

A Learning Strategy is a person's approach to learning and using information. Students use Learning Strategies to help them understand information and solve problems. Students who do not know or use good learning strategies often learn passively and ultimately fail in school. Learning Strategy instruction focuses on making students more active learners by teaching them how to learn and how to use what they have learned to be successful.

No single strategy is a panacea. We have reading strategies that help students figure out what a word is, comprehend what they're reading, acquire vocabulary, and understand the structure of text. All of these strategies are essential for a well-integrated, balanced reading program. Likewise, an array of strategies in other areas is necessary for student success.

The Strategic Instruction Model® Learning Strategies have been successfully field tested with students judged to be at risk for academic failure. Research has demonstrated that consistent, intensive, explicit instruction and support are key ingredients for instructional success. Our research took place in public schools, primarily in middle and high school settings, and the strategies were field tested by teachers. We have successfully tested

a combination of instructional models involving general education teachers and special education teachers, both individually and collaboratively.

## STRATEGIES RELATED TO READING

### FUNDAMENTALS OF PARAPHRASING AND SUMMARIZING

The *Fundamentals of Paraphrasing and Summarizing* is designed to teach the fundamental skills students need to be able to identify and paraphrase main ideas and details. *Fundamentals* contains lessons on paraphrasing words, phrases, and sentences, as well as lessons on identifying main ideas and details in paragraphs and short essays.

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### INFERENCE STRATEGY

The *Inference Strategy* is a set of procedures readers can use to comprehend written passages and answer inferential questions (questions that are not answered directly in the text). Research results showed that students who learned the Inference Strategy improved their ability to make inferences and to identify different types of questions. Students performed significantly better on tests—including standardized reading assessments—after learning the strategy.

### PARAPHRASING STRATEGY

The *Paraphrasing Strategy* is designed to help students focus on the most important information in a passage. Students read short passages of materials, identify the main idea and details, and rephrase the content in their own words. Using grade-level materials, students performed at a 48 percent comprehension rate before learning the strategy. After learning the strategy, these students comprehended 84 percent of the material.

### SELF-QUESTIONING STRATEGY

The *Self-Questioning Strategy* helps students create their own motivation for reading. Students create questions in their minds, predict the answers to those questions, search for the answers to those questions as they read, and paraphrase the answers to themselves. Research results have shown average gains of 40 percentage points in reading comprehension on grade-level materials after students have learned the strategy.

### VISUAL IMAGERY STRATEGY

The *Visual Imagery Strategy* is a reading comprehension strategy for creating mental movies of narrative passages. Students visualize the scenery, characters, and action and describe the scenes to themselves. Research results showed that students who demonstrated a 35 percent comprehension and recall rate before learning the strategy improved to an 86 percent comprehension and recall rate after learning the strategy.

### WORD IDENTIFICATION STRATEGY

The *Word Identification Strategy* provides a functional and efficient strategy to help challenged readers successfully decode and identify unknown words in their reading materials. The strategy is based on the premise that most words in the English language can be pronounced by identifying prefixes, suffixes, and stems and by following three short syllabication rules. In a research study, students made an average of 20 errors in a passage of 400 words before learning this strategy. Having learned the *Word Identification Strategy*, students reduced their errors to an average of three per 400 words. Reading comprehension increased from 40 percent on the pretest to 70 percent on grade-level passages.

## READING PROGRAMS

### STRUCTURE YOUR READING

*STRUCTURE Your Reading* is a strategic reading approach that begins as a teaching routine and develops into a strategy. Students learn what they need to do before, during, and after reading to improve their reading comprehension. The program is designed for a variety of implementation scenarios, including collaboration among reading and content teachers and among general and special educators. We have conducted a variety of studies to test its effectiveness in improving reading comprehension.

## STRATEGIES RELATED TO STORING & REMEMBERING INFORMATION

### FIRST-LETTER MNEMONIC STRATEGY

The *FIRST-Letter Mnemonic Strategy* is a strategy for independently studying large bodies of information that need to be mastered. Specifically, students identify lists of information that are important to learn, generate an appropriate title or label for each set of information, select a mnemonic device for each set of information, create study cards, and use

the study cards to learn the information. Research results showed that students who learned the *FIRST-Letter Mnemonic Strategy* received test grades that increased from an average of 51 percent to 85 percent.

