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THE EFFECT OF STUDY SKILL TRAINING ON LEARNING DISABLED STUDENTS' RETELLING OF EXPOSITORY MATERIAL

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This research was conducted to determine the effects of a study skill training procedure on oral retelling of printed expository material read by three intermediate-grade learning disabled students. Measures of story retelling, study characteristics, and answers to comprehension questions were obtained during each session. The study skills taught during the intervention phase involved a modified Study, Question, Read, Recite, and Review technique (Robinson, 1941). Findings confirmed the existence of a functional relationship between the use of the study skill procedure and improved retelling. Experimenter directions and assistance were systematically faded so that during postchecks students used the procedure easily and quickly while obtaining their highest scores for retelling.

DESCRIPTORS: study skills, retelling, learning disabled students

Recent research in reading comprehension has indicated the importance of study skill instruction for the successful learning of text, especially for children in the intermediate grades who are just beginning to come into contact with content area textbooks (Adams, Carnine, & Gersten, 1982; Durkin, 1978–1979; Guthrie, 1982; Schumaker, Deschler, Alley, Warner, & Denton, 1982). Adams et al. (1982) investigated the efficacy of a modified Survey, Question, Read, Recite, and Review (SQ3R) procedure (Robinson, 1941) on elementary students' comprehension of expository text as measured by answers to comprehension questions and retelling. Using an experimental group design with average fifth graders, Adams et al. found the study procedure to be effective on the question measure but not on the retelling measure. I replicated certain methodological components of the Adams et al. study but attempted to extend their findings by: (a) lengthening the 4-day training phase so that each student had ample time to master use of the study skills; (b) adjusting instructional procedures based on daily data so that individuals were not made to conform to one standard procedure; and (c) using retelling as the major measure of reading comprehension.

This study was completed as a doctoral dissertation in the Department of Human Services Education at The Ohio State University.

I express my special appreciation to John O. Cooper.

Requests for reprints and additional information regarding teaching scripts and specific procedures should be sent to Deborah Ferrante Alexander, Department of Psychology, Monash University, Clayton, Victoria 3168, Australia.

METHOD

Students and Setting

Three 11-year-old students who attended a resource class for the learning disabled located in an elementary school in a suburb of Columbus, Ohio, participated. All students' word recognition levels were at grade level but their comprehension levels were 1–2 years below grade level. All sessions were conducted at a table in the back of the resource room.

A free-time contingency operated across all phases of the study whereby students received points for every correct item of information retold. These points were exchanged for tokens. The classroom teacher exchanged the tokens for tangibles such as free time, school supplies, and stickers.

Reading Material

Passages were taken from the third-grade level of *Reading for Concepts* (Liddle, 1977). Each passage was approximately 200 words long.

Response Definitions

Retelling following oral reading was measured once each session. Master protocols of information units were developed for each test passage in the following way: (a) I inserted paragraph subheadings into each passage so that each passage had a title and four or five subheadings; (b) another adult and I independently outlined each test passage using paragraph subheadings as major points and inserting minor points of information under each subheading. Any points included in both outlines remained in the master outline; (c) each master outline was converted into a set of information units according to procedures used by Adams et al (1982).

Student retellings were transcribed verbatim from an audio recording and compared to the master sets of information units. One point was given for each information unit included on the master protocol. A percentage measure was computed by dividing the number of information units recalled by the total number of units and multiplying by 100.

Students read and answered the nine questions that followed each passage. The number of questions answered correctly was recorded.

Use of Observers

I scored all student retells. Approximately half of the student retells were randomly selected to be rescored by an independent observer. Interobserver scores were computed for agreement on occurrence and nonoccurrence of information units. The mean scores for occurrence and nonoccurrence were 83.3% and 88.8%.

An observer visited the class once during baseline and once during training for each student and used a checklist to compare the observed behavior of the experimenter with the outlined procedures. During maintenance and postchecks, the same procedure was followed using audio recordings. It was found that the experimenter did not depart significantly from the outlined procedures.

