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ASSESSING AND EXTENDING COMPREHENSION: MONITORING STRATEGIES IN THE CLASSROOM

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Comprehension monitoring research has shown that younger-aged subjects and poor readers at all grade levels do not monitor their comprehension while reading text (Garner, 1981; Garner & Reis, 1981; Hare, 1981; Owings, Peterson, Bransford, Morris & Stein, 1980; Paris & Myers, 1981). Students do not know how to effectively summarize text, they do not know the difference between reader-based and text-based questions, and they often rate positive reading strategies as not being helpful. Researchers are now training subjects who are labeled as poor comprehenders or weak comprehension monitors to use effective text monitoring strategies. The results of these training studies are encouraging and hold great promise for the classroom teacher who is interested in helping students to better comprehend and remember text. As to the feasibility of incorporating monitoring instruction into the classroom curriculum, Pearson (1982) states "the systematic application of direct instructional approaches in the area of comprehension instruction has led to superior comprehension..." (p. 10).

Three comprehension monitoring strategies that seem viable for classroom instruction and application are: (1) summarization of text, (2) self-initiated questioning, and (3) differentiation of reader-based and text-based questions. Research supporting the instructional validity of each of these strategies will be discussed.

Brown, Campione and Day (1981) identified six basic rules essential to summarization. The six rules are (1) deleting unnecessary or trivial material, (2) deleting material that is important but redundant, (3) substituting a superordinate term for a list of items, (4) substituting a superordinate term for components of an action, (5) selecting a topic sentence, and (6) inventing a topic sentence when none is provided.

Day (1980) explored whether junior college aged subjects could be trained to use summarization rules. Subjects were divided into two groups: (1) average students with no reading or writing problems and (2) remedial students with normal reading ability but diagnosed as poor writers. Four instructional conditions were used which varied on a continuum from less explicit to most expli-

cit. The major difference among the conditions was the amount of modeling done by the researcher. Results of Day's study indicated that the more mature students derive greater benefit from training and need less explicit instruction. The remedial students only fared well in the most explicit treatment conditions.

McNeil and Donant (1982) randomly assigned 23 fifth-grade pupils to one of three groups: (1) a summary rule training group, (2) a summary writing group, and (3) a non-instructional control group. Students in the rule training group were trained to use the six summary rules. The trained group out-performed the two control groups in writing post-test summaries.

A second monitoring strategy that appears to help students better remember and understand text relates to the training of students to ask themselves questions while reading text. Brown (1981) states "...by teaching students to generate self-questions we teach students metacognitive processes, such as (a) setting purposes for study, (b) identifying and underlining important segments of material, and (c) thinking of possible answers to questions. The self-questioning strategy leads the student to an active monitoring of the learning activity and to the engagement of strategic action" (p. 38).

Andre and Anderson (1978-9) trained high-school students to generate self-questions about important points while reading narrative prose. The self-questioning procedure was modeled by the researchers. Results of this study showed that generating self-questions facilitated better learning than did rereading or making up questions without regard to important points.

Using schema theory as a framework, Singer and Donlan (1982) taught eleventh-grade students to generate self-questions by teaching that many short stories contain a problem-solving type of schema. In conjunction with this problem-solving schema, students were taught to generate schema-general and story-specific questions. This study indicated that trained subjects asked themselves more questions about important information than did control subjects.

Garner and Kraus (1981-2) suggest that poor comprehenders are not aware that not all information that is read can be stored in one's memory. Students need to be taught corrective strategies that could be used when their comprehension begins to falter.

Sixth and seventh grade students were taught to use a lookback strategy by Garner (1982). They were taught that if text-based questions required multiple pieces of information, they should refer to text for answers. Students were also taught that the answering of reader-based questions required the integration of information that was read with one's prior-knowledge information. Garner found that with training, good comprehenders at both levels were more likely to use text lookbacks effectively. She also found that training and practice improved performance for all groups and this improved performance maintained over time.

