

Study Skills and the Education of Students With Learning Disabilities

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emphasis upon the development and maintenance of effective study skills usage in programs for students with learning disabilities in elementary and secondary education.

STUDENT STUDY SKILL STRATEGIES

Several strategies designed to improve study skill abilities currently exist. Study strategies or methods are "self-directed procedures" (Cheek & Cheek, 1983, p. 182) that students learn and employ as they complete learning activities. Several of these strategies have been identified in the literature and are presented in the present article. The strategies selected represent various ways to improve study skills usage as documented in the literature. This includes strategies to facilitate student proficiency in areas such as reading, questioning, listening, note taking, report writing, test taking, and math word problems. The selection and use of a particular strategy depend upon the study skill area requiring attention. In addition, each study strategy contains a process that focuses upon various subskills related to a general study skill. Thus, the selection and use of a particular strategy depend upon both the study skill area requiring attention and how well the student is able to perform the required steps to complete the process associated with the selected strategy.

The process associated with each strategy is described briefly. The purpose is to familiarize the reader with each strategy as well as to provide information about *why* a particular strategy may be used, through the examination of the process found within the strategy. This in turn will assist teachers to select and use appropriately various study skill strategies in their work with students with learning disabilities. Not all available study strategies are presented, and not all of the selected strategies will be appropriate for all students with learning disabilities. Individual needs and abilities must be considered as these strategies are selected and used by students. Various study skill strategies that pertain to reading are presented first, followed by strategies to improve other study skill areas. Some of these strategies are pre-

This article discusses an area of education for students with learning disabilities that is often neglected. The topic of study skills education, although not new to education in general, has only recently been emphasized in the literature for students with handicaps. An overview of the study skill proficiency (or lack of it) of students with learning disabilities is provided, followed by the presentation of 15 student study skill strategies designed to assist students in their use of various study skills. These strategies may be employed appropriately and effectively with many students with learning disabilities provided that individual needs and abilities are considered. The article concludes with a discussion about the implementation of a study skills program, including guidelines to follow in this process.

Knowing how to study is an essential element in the learning process for students with learning disabilities at any grade level. Study skills include areas such as listening, reading, report writing, test taking, time management, graphic aids, or library usage (Wallace & Kauffman, 1986). Study skills are important, but, as Brown (1984) noted, the topic of study skill education has been emphasized only recently in the literature for students with handicaps. In addition, much of the literature discussing study skills pertains to and has its roots in secondary education material. Therefore, much of the content in the present article is based on material written for the education of secondary learners with and without learning disabilities. Although the use of study skills is very important at the secondary level, the acquisition and maintenance of study skills begins long before a student enters junior or senior high school. Study skills must be introduced, developed, refined, and maintained throughout a student's entire education.

STUDY SKILLS AND STUDENTS WITH LEARNING DISABILITIES

Although considered a vital element in learning as well as in independence, regular use of study skill strategies by learning disabilities specialists has not been

found (e.g., Johnson, Schneider, & German, 1983). Johnson, Schneider, and German also wrote that there exists a "need to stress to teachers the importance of study skills and to address the use of methods and materials that can initiate independent learning" (p. 263). In support, Alley and Deshler (1979) stated that adolescents with learning disabilities generally are not taught study skills at the elementary level.

Other researchers have also documented the prevalence of deficient study skills in students with learning disabilities (e.g., Alley, Deshler, & Warner, 1979; Carlson & Alley, 1981; Schumaker, Sheldon-Wildgen, & Sherman, 1980). Specifically, Carlson and Alley (1981) noted deficient note-taking, listening, test-taking, and scanning skills in high school students with learning disabilities. In reference to note-taking skills, Saski, Swicegood, and Carter (1983) wrote that adolescents with learning disabilities often experience difficulty organizing information. In addition, Taylor and Scruggs (1983) found that elementary students with learning disabilities experienced test-taking problems associated with format and distractors. This was also supported by Scruggs and Mastropieri (1986), who found deficient test-taking skills in a similar population of elementary students. Thus, the importance of study skills, along with the difficulties that students with learning disabilities experience in employing these skills, suggests the need for an increased

