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ABSTRACT

Questioning as an after-reading activity is not sufficient alone as a strategy to develop reading comprehension. This paper presents instructional strategies to support comprehension throughout a student's particular reading encounter. Included are four strategies which involve students: (1) have students specify content expectancies in a variety of forms and then read with a focus on the expected and unexpected; (2) direct students in writing experiences to help them become more than just familiar with material organization and author style; (3) discuss and provide activities for self-monitoring for those experiencing extreme difficulty in comprehension; and (4) stimulate concept development and thinking processes prior to reading particular material. (MB)

DEVELOPING COMPREHENSION OF CONTENT MATERIAL THROUGH STRATEGIES OTHER THAN QUESTIONING

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DEVELOPING COMPREHENSION OF CONTENT MATERIAL THROUGH STRATEGIES OTHER THAN QUESTIONING

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Most teachers when asked what they are doing to develop their students' comprehension abilities say that after reading they ask questions on a variety of levels. Undoubtedly, the work of Sanders (1966), Barrett (1972), and others who have based their work on Bloom's Taxonomy (1956) has made an impact on instruction. Quite obvious, too, are some of the advantages of asking questions in a content reading lesson.

Questioning, widely used after students have read particular material, serves to 1) generate and maintain discussion, 2) allow students to evaluate their own comprehension as the teacher provides feedback to their responses, 3) provide the teacher with diagnostic information about students' comprehension skills, and 4) provide students practice with particular thinking skills as they are encouraged to think about material in ways other than those they would have used had there been no teacher intervention.

Questioning is also used prior to reading and has value when used to generate reading purposes. Questions, especially those that are student-derived (Stauffer, 1969), serve to focus attention and prevent mindless, nondirected reading.

The value of questioning, however, may be overestimated. As an instructional strategy, it has some significant disadvantages. First, after-reading questions have yet to be proven as effective means to teach anyone how to comprehend with increased efficiency. They may not, in fact, teach a student anything, except whether he did or did not come up with the answer expected by the teacher.

Questioning becomes a perfect example of what Herber (1970) calls "assumptive teaching"--an activity purportedly designed to teach but which requires students to already know it if they are to be successful. In effect, questioning may be more a testing than a teaching procedure. As with all testing procedures it is perceived as threatening by some students and inevitably causes some to experience failure.

Second, before-type questions can be very irrelevant if teacher-constructed and can be very restrictive if narrowly conceived. Some students so ardently search for a narrow piece of information that they miss the significant larger context.

Third, questioning, when mistakenly viewed as a complete strategy for comprehension development, prevents teachers from helping their students in a variety of other ways that may be even more beneficial.

What other strategies can teachers use to develop comprehension? The answer depends on one's belief about what comprehension is. I subscribe to the theory that the efficient comprehender uses a wealth of previous information to establish expectations about the reading material and reads selectively to see if his predicitions are or are not confirmed (Smith, 1971). He looks for ideas significant in light of his purpose, weights them (Thorndike, 1917), senses the relationship among ideas, and organizes them into his own cogntive scheme. Reading is a process of sensing the structure of ideas in material and meshing those ideas with the understandings the reader has accumulated and organized over time.

The reader's prior knowledge, to which Goodman (1970) refers with the phrase "information behind the eye," is currently being recognized as extremely important in reading comprehension. Structured prior knowledge directs the reading process and has the potential of being most affected by the act of reading. When the information in print meshes with the reader's expectations derived from his cognitive network, the network is unaltered. When the information is at variance, resolution is often achieved through accommodation or change of the network. The point is that the reader whose prior knowledge is extensive and well structured and who uses that information to develop on-target expectations for his reading, will experience relatively obstacle-free reading. The situation of greatest reading ease is when the information the reader processes is that which he already knows.

The one dominant instructional implication is that what teachers do to help students prepare for reading may be vastly more important than what they do after reading. Questions asked after reading, because they occur after the fact, can have no direct effect on the actual reading comprehension process.

It's not that teachers have done nothing in the way of preparing students for reading. Over the years the introduction of new vocabulary and the establishment of an experiential background have been continually undertaken. The point is, however, that perhaps not enough is being done. The following four procedures are suggestive of what teachers can do to help their students read content material with more "behind the eye."

Developing an Expectation Scheme

As a first step, allow students as a result of their survey of particular reading material to generate statements of the ideas, concepts, and pieces of information they expect to find presented. One strategy is to have students write each expectation on a separate card. The cards can then be arranged on the chalkboard in list, outline, or hierachical fashion. Found in figure one is a simple scheme developed by a group of sixth-grade students who identified the information they expected to find in a section of their social studies text dealing with the social order of Europe during the Dark Ages.