### **LINCS VOCABULARY STRATEGY**

The *LINCS Vocabulary Strategy* helps students learn the meaning of new vocabulary words using powerful memory-enhancement techniques. Strategy steps cue students to focus on critical elements of the concept; to use visual imagery, associations with prior knowledge, and key-word mnemonic devices to create a study card; and to study the card to enhance comprehension and recall of the concept. Research results showed that in a social studies class in which the *LINCS Vocabulary Strategy* was taught to the students, the students with learning disabilities performed at a mean of 53 percent in the pretest and at a mean of 77 percent correct answers after learning the strategy. In the control class in which students did not learn the strategy, the mean percentage of correct answers decreased from the pretest to the posttest.

### **PAIRED ASSOCIATES STRATEGY**

The *Paired Associates Strategy* is designed to help students learn pairs of informational items, such as names and events, places and events, or names and accomplishments. Students identify pairs of items, create mnemonic devices, create study cards, and use the study cards to learn the information. Research has shown that before students learned this strategy, they correctly answered an average of only 8 percent of test questions related to paired information when the paired information was identified for them. After they mastered the strategy, they correctly answered an average of 85 percent of the questions about paired information that was identified for them. When given reading passages to study on their own, they answered an average of 22 percent of test questions correctly before instruction in the strategy versus answering 76 percent correctly after mastering the strategy.

### **WORD MAPPING STRATEGY**

The *Word Mapping Strategy* involves breaking words into their morphemic parts (prefix, suffix, root); attaching meaning to each word part; making a prediction about the meaning of the unknown word based upon the meaning of each part; and checking the dictionary for the definition. The mnemonic MAPS helps students learn and remember the names of the steps.

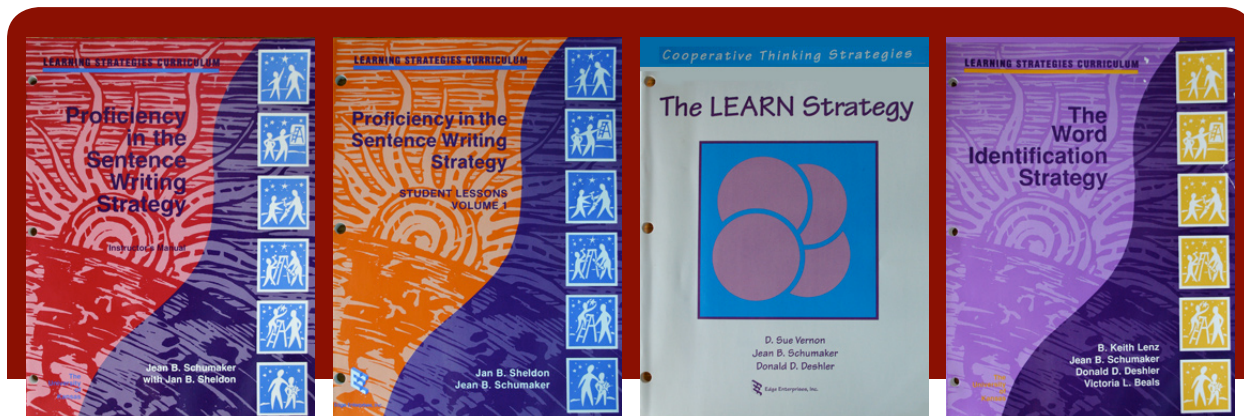
## **STRATEGIES RELATED TO EXPRESSING INFORMATION**

### **ERROR MONITORING STRATEGY**

Students use the *Error Monitoring Strategy* to independently detect and correct errors in their written work to increase the overall quality of their final product. Instruction stresses the importance of proofreading written work for content and mechanical errors and eliminating those errors before







work is submitted. This strategy also includes the development of personal strategies to avoid future errors. Research results demonstrated that students who mastered this strategy dramatically increased their ability to find and correct errors in their written products. Before instruction, they were making one error in every four words. After instruction, they made only one error in every 20 words.

### INSPECT STRATEGY

Students use the *InSPECT Strategy* to detect and correct spelling errors in their documents either by using a computerized spellchecker or a handheld spelling device. Research results showed that students corrected 41 percent of the errors in their compositions before learning the *InSPECT Strategy* and corrected 75 percent of the errors in their composition after learning the strategy.