sented in the literature within a learning-strategies model or format. According to Ritter and Idol-Maestas (1986), "a learning-strategies model offers a problem-solving approach that is not restricted to applications specific to the context in which the strategy is taught" (p. 351). In these discussions, however, each strategy is presented relative to specific study skills (e.g., reading, note taking, report writing, test taking) as specific procedures are followed by the students. If additional information is desired, the reader should consult the specific sources referenced for each strategy. For more comprehensive coverage of study skills education for special learners, including students with learning disabilities, the reader is referred to Hoover (1988, 1989, in press) and Wallace and Kauffman (1986).

SQ3R

SQ3R is the "oldest and most commonly used study strategy" (Cheek & Cheek, 1983, p. 177). This method follows five procedural steps—Survey, Question, Read, Recite, Review. When using this method, students first survey the introductory statement, various headings, and summaries in an attempt to grasp the main idea of the selection or assignment. The Survey step also includes specific attention to graphic aids. Students then formulate questions about the selection in an effort to identify the purpose for reading it. This includes who, what, where, why, and how questions. The third step involves reading the material and attending specifically to the questions generated. Upon completion of the reading, students attempt to answer the questions without direct reference to the selection. Finally, the readers review the material and any notes compiled during the reading to verify the answers (Cheek & Cheek, 1983; Wallace & Kauffman, 1986).

A slight variation in these procedures was suggested by Ekwall and Shanker (1985). They also suggested that the questions be written down; however, the answers to the questions (for some students) should be documented as soon as they are found, rather than waiting until the entire selection has been read. In reference to students with learning disabilities,

Alley and Deshler (1979) wrote that SQ3R should be individualized for each student. In addition, Wallace and Kauffman (1986) wrote that this strategy requires practice and that it is best used relative to specific content material being read.

PARS

PARS—Preview, Ask questions, Read, and Summarize—is a simplified study strategy and recommended for use with younger students and with those who have limited experiences in the use of study strategies (Cheek & Cheek, 1983; Smith & Elliot, 1979). When using this approach, students preview the material and formulate questions that pertain to the areas the teacher wishes to emphasize. The selection is then read with these questions in mind in an effort to answer them. The final step involves summarizing the material and verifying the information acquired relative to questions generated (Cheek & Cheek, 1983).

PQ4R

PQ4R, a variation of the SQ3R method, is designed to assist the student to become a more discriminating and systematic reader (Cheek & Cheek, 1983). This strategy contains the elements of Preview, Question, Read, Reflect, Recite, and Review. The process is similar to the SQ3R method except the Reflect element has been added. During the Reflect stage of PQ4R, the student rereads various parts of the selection that were unclear initially. This aids in the organization of the student's thoughts as answers to questions are sought (Cheek & Cheek, 1983; Thomas & Robinson, 1972).

OARWET and OK5R

OARWET refers to Overview, Achieve, Read, Write, Evaluate, and Test (Norman & Norman, 1968). OK5R includes Overview, Key idea, Read, Record, Recite, Review, and Reflect (Pauk, 1974). The process for using each of these strategies is similar to that of the SQ3R method, with selected elements added or further delineated. Devine (1981) suggested that these alternatives may prove useful to students who have difficulty with the SQ3R approach.

PANORAMA

PANORAMA was devised by Edwards (1973) and includes three stages. In the first stage (preparatory), the purpose for reading the material is determined, the most appropriate reading rate is determined, and questions about the material based upon the headings are formulated. In the second, or intermediate stage, the material is surveyed to determine the organizational format of the selection; the student then reads the material and takes notes relative to the formulated questions. The last stage (conclusion) involves memorizing the material with the aid of outlines and summaries, and an evaluation component to determine retention (Cheek & Cheek, 1983; Wallace & Kauffman, 1986).

