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Edge e-Learning Programs

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Over the past decade, Edge scientists and affiliates have been at work researching and developing a line of e-learning programs for professional development on the Community Building Series, the Cooperative Thinking Strategies Series, *Strategic Tutoring*, and several Content Enhancement Routines. The purpose of this article is to introduce these programs to *Stratagram* readers. To do so, we briefly explain the concept of e-learning and describe the instructional features programmed into Edge e-learning programs. We also summarize data regarding the effect of these programs and share ideas for the application of Edge e-learning programs.

What is e-Learning?

E-learning programs allow for interactive, multimedia communications. They combine text, audio, graphics, and video into an interactive software program that can be easily distributed online or on compact disc (CD). As you may be aware, e-learning programs are becoming quite commonplace within the field of education. Universities, for example, offer many education courses online. Likewise, state departments of education, professional organizations, and even private foundations also are turning to e-learning programs to provide teachers technical assistance and professional development.

The e-learning programs researched and developed at Edge are stored and distributed on CD, can be packaged with their associated guidebooks, and are compatible with both Windows and Macintosh computers. At this time, CD is the most practical means for storage and distribution because of the many instructional features designed into each one of the programs.

Edge e-Learning Program Features

Each Edge e-learning program is unique; however, they do share many design features that support learning. One shared feature is an easy-to-navigate interface containing lessons. Through the coordinated use of text, graphics, and narration, the lessons present detailed information about the intervention. This detailed information may include descriptions of important background concepts, rationales for using the intervention, testimonials from teachers or students, or an explanation of an instructional sequence.

In all of the e-learning programs, lessons also feature video footage of teachers using the intervention with students. Each program contains approximately an hour of footage that is organized into targeted clips, which provide a comprehensive model. For example, each Community-Building Series CD features a video model of the entire intervention being used in

an inclusive elementary school classroom. The clips show teachers performing teaching behaviors needed to use the intervention effectively. Each Content Enhancement CD contains video of upper-elementary, middle, and high school teachers implementing routines in science, social studies, and math classes. This variety allows teachers to view a routine used with grade-level students, content, or skills they likely teach. Likewise, the *Strategic Tutoring* CDs include video clips of various tutors working with junior and senior high school and college-age students addressing a range of academic tasks with different strategies. Overall, teachers have stated that the video footage on the CDs is very helpful to their understanding of the interventions.

In most of the programs, lessons also are designed to review and check user comprehension using brief quizzes. Each time a user answers a quiz question, he

or she receives either positive or corrective feedback. With some programs, once a lesson has been successfully completed, the user can print a certificate. This feature may be helpful to university faculty who can collect certificates from students as proof of program completion.

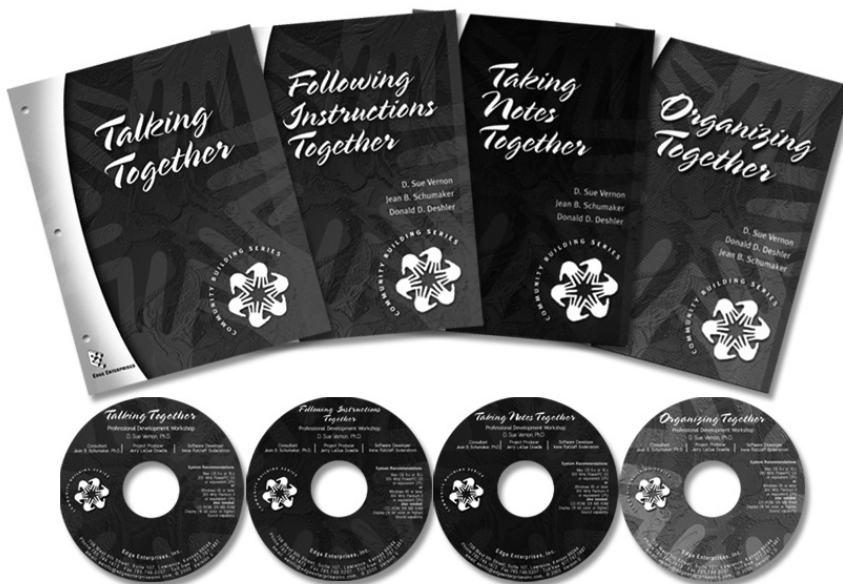
Some lessons also feature learning activities designed to allow the user to practice applying aspects of the intervention. For example, within the *Strategic Tutoring* CDs, users watch video clips of tutors implementing each phase of *Strategic Tutoring*. Most of the clips offer excellent models, but within some clips, the tutors miss a step or two. The user is directed to watch the clips with a *Strategic Tutoring* checklist and evaluate each tutor's implementation. The e-learning program also guides users to practice constructing strategies by listening to a scenario that explains an academic task a student is facing. The user works through the strategy

