Introduction 1

K nowing how to learn and study is an important part of the learning process and can make the difference between success and failure at the secondary level; unfortunately, many students, particularly students who have learning disabilities and attention disorders, enter high school without the study skills needed to be independent, efficient learners. These students need to be taught explicit strategies that will guide their thinking, facilitate comprehension, and support attention. These strategies should be simple, concrete, and efficient; should be taught using direct instruction (modeling, guided practice, independent practice); and should produce cumulative study systems to support retention, review, and test preparation.

Some students develop strategies that make them successful on their own, but other students, particularly those with learning disabilities and attention disorders, must be taught how to learn through direct, explicit instruction. Teaching clear, specific, evidence-based strategies is necessary to enable these students to access the general education curriculum. To expect one or two teachers, who may or may not have much special education background, to meet all the special needs of the students in the classroom setting is not realistic; teaching students strategies that empower them to be successful, independent learners and to build self-esteem should be the goal. For the secondary student, "learning how to learn" is critical to achieve, not only in school, but also in the workplace and postsecondary settings where less support will be available.

This book presents a collection of strategies that have been used to improve the performance of secondary students as well as individuals in workplace training programs. The research reported in the manual *Independent Strategies for Efficient Study* (Rooney, 1998) has demonstrated the efficacy of the strategies for students with attention problems, learning disabilities, and underachievement. The strategies are designed to activate the individual in the learning process through simple approaches that organize the process, incorporate isolation/reformatting/retrieval practice, and use explicit guides (such as format) to reduce the demands on the student's judgment or prior knowledge. After initial models, approaches, or techniques have been learned, the strategies need to be used and practiced, during instruction or through independent use, until organized learning is an automatic response to academic work.

BEFORE READING THIS BOOK

Since this book contains many strategies to meet the diverse needs of students, teachers, and subject areas, here are some suggestions for using the strategies. It is important to realize that the strategies

- do not have to be taught and implemented all at once, which could be overwhelming to some students;
- can be selected based on the individual needs of the student or the specific content area (possibly only one or two basic strategies at first) or can be selected to provide a curriculum for a learning-strategies class;
- may be used during instruction/homework assignments or be taught to individual students, even if the other students in the class do not need to use the strategies;
- can be used with as much or as little support as necessary based on the individual needs of the student;
- can be incorporated into instructional approaches or may be taught as separate study strategies;
- may need to be rewarded to support use if motivation is a concern (e.g., giving a grade or reward for using a strategy);
- need to be presented to students as changes in formats or approaches rather than extra work;
- should be explained in terms of increased efficacy, intensity, and ease of review to motivate use by the student;
- need to be taught using direct instruction that includes application of the strategy on a task so the student experiences success right away; and
- can be developed as study materials for use by the class (such as in peer-tutoring sessions or student study groups) or may be used by individual students.

The material in this book should be viewed as a collection of a wide range of evidence-based strategies that have improved the performance of struggling students, including those with learning disabilities/attention disorders, and can be selected, adapted, and implemented as needed based on the needs of the student or class, the style of the teacher, the instructional setting, the demands of the curriculum, and the motivation of the student.

BEFORE TEACHING THE STRATEGIES

It is very important to develop an understanding of the general principles, techniques, and important concepts underlying the development of the strategies in this book. As you are learning the strategies, please keep the following thoughts in mind so that you can see how the strategies are structured to guide thinking, be "user-friendly," and support learning as well as to be implemented in ways that match your particular preferences, needs, or subject area/setting:

- Students can use index cards, paper, or computer software (see **www.krooney.com**) to produce the review systems that support learning, studying, and test taking.

- The strategies can be used during the initial instruction or as homework assignments, with entire classes or with individual students; some teachers develop a "class set" that students can use to review and prepare for tests rather than have individual sets of cards or notes.
- Selected strategies may be chosen to develop a basic learning-strategies course, may be selected for specific content areas, or may be tailored to an individual student's needs by selecting appropriate strategies from the program.
- The strategy training can be built into instruction, note taking, and homework assignments, but it is designed to present models that students can eventually use as independently as possible when they have to learn information in school or, eventually, in the workplace.
- Motivation is an important component of learning for the secondary student and should be considered when planning strategy training. The more motivated the student is, the more the strategies can be taught as a way to improve academic performance by teaching the student specific strategies. The less motivated the student is, the more the use of the strategies will need to be part of the instruction, in classroom activities, or assigned for homework, which will result in credit for the use of the strategy.
- Even when the strategies are implemented in the context of instruction, rather than independence, the models are so explicit that the process can generalize to new situations when the student may be more motivated (such as passing the driver's license test or maintaining eligibility for sports).
- The strategies have been taught to students on an individual basis or in small-group settings. Six hours of instruction are required to teach the basic strategies, but strategies can be selected by the teacher based on the student's needs, which would require less time. For example, the textbook note-taking strategy and reduced note-taking strategy for classroom instruction may be all one student needs to learn; another student may just need the writing strategies.