REAP Method

REAP, developed by Eanet and Manzo (1976), is a strategy designed to improve reading, thinking, and writing skills. REAP refers to Read, Encode, Annotate, and Ponder. Initially, students read the material and then write the author's message in their own words (Encode). During the Annotate stage, readers must differentiate and translate the author's ideas into their own language and provide a written summary of the ideas. This is accomplished through use of one or more annotations (i.e., summary, question, critical, motivation, heuristic, thesis, intention). Through this approach, the author's main ideas are summarized and relationships among various aspects of the author's message are determined. The author's purpose and motives are explored, along with significant questions addressed by the author. In addition, readers' reactions to the author's thesis are considered. The final stage in this strategy provides students with the opportunity to think about and engage in discussions about the author's message (Wallace & Kauffman, 1986).

ReQuest

ReQuest, developed by Manzo (1969), assists students in relating previously learned knowledge with new learning. ReQuest refers to reciprocal questioning;

it encourages learners to question prior to reading and to base the reading activity on anticipated questions. When using this approach, the teacher and the student take turns asking each other questions about the initial sentence(s) in a selection. The questions generated by the teacher should help students realize the knowledge they already possess relative to the topic as well as serve as a model for the types of questions the students may ask when it is their turn to ask questions about the selection. The person who responds to the questions does so with his or her book closed. The teacher and student take turns asking each other questions about additional sentences in the first few paragraphs.

The teacher provides feedback on the quality of questions asked by the student. This procedure is continued until the student is capable of projecting answers to questions such as "What do you think you will find out in the rest of the selection?" (Estes & Vaughan, 1985, p. 149). This strategy provides opportunity for feedback and modeling of questions and strategies for questioning, and is used best in individual or small group situations (Estes & Vaughan, 1985).

RARE

RARE is a reading comprehension study skill strategy discussed by Gearheart, DeRuiter, and Sileo (1986). RARE refers to (a) Review the questions at the end of the reading selection, (b) instruct students to Answer all questions they already know, (c) carefully Read the selection, and (d) Express answers to the questions that students were unable to answer initially. For example, students may already possess some knowledge about the topic being read, or through skimming the material, they may gain sufficient knowledge to answer one or more of the comprehension questions. Through use of the RARE study strategy, students read the material carefully to obtain answers to questions they were unable to answer prior to the careful or study-type reading. Thus, like other study skill strategies designed to improve reading performance, RARE emphasizes reading for a specific purpose (i.e., comprehension questions related to the reading selection).

TQLR

TQLR—Tuning in, Questioning, Listening, and Reviewing—was designed by Tonjes and Zintz (1981) to assist students to become better listeners. The strategy suggests that listeners must be ready for the verbal communication. The listener should attempt to identify the position the speaker will take and listen for the actual position taken. As the verbal communication continues, the listener should generate questions about the topic, and upon completion of the talk, the listener should mentally review the material to ensure that the important points are remembered (Wallace & Kauffman, 1986).

GLP

GLP refers to Guided Lecture Procedure (Kelly & Holmes, 1979) and is a strategy to facilitate effective note taking during lectures. Several procedural steps exist for GLP. Prior to the lecture, students are provided the purposes and objectives of the lecture and allotted time to write them down. During the initial part of the lecture, students listen closely and do not take notes. About halfway through the lecture, the lecturer stops and students are provided time to write, in shortened form, all information recalled from the lecture. Upon completion of the remaining portion of the lecture, students work in small groups with teacher guidance and discuss the entire lecture, taking notes as information is shared. The actual lecture notes are developed during this time.

After the small group activity, students reflect on the lecture content and GLP process, and then summarize (in narrative form) the main points of the lecture without using the notes developed previously (Cheek & Cheek, 1983). The GLP strategy may also motivate students by involving them actively in the lecture situation.