development process on the screen, receiving feedback and prompts from the program. Also, users are directed to role-play *Strategic Tutoring* with a student, friend, or fellow tutor. Each Content Enhancement Routine CD guides users to practice constructing a teaching device. The e-learning program checks the users' construction and provides corrective feedback. Once successful with the guided practice, users can use the program to construct and print their own devices. To guide construction, they can review dozens of content-specific devices located in the program's library.

At this time, four e-learning programs are available for the Community Building Series: *Talking Together*, *Following Instructions Together*, *Taking Notes Together*, and *Organizing Together*. *SCORE*, *BUILD*, and *LEARN* CDs are available for the Cooperative Thinking Strategies Series. Four Content Enhancement Routines CDs also have been completed: the *Concept Mastery Routine*, the *Concept Comparison Routine*, the *Concept Anchoring Routine*, and the *Question Exploration Routine*. Later this year, two CDs will be available for *Strategic Tutoring: Beginning Strategic Tutoring* and *Advanced Strategic Tutoring*. Other professional development programs also are under development.

The Effect of Edge e-Learning Programs

Controlled studies have been conducted on each of the Edge e-learning programs. E-learning programs are commonly touted



The screenshot shows an e-learning interface for 'Lesson 1: Presenting the Lesson'. On the left is a 'Lesson 1 Topics' menu with a vertical list of lesson numbers 1 through 6, and options for 'Practice & Review', 'Print Materials', and 'Exit (credits)'. The main content area features a video player titled '1. Lesson Intro' showing a classroom scene. Below the video are playback controls: restart, rew, stop, play, and ff. A 'Next Topic' button is visible in the bottom right corner of the video player area. The bottom navigation bar includes 'Lesson 1 Menu', 'Materials & Preparation', 'Presenting the Lesson', and 'Practice & Review'.

Beginning Strategic Tutoring CD, the knowledge test scores of teachers in the experimental group improved 70 percentage points from pretest to posttest, whereas the scores of control group teachers improved less than 1 percentage point. Likewise, in the study on the *Advanced Strategic Tutoring CD*, knowledge test scores of experimental teachers rose 65 percentage points from

as highly effective; however, the literature on the effects of e-learning programs is actually quite limited regarding this claim. Available studies typically look only at the effect e-learning programs have on teacher knowledge. Clearly, improving knowledge is necessary if a teacher is going to implement an intervention and implement it correctly. Still, to have confidence in the power of e-learning programs, examining teacher knowledge is insufficient. For this reason, the research studies on the Edge e-learning programs examine more than teacher knowledge. Specifically, for each program, data have been collected in four areas: teacher satisfaction, teacher knowledge, teacher application, and student performance. Results of the validation studies conducted on the

Edge e-learning programs are summarized below.

Each study measured teacher satisfaction with an e-learning program. To measure satisfaction, teachers were surveyed after completing an e-learning program and asked to rate how enjoyable, engaging, and understandable they found the program. Overall, results indicated that teachers rated these programs very favorably.

Studies also measured teacher knowledge of the interventions. To measure knowledge, teachers were asked to complete detailed knowledge tests both before and after completing an e-learning program. For each study, results indicated that teachers knew significantly more about the intervention after completing the program than they knew before. For example, in the study on the

pretest to posttest. Control group teacher scores again improved less than 1 percentage point.

Each study measured teacher application of an intervention with students. Clearly, measuring teacher satisfaction and knowledge is important; however, to determine the effect of a professional development program, measuring teacher implementation of the intervention is essential. To do so, teachers were observed delivering instruction to students. Results showed that teachers who completed e-learning programs could apply these interventions with a high degree of fidelity. For example, in the studies on the *Taking Notes Together CD*, trained observers watched and coded the behaviors of participating teachers during instruction. Results show teachers who

completed the CD performed 97 percent of the key teaching behaviors associated with this intervention. Similar application results were recorded in the studies on the *Talking Together*, *Following Instructions Together*, and *Organizing Together* CDs.

