RECIPROCAL TEACHING

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Rationale

DEFINITION

Reciprocal teaching refers to an instructional activity that takes place in the form of a dialogue between teachers and students regarding segments of text. The dialogue is structured by the use of four strategies: summarizing, question generating, clarifying, and predicting. The teacher and students take turns assuming the role of teacher in leading this dialogue.

PURPOSE

The purpose of reciprocal teaching is to facilitate a group effort between teacher and students as well as among students in the task of bringing meaning to the text. Each strategy was selected for the following purpose:

Summarizing provides the opportunity to identify and integrate the most important information in the text. Text can be summarized across sentences, across paragraphs, and across the passage as a whole. When the students first begin the reciprocal teaching procedure, their efforts are generally focused at the sentence and paragraph levels. As they become more proficient, they are able to integrate at the paragraph and passage levels.

Question generating reinforces the summarizing strategy and carries the learner one more step along in the comprehension activity. When students generate questions, they first identify the kind of information that is significant enough to provide the substance for a question. They then pose this information in question form and self-test to ascertain that they can indeed answer their own question. Question generating is a flexible strategy to the extent that students can be taught and encouraged to generate questions at many levels. For example, some school situations require that students master supporting detail information; others require that the students be able to infer or apply new information from text.

Clarifying is an activity that is particularly important when working with students who have a history of comprehension difficulty. These students may believe that the purpose of reading is saying the words correctly; they may not be particularly uncomfortable that the words, and in fact the passage, are not making sense. When the students are asked to clarify, their attention is called to the fact that there may be many reasons why text is difficult to understand (e.g., new vocabulary, unclear referent words, and unfamiliar and perhaps difficult concepts). They are taught to be alert to the effects of such impediments to comprehension and to take the necessary measures to restore meaning (e.g., reread, ask for help).

Predicting occurs when students hypothesize what the author will discuss next in the text. In order to do this successfully, students must activate the relevant background knowledge that they already possess regarding the topic. The students have a purpose for reading: to confirm or disprove their hypotheses. Furthermore, the opportunity has been created for the students to link the new knowledge they will encounter in the text with the knowledge they already possess. The predicting strategy also facilitates use of text structure as students learn that headings, subheadings, and questions imbedded in the text are useful means of anticipating what might occur next.
In summary, each of these strategies was selected as a means of aiding students to construct meaning from text as well as a means of monitoring their reading to ensure that they are in fact understanding what they read.

**RESEARCH BASE**

For the past five years, Palincsar and Brown (1985a) have conducted a series of studies to determine the effectiveness of reciprocal teaching. The initial studies were conducted by adult tutors working with middle school students in pairs and by Chapter I teachers working with their small reading groups averaging five in number. The students were identified to be fairly adequate decoders but very poor comprehenders, typically performing at least two years below grade level on standardized measures of comprehension. Instruction took place over a period of 20 consecutive school days. The effectiveness was evaluated by having the students read passages about 450 to 500 words in length and answer 10 comprehension questions from recall. The students completed five of these passages before reciprocal teaching instruction began and one during each day of instruction. Performance on these assessment passages indicated that all but one of the experimental students achieved criterion performance, which we identified as 70 percent accuracy for four out of five consecutive days.

These results were in contrast to the group of control students, none of whom achieved criterion performance. In addition, qualitative changes were observed in the dialogue that occurred daily. For example, the experimental students functioned more independently of the teachers and improved the quality of their summaries over time. In addition, students’ ability to write summaries, predict the kinds of questions teachers and tests ask, and detect incongruities in text improved. Finally, these improvements were reflected in the regular classroom as the experimental students’ percentile rankings went from 20 to 50 and above on tests administered in social studies and science classes.

When the same instructional procedure was implemented in larger classes with groups ranging in size from 8 to 18, 71 percent of the students achieved criterion performance as opposed to 19 percent of the control students who were involved in individualized skill instruction. Furthermore, teachers observed fewer behavior problems in their reciprocal teaching groups than in their control groups.

