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[Improving Instruction in Reading Comprehension Utilizing Basal Readers]

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INTRODUCTION

Improving instruction in reading comprehension, a long-range goal for this project, was influenced by the belief that reading is comprehending the meaning of printed language: "The ability to decode words, while necessary to undertake the reading act, is not the ultimate goal of reading instruction. The ability to understand printed ideas is" (26:9).

More immediate goals were based upon evidence that (1) questions and questioning strategies influence comprehension and can aid in improving comprehension; (2) questions currently included in instructional programs are predominately of the lower cognitive level; (3) there is a need for higher cognitive level thinking and the questions which foster such thinking.

Therefore, the project to develop other than literal comprehension was intended to accomplish two goals. First, to determine if comprehension questions included within the storyreading component of a basal series were inclusive of all levels of reading comprehension, without a predominance of questions at any one comprehension level. Second, to develop additional questioning strategies, correlated with the same basal reading series, that would alleviate any imbalance

among levels of comprehension that might have occurred within the basal questioning format.

How Questions Relate to Reading Comprehension

Questioning is a frequently used teaching tool, and teachers who use questions to guide students' reading believe questioning is an effective means of helping students acquire the information and ideas in the reading materials. Spaches' (39:452-54) review of reading research lead them to the conclusion that the teacher's strategy in handling questions on the reading material directly influences the students' comprehension of the reading.

As evidence, Spache cited studies, such as Guszak's (14:97) research into questioning which was based on the belief:

> Because the oral question appeared to be the prime thinking stimulus of the classroom teacher as she worked in the reading group, the decision was made to view comprehension from the standpoint of teacher questions about reading content. Specifically, the investigation sought to answer . . . what kinds of thinking outcomes are teachers seeking to stimulate with their oral questions about reading content?

When Bloom, et al. (5) set out to systematically describe and classify thinking behaviors as objectives for education, it opened the door for other taxonomies which attempted to describe reading comprehension by dividing it into separate but interrelated behaviors. Many of these subsequent taxonomies were adaptations of Bloom's original taxonomy, thus acknowledging that the process of comprehending involves and activates the reader's thinking processes.

Being heirarchical, most of the taxonomies were built from the simpler elements to the more complex. This usually meant that literal comprehension of what is explicit in the reading material was considered to be the lowest level; among the higher levels were elements such as interpreting the implicit, and applying the ideas garnered from the reading.

Are Questions Primarily Literal?

Guszak's (14) study, which categorized teachers' questions according to a taxonomy similar to those just described, found that approximately 70 percent of teachers' questions about reading were at the literal comprehension level. Subsequent studies (11; 34) confirmed Guszak's findings.

Why are literal questions so predominant in reading programs? One popular theory lays the blame on the basal reading series and teacher guides. As one author put it: "Teachers ask questions at the same level as those found in the instructional materials prepared for their use in teaching" (37:97).

Guszak (14:107) said teaching manuals did suggest questions at various levels, therefore he felt the problem seemed to be teachers' lack of understanding of a basic structure (taxonomy) of reading-thinking skills, and that teachers did not see the relevancy of the questions.

However, Durkin felt that:

> . . . the actual process of comprehending is both unobservable and poorly understood. Both characteristics explain why so much of what teachers do to help with comprehension is concerned not with the process but with its products, that is, with what has or has not been comprehended; . . . [but] the inadequate understanding should not discourage teachers from trying to get a little closer to the process than instructional programs commonly do (8:451).

Similarly, Pearson and Kamil (32:9) defined products of reading as what readers can demonstrate they know about what they have read; and the processes of reading as the strategies readers employ as they proceed through a text.

Emphasis on literal questioning, although an important foundation for answering high level comprehension questions, would seem to put the emaphsis on comprehnsion as the product. High level comprehension questions often require open-ended answers and more attention to the processes used by the students to get answers, than to the answers themselves.

Need for Higher Cognitive Level Questions

Guszak (13) also felt that in real life reading situations, the reader's purpose is not likely to be to memorize the minute facts, rather the reader is more interested in getting broad understandings and finding out specific things commensurate with his/her interests or needs. For Guszak, it appeared that literal recall questioning could actually lead students away from basic literal understandings of story plots, events, and sequences.

Pearson and Johnson took a similar point of view that: ". . . comprehension of detail is an important aspect of comprehension if and only if detail questions are used to help students identify facts that support broader generalizations, main ideas" (31:90).

According to Bloom, the higher levels of the taxonomy were especially important because: ". . . knowledge is of little value if it cannot be utilized in new situations . . ." (5:29). Bloom considered the higher levels jointly as intellectual arts or skills, defined as: "modes of operation and generalized techniques for dealing with [materials] and problems" (5:38).

The implication seen by this writer was that higher level thinking skills could conceivably be used as strategies to improve students' comprehension as they proceed through a text.