COPS and TOWER

COPS is an error-monitoring method employed for completing written assignments (Schumaker et al., 1981). This strategy includes four questions that pertain to important aspects of a written assignment. *C* refers to the question,

"Have I *capitalized* all words requiring capitalization?" *O* refers to the question, "How is the *overall* appearance of the work?" This includes spacing, indentation, sentence structure, and legibility. *P* refers to the appropriate use of *punctuation*, and *S* addresses the question, "Have I used correct *spelling* throughout the written material?" TOWER is a strategy that may be employed prior to and during the actual writing assignment (e.g., reports, themes) (Mercer & Mercer, 1985). TOWER refers to Think, Order ideas, Write, Edit, and Rewrite. The strategies of COPS and TOWER may be used together in order to encompass both outlining and the actual report writing during the development of the rough draft and edited versions of the written work (Mercer & Mercer, 1985).

SCORER

This is a strategy designed to assist learners with test taking (Carman & Adams, 1972). SCORER refers to *Schedule* time, look for *Clue* words, *Omit* difficult questions, *Read* carefully, *Estimate* answers, and *Review* the work. When using this strategy, students begin by planning their time for taking the test. Students should review the entire test initially to identify easy and difficult items, varying point values per item, and number of items. The students should also search to identify clue words used in different items such as *usually*, *never*, or *sometimes*. In true-false items, for example, the words *usually* or *sometimes* often indicate a true statement while the words *never* or *always* pertain frequently to false items (Mercer & Mercer, 1985).

As students complete the test, the more difficult items are left until last. These should be marked for easy identification (e.g., place a check mark in the margin next to the item that is not answered initially). Careful reading of the test questions and directions is always necessary. Also, for those items that require calculations, an estimate of the answer should precede actual calculations in efforts to eliminate obviously wrong answers and reduce careless errors. Once the test has been completed, each answer should be reviewed carefully (Mercer & Mercer, 1985). In reference to the use of SCORER with students with poor

reading comprehension, Ritter and Idol-Maestas (1986) wrote that these learners "could benefit from instruction in a test-taking approach" (p. 355).

SQRQCQ

SQRQCQ, developed by Fay (1965), assists students with word problems in math. It involves six steps: a Survey of the word problem, deciding what Question is being asked, Reading the problem more carefully, Questioning the processes required to obtain the answer, Computing the answer, and Questioning again to ascertain whether the problem was answered correctly and logically (Cheek & Cheek, 1983).

IMPLEMENTING A STUDY SKILLS PROGRAM

A program that promotes study skills generally introduces simple variations of study skills in the primary grades and gradually increases to more complex variations as a student progresses through school (Jarolimek & Foster, 1985). Although the levels of complexity that pertain to the various study skills taught to students with learning disabilities vary with age, ability, and individual needs, early efforts to promote and teach study skills may prove beneficial over both short- and long-term educational programs.

As suggested in the previous section, the selection and use of various study skills depend upon the study skill area requiring attention as well as consideration of the process associated with each of the study strategies. In addition, Devine (1987) outlined several guidelines for teachers to follow in order to develop and/or improve their overall study skills program. These guidelines may serve as a basis for structuring the selection and use of various study strategies within a classroom situation. Although the guidelines are applicable to any student, they are presented relative to the education of students with learning disabilities. The guidelines include:

1. Establish and define specific goals for your study skill program;
2. Know individual strengths and abilities

of your students with learning disabilities and select and modify study strategies accordingly;

3. Know what motivates your students and relate use of study skill strategies to that motivation;
4. Explain and demonstrate the proper use of study skill strategies to your students; and,
5. Provide opportunities for continued practice and guided instruction relative to the use of study skill strategies.

Students in any grade level and particularly students with learning disabilities require direct teacher guidance in areas such as how to read an assignment, confront new vocabulary, listen and take notes, take tests, or write reports. Adherence to these study skill program guidelines may assist teachers of students with learning disabilities to select and teach various appropriate study skill strategies. This in turn may assist students to confront successfully reading, writing, listening, note taking, report writing, thinking, or test taking tasks.

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