**Procedures**

**INTRODUCTION TO THE STUDENTS**

When reciprocal teaching is first introduced to the students, it is with some discussion regarding the many reasons why text may be difficult to understand, why it is important to have a strategic approach to reading and studying, and how the reciprocal teaching procedure will help the students understand and monitor their understanding as they read.

The students are then given an overall description of the procedure, emphasizing that it takes the form of a dialogue or discussion about the text and that everyone takes a turn assuming the role of teacher in this discussion. The students are introduced to the four strategies with the explanation that they will use these strategies to help them lead the discussion. To illustrate, the person who is assuming the role of teacher will first ask a question that he or she thinks covers important information that has been read. The other members of the group answer that question and suggest others they may have thought of. The “teacher” then summarizes the information read, points out anything that may have been unclear, leads the group in clarifying, and, finally, predicts the upcoming content.

To ensure a minimal level of competency with the four strategies, the students receive practice with each of the strategies. For example, the students summarize their favorite movie or television show. They then identify main idea information in brief and simple sentences and graduate to more complex paragraphs that contain redundant and trivial information. Each strategy receives one day of introduction.
THE DIALOGUE

After the students have been introduced to each of the strategies, the dialogue begins. For the initial days of instruction, the adult teacher is principally responsible for initiating and sustaining the dialogue. This provides the opportunity for the teacher to provide further instruction and to model the use of the strategies in reading for meaning. The adult teacher may wish to call upon more capable students who will serve as additional models, but it is important that every student participate at some level. For some students, this participation may be such that they are noting one fact that they acquired in their reading. This is a beginning, and over time the teacher, through modeling and instruction, can guide these students toward a more complete summary.

As students acquire more practice with the dialogue, the teacher consciously tries to impart responsibility for the dialogue to the students while he or she becomes a coach, providing the students with evaluative information regarding the job they are doing and prompting more and higher levels of participation.
EXAMPLE OF RECIPROCAL TEACHING

The following bit of transcript taken from a reciprocal teaching lesson is provided to illustrate the reciprocal teaching procedure:

<table>
<thead>
<tr>
<th>Student 1:</th>
<th>My question is, what does the aquanaut need when he goes under water?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 2:</td>
<td>A watch.</td>
</tr>
<tr>
<td>Student 3:</td>
<td>Flippers.</td>
</tr>
<tr>
<td>Student 4:</td>
<td>A belt.</td>
</tr>
<tr>
<td>Student 1:</td>
<td>Those are all good answers.</td>
</tr>
<tr>
<td>Teacher:</td>
<td>Nice job! I have a question too. Why does the aquanaut wear a belt? What is so special about it?</td>
</tr>
<tr>
<td>Student 3:</td>
<td>It's a heavy belt and keeps him from floating up to the top again.</td>
</tr>
<tr>
<td>Teacher:</td>
<td>Good for you.</td>
</tr>
<tr>
<td>Student 1:</td>
<td>For my summary now... This paragraph was about what the aquanauts need to take when they go under the water.</td>
</tr>
<tr>
<td>Student 5:</td>
<td>And also about why they need those things.</td>
</tr>
<tr>
<td>Student 3:</td>
<td>I think we need to clarify &quot;gear.&quot;</td>
</tr>
<tr>
<td>Student 6:</td>
<td>That's the special things they need.</td>
</tr>
<tr>
<td>Teacher:</td>
<td>Another word for gear in this story might be equipment, the equipment that makes it easier for the aquanauts to do their job.</td>
</tr>
<tr>
<td>Student 1:</td>
<td>I don't think I have a prediction to make.</td>
</tr>
<tr>
<td>Teacher:</td>
<td>Well, in the story they tell us that there are &quot;many strange and wonderful creatures&quot; that the aquanauts see as they do their work. My prediction is that they will describe some of these creatures. What are some of the strange creatures that you already know about that live in the ocean?</td>
</tr>
<tr>
<td>Student 6:</td>
<td>Octopuses.</td>
</tr>
<tr>
<td>Student 3:</td>
<td>Whales!</td>
</tr>
<tr>
<td>Student 5:</td>
<td>Sharks!</td>
</tr>
<tr>
<td>Teacher:</td>
<td>Let's listen and find out. Who will be our teacher?</td>
</tr>
</tbody>
</table>
Modifications