Experimental Design

A multiple baseline across students with reversal design was used in this experiment.

Baseline. During each baseline session students chose one of three passages according to the subject matter that most interested them. A list of difficult and unfamiliar words was previewed prior to oral reading. The students were then asked to read the passage aloud with the reminder that an oral retelling of everything remembered would be requested immediately following the oral reading. Following oral reading I asked the student to take as much time as needed to study the passage and to tell me when he or she was ready to retell. The amount of time spent studying and the type of study technique used (e.g., scanning, rereading) was recorded. I then asked the student to retell, prompting him or her twice for more information by asking "Do you remember anything else?". The session ended with the student answering aloud the nine questions that accompanied the passage.

Study skill training. Students were initially trained in the use of the study skills for six, 30- to 40-minute sessions. Retelling and answers to comprehension questions were measured at the end of each session. The study skill procedure included seven steps:

1. Preview the passage by reading the paragraph headings.
2. Recite the paragraph heading without looking.
3. Ask questions about what might be important to learn.
4. Read the paragraph to find the important details.
5. Reread the paragraph heading and recite the important details.
6. Repeat steps 1 through 5 for each paragraph.
7. Rehearse by reading each paragraph heading and recalling the important information.

Detailed teaching scripts developed by Adams et al. (1982) were used during Sessions 1–4 and then feedback and prompts were systematically faded over Days 5 and 6. For example, on Day 5, I was permitted to ask the student to give more information about a detail that had been recited or to supply an omitted detail. On Day 6, the number of clarifying questions was reduced to two

per paragraph. I gave a maximum of three feedback statements per paragraph on Day 5 and reduced this to two on Day 6. I also asked the student to repeat the details of a paragraph quickly when it was judged that the student needed additional practice. This prompt was also systematically faded.

At the end of each session, students were asked to retell according to baseline procedures. The free-time contingency was then applied and students answered the questions following the passage.

Baseline 2. Following the six study skill training sessions, students returned to baseline conditions.

Study skill training 2. On the first 6 days of the second intervention condition, procedures from Days 4, 5, and 6 from the first intervention phase were followed. Students moved from step to step at a pace that was judged most appropriate from analyzing daily data.

Maintenance. Systematic fading of feedback statements and prompts continued until students followed the rules with no interruptions by the experimenter until ready to retell.

At the end of the study, I explained and gave a copy of the study rules, teaching procedure, and some practice passages to the resource room teacher and aide with a request to monitor the students' use of the rules intermittently.

Postchecks. I conducted postchecks 1 week and 1 month after the official end of the study.

