Content Enhancement

SIM
Strategic Instruction Model®

Content Enhancement is an instructional method that relies on using powerful teaching devices to organize and present content in an understandable and easy-to-learn manner. Teachers identify the content that they deem to be most critical and teach it using powerful teaching routines that actively engage students.

All of the Strategic Instruction Model® teaching routines have been successfully field tested in general education classrooms characterized by significant academic diversity. The classes contained students judged to be at risk for academic school failure as well as students judged to have learning disabilities. Research has demonstrated that consistent and explicit instruction and use of each routine is a key ingredient for instructional success. We conducted Content Enhancement research in public schools, primarily in middle and high school settings, and recruited teachers to field test the routines.

We designed the routines for use during group instruction to help a teacher provide instruction more sensitive to the learning needs of individuals in the group. In our research, we successfully tested a combination of instructional models involving general education teachers and special education teachers, both individually and collaboratively.
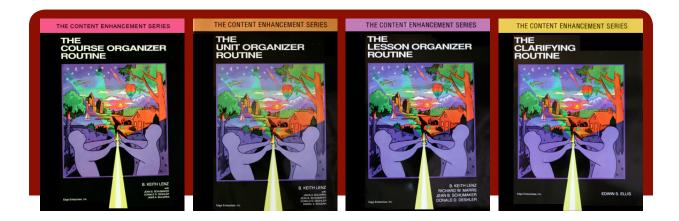
ROUTINES FOR PLANNING & LEADING LEARNING

COURSE ORGANIZER ROUTINE

Teachers use the *Course Organizer Routine* to plan courses around essential learning and critical concepts. They use the routine to introduce the course and the rituals that will be used throughout the course, and then use this framework throughout the year to maintain a focus on the big ideas and rituals. Research showed that use of the *Course Organizer Routine* helped teachers and students keep the big ideas in mind and focus their attention to understand important relationships. As a result, instruction concentrated more on learning about the big picture and less on trying to cover large amounts of information. Teachers who used the routine spent more time introducing significant course ideas, concepts, themes, and routines to stu-

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dents than did the comparison teachers who did not learn the routine. Students with learning disabilities answered an average of three "big idea" course questions correctly at the beginning of the year. At the end of the course, students with learning disabilities in the class that used the *Course Organizer* correctly answered an average of eight "big idea" questions, while students with learning disabilities in the class that did not use the *Course Organizer* answered only an average of four of the "big idea" questions correctly.

UNIT ORGANIZER ROUTINE

Teachers use the *Unit Organizer Routine* to plan units; introduce and maintain the big ideas in units; and show how units, critical information, and concepts are related. Research results showed that students whose teachers regularly and consistently used the *Unit Organizer Routine* scored an average of 15 percentage points higher on unit tests than students whose teachers used it only irregularly. Low-achieving students, students with learning disabilities, and average-achieving students substantially improved their understanding and retention of information as reflected in unit test scores and in scores on unit content maps and explanations of these maps.

LESSON ORGANIZER ROUTINE

Teachers use the *Lesson Organizer Routine* to plan lessons and then introduce and connect ideas to the unit and the course. Research has shown that regular, explicit, and flexible use of the *Lesson Organizer Routine* by secondary classroom teachers can have a significant influence on student learning. Studies showed that use of the routine increased student learning and performance. Students of teachers who regularly and consistently used the *Lesson Organizer Routine* scored an average of 15 percentage points higher on unit tests than students of teachers who used it irregularly.
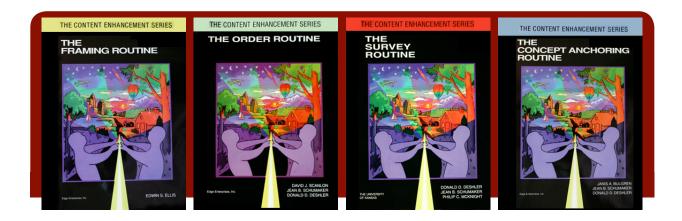
ROUTINES FOR EXPLORING TEXT, TOPICS, & DETAILS

CLARIFYING ROUTINE

Teachers use the *Clarifying Routine* to focus on a topic and then explore related details and the topic's importance to the critical ideas and concepts. Using this routine, teachers can help students master the meaning of targeted words and phrases. Studies in upper-elementary and middle-school general education classes composed of highly diverse student populations, including students with learning disabilities and those for whom English is a second language, have shown that students benefit from teacher use of the routine. When teachers used the *Clarifying Routine,* students considered to be in a high socioeconomic level improved their number of correct answers by an average of 14 percentage points, students in a middle socioeconomic level improved by an average of 30 percentage points, and students in a low socioeconomic level improved by an average of 20 percentage points.

FRAMING ROUTINE

Teachers use the *Framing Routine* to transform abstract main ideas and key topics into a concrete representation that helps students think about and talk about the key topic and essential related information. Research results have consistently demonstrated that the routine can effectively facilitate subject-matter learning as well as the development

of literacy and thinking skills. In a study focusing on written products of 35 eighth-grade students, students who were taught with the *Framing Routine* wrote an average of 102 words more per product than did the students who were in the comparison group.

ORDER ROUTINE

The *ORDER Routine* is used to organize and make sense of information. Students take a second pass at new information: thinking about what they have just learned or read, trying to understand how it all fits together, looking for any missing information or errors in their notes, and trying to fit it all together to make a graphic organizer. We studied the *ORDER Routine* in intermediate and secondary classes (grades 7 to 12) characterized by diversity. In each study, teachers and researchers observed student learning gains. In one study, students without learning disabilities in the classes that used the *ORDER Routine* far outperformed comparison students during the posttest, even though comparison students, on average, earned more points during the pretest. Average gains for students with learning disabilities in the classes that used the *ORDER Routine* also were greater than those of students in comparison classes.