The following modifications of reciprocal teaching have been successfully implemented:

PEER TUTORING

As an alternative to whole-group instruction, we investigated the use of peer tutoring to conduct small-group reciprocal teaching. Seventh grade teachers taught four of their best students (who were averaging 75 percent on the daily assessment prior to instruction) the reciprocal teaching procedure. After ten days of instruction, the tutors were assigned two tutees who were achieving a mean of 49 percent on the assessments before instruction. After 20 days of instruction, the tutees were achieving 78 percent accuracy while the tutors were achieving 87 percent accuracy with the comprehension measures. The teachers in each of these classrooms closely monitored the performance of the tutors, dividing their time among the peer groups each day, providing the tutors evaluative information, suggesting how they might improve their instruction, and assisting when students were experiencing particular difficulty.

RECIPROCAL TEACHING IN THE CONTENT AREAS

Our interest in teaching students how to learn from text across the curriculum motivated the following study. Reciprocal teaching was implemented, again for a 20-day period, with the following modifications. The materials with which the students worked were science texts that were not currently being used in the school but were available to all students. Each day the students were assigned segments of text to read. Given the heading of each segment, the students were to write two statements indicating what they thought they would learn in this portion of text. In a discussion, the teacher elicited from the group and compared the predictions they had made. The students then read one segment that was generally four paragraphs in length. They wrote two questions and a summary reflecting the information in the segment. Finally, they noted in writing any information that required clarification. The class then discussed their questions, summaries, and clarifications. To better approximate the way in which students are tested in school, we assessed these students by giving them weekly science tests that covered the material they had worked on during the week. When we had pretested the students on their comprehension and recall of science text, they averaged 36 percent accuracy; by the fourth week, the students were generally scoring 20 percent higher on these weekly tests.

RECIPROCAL TEACHING WITH NONREADERS

Our interest in how students who are not yet decoding might engage in comprehension activities leads us to the studies we are currently conducting. First grade teachers are working with groups of six students. In each group there are two students who are of above-average ability and four students who are experiencing academic difficulty. The reciprocal teaching procedure is being implemented in the same manner except that the teachers read the text aloud. Our work to date suggests that this is a very reasonable form of instruction. The 1st grade students become involved very willingly in the dialogue, and the more capable students serve as valuable catalysts in the discussion. In addition, the assessments, which are being conducted orally as well, indicate that the students' ability to learn from text has improved. Finally, and very importantly, the teachers report that the students in their listening comprehension instruction groups are spontaneously engaging in the strategies while in their reading groups.

Evaluation

Progress with reciprocal teaching can be evaluated in numerous ways. A very direct measure is to tape record the dialogues that occur on each day of instruction. The tapes can then be used for
two purposes: First, the teacher can listen and evaluate the group's progress, determining if and how he or she might alter the activity to promote better dialogue. Second, the teacher can play the tapes for students, comparing, for example, the first with the fifth day of instruction. In this manner, the students can engage in self-evaluation.

To assess the acquisition of the strategies, students can write summaries. They can also develop their own test items as a means of assessing question generating.

Finally, the effects on comprehension can also be assessed with the use of frequent comprehension checks on materials independent of the training passage. For example, following the half-hour of instruction time, the students can read a passage 400 words in length and answer 10 comprehension questions of a literal and inferential nature. Their performance can be graphed on a chart and shared daily with the students.

References