The concerns that lead to the development of the project goals were the following:

1. The need for improvement in reading comprehension instruction may be related to the dependence of reading curriculums on basal reading series.

2. The best way to affect changes in instruction is to begin "where its at" and move outward as success increases confidence: in other words, to utilize the basal format as a medium without completely changing it--instead demonstrating effective, alternative ways for utilizing it.

3. The reading teacher's ultimate goal of producing independent readers should be more closely tied to the processes used by the student to comprehend, rather than to the products of those comprehension processes.

Purpose of the Project

The specific purposes of this project were to:

1. Analyze the instructional comprehension questions suggested by the Houghton Mifflin (9) teachers' manual for the basal reading series grades 1, 2, and 3. This included oral questions used to guide silent reading and post-story discussion questions.

2. Develop additional instructional resources to correlate with the Houghton Mifflin (9) basal reading series grades 1, 2, and 3. Specifically created were alternative questioning strategies to aid early readers in the development of a process for comprehending written passages as they are reading.

These resources will be submitted for use in the author's local school district.

Significance of the Project

It was hoped that this project would encourage teachers to take a closer look at the basal reading series they are using, and to develop their own alternative strategies for improving reading comprehension through high

level questions that encourage students to react and reason while reading.

One of the functions of the story component in a basal reading series is to allow for a transfer of the skills instruction into a real reading situation. Perhaps, by teaching students strategies or processes during the "real reading" of stories, rather than isolated skills teaching, the problem of transfer would be reduced. What seemed to be called for was a balance between the highly structured programs which isolate skills from actual reading and the laisse-faire or incidental programs which leave it up to the child to intuitively discover the strategies for comprehending.

Conceivably, these alternative instructional strategies could be used to improve reading comprehension in the content areas of science, social studies, etc.

Limitations of the Project

This project was limited to the Houghton Mifflin basal reading series, not because of any assumption that it lacked high level comprehension questions; the choice was merely a practical one since Houghton Mifflin is the adopted reading text in the writer's school district.

The analysis and development of materials was confined to the primary grades for the following reasons:

1. Research findings have recognized that children in primary grades can reason and engage in productive thinking (30:35).

2. Other sources support the necessity to continue growth in thinking while children are learning how to read for meaning (25; 42).

3. Cognitive taxonomies have been shown to be adaptable for younger as well as older students, since there can be both simple and complex questions within each category. "The differences in the questions offered at various grade levels should be in the complexity of the thinking, rather than in the kind of thinking" (36:10).

4. Research reports that: "Many of the shortcomings in comprehension that are discovered in the upper grades are caused, not by any particular difficulty in learning, but by the absence of any previous instruction to develop the missing skills" (19:502).

Definition of Terms

For the purposes of this project the following definitions were used.

Basal reading series: A set of books issued by a publisher as texts for sequential development of reading instruction, usually ranging from grades K-6.

Questioning strategies: Planned sequences of questions that relate to one another, and serve the purpose

of getting students to comprehend on higher than literal levels.

Reading comprehension skill: A process of understanding reading materials through comprehension of components which integrate into comprehension of a whole story or message.

Organization of the Remainder of the Project

The remainder of the project contains the following materials:

Chapter 2 is a Review of the Research which examines several reading comprehension taxonomies in order to determine the most appropriate for guiding the construction of specific strategies; also this chapter enlarges upon specific proposals for developing questioning strategies.

Chapter 3 explains the procedures followed in the project and presents the alternative questioning strategies that were developed.

Chapter 4 gives a summary of the project, reports the conclusions, and recommends an additional pilot study on the effectiveness in a classroom setting of the materials presented in Chapter 3.

Chapter 2

REVIEW OF THE RESEARCH

This chapter presents research about high level reading comprehension and includes: (1) a comparison of several reading comprehension taxonomies in order to determine the most appropriate for the purposes of this project; and (2) a description of the strategies that a consensus of the research has deemed are acceptable practices for guiding students in learning to comprehend written material on a higher than literal level.

Comparison of the Taxonomies

Shown in Chart 1 are five contrasting taxonomies, all of which relate in their own way to educational objectives for reading comprehension. They are:

A. Bloom's Taxonomy of Educational Objectives, Cognitive Domain (5).
   1. Knowledge: Recall of facts, ideas, and principles.
   2. Comprehension: The understanding of information and principles by either
      a. Paraphrasing,
      b. Interpretation, which involves summarizing the parts of a message into a whole unit of throught, or