Raphael and Pearson (1982) trained fourth, sixth, and eighth grade average readers in the use of three question types and their implied question-answer relationships. The three question-answer

relationships were: (1) text explicit (information used to create the question and to form the appropriate response is located within a single sentence in the text), (2) text implicit (information used to create the question and to form the response was found in the text but answers integrated information across sentences, paragraphs and pages), and (3) script implicit (based on information in the passage but required readers to search their own knowledge base for answers). Results of this extensive study demonstrated that trained subjects did better on the question-answer relationships than did their control peers.

Most of these studies incorporated three essential learning ingredients in their training methodology. These three ingredients were (1) modeling, (2) practice, and (3) feedback. If we as teachers also incorporate these ingredients in their monitoring lessons, students can be trained to successfully monitor their reading and comprehension of text.

Before a teacher does any monitoring instruction in his/her classroom, s/he may want to determine whether his/her students do or do not monitor their comprehension. An easy way to obtain this information is by administering a comprehension monitoring questionnaire. Paris and Myers (1981) gave a reading strategy questionnaire to fourth-grade good and poor comprehenders. The questionnaire consisted on 25 reading strategies: 10 positive reading strategies, 10 negative reading strategies and five neutral reading strategies. Students individually rated each of the strategies according to a nine-point scale. Questionnaire results indicated that poor readers were less aware of detrimental influences of negative factors on comprehension than good readers, while their ratings of positive and neutral factors were equal. Readers who were low in comprehension also showed more reversals of ratings—they rated negative strategies as positive and vice versa.

As part of a dissertation study (Hahn, 1983), a modified form of the Paris and Myers questionnaire was used in order to identify "weak" comprehension monitors. One hundred and nine sixth-graders were given the questionnaire, which consisted of five positive and five negative reading strategies. Each statement was read aloud to a total sixth-grade class. Students rated each statement on a four-point scale. The rating scale was explained to the students as follows: if a strategy is used all of the time, mark it always; if used most of the time, mark it almost always; if used only now and then, mark it almost never; and if never used, mark it never.

Table 1 - Questionnaire

Does it help to understand a story if you...

1. Think about something else while you are reading?
 always almost always almost never never
2. Write it down in your own words?
 always almost always almost never never
3. Underline important parts of the story?
 always almost always almost never never

4. Ask yourself questions about the ideas in the story?
 _____ always _____ almost always _____ almost never _____ never
5. Write down every single word in the story?
 _____ always _____ almost always _____ almost never _____ never
6. Check through the story to see if you remember all of it?
 _____ always _____ almost always _____ almost never _____ never
7. Skip the parts you don't understand in the story?
 _____ always _____ almost always _____ almost never _____ never
8. Read the story as fast as you can?
 _____ always _____ almost always _____ almost never _____ never
9. Say every word over and over?
 _____ always _____ almost always _____ almost never _____ never
10. Ask questions about parts of the story that you don't understand?
 _____ always _____ almost always _____ almost never _____ never

Positive strategies (Questions 2, 3, 4, 6 and 10) were scored as follows: +2 for always; +1 for almost always; -1 for almost never; -2 for never. Negative strategies (Questions 1, 5, 7, 8 and 9) were scored just the reverse of the positive strategy scoring. Each student's monitoring score was determined by first adding the plus scores and then adding the negative scores. The difference between these two sums was then calculated. Scores may range from a +20 to a -20. In the dissertation study, students who received a score below the mean ($\bar{X} = 3.4$) were labeled as "weak" monitors. Although this group of students was heterogeneous in reading ability, Paris and Myers' (1981) findings were replicated. Many of the students labeled as "weak" monitors rated positive strategies as not being very helpful. These two pieces of research evidence suggest that the questionnaire could be of assistance to the classroom teacher in identifying subjects who could benefit from monitoring training.

Such a modified questionnaire could be a helpful monitoring assessment instrument for classroom teachers in grades four through twelve. Teachers could give the questionnaire to their entire class in a matter of 15 to 20 minutes. In assessing each student's monitoring attitude, teachers may want to analyze only the positive strategy statements. Students who rate these positive strategies as not being very helpful may benefit from some monitoring training in those strategies. Teachers could also tally the total questionnaire. Students who receive a low positive score (-4 or below) or a negative score would be candidates for monitoring training.

