Learning Strategies Interventions: Descriptions and Research Findings

http://www.kucrl.org/downloads/LS%20Descriptions%20with%20Data.doc

The learning strategies listed here have been successfully field-tested with students judged to be at-risk for academic school failure; additionally, all of the strategies have been field-tested with students judged to have learning disabilities. The research took place in public schools, primarily in middle and high school settings, and the strategies were field-tested by teachers. Research has demonstrated that consistent, intensive explicit instruction and support are key ingredients for instructional success. A combination of instructional models involving general education teachers and special education teachers, individually and collaboratively, has been successfully tested. All of the strategies are taught using a standard set of instructional procedures. These procedures define the necessary instructional conditions needed regardless of where the instruction occurs.
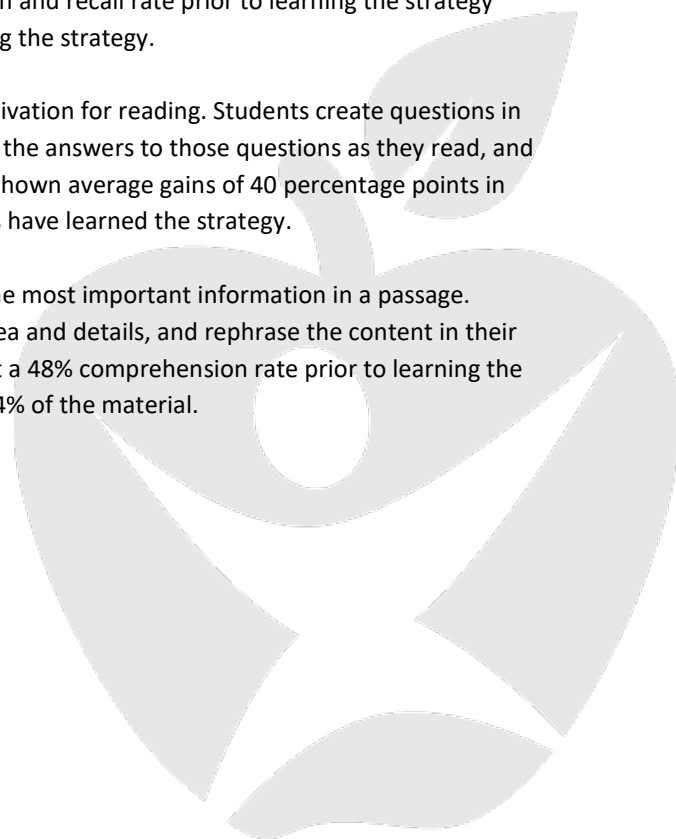
Strategies related to reading:

Word Identification Strategy provides challenged readers with a functional and efficient strategy to 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 the research study, the students made an average of 20 errors in a passage of 400 words prior to 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% on the pretest to 70% on grade-level passages.

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% comprehension and recall rate prior to learning the strategy improved to a 86% comprehension and recall rate after learning the strategy.

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.

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% comprehension rate prior to learning the strategy. During the posttest, these students comprehended 84% of the material.

Strategies related to storing and remembering information:

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% to 85%.

Paired Associates Strategy is designed to help students learn pairs of informational items like 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 answered correctly only an average of 8% of test questions related to paired information when the paired information was identified for them. After they mastered the strategy, they answered correctly an average of 85% 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% of test questions correctly before instruction in the strategy versus answering 76% correctly after mastering the strategy.

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 the social studies class where the LINCs Strategy was taught to the students, the students with LD performed at a mean of 53 percent in the pretest and at a mean of 77% correct answers after learning the LINCs Strategy. In the control class where students did not learn the LINCs Strategy, the mean percentage of correct answers decreased from the pretest to the posttest.

Strategies related to expressing information

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: 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% complete sentences on the pretest and an average of 88% complete sentences on the posttest.

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; student lessons manual features exercises that correspond to the instructional procedures. Research results showed that the students earned an average of 40% of the points available when writing a paragraph on the pretest and 71% average of the points when writing a paragraph on the posttest.

Error Monitoring Strategy can be used by students 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. Prior to instruction, they were making one error in every four words. Following instruction, they made only one error in every 20 words.

InSPECT Strategy can be used by students to detect and correct spelling errors in their documents either by using a computerized spellchecker or a hand-held spelling device. Research results showed that students corrected 41% of the errors in their compositions prior to being trained in the *InSPECT Strategy* and corrected 75% the errors in their composition after receiving training in InSPECT.

Strategies related to demonstrating competence

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% with the percentage increasing to 77% after students learned the strategy. Prior to learning the strategy, the number of student who did the assignment correctly was 45%. After learning the strategy, the number of students who did the assignment correctly increased to 73%. Students were interviewed who did not hand in the assignments in order to discover their reasons for not turning in the assigned work. The major reason they gave was that they did not understand how to do the assignment.

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 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. Research results in which students were taught the Test Taking Strategy produced an average 10-point increase on tests for participating students.

Strategies related to social interaction

Self Advocacy Strategy can be used by students when preparing for and participating in any type of conference including education and transition planning conference (i.e., IEP or ITP conference). Strategy steps provide students both with a way of getting organized before a conference and with effective communication techniques to use during the conference. When students learned the Self Advocacy Strategy, 86% of the goals they most valued were found in their IEPs. The students who had not learned the Self Advocacy Strategy had only 13% of their desired goals in their IEPs.

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.

Surface Counseling details a set of relationship-building skills necessary for establishing a trusting, cooperative relationship between an adult and a youth and a problem-solving strategy that youths can learn to use by themselves. Materials include study guide questions, model dialogues, and role-playing activities. This is useful for an adult who has daily contact with children and adolescents. Research results showed that teachers who had not been trained in Surface Counseling used an average of 23% of the surface-counseling identified skills to counsel students on a problem. After being trained in Surface Counseling, the teachers performed an average of 93% of the surface-counseling components in counseling sessions. They also reported an increased feeling of confidence and competence in counseling sessions.

Cooperative Thinking Strategies

THINK Strategy is used by students working together in teams to systematically solve problems. The research studies in which this strategy was used developed school improvement goals in which problem solving, reasoning, and communicating were major targeted areas. Results showed that the mean percentage of points earned by the groups before instruction was the same for experimental and comparison groups at 34%. However, at the end of the school year, the mean percentage score for the experimental groups was 84% and for the comparison groups 39%.

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% with posttest scores averaging 70%. The Comparison group pretest score average was 27% with the posttest score average 35%.

BUILD Strategy is a strategy students can use 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 from the observational measure and products written by students as they discussed the issue for the experimental students was 21.4% on the pretest and 80.1% after learning the Build Strategy. The comparison group that did not learn the Build Strategy scored 15.1% on the pretest and 19.6% on the posttest.

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. Results showed the mean percentage of cooperative skills used by students in cooperative groups in class before learning SCORE was 25% and increased to 78% after learning SCORE Skills. The students in the comparison group that had no instruction in SCORE had average scores of 25% and 28% for the cooperative skills they used in the cooperative groups.

The 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.

- ***Following Instructions Together*** is designed to teach students concepts and strategies associated with following instructions effectively.

- ***Organizing Together*** is a program that can be used to provide instruction in some basic strategies associated with keeping notebooks, schedules/calendars, desks, lockers/cubbies, and backpacks organized.

- ***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.

- ***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.