Finally, each study measured student performance as a result of teacher implementation of an intervention. Measuring student performance is the true test of a professional development program. After all, the purpose of professional development is to improve the educational performance of students. To measure student learning, students were tested both before and after teachers received training. Results showed that students who received instruction from teachers who completed e-learning programs performed as well on academic and social tasks as students who received instruction from teachers in the comparison group. (Comparison teachers completed a traditional workshop.) In each of the studies on Content Enhancement Routines, for example, student understanding of concepts were tested before and after teachers participated in Content Enhancement professional development. For each of these studies, students with and without disabilities knew significantly more about concepts after their teachers completed professional development than before. For example, the concept acquisition scores of students whose teachers completed the *Concept Comparison Routine* CD improved more than 50 percentage points

from pretest to posttest. Students whose teachers completed the CD and students in the control group, whose teachers completed a traditional workshop, made significant improvements from pretest to posttest. Both groups' pretest and posttest scores were very similar.

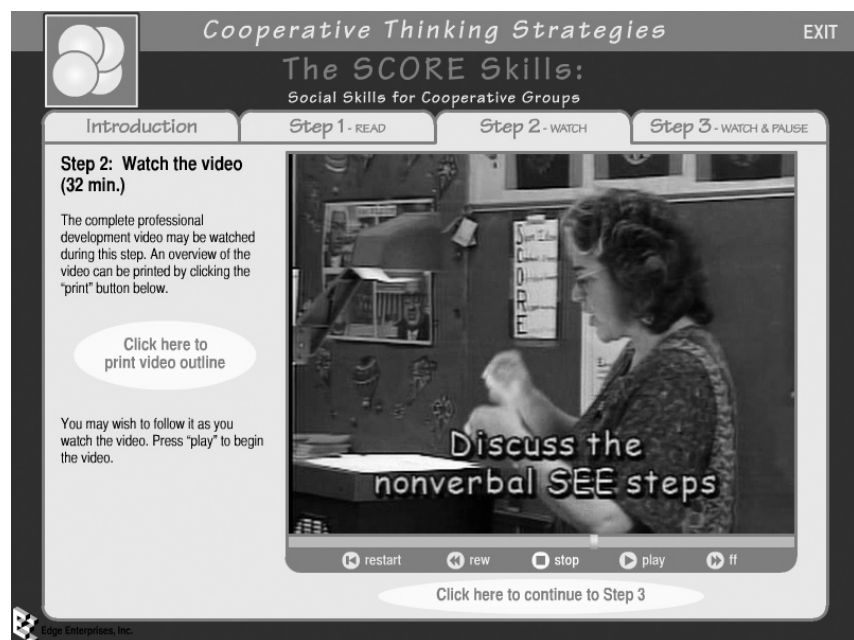
Overall, the results of more than a dozen controlled studies on Edge e-learning programs demonstrate that these programs have the power to significantly improve teacher knowledge and application of an intervention and significantly improve student performance as a result.

Application Ideas

Much thought has gone into the research and development of the Edge e-learning programs. The intent of this research and development effort is to support SIM Professional Developers and to improve the educational outcomes of low-performing students. Toward this end, these

programs have been applied in a variety of ways, including the following:

1. Initial Professional Development—The above results show that Edge e-learning programs have the power to provide effective initial professional development to teachers, and they can serve as an alternative to live professional development sessions when a live session is not possible or feasible. For instance, when a group of teachers (who already have some knowledge of SIM interventions) does not have access to a SIM Professional Developer, the teachers can access professional development through an e-learning program. Or, when a small group of teachers has limited finances but desires to learn a specific routine or strategy, the reasonable cost of e-learning programs makes that possible.
2. Cross Training—Though e-learning programs can be





used alone, they also can be used as a part of live professional development. Consider a daylong session. A professional developer might give an overview of Content Enhancement to an audience of teachers. Teachers might then break and complete a CD on a routine of their choice. In the afternoon, the teachers can practice implementing a routine with colleagues and receive coaching from the professional developer.

3. Professional Development Review—Teachers also can use the e-learning programs to review the information taught during a live session. Aspects of routines and strategies are not always clear to teachers at first. The e-learning

programs provide a way for teachers to independently receive clarification when they need it. Moreover, even the best teachers slide back into old teaching habits. The e-learning programs can provide a helpful source to reflect on and refresh instruction.