Bloom (1956) Educational Objectives	Barrett (1979) Reading Comprehension Abilities	Herber (1970) Levels of Comprehension	Pearson & Johnson (1978) Relations Between Questions & Answers	Guszak (1978) PLORE Reading-thinking Skills
1. Knowledge	1. Literal recognition or recall	1. Literal question: "What did the author say?"	1. Textually explicit comprehension - Reading the lines	1. Predicting extending
2. Comprehension 2.10 Translation (paraphrasing) 2.20 Interpretation (summarizing) 2.30 Extrapolation (prediction)	2. Inference	2. Interpretive question: "What did the author mean?"	2. Textually implicit comprehension - Reading between the lines	2. Locating 3. Organizing 4. Remembering
3. Application	3. Evaluation (using judgement)	3. Applied question: "What does his message mean to me?" or "How do I use the ideas presented by the author?"	3. Scriptally implicit comprehension - Reading beyond the lines; using prior knowledge and experiences	5. Evaluating (judging, forming opinions)
4. Analysis				
5. Synthesis				
6. Evaluation	4. Appreciation (emotional responses, imagery)			

Chart 1

Taxonomies Related to Reading Comprehension

c. Inferring or predicting consequences from given information.

3. Application: Applying ideas and principles in concrete situations, as in problem-solving.
4. Analysis: Breaking down a communication into component parts. Clarification of the relationship between the parts is done with an awareness of the thought processes involved.
5. Synthesis: Combining ideas to create a unique communication; divergent thinking.
6. Evaluation: Making judgements using a specified standard or criterion.

B. Barrett's Taxonomy of Reading Comprehension (3).

1. Literal Recognition or Recall: Locating or producing from memory ideas, information, and happenings that are explicity stated in the reading materials.
2. Inference: Synthesizing literal content with personal knowledge and imagination to form convergent or divergent hypotheses.
3. Evaluation: Making judgements about the reading content by comparing it with external criteria (e.g., from an authority on the subject) or with internal criteria (from the reader's experiences or values).

4. Appreciation: Awareness of the literary techniques used by authors to stimulate emotional responses in their readers.

C. Herber's Levels of Comprehension (21).

1. Literal: Determining what the authors are saying, what information their words convey.
2. Interpretive: Determining what the authors mean by what they say by forming concepts from perceived relationships among the information given by the authors.
3. Applied: Taking prior knowledge and experience and applying it to what has just been learned from the reading, then evolving ideas or principles which encompass both but extend beyond them.

D. Pearson and Johnson's Taxonomy of Questions (or classification of the relation between a question and an answer) (31).

1. Textually explicit comprehension: Probed by factual recall questions which have obvious answers right there in the reading.
2. Textually implicit comprehension: Probed by questions which have answers in the reading, but because the answers are not so obvious they must be inferred from the reader's prior knowledge and the author's implied relationship between the facts.

3. Scriptally implicit comprehension: Probed by questions related to the reading, but with answers coming from the reader's scripts or prior experiences.

E. Guszak's PLORE, the acronym for his major skill areas in reading comprehension (16).

1. Predicting-extending: Setting expectancies about the reading, either by anticipating likely outcomes, convergent thinking; or by envisioning unexpected outcomes, divergent thinking.
2. Locating: Verifying predictions by determining if they are actually included in the reading.
3. Organizing: Translating the printed message into a different form of communication, e.g., a verbal paraphrase or summary, or a picture.
4. Remembering: Recall of certain portions of information from the reading for a certain purpose.
5. Evaluating: Making careful judgements about the plausibility of an idea by testing it for internal consistency, i.e., do all parts of the author's communication agree?; and by external evaluation which compares what has been read with outside sources of information.

Bloom's taxonomy was included because it was the forerunner . . . it established a precedent, and evidence of its general format could still be found in subsequent taxonomies, however widely the might have varied. Some

of the taxonomies, such as Bloom's, were said to be classifications of mental acts or thinking behaviors; others, like Barrett's and Guszak's, were labeled abilities or skills; and still another, that of Pearson and Johnson, was built on the concept of bridges between the new and the known which allow comprehension to occur. Guszak did not even refer to his composition as a taxonomy, he called it a system for describing reading-thinking skills, which he also referred to as reading tasks or purposes.

The problem with the taxonomies concerned the confusing array of names for what often turned out to be essentially similar categories. For example, what Barrett termed "inference" seemed very similar to what Herber has labeled "interpretive" comprehension. Or, in terms of complexity, for example, how did Bloom's category "Application" equate with Herber's "Applied" level? Obviously different implications for teaching would follow from taxonomies which differed substantially in their definitions of terms. Even the authors themselves made varying suggestions on how their taxonomies could best be applied to instruction.

Another problem was concerned with "Were the taxonomies hierarchical, i.e., sequences arranged from simple to complex?" and if so, "How rigidly has this progression been applied in the classroom?"

Following is a comparison of terms. Houghton Mifflin, the basal series chosen for this project, used a three-level taxonomy to categorize their post-story discussion questions. Given below are the three levels as defined by Houghton Mifflin, and contrasted with the other taxonomies on Chart 1.

Literal

"Questions in this category deal with information specifically stated in the selection and test students' ability to recall important details" (9:30).