Table 2

Positive Strategies	<u>Strong Monitors</u>		<u>Weak Monitors</u>	
	Helps	Doesn't Help	Helps	Doesn't Help
Q 2	60% (18)	40% (12)	16% (5)	84% (25)
Q 3	36% (11)	64% (19)	6% (2)	94% (28)
Q 4	66% (20)	34% (10)	13% (4)	87% (26)
Q 6	80% (24)	20% (6)	16% (5)	84% (25)
Q 10	100% (30)	0% (0)	10% (3)	90% (27)
Negative Strategies				
Q 1	6% (2)	94% (28)	40% (12)	60% (18)
Q 5	3% (1)	97% (29)	20% (6)	80% (24)
Q 7	3% (1)	97% (29)	43% (13)	57% (17)
Q 8	0% (0)	100% (30)	40% (12)	60% (18)
Q 9	16% (5)	84% (25)	26% (8)	74% (22)

N - 60

Training Students to Use Strategic Behavior

When training students to use monitoring strategies, expository text should be used for two reasons: (1) expository text is more difficult to read because of informational density and difficult vocabulary and (2) it becomes very important to school learning after the primary grades. Let me now suggest two monitoring strategies that could be taught to students. Teachers are often frustrated when they ask students to summarize what they have read. In many instances, students copy verbatim the text they have read. Such students are good candidates for effective summarizing instruction. Before summarizing instruction is begun, the teacher should go through the expository text to be used and s/he should identify the important pieces of information in that passage. It is often helpful to do this task with another teacher. If both teachers identify the same pieces of information, one can assume that the most important pieces of information have been selected. If there are any major discrepancies, both teachers will need to discuss their choices and come to an agreement. Once this step is accomplished and appropriate information has been selected, teachers can begin their summarization instruction.

Begin the instruction by having students read a short expository passage (about 200 words). Following the reading of the passage, have the students write down what they consider to be the important points from the story. After this is completed, have the students draw a line under their important points and proceed by summarizing the important information in as few words as possible. When this activity is completed, have each student

conduct an "efficiency rating," (an idea that originated in the research literature—Garner, 1982).

An "efficiency rating" is obtained by dividing the number of important points each student wrote down by the number of words in the written summary. For example, suppose students were given a passage that contained eight important pieces of information. Student X wrote down five important points and his/her summary contained 30 words. Student X's efficiency rating would be $5/30$ or .16. An efficiency rating of .16 is considered very weak, and ratings of .26 or more are considered good.

Students should then be told why their efficiency ratings are weak. They should be made aware that it is important to identify all the important information in the story and to summarize this information in as few words as possible. With practice and teacher feedback, students can be taught to more efficient in summarizing.

Another monitoring strategy that could be taught to students is asking self-questions about the main idea in a story (Andre & Anderson, 1978-79; Hahn, 1983). Using expository text, teachers should model this process for the students. The process involves locating the main ideas in a passage and asking one's self questions concerning those main ideas. The teacher demonstrates the way this questioning encourages the identification of supportive information for the main idea. The first couple of times that the students use this process, they should be encouraged to write their self-questions down on paper. This will allow teachers to help students evaluate whether or not their questions are indeed main idea questions. Once students have mastered the skill of locating the main idea and asking a self-question about it, they need no longer be required to write their questions on the paper. Teaching students to ask themselves questions about the main ideas in stories demonstrates for students the purpose of superordinate and subordinate information in text. Answering their main idea questions gets students to mentally rehearse important information. As a result, student retention of relevant information should increase.

One final suggestion would be to discuss with the students why the negative strategies (Ques. 1, 5, 7, 8, & 9) are not helpful for effectively studying and remembering text. To make a point, teachers might encourage students to read a passage as fast as they can. Following this rapid reading, they should be asked to retell everything they remember. The retellings usually contain minimal information. Students could then discuss why this strategy is not good. Only by making students aware of the effects in this manner can we convince them that such strategies are futile.

Thus, through assessing students' monitoring attitudes, teaching students to use effective monitoring strategies, and discussing why negative strategies hinder their comprehension processes, teachers can help students not only become aware of effective learning strategies but actually begin to use them. The end results of this monitoring instruction should be improved comprehension of text!

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