4. Make-up/New Teacher Professional Development—When live professional development is provided to a group of teachers at a school, inevitably not all are able to attend. The e-learning programs can be used as a “make-up” for absent teachers. Also, e-learning programs can be used to help maintain the comprehensive use of a routine or strategy when faculty in a school turn over.

5. Individualized Learning—While providing live sessions with a group, sometimes it becomes clear that one participant would benefit from learning another routine or strategy. The availability of e-learning programs makes meeting the needs of that individual possible.

6. Preservice Teacher Preparation—Often within a college class, professors cover a large amount of content with teacher candidates. As a result, candidates do not receive the depth of instruction required to fully understand an instructional approach. Use of the e-learning programs can provide the depth of instruction that candidates need and the quality of instruction that professors desire.

7. SIM PD Knowledge-Building—Sometimes, SIM Professional Developers need to provide sessions on a routine or strategy with which they have little knowledge or experience. Though designed for classroom teachers, the e-learning programs can help SIM Professional Developers build their knowledge base as well.

For more information about the e-learning programs introduced in this article, contact Edge Enterprises: www.edgeenterprisesinc.com 877.767.1487.

Flip Notes for the *Test-Taking Strategy*

Submitted by **Bonnie King**

Lake Asbury Junior High
Green Cover Springs, Fla.

Flip notes allow students to keep organized notes while learning the steps and sub-steps of the *Test-Taking Strategy*. As the teacher explains each step of PIRATES, the students copy the cue card notes onto the corresponding section. The flip notes allow for easy studying later and are easily slipped into the pocket of students' notebooks.

Procedure

1. First, cut strips of card stock (use a variety of colors) into different lengths (see "How to Cut Strips" at right and illustration on page 7). The last sheet is full sized.
2. Staple the sheets together at the top corners.

Bonnie's Tip

I color-code all of my PIRATES material so that posters, notes, ink color, etc., are uniform during the Describe and Modeling stages of the strategy.

HOW TO CUT STRIPS

Page	Inches
PIRATES	3
Prepare to Succeed	4.5
Inspect the Instructions	5.5
Read, Remember, Reduce	6.5
Answer or Abandon	7.5
Turn Back	8.5
Estimate	9.5
Survey	11

ACE Guessing Technique

Avoid absolutes

- Ex.: Never, Always, Only

Choose the longest or most detailed choice

Eliminate similar choices.

Estimate

Survey

SAMPLE PAGE

Thank you to **Rosanne Arvin** for forwarding Bonnie's submission to *Strategram*. Rosanne says: "I saw this in action in an ESE Learning Strategies Class by a teacher new to the *Test-Taking Strategy*. As an initial way to get organized, I was impressed by this teacher's creativity. The students were using it to self-test their knowledge of the sub-steps of the strategy and were very engaged."

Prepare to Succeed
Inspect the Instructions
Read, Remember, Reduce
Answer or Abandon
Turn Back
Estimate
Survey



PIRATES

(3 inches)

Prepare to Succeed

(4.5 inches)

Inspect the Instructions

(5.5 inches)

Read, Remember, Reduce

(6.5 inches)

Answer or Abandon

(7.5 inches)

Turn Back

(8.5 inches)

Estimate

(9.5 inches)

Survey

(11 inches)

KU-CRL CALENDAR

May 27-31, 2008

SIM Learning Strategies Institute for
Preservice Educators
Lawrence, KS
Contact: Mona Tipton (mkatz@
ku.edu)

May 27-31, 2008

Teaching Content to All: Effective
College Teaching
Lawrence, KS
Contact: Mona Tipton (mkatz@
ku.edu)

June 18-21, 2008

SIM Institute: SIM Reading & Writing
Strategies
Burge Union, University of Kansas,
Lawrence, Kan.
Contact: crl@ku.edu

June 18-21, 2008

More SIM Strategies
Lawrence, KS
Contact: Mona Tipton (mkatz@
ku.edu)

August 7-9, 2008

Instructional Coaching Institute
University of Kansas, Lawrence, Kan.
Contact: Mona Tipton (mkatz@
ku.edu)

www.kucrl.org/institutes

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NEW ONLINE

Podcasts

The Media Archives section of our Web site now contains several podcasts. Hear Mike Hock's overview of Xtreme Reading or learn about Stratepedia in a two-part series featuring Aaron Sumner, Amber Hoffman, and Mark Capodagli. <http://media.kucrl.org>

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