GENERAL PRINCIPLES, TECHNIQUES, AND IMPORTANT CONCEPTS

And now, it is important to become familiar with the terminology used in this book:

- **Advance organizers** are forms or graphics that establish the task or organizational demands in advance of the processing to support thinking right from the start of the task and produce "reminders" to finish parts of the task that have not been completed.
- **Cards and column formats** refer to systems using flash cards (e.g., index cards) or paper folded in half lengthwise to create two columns. Some teachers refer to the latter as a "hot dog" fold. The formats provide a structure to produce review systems that use isolation, reformatting, and retrieval practice. Students can choose any one of the formats (rectangles, squares, grids, charts, cards, or two columns) based on preference. Computerized versions are also available at **www.krooney.com.**

- **Concrete guides** refer to guides, starting points, or hints that are very explicit and do not depend on judgment, prior knowledge, or reasoning. For example, looking for subtitles by looking for a different style of font is a concrete guide. Looking for a capital letter to identify a name is another concrete guide.
- **Cover sheets** refer to the use of blank paper or cards to cover or block all information except the information that should be the target of attention. Visual distraction is reduced and focus of attention is supported.
- **Isolation** refers to the removal of information from text or other material so the focus of attention is artificially targeted on the appropriate information. Surrounding the information with white space forces attention to the information and guides memory processing since no other information is available during processing.
- **Manipulatives** refer to specific techniques that involve motor activity, such as making notations or card sorting to help sustain attention, increase intensity, and support processing.
- **Multisensory processing** refers to an approach that integrates visual, auditory, and tactile processing through seeing the material (visual), using self-talk (auditory), and writing or sorting (tactile).
- **Reformatting/rephrasing** means changing the information to a new format or having the student explain the information verbally or in writing. The goal is to reduce rote memorization and "busy work" that does not engage the student's thinking. Information should always be reformatted (such as changing standard textbook paragraphs into lists or literature text into charts) or put into the student's own words.
- **Retrieval practice** requires the student to recall information from memory without support. The use of index cards or two-column formats produce retrieval practice systems, since the names, numbers, terms, and topics are isolated on the front of the card or first column, and the related information is hidden from view on the back of the card or second column.
- **Review systems** refer to the production of some type of summary of the critical information at the time of the initial processing to support retention.
- **Squares, grids, or charts** refer to visual organizers that are more categorical and are used to organize information to focus attention, to highlight details and main ideas, and to clearly identify concepts. Rectangles, squares, charts, or grids are made by folding a sheet of paper in half lengthwise and then folding again to produce four squares. The sections are labeled by category, and notes are taken within each section as appropriate. If more than four sections are needed, a second page is made so that the categories can all be seen while the work is being done. The only time information is placed on the back of the sheet is when the room in any of the sections is not large enough.
- **Visual anchors** refer to supports for memory problems, such as short-term memory or working memory (the ability to manipulate information in memory without visual support) deficits. The visual anchors are

simply information that is written down immediately to "anchor" the information and bypass memory during subsequent processing.

- **Wheels** refer to ovals that support processing by separating information into details and main ideas in a visual display. The wheel is simply an oval with the main idea or concept within the wheel (oval) and the details or related information spiked around the outside of the wheel. Wheels differ from mindmapping, webbing, spidering, or clustering because the format will always be linear (one wheel placed underneath the previous wheel) and will never branch out sideways. The linear format will organize the sequence visually to display the order of the task demands or establish a logical progression of ideas rather than produce a more scattered array of ideas.

The terminology should be used during instruction and when describing the strategies to other teachers and parents so that the concepts underlying the strategies will be understood.

ADDITIONAL RESOURCES

Rooney, K. (1998). *Independent strategies for efficient study*. Richmond, VA: Educational Enterprises.
Rooney, K. Web site: www.krooney.com.