### SENTENCE WRITING STRATEGY

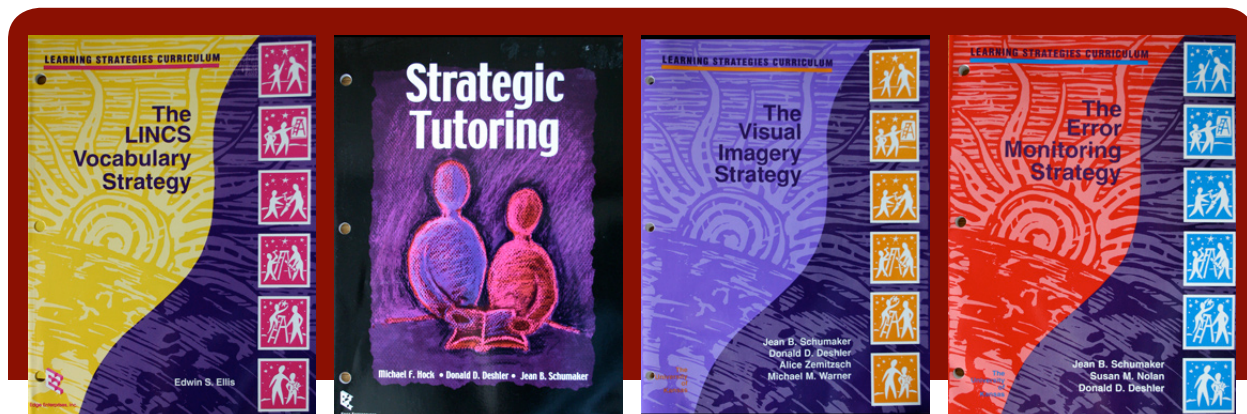
The *Sentence Writing Strategy* program comprises two parts: *Fundamentals in the Sentence Writing Strategy* and *Proficiency in the Sentence Writing Strategy*. Together, these components constitute a strategy for recognizing and writing 14 sentence patterns with four types of sentences: simple, compound, complex, and compound-complex. The program consists of two products for each part (*Fundamentals* and *Proficiency*): an *Instructor's Manual* and a *Student Lessons Manual*. The *Instructor's Manual* features a systematic sequence of instructional procedures; the *Student Lessons Manual* features exercises that correspond to instructional procedures. Research results showed that students wrote an average of 65 percent complete sentences on the pretest and an average of 88 percent complete sentences on the posttest.

### PARAGRAPH WRITING STRATEGY

The *Paragraph Writing Strategy* is a strategy for organizing ideas related to a topic, planning the point of view and verb tense to be used in the paragraph, planning the sequence in which ideas will be expressed, and writing a variety of topic, detail, and clincher sentences. The program consists of two products: an *Instructor's Manual* and a *Student Lessons Manual*. The *Instructor's Manual* features a systematic sequence of instructional procedures; the *Student Lessons Manual* features exercises that correspond to the instructional procedures. Research results showed that students earned an average of 40 percent of the points available when writing a paragraph on the pretest and an average of 71 percent of the points available when writing a paragraph on the posttest.

### THEME WRITING STRATEGY

The *Theme Writing Strategy* focuses on the fundamental skills associated with writing themes and provides learning sheets to accompany instruction. Research studies show the quantity and quality of students' expression of information greatly improves as a result of instruction in the *Theme Writing Strategy*. In one study, although experimental students earned pretest scores that were significantly lower than those of comparison students, they earned significantly higher scores at the end of the semester. In addition, there were no significant differences between experimental and comparison groups' English 101 grades and overall grade-point averages, even though experimental students entered college with poorer skills.



## STRATEGIES RELATED TO DEMONSTRATING COMPETENCE

### ASSIGNMENT COMPLETION STRATEGY

The *Assignment Completion Strategy* is designed to enable students to complete and hand in assignments on time. The package consists of two books: the *Instructor's Manual*, which provides step-by-step instruction for teaching this strategy, and the *Quality Quest Planner*, a spiral-bound notebook designed specifically for student use with the strategy. Each *Instructor's Manual* comes with one *Quality Quest Planner* and contains the materials needed to teach the strategy, including blank copies of the forms used with the planner. The planner contains sufficient forms for recording, scheduling, and evaluating assignments for an entire academic year. Performance results in general education classes showed that the number of students who simply turned in their assignments before learning the *Assignment Completion Strategy* was 43 percent, with the percentage increasing to 77 percent after students learned the strategy. Before learning the strategy, the number of student who did the assignment correctly was 45 percent. After learning the strategy, the number of students who did the assignment correctly increased to 73 percent.

### ESSAY TEST-TAKING STRATEGY

The *Essay Test-Taking Strategy* is designed to help students deal effectively with the complex test-taking demands of courses in school as well as the essay test-taking demands associated with state competency tests, including high-stakes tests, and college entrance exams. Students are taught to analyze the essay question, organize the informa-

tion they know, write their answer with a specific structure, and revise with edits to create a polished product.