Although Bloom's taxonomy never actually used the term literal in conjunction with its first category, "Knowledge," it comes close in this statement: ". . . we are defining knowledge as little more than the remembering of the idea or phenomenon in a form very close to that in which it was originally encountered" (5:28-29).

Barrett (3:62) stated his taxonomy was a synthesis of his own logical analysis of reading comprehension with the work of Bloom and others. Both the taxonomies of Barrett and Herber (21) used "literal" to refer to information as explicitly given in the reading. However, Herber did not emphasize recall, instead concentrating on the recognition aspects of his first category.

With their taxonomy, Pearson and Johnson put themselves "at odds with the conventional wisdom [which] . . .

dictates that any response that comes from the text represents literal comprehension" (31:161).

They did so by separating textually derived responses into two categories: Textually Explicit and Textually Implicit. These are distinguished by the mental processes required of the reader. Their first category was defined thusly: "Textually explict questions have obvious answers right there on the page. Some would call them factual recall questions" (31:157). Also, ". . . the relation between question and answer was explicity cued by the language of the text" (31:163).

For example, when the text said, "His fortune was short-lived," and the question asked: "What was short-lived?" the obvious answer would be: "His fortune." This answer was taken verbatim from the text through recognition of the grammatical cues tying the answer to the question.

Pearson and Johnson defined their second category: "Textually implicit questions have answers that are on the page, but the answers are not so obvious" (31:157).

For example, for a passage that read: "One young man, Will Goodland, made his fortune in the hills of Colorado. He found gold in a little river near Grand Junction"; the textually implicit question and answer would be: "How did Will make his fortune? (by discovering gold)."

About examples of this type Pearson and Johnson stated: ". . . the relation [between question and answer]

was implicit rather than explicit, hence it had to be inferred" (31:160).

A similar point of view was expressed by Herber (21:52-53) when explaining his categorization of answer/statements; some of these he termed "literally literal," which to this author appeared very similar to textually explicit responses. According to Herber, other answers required the reader to put together information from several places in the text, and even though they were only a restatement of that information without interpretation of its meaning, such an answer would be on the interpretive level to a poor reader.

Why have both Herber and Pearson and Johnson deemed it important to make the above distinctions? Herber answered:

> One of the reasons for giving you statements which could be either literal or interpretive, depending on the achievement levels of the students, is to help you become aware that such a variance does exist and can be accommodated . . . If they are poor readers, you will develop [question] statements for the literal level that are litterally literal (21:43).

According to Pearson and Johnson, it is important to point out: "The distinction between so-called higher level questions (calling for inferences) and rote recall questions (calling for specific factual information) is not always so clear as we might think" (31:193).

The implications as seen by Pearson and Johnson are for instructors to help by guiding students' growth in the ability to draw inferences between text segments.

Guszak's system differs from the others by not placing literal comprehension as the first or lowest level. Guszak's labels for literal comprehension, "Locating" and "Remembering," were seen as similar to the "Recognition" and "Recall" of Barrett's taxonomy.

Interpretive:

"Questions in this category require students to go beyond a literal understanding of the selection, to make interpretations, make inferences, or draw conclusions about what the author meant, even though it was not specifically stated" (9:30).

Interpretation was included under Bloom's second category, "Comprehension." There it was defined as: ". . . the explanation or summarization of a communication . . . [which] involves a reordering, rearrangement, or new view of the material" (5:205).

Also under "Comprehension," Bloom used inference to describe going beyond the explict or predicting from given data. "Translation" or paraphrasing was the third aspect of Bloom's "Comprehension."

Barrett defined his second category, "Inference" as a synthesis of literal content with the reader's prior knowledge in order to form convergent or divergent hypotheses. Barrett also stated: "Generally, then, inferential comprehension is elicited by purposes for

reading, and by teacher's questions which demand thinking and imagination which are stimulated by, but go beyond, the printed page" (3:64).

Herber's second level is defined as: "Information in isolated bits and pieces is of little use to readers . . . the minute readers begin to try to fit all of that information into some kind of message, they go beyond the literal to the interpretive level" (21:45).

Herber cited examples of interpretive level comprehension, which he termed either "conclusions" or "inferences." Both terms apparently referred to interpretations made during and after reading, rather than prior to reading. Herber does not mention prediction within the context of his taxonomy, preferring instead to devote a subsequent chapter to prediction and its implications for instruction. There Herber stated: "Prediction can be defined as an intellectual or emotional extension of one's knowledge and experience into the unknown" (21:181).

He also reported that prediction will establish purposes and motivation for reading, and students' comprehension will increase when teachers show them how to relate information and ideas in the reading to their own knowledge and experience.

Herber reiterates that at the interpretive level the focus is still on the relationships within the information provided by the author and not on ideas

external to that information which would involve the next level of comprehension. It would appear that, for Herber, prediction occurs at the higher applied level of comprehension; indeed, he suggested teachers initiate prediction by identifying a broad-ranging concept to which students can connect their own experiences and knowledge.

