putnam County, Florida; and Stafford, Virginia. With these positive data in hand, which included eight different experimental and control comparisons, we went before the Joint Dissemination and Review Panel again (Horsfall and Santa, 1994) and were unanimously approved as a validated National Diffusion Network Project for elementary, middle, and high school students. (Copies of this report are available from the National Office.)

Since these validation studies, we have conducted three other major studies in different locations using the same research design as in the l985 and l993 validation studies. In every situation the results supported the project. In 1995 (Santa, 1995), we found the same results in two high schools (one experimental and the other control) in Spokane, Washington, and in a middle school in Aurora, Colorado, (two experimental and two control classrooms). In 2001-2003, we replicated the effects again in several districts in Utah (Santa and O'Neil, 2004) with fourth grade, seventh grade, and high school students (8 comparison studies) and most recently with experimental and control students in two Las Vegas high schools (Santa and Vick, 2004). (Click here for a technical report of the Utah study.) Again, the results are remarkably consistent. Students in the experimental groups–regardless of location, grade level, or subject–demonstrate significantly more improvement in learning than do control students. The data are reliable and replicable over a span of twenty years in more than 21 different comparison groups.

For more research documentation, please visit the Research section of the CRISS Web site: www.projectcriss.com.