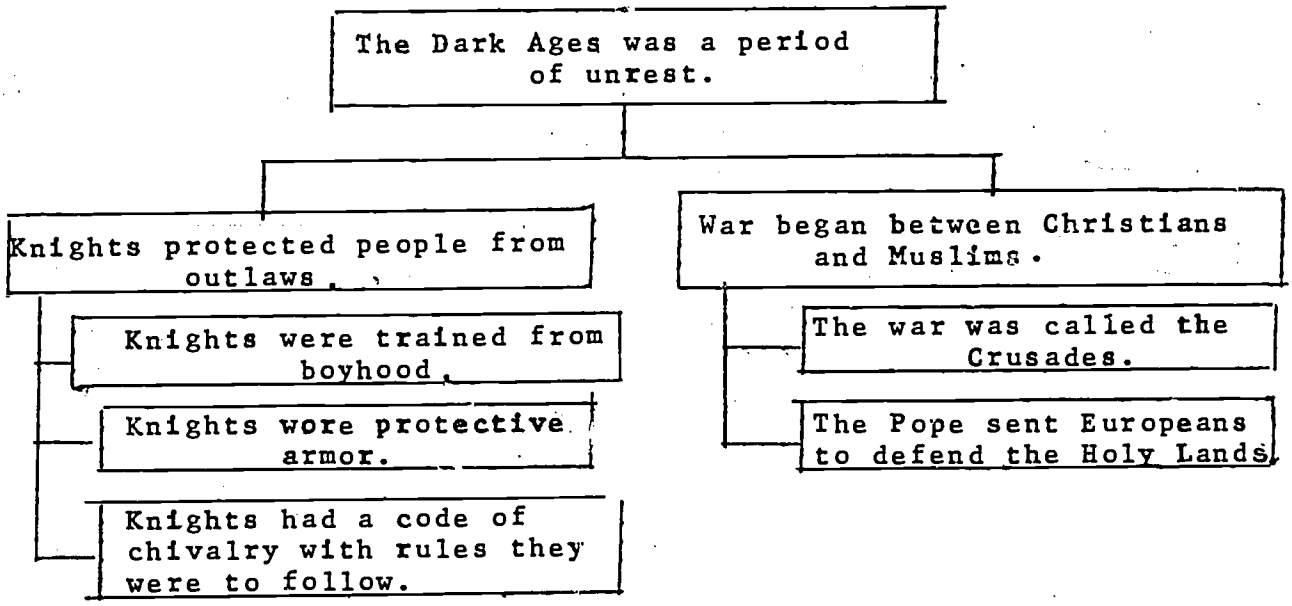

Figure 1. An expectation scheme developed by sixth-grade students for a section in their social studies text.

The schematic arrangement looks like a structured overview (Catterson, 1974; Hansell, 1976; Manzo, 1975) except that it involves statements rather than key vocabulary and is developed by

students rather than the teacher. It has many advantages for students including 1) getting in touch with their own cognitive structure and therefore being more likely to let it direct their reading, 2) expanding their prior knowledge base by listening to the expectations generated by other students in the group, 3) recognizing that particular material may have several major ideas rather than a single main idea, and 4) learning how to distinguish superordinate ideas from subordinate ones and how they may be arranged in logical fashion.

Once the expectations are organized students read the material with the following questions in mind: Is the author telling me what I expected? What is the author saying that I didn't expect? After reading, the discussion revolves around the information encountered that was both expected and unexpected, whether the unexpected was variant information or was inserted or omitted information, whether students found their network having to change during the course of reading, and how still unresolved ideas should be handled. Significant information that was omitted from the original scheme can be added as a result of this follow-up discussion. Hence, students see their informational base expanded and possibly modified as a result of reading.

Many variations of the above activity are possible. Instead of schemes generated by a group, individual ones can be made. During scheme construction, discussion can revolve around the specific types of relationships among the expected ideas, for example, cause and effect, comparison, and description. Diagnostically, student-generated expectations can signal to the teacher

when more preparation is required before students actually read. A meager set of expectations may be an indication that the group does not have a substantial experiential background for the reading to be successful.

Experiencing the Structure of Discourse

Some students, even though their own prior knowledge is structured, have no idea that most writers try to present their ideas in structured form to make meaning gathering easier for the reader. The students may profit from experiencing and manipulating the structure of discourse by becoming writers themselves. Reading and writing are reciprocal and mutually reinforcing processes because both involve the structuring of meaning (Elkind, 1976, p. 338).

Writing experiences may begin simply with awareness of how idea relationships are achieved in sentences. After students are exposed to some models, they can construct their own sentences that involve such relationships as: description, comparison/contrast, cause and effect, time sequence, spatial sequence, and problem-solution. For those students who have difficulty with the very thinking processes involved in the above idea relationships, the procedures of Kachuck and Marcus (1976) which provide practice first with concrete objects, pictures, and then written language can be helpful.

Gradually, students can begin to structure the same idea relationships in paragraph form. Awareness develops of the role of the topic sentence and its various placements within a paragraph as well as the selection of relevant, supportive details to flesh out the topic sentence. The use of definitions and examples to

clarify ideas becomes important. Paragraph structuring quickly leads to the structuring of longer passages. Students learn to arrange many paragraphs, use transition words, use headings and subheadings, and provide introductory and summary statements.