SURVEY ROUTINE

The *Survey Routine* is a method of constructing an overview of a reading assignment when students are having difficulty reading and sorting out information from inconsiderate text. Research has shown that students with learning disabilities and other low-achieving students as well as average- and high-achieving students correctly answered an average of 10 percent to 15 percent more of their test questions when the *Survey Routine* was used than when the *Survey Routine* was not used.
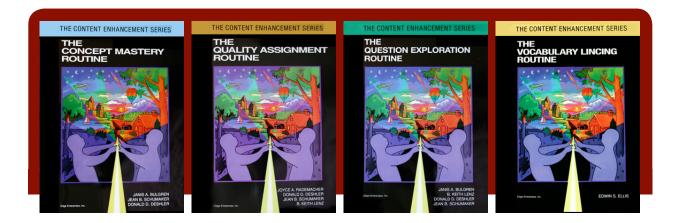
ROUTINES FOR TEACHING CONCEPTS

CONCEPT ANCHORING ROUTINE

Teachers use the *Concept Anchoring Routine* to introduce and anchor a new concept to a concept that is already familiar to students. In research studies with students in secondary science and social studies classes, high-achieving, average-achieving, and low-achieving students (including those with learning disabilities) who had been taught with the *Concept Anchoring Routine* correctly answered more test questions than students who had not received the instruction with the routine. Students with learning disabilities taught with the *Concept Anchoring Routine* scored an average of 25 percentage points higher than those who were not taught with the routine. Low-achieving, average-achieving, and high-achieving students taught with the *Concept Anchoring Routine* scored averages of 27, 19, and 7 percentage points higher than similar groups of students who were not taught with the routine.

CONCEPT COMPARISON ROUTINE

Teachers use the *Concept Comparison Routine* to help students compare and contrast key concepts. Research with students enrolled in general secondary science and social studies classes showed that students correctly answered substantially more test questions related to information that had been presented through the use of the routine than test questions related to information presented using traditional teaching methods. Students with learn-

THE CONTENT ENHANCEMENT SERIES — THE CONCEPT MASTERY ROUTINE — JANIS A. BULGREN, JEAN B. SCHUMAKER, DONALD D. DESHLER

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THE CONTENT ENHANCEMENT SERIES — THE VOCABULARY LINCING ROUTINE — EDWIN S. ELLIS

ing disabilities and other low-achieving students correctly answered an average of 71.2 percent (students with learning disabilities) and 86.4 percent (students without learning disabilities) of the test questions associated with information presented through the use of the routine, compared to 56.7 percent (students with learning disabilities) and 62.6 percent (students without learning disabilities) of the questions associated with information presented through traditional means. The experimental study involved 107 students.

CONCEPT MASTERY ROUTINE

Teachers use the *Concept Mastery Routine* to define, summarize, and explain a major concept and where it fits within a larger body of knowledge. Research shows several benefits for secondary students when their teachers use this routine. Students whose teachers used the *Concept Mastery Routine* scored significantly better on tests designed to assess concept acquisition and on regularly scheduled, teacher-made or commercial unit tests. Gains by students with learning disabilities (from a mean score of 60 percent to 71 percent) were comparable to those of their peers without learning disabilities (from a mean score of 72 percent to 87 percent) on these regular tests. The percentage of students with learning disabilities who passed increased from 57 percent to 75 percent; the percentage of students without learning disabilities who passed increased from 68 percent to 97 percent. In addition, the students took better notes when their teachers used the routine.

ROUTINES FOR INCREASING PERFORMANCE

QUALITY ASSIGNMENT ROUTINE

Teachers use the *Quality Assignment Routine* to plan, present, and engage students in quality assignments and then evaluate assignments with students. In a research study in which teachers and students completed surveys and participated in focus groups, researchers identified characteristics of good assignments and important elements such as planning behaviors, presentation behaviors, and evaluation procedures. Further research showed increases in the number of these elements teachers incorporated into their work after learning the routine. Use of key planning behaviors increased from 50.5 percent to 96.1 percent, use of key presentation behaviors increased from 32.8 percent to 89.3 percent, and use of key evaluation procedures increased from 8.2 percent to 93.8 percent. In addition, teachers who learned to use the routine and their students were significantly more satisfied with assignments.

QUESTION EXPLORATION ROUTINE

The *Question Exploration Routine* is a package of instructional methods that teachers can use to help a diverse student population understand a body of content information by carefully answering a "critical question" to arrive at a main idea answer. Research results showed that students who were taught a lesson using the *Question Exploration Routine* earned an average test score of 70 percent while students who were taught the lesson with traditional methods scored an average of 48 percent.

RECALL ENHANCEMENT ROUTINE

The *Recall Enhancement Routine* focuses on procedures teachers can use to help students remember information. A post-test only comparison group study indicated that performance of students was related to the teacher's use of the routine. Students with or without disabilities in the classes of teachers who used the routine performed significantly better on test items that could best be addressed through the creation of the types of Recall Devices that their teachers had presented than did students in the comparison classes. The recall performance of both students with learning disabilities and students without learning disabilities in the experimental group was higher by 29.10 and 20.5 points, respectively, than the performance of similar students in the control group on reviewed facts.

VOCABULARY LINCING ROUTINE

The *Vocabulary LINCing Routine* is designed to facilitate student use of two powerful tools—an auditory memory device and a visual memory device—that will help them learn and remember the meaning of complex terms. Research results showed that students, including those with learning disabilities, improved their performance by an average of 19 percentage points on vocabulary tests.

ABOUT KU-CRL

From our beginning in 1978 as the Institute for Research in Learning Disabilities, we have grown to encompass six research institutes and multiple lines of research.

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