### STRATEGIC TUTORING

*Strategic Tutoring* describes a new vision of the tutoring process in which the tutor not only helps the student complete and understand the immediate assignment but also teaches the student the strategies required to complete similar tasks independently in the future. Research results showed that the students in *Strategic Tutoring* improved their achievement test scores in reading comprehension, written expression, and basic math skills. On average, their grade-level achievement scores increased by 10 months during a four-month instructional period. In contrast, the students in the comparison group without the *Strategic Tutoring* instruction experienced a mean gain of only 3.5 months during the same period.

### TEST-TAKING STRATEGY

The *Test-Taking Strategy* is designed to be used while taking classroom tests. Students allocate time and priority to each section of the test, carefully read and focus on important elements in the test instructions, recall information by accessing mnemonic devices, systematically and quickly progress through a test, make well-informed guesses, check their work, and take control of the testing situation. The emphasis is on teaching adolescents and adults who struggle with learning. In studies, students who learned the *Test-Taking Strategy* achieved an average 10-point increase on tests.



## STRATEGIES RELATED TO SOCIAL INTERACTION

### SLANT: A STARTER STRATEGY FOR CLASS PARTICIPATION

*SLANT: A Starter Strategy for Class Participation* is a simple, easy-to-teach strategy designed to help students learn how to use appropriate posture, track the talker, activate their thinking, and contribute information.

#### Cooperative Thinking Strategies

##### THINK STRATEGY

Students working together in teams use the *THINK Strategy* to systematically solve problems. Our research studied the use of this strategy in situations in which school improvement goals targeted problem solving, reasoning, and communicating. Results showed that the mean percentage of points earned by groups in the study before instruction was the same for experimental and comparison groups at 34 percent. However, at the end of the school year, the mean percentage score for the experimental groups was 84 percent and for the comparison groups 39 percent.

##### LEARN STRATEGY

The *LEARN Strategy* was designed to enable students to work in teams to learn together. Each step promotes creative cooperation; students think together to generate ideas to help them learn.



Research results indicated that students in the experimental classes performed a significantly higher percentage of study behaviors than comparison students in their cooperative study groups at the end of the school year. Experimental group pretest scores averaged 18 percent with posttest scores averaging 70 percent. The comparison group pretest score average was 27 percent with the posttest score average 35 percent.

##### BUILD STRATEGY

Students use the *BUILD Strategy* to work together to resolve a controversial issue. The purpose of the strategy is to enable students to work together to make decisions using a process similar to a debate. Research results showed that the average score for students in the experimental group from observation and products written by students as they discussed the issue was 21.4 percent on the pretest and 80.1 percent after learning the *BUILD Strategy*. The comparison group, which did not learn the strategy, scored 15.1 percent on the pretest and 19.6 percent on the posttest.

##### SCORE SKILLS

*SCORE Skills: Social Skills for Cooperative Groups* describes a set of social skills that are fundamental to effective groups. Students learn to share ideas, compliment others, offer help or encouragement, recommend changes nicely, and exercise self-control. Research results showed the mean percentage of cooperative skills used by students in cooperative groups in class before learning *SCORE* was 25 percent. The mean percentage increased to 78 percent after learning *SCORE*. The students in the comparison group that had no instruction in *SCORE* had average scores of 25 percent and 28 percent for the cooperative skills they used in the cooperative groups.

##### TEAMWORK STRATEGY

The *Teamwork Strategy* provides a framework for organizing and completing tasks in small groups. Students analyze an assignment and divide it into specific tasks, equitably assign those tasks to individuals, offer and request help to complete the

individual jobs, ask for and give feedback to other group members, assemble the individual jobs into one product, and evaluate the process used to complete the project and assess the interpersonal skills of group members. In field tests, students in experimental classes increased their use of cooperative skills dramatically, from one-quarter to one-third of identified skills to three-quarters of the skills. Some groups chose not to use the strategy for some tasks. When students used the strategy, cooperative skill performance was close to 100 percent.

### Community Building Series

In this series, the general goal is to create safe and supportive learning environments for students with disabilities in inclusive classes. This is done through teaching students about concepts such as respect and tolerance and providing each student a partner who can provide support during the learning process.

### FOCUSING TOGETHER

*Focusing Together* is an instructional program that promotes self-management skills in association with a set of classroom expectations that defines responsible work habits, respect, and emotional and physical safety. Students learn how to live by a set of learning community expectations; how their choice of whether or not to abide by those expectations affects their personal power; and how to follow a self-management strategy for staying on task when they must work independently or in small groups. In research studies, students in experimental classes reduced the number of off-task behaviors during the time they were expected to work independently (from a mean of 21 to a mean of 4.5 per 45-minute period; comparison class means were 21.9 and 18.3). Students in experimental classes were more pleased with the classroom management procedures used by their teachers. Teachers in experimental classes reported a 72 percent reduction of rule infractions, while comparison teachers reported no change. Teachers in experimental classes also were more satisfied with the program and their students' behavior.