When Pearson and Johnson (31:171) compared their taxonomy with Barrett's they observed that his notion of inferential comprehension was very similar to their notion of scriptally implicit comprehension. Their term, "scripts," borrowed from computer science, refers to individuals' stored life experiences. They stated:

> Scriptal comprehension, then, occurs when a reader gives an answer that had to come from prior knowledge (it is not there in the text) to a question that is at least related to the text (that is, there would be no reason to ask the question if the text were not there) (31:162).

Examples of scriptally implicit comprehension are predicting outcomes (Pearson and Johnson prefer the term, "forward inferencing") and drawing conclusions (preferably "backward inferencing").

Guszak's first and third categories, "Predicting extending" and "Organizing" both contain the essential elements, if not the same terminology, as the preceding definitions for interpretation.

For Guszak (16:62-63) prediction is both convergent and divergent; firstly it is the ability to anticipate

likely outcome through application of one's knowledge to the reading task. Then, after mastering the skills of convergent prediction, the reader is ready for divergent prediction, or creative thinking and reading, which requires an ability to envision the unexpected.

Evaluative and Creative Thinking

"Questions in this category encourage students to use judgement and imagination in going beyond the author's explicitly stated thoughts and implied meanings. . . . These are open-ended questions to which there are no single right answers" (9:30).

Although Bloom's four remaining categories show some correspondence with the above definition, they also go considerably beyond it. Briefly, as defined by Bloom, "Application" and "Analysis" both entail problem-solving; "Synthesis" involves the students in creative thinking; and "Evaluation" requires forming judgements.

The taxonomies of Barrett and Guszak both contain categories for "Evaluation" which do not deviate to any extent from the preceding.

For Herber, "Applied" level comprehension encompassed students' prior experience and ideas gathered from the text, both of which evolved into broad principles beyond the scope of the text. Essentially a synthesizing process, it produced new ideas and as such resembled creative thinking.

"Evaluation" was not included within Pearson and Johnson's three-level taxonomy, for reasons they did not elaborate on, stating only: "In the preceding sections we have turned from comprehension to evaluation of the printed (or spoken) word" (31:147).

This would seem to imply that an evaluation task has more to do with what the reader does as a result of reading, instead of what is comprehended during the act of reading.

In summation, the preceding comparison of terms has pointed out as many similarities as differences between taxonomies. For example, at the literal level all of the taxonomies referred in some way to information as explicitly given in the text. However some emphasized recognition over remembering; others pointed out the difficulty in separating the literal from the inferential.

At the interpretive level most of the taxonomies described inference as a predicting or hypothesizing process. Guszak's taxonomy emphasized prior-prediction without referring to inferences that occur during reading. Yet, all of the taxonomies recognized the reader's prior knowledge as an important influence on either inference or prediction. Also, all taxonomies included "drawing conclusions" at this level.

The final level for Houghton Mifflin, Evaluative and Creative Thinking, resulted in the most diversity among

taxonomies. Only Bloom's taxonomy included both aspects; and three out of the five taxonomies had an Evaluation category, but only two of the five referred to creative thinking as an element (and only Herber's directly related to reading comprehension).

To reiterate, the second problem with taxonomies concerned their ranking of categories. All of the taxonomies were regarded by their authors as hierarchical. Bloom considered that levels of his taxonomy built upon preceding levels. Therefore, at least one researcher perceived the following implication: "If we have an objective of synthesis for a particular lesson, the student is going to have to be able to function at the lower levels of knowledge, comprehension, application, and analysis" (23:89).

For some educators a further implication for teaching was that beginning or poorer readers should not be expected to respond to questions above the literal level, at least until they were successful at this level (8:442).

Also, assuming the readers were not handicapped by difficulties at the literal level, the question arose: "Should a series of questions always begin at the lowest (usually the literal) level?" Some authorities said it depends on the students' reading abilities and background (8:442, 23:101). Others said it has more to do with students' individual thinking/learning modalities. For example:

"Some children think in wholes and are then able to relate the parts to the general. Others first recognize parts (details) and then combine them into larger wholes (ideas)" (29:45).

Likewise, when detailing the educational use of his taxonomy, Herber reported:

> . . . some people (both students and teachers) prefer to start with the applied level, then go to the literal and interpretive. . . . Others seem to prefer starting with the literal, going to the interpretive, then to the applied, as the levels were originally intended and used (21:61).

Support for this flexible utilization of levels came from Barrett and Pearson and Johnson, as well as Herber, all of whom recognized degrees of complexity within each level of a taxonomy, i.e., some tasks at a higher level could be simpler than certain complex tasks within a lower level on the taxonomy.