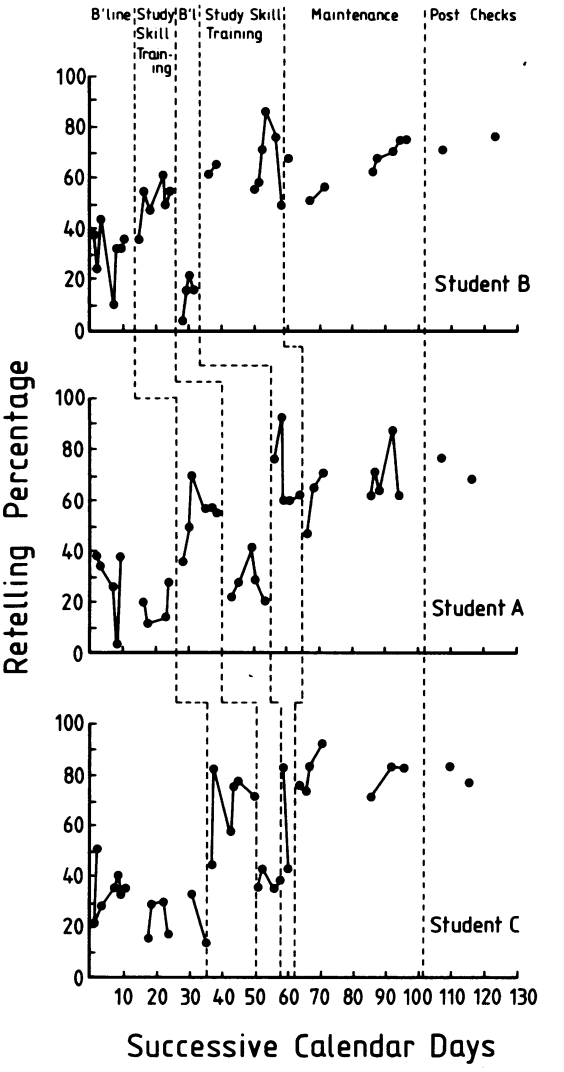

Figure 1. Retelling percentages across experimental phases for three students.

RESULTS

Retelling and Answers to Questions

Figure 1 shows that mean retelling percentages increased for all students following the introduction of the study skill training condition. Performance declined during the return to baseline and increased again during the second study skills training condition. High levels of performance were maintained during the maintenance and follow-up conditions.

Students answered a higher mean number of questions correctly during intervention, maintenance, and postcheck phases than during baseline phases. However, there was a great deal of overlap in the data which resulted from a ceiling effect (i.e., students sometimes exhibited perfect performance during the baseline condition).

Study Characteristics

Students B, A, and C required 20, 17, and 13 sessions, respectively, to master independent use of the study skills. When students were first learning the study skills, sessions lasted from 30 to 40 minutes; during the latter sessions of study skill train-

ing 2, students used approximately 15 minutes; during maintenance and postchecks, times ranged from 5.5 to 10.5 minutes.

DISCUSSION

The results of this study showed that three learning disabled students were able to retell more information following the introduction of a systematic study technique then they were able to retell when they were given extra study time and used their own random study methods. Whereas changes between phases were apparent in retelling percentages, comparable differences between phases were not apparent for answers to comprehension questions because of the presence of a ceiling effect. If the number of questions answered correctly was the only dependent variable used in this study, it would certainly appear that the study skills were not influential in improving comprehension. And yet this type of assessment is the most common means of assessing comprehension for most of what children read in school.

The scripts designed by Adams et al. (1982) provided an excellent means of teaching study skills to students. These scripts could be adapted to a wide variety of reading materials. Although students initially found the rules tedious, once the study procedure was reintroduced in study skill training 2 students began to use it more comfortably and quickly. During maintenance and postcheck phases all students used the procedure easily, quickly, without complaints, and completely independent of my participation while maintaining their highest retelling percentages.

This study confirmed the efficacy of a specific study skill procedure and alternative means of measuring comprehension (i.e., retelling) that can be implemented by classroom teachers, tutors, aides, parents, and eventually by students themselves in both regular and special education classrooms. The key aspect of this particular study skill may indeed have been its heavy emphasis on rehearsal. Students first rehearsed in study rule 5 when reciting the important details, and then again in step 7, rehearsal. In addition, during intervention, I prompted the student to "repeat the details" at various points, providing yet another opportunity to respond. Retelling is also a form of rehearsal because as people retell they are cued by words or statements previously made and continually refine and add to the information being retold. It is likely then that study rules 4–7 are the essential components of the study skill procedure and that steps 1–3 may be unnecessary.

One weakness of the procedures used in this study was the time demand placed on the teacher. If a student is to master study skills so that they can be used independently, precise instruction and frequent feedback are required in the initial stages of learning. To reduce the time demand, study skills could be taught to small groups of students rather than individuals. Students could work as a group formulating questions, reciting important details, rehearsing and practicing retelling to one another with teacher direction. Douge (1983) recently completed a systematic replication of the study reported here in which she taught the modified SQ3R strategy to small groups of intermediate-aged learning disabled students. All eight students showed significant improvement in retelling scores once they had mastered the study skills.

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