The point of providing students with opportunities to structure ideas through the writing process is that students get a very firm notion of what idea structuring really is when they actually have to do it. After having writing experiences they are more likely to be more successful at structuring while reading--which means uncovering the author's structure or in the case of extreme author disorganization, mentally generating their own and making it work for them as they search for the expected and unexpected.

Becoming a Self-Monitoring Reader

The majority of students beyond grade three have internalized the notion that reading should make sense; they expect to gather and react to meaning. If they do not derive meaning or their meaning-gathering process is disrupted, they automatically reprocess the material and self-correct meaning-disrupting miscues (Goodman, 1969). Poor comprehenders, on the other hand, often have a mind set almost entirely for word identification (Golinkoff, 1975-1976). They often do not get meaning from their reading and seem to be unaffected by having to wade through what appears to be nonsense. It is to this last group that the following teacher strategies are directed.

The teacher's task of helping a student focus on meaning is a very subtle one. Telling a student once is not enough. Through-

out all reading experiences the message the students should get is that they are expected to concentrate on ideas and meaning.

First, all material the student is expected to read should be something for which he has the necessary conceptual background. If he does not have the background, the following section on concept development may be useful. The material should be relatively short because a student not used to focusing on meaning is likely to be overwhelmed if he is to maintain that focus for a long period.

Second, help students develop purposes for reading. These purposes can be the expected-unexpected type discussed in an earlier section. Pre-reading purposes serve as important foci for discussion after reading.

Third, encourage students to stop when they've gotten off the meaning track and go back to retrieve the meaning. This self-monitoring process can probably be best exemplified to a student when in an oral reading situation what he is reading is tantamount to nonsense. At that point teachers in a supportive way should ask the student whether what he just read makes sense to him. Strategies of back-reading or reading a little bit ahead to pick up additional language clues should be explained.

Fourth, when a student gets stuck on a particular word, encourage consideration of what word would make sense in the context rather than immediately and rather mechanically proclaiming "sound it out."

Fifth, from time to time provide students with cloze activities prepared from content material. As students attempt to fill in the blanks they must rely on syntactic and semantic clues provided

in the rest of the passage. Bortnick and Lopardo (1973) and Lopardo (1975) provide a variety of ways to use cloze.

Finally, be careful that activities to follow-up reading substantially involve dealing with the meaning of the material. After reading an account of the administration of Franklin Delano Roosevelt, for example, an activity far better than copying statements from the book to answer literal questions would be to compare this one account with those of other historians.

More details of how to help students become efficient at self-monitoring their reading process can be found in Ribovich (in press).

Developing Concepts and Thinking Processes

Some poor comprehenders of content material do not have as their most significant problem an inappropriate mental focus while reading nor an inability to follow the structure of written information. Rather, they are poor thinkers and/or have poorly developed concepts. Their problem involves the earlier stated problem of setting up expectations but is much more involved. They do not have an organized cognitive structure that will functionally provide them with expectations and predictions. They require preparation that is much more extensive than that described in the first section.

Ahead of time the material should be analyzed by the teacher for the thinking processes the material requires, for example, sequencing, summarizing, comparing, evaluating. Extensive practice with thinking activities as suggested by Raths, Jonas,

Rothstein, & Wassermann (1967) or those involving first concrete objects, pictoral forms, and then language forms as suggested by Kachuck & Marcus (1976) are helpful. Poorly developed thinking processes will taken considerable time to overcome. In the cases where the problem is very extensive, the particular material may be too difficult and perhaps better eliminated or substituted with more suitable material.

Material should also be analyzed for concepts that may be unfamiliar to the reader. A useful strategy for developing concepts is to lead students to discover significant attributes of a concept through examination of examples and non-examples (DeCecco, 1968). For example, the teacher whose students are studying about the American Civil War may want to develop the concept of infantry as distinct from cavalry and artillery. The criterial attributes of infantry include soldiers "walking" and "carrying their own weapons." The teacher may select various pictures or oral descriptions of infantry, artillery, cavalry and mention which are examples and non-examples of "infantry." Students are then guided by the teacher to discover the important distinguishing features of the infantry example. More able students may actually state their concept. For added practive and an opportunity to self-evaluate their learning, students should be given a set of items from which they pick out the examples from the non-examples of a concept.

The above concept of infantry represented a conjunctive concept because it had only one set of characteristics. Martorella (1976) provides an excellent description of the various types of

concepts including disjunctive and relational ones. He also provides a variety of instructional sequences to follow in teaching each concept type.

Summary

Questioning as an after-reading activity is not sufficient alone as a strategy to develop reading comprehension. Perhaps more crucial in determining whether students will be successful or unsuccessful in comprehension is what happens as preparation before reading. Four instructional strategies were suggested which involve students 1) specifying content expectations in a variety of forms and then reading with a focus on the expected and unexpected, and 2) becoming attune to the structure of ideas in material through writing experiences. Those students experiencing significant problems in comprehension may be helped by 3) being encouraged to focus on making sense of their reading through self-monitoring, and 4) having extensive experiences with concept development and thinking processes prior to reading particular material.

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