In the latest edition of his text on reading instruction, Guszak reordered the hierarchy of his reading-thinking skill structure to begin with prediction, his reason being: ". . . reading comprehension skill is so firmly grounded in the kinds of experiences children have had" (16:232). And, "Because comprehension is affected by our initial expectation it is crucial to condition readers in the various means of predicting the content of a selection in advance of detailed reading" (16:234).

As indicated in Chart 1, a single set of descriptive categories has not been universally adopted in over twenty

years of research since the arrival of Bloom's taxonomy. A possible explanation advanced by this author was the pervading influence of individual authors' concepts of the reading process on their nomenclatures and ranking of categories. Therefore it became necessary to become better informed about various reading models and how the taxonomies related to them.

Pearson and Kamil described a polarity between "top-down" versus "bottom-up" models of reading.

> Bottom-up models assume that the translation process begins with the print (in letter or word identification) and proceeds through progressively larger linguistic units, ending in meaning. . . . By contrast, top-down models assume that the translation process begins in the mind of the reader with an hypothesis or guess about the meaning of some unit or print (32:4).

Top-down models, exemplified by language-experience programs, support a naturalistic, incidental learning approach in which the teacher's role is helping children make meaningful hypotheses on their own. Bottom-up models, exemplified by programs with an early decoding emphasis, are concerned with subskills, sequencing and automaticity (i.e., mastery of word identification skills).

This polarity, then, not only concerns where the reading process should begin, but also whether the process can actually be subdivided in separate skills. However, none of the taxonomies from Chart 1 appear to fit within the extremes of this polarity.

For example, on the question of where to begin the reading process, the taxonomies seem to fall within a compromise model of reading. This was described by Pearson and Kamil (32:6) as an interactive model in which the reader begins by generating an hypothesis about meaning and simultaneously initiating decoding.

Pearson and Johnson also compromise on the question of subdividing the reading process. To quote them: ". . . reading comprehension is at once a unitary process and a set of discrete processes. . . you cannot deal with the universe of comprehension tasks at once" (31:227).

Herber took a position beyond this when he said:

> Skills are taught as they are needed, as they are required by the material being read. This is functional teaching of reading, different from the usual, direct teaching of skills which takes reading apart and teaches the various subskills, one at a time expecting the students to put them all together whenever they are required to read (21:26).

Guszak's position was perhaps the most confusing to understand, considering he included aspects from both ends of the polarity. By placing predicting before locating literal information, Guszak's taxonomy first appeared to parallel a top-down reading model. However, Guszak never acutally stated whether the concept of prediction as number one extended to the beginnings of reading and its teaching methods. The assumption, then, was that Guszak's taxonomy was more within the scope of the interactionist reading model. This compromise was supported by Guszak's further suggestions for use of his taxonomy, which reflected a

subskill approach, with both comprehension and word identification being taught through diagnostic determination of individual students' specific skill needs.

Choosing the most appropriate taxonomy for analysis and development of reading comprehension questions was guided by the following conclusions, drawn from the preceding review of taxonomies, but also supported by other researchers in reading.

1. ". . . inferential skills are at the heart of comprehension, and may be more pervasive than we think, i.e., operating even when we think only literal comprehension is being called into play" (2:233).

2. "We must constantly be aware that comprehension is based upon the experiential background the reader brings to the printed page" (39:454).

3. Prediction is a form of inference or interpretation that occurs before reading. Because it is so closely tied to students prior knowledge and experiences, prediction often goes beyond the scope of the passage to be read. However, this can be an advantage; by increasing the relevance for students and consequently their motivation for reading. As Herber said, and this writer agrees, "Relevance involves more than curriculum; it involves attitude as well," and, "Relevance relates to self" (21:188).

4. The initial ranking of categories within a taxonomy is perhaps not as important as how the concept of

comprehension levels has been applied to instruction. This writer agrees with Pearson and Johnson:

> The issue is not whether the question logically requires judgement or simple recall. The issue is: what purpose does the question serve? What is called for is some balanced sequence of higher and lower questions, all serving the function of getting students to examine an important issue (31:193).

5. Reading comprehension is inherently an interrelated process. Subskills have been identified by educators, but how these subskills interact has not been as clearly defined. This writer agrees with Spache:

> In our opinion the concept of reading as a skill development process is a very limited interpretation of what is really a very complex process. Over-acceptance of this concept is widespread and often leads to stereotyped drill with isolated reading behavior or skills (39:6).

6. Belief in an absolute polarity would be unrealistic in education. As the First Grade Reading Studies (6) indicated, combinations of approaches to teaching reading seemed to be superior to single approaches. It was Gibson and Levin who said: ". . . no single model will serve to describe the reading process, because there are as many reading processes as there are people who read, things to read, and goals to be served" (12:454).

Perhaps this statement could be adapted to read: "No single taxonomy will serve to describe reading comprehension because there are as many implications for education as there are students who read, things to read, and goals to be served."