### FOLLOWING INSTRUCTIONS TOGETHER

*Following Instructions Together* is designed to teach students concepts and strategies associated with following instructions effectively. In a field test involving 20 elementary teachers and their students, significant differences were found between students who participated in the *Following Instructions Together* program (experimental group) and students who did not (comparison group). Experimental students answered significantly more questions correctly about community concepts and followed complex instructions significantly more accurately than comparison students.

### ORGANIZING TOGETHER

*Organizing Together* can be used to provide instruction in basic strategies associated with keeping notebooks, schedules/calendars, desks, lockers/cubbies, and backpacks organized. In a field test involving six elementary teachers and their students, significant differences were found between the students who participated in the *Organizing Together* program (experimental group) and those who did not. Experimental students answered significantly more questions correctly about community concepts, they understood and could more accurately use a weekly calendar, and their notebooks, desks, backpacks, and lockers were significantly more organized than those of comparison students.

### TAKING NOTES TOGETHER

*Taking Notes Together* is a program that can be used to teach students a simple strategy for taking notes in response to a variety of stimuli, including lectures, demonstrations, movies/videotapes, and reading assignments. In a field test involving 12 teachers and their elementary students, significant differences were found between students who participated in the *Taking Notes Together* program (experimental group) and students who did not (comparison group). Experimental students answered significantly more questions correctly about community concepts, and they understood and could more accurately and comprehensively take notes related to lectures, reading assignments,

videotapes, and demonstrations than comparison students.

### TALKING TOGETHER

*Talking Together* is an instructional program designed for introducing the concept of learning community to students and for teaching them how to participate respectfully in class discussions. In a research study involving 20 teachers and 377 students, results showed that students in experimental classes that had participated in *Talking Together* lessons knew significantly more about how to create a classroom community, participated more frequently, and engaged in fewer behaviors that would disrupt a discussion than the comparison classes.

## STRATEGIES RELATED TO MOTIVATION

### SELF-ADVOCACY STRATEGY

Students use the *Self-Advocacy Strategy* when preparing for and participating in any type of conference, including education and transition planning conferences (IEP or ITP conferences). Strategy steps provide a way of getting organized before a conference and provide effective communication techniques to use during the conference. When students learned the *Self-Advocacy Strategy*, 86 percent of the goals they most valued were found in their IEPs. Students who had not learned the *Self-Advocacy Strategy* had only 13 percent of their desired goals in their IEPs.

### POSSIBLE SELVES

*Possible Selves* is designed to increase student motivation by having students examine their futures and think about goals that are important to them. Students think about and describe their hoped-for possible selves, expected possible selves, and feared possible selves. They set goals, create plans, and work toward their goals as part of this program. In research studies, students in the *Possible Selves* condition scored significantly higher than students in the control group on measures of goal

identification. In one study, at the end of six years, the students in the *Possible Selves* group had earned higher grade-point averages than the students in other groups.

## STRATEGIES RELATED TO MATH

### STRATEGIC MATH SERIES

The *Strategic Math Series* focuses on how to teach basic math facts and operations to students of any age. Content is built upon the concrete-representational-abstract method of instruction. In this approach, understanding of mathematics is developed through the use of concrete objects, representational drawings, and an easy-to-learn strategy that turns all students into active problem solvers. The series includes *Addition Facts 0 to 9*, *Addition Facts 10 to 18*, *Subtraction Facts 0 to 9*, *Subtraction Facts 10 to 18*, *Multiplication Facts 0 to 81*, *Division Facts 0 to 81*, and *Place Value*.

## 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.

### ADVANCED LEARNING TECHNOLOGIES IN EDUCATION CONSORTIUM (ALTEC)

<http://altec.org>

### DIVISION OF ADULT STUDIES (DAS)

<http://das.kucrl.org>

### E-LEARNING DESIGN LABORATORY

<http://elearn.design.org>

### INSTITUTE FOR RESEARCH ON ADOLESCENT LEARNING

<http://iral.kucrl.org>

### KANSAS COACHING PROJECT

<http://instructionalcoach.org>

### PROFESSIONAL DEVELOPMENT RESEARCH INSTITUTE

<http://pdri.kucrl.org>