7. This writer agrees with the following summation of a concept basic to the formulation of this project:

> The performance of skills is merely the outer manifestation of this extremely complex inner process. . . . Comprehension is essentially a cognitive process and should be taught as such. Rather than teaching pupils to practice skills in a vacuum, it is more sensible to teach them how to think while selectively applying these skills to specific comprehension tasks (18:6-7).

Generally all four of the taxonomies which related directly to reading comprehension showed some degree of consistency with the proceding points; in particular the taxonomies by Pearson and Johnson and Herber were most in agreement.

However, Herber's taxonomy was chosen because with three levels it was concise enough to remain clearly in mind, yet broad enough to provide instruction "in the full range of students cognitive activity" (21:68).

Herber cited research (22) which supported a three-level taxonomy by making the following comparisons:

Levels (as defined by Herber)	Bloom's Taxonomy
1. Literal	Knowledge
2. Interpretive	Comprehension
3. Applied	Applied, Analysis, Synthesis, and Evaluation

The implication is that the literal and interpretive levels of Herber's taxonomy coincide with the knowledge and comprehension levels of Bloom's taxonomy,

that is they demand the same reading-thinking processes. The applied level as described by Herber encompasses the four higher levels of Bloom's taxonomy, including application, analysis, synthesis, and evaluation.

Description of Specific Instructional Strategies

Hyman (24) organized teaching strategies into three main types: presenting, enabling, and exemplifying. An obvious example of presenting is the lecture, during which the teacher puts forth information. "Enabling" is characterized by discussion, brainstorming, and problem-solving. The key to the enabling strategy is questions. "Exemplifying" occurs when the teacher shows the students how to and students learn from watching a model and imitating it. According to Hyman (24), exemplifying is an effective means of concretizing abstract principles and processes.

A review of the research reveals that many of the teaching strategies for reading comprehension also fall within Hyman's three categories.

The following is a brief comparison:

1. Presenting - Similar to studies dealing with the effectiveness of providing background information prior to students' reading.

2. Enabling - Current research in reading comprehension has extensively explored questioning, specifically

in these areas: questions which set purposes or elicit student predictions about what is to be read; also, questions which stimulate discussion after reading.

3. Exemplifying - Research here is mainly represented by Herber's (21) "simulation" strategies, which he recommends as precursors to questioning strategies.

Hyman labeled his categories to reflect the activity of the teacher; similarly, many of the reading comprehension strategies are teacher-initiated. Yet the research, particularly that coming from a cognitive process view of reading, has extended into student-activated strategies. Therefore one could add a fourth category - Students as active processors. This would include areas where students have evolved into active roles as described in the three original categories.

Teachers Present Background Informantion

The area of research relates indirectly to the project goals of analyzing and designing questioning strategies. Authoritative opinion in reading instruction has long supported the importance of an adequate background of experiences for successful reading (4:494). Recently experimental studies have also found prior knowledge about a topic does correlate with better understanding and recall after reading (35; 27; 10).

However, Levin cautioned:

> . . . it is easy to make a mockery of the prior-knowledge-predicts-learning principle: simply provide students with as much background knowledge as possible, everything they ever needed to know about a given topic . . . But surely the less extreme recommendation that follows from the principle is not so ridiculous: simply provide students with as much background knowledge as is necessary to facilitate comprehension of the to-be-learned material (27:18).

What is necessary would seem to depend on the relationship of the students' abilities to the demands of the reading material. Is the material abstract, unfamiliar, and ambiguous; or concrete, familiar, and straightforward (27:21)?

From past experience with basal readers this author has assumed that a typical basal reader introduction may be brief; perhaps even a single sentence stating: "The story you will be reading is about . . . ." Such an introduction leaves it up to the teacher to determine if it is sufficient background for his/her students. Yet a teacher does not always know what all of his/her students know about all topics. Accordingly this author has suggested that a better introduction strategy for basal reader stories would be to ask the students to brainstorm about the topic in order to activate their long-term memories, e.g., "What do you know about . . . ?" Hopefully this would further the integration of students' prior knowledge with the new information in the reading materials. As Herber (21:217-18) has said, the purpose of providing

background is to provide a "frame of reference for the new ideas they (readers) will acquire" and to stimulate interest in the material to be read.

Herber also distinguished between "background information" and "review." Review has a narrower focus, it assumes readers have some previous experiences which relate to the reading materials.

Teachers Pose Purpose-Setting Questions

Being themselves goal-oriented, most reading experts agree that even beginning readers should approach reading with some purpose in mind. However, what that purpose should be and who should determine it, created more difference of opinion.

A pattern did emerge: (1) purposes set by the teacher; (2) purposes set by the students themselves; and (3) purposes set by the reading material, i.e., the successful reader adjusts his manner of reading to the type of material being read.

Writing about reading instruction in the content areas (e.g., science, social studies), Herber (21:218) established two broad areas of purpose--the ideas to be discovered and the reading process to be applied. The teacher determines the ideas important enough for the students to study and how the students must read the material to develop those ideas. Later, Herber says,

the students are guided by the teacher to determine their own purposes.

Basal reading series vary their suggested introductions for stories; but within such introductions, purpose setting questions often take the form of: "Read to find the answer to the teacher's question(s)."

Citing studies done by Frase and others, Guszak (16:230) stated: "The value of asking questions in advance of reading seems open to criticism."

Still another source used Frase's findings to report that: "Purpose plays a selective role, increasing the learning of information within the focus and decreasing learning of information outside the focus."

However, Pearson and Johnson (31:193) did not feel that previewing questions which set purposes need be abandoned, instead teachers should use care in selecting previewing questions making sure they focus students' attention on important aspects of the text.

In the same vein, it was Spache who said: "Students who can set strong purposes for their reading comprehend significantly better than those who set vague purposes" (39:450).

Teachers Pose Questions to Elicit Student Prediction

For many years Stauffer (40:437) has emphasized that: "The reader's purpose or his reason for reading

reflects his experience, his knowledge, and his motivation."

Stauffer put his theories into practice with reading instruction titled "Directed Reading-Thinking Activities" (hereafter referred to as DRTA). The students are taught to (1) make observations about the reading materials (e.g., reading the title and perhaps the first paragraph), (2) set their purposes, by predicting what the story is about, (3) then read to satisfy those purposes, (4) after reading to test their predictions for accurateness. The teacher's role is to first activate thought, asking: "What do you think?"; next to agitate thought, asking: "Why do you think so?"; and last to require evidence, "Prove it."

Stauffer (41:246) cited research supporting the DRTA over Directed Reading activities as exemplified in basic reader manuals. These studies found that teachers who followed DRTA procedures asked more interpreting and inferring kinds of questions, and as a result students made responses at higher than literal levels of thinking.

Writing from a psycholinguistic viewpoint, Smith (38) said that prediction means asking questions and comprehension means getting these questions answered. In other words, the reader asks, "Does it (the print) say what I think it says?" Smith does not think prediction needs to be taught directly, more importantly it should not be discouraged.

Guszak (16:231) emphasized that predicting is not a luxury item in a reading comprehension program, but rather a large part of the foundation. At the same time, Guszak pointed out a problem overlooked by Stauffer:

> Manuals do ask questions such as "What do you think will happen next?" Unfortunately the questions seldom elicit predictions because the children have already turned the page and found the answer, or they have heard a previous group respond to the same situation. In order to obtain real predictions, teachers must form questions that may not have any verifiable answers (16:182).

Guszak suggested therefore that teachers should ignore suggestions in manuals that elict simple observation rather than prediction.

Teachers Pose Questions to Stimulate Discussion

Discussion, a classic teaching technique, has been used to encourage students' verbal sharing of their thoughts and reactions to reading materials, as well as an opportunity for organizing and summarizing these reflections.

Questions are crucial to discussion, as Hyman stated: "Questions raise the issue, then serve to direct which subparts of the issue the teacher and students will pursue in depth" (24:151).

Some researchers (31) believe discussion can provide a model of the comprehension process, particularly for students having difficulty. These students can observe the cues and question-answering strategies that other students (and the teacher) utilize.

Discussion, therefore has value for improving reading comprehension; often a basal series will include post-story discussion questions for the primary purpose of developing students' understanding of the reading (9:30).

Guszak's research into questioning also relates this finding: "Seldom did the teachers avail themselves of opportunities to employ episodic strategies. Rather, they tended to utilize the question as a free-standing item, when they could have related one question to another" (14:108).

Taba (43) identified three major functions of questions which, as planned sequences, provided for the transition from one level of thought to another. Included were: (1) focusing on the topic to be discussed, (2) extending thought at the same comprehension level, and (3) lifting thought to a higher level.

According to C. Smith:

> The focusing question can be at either a higher or lower level, depending on the previous experiences of the learner. An example of a focusing question at a lower cognitive is "What do you see in the picture?" The focusing question may be at a higher level by changing the wording of the previous question to "What is interesting about this picture?" (37:46).

Hyman (24) also researched questioning strategies and reported on varying effects from "Peaks" and "Plateaus," two distinct sequences for asking questions. The "Peaks" strategy is to ask a series of related questions to the same student before going on to another student; perhaps

going from a simple fact question, to comparison of facts, to causes, to a conclusion.

When concerned with group participation, the "Plateaus" strategy should be used, asking a series of questions of the same type (e.g., all literal) to each student before going on to another level of questions. The Plateaus strategy can also emphasize to students how generalizations and conclusions need to be based on a cluster of facts, or comparisons.

Just as important as the sequencing of a questioning strategy is the teacher's decision about what to ask. Perhaps the teacher may decide there is not time for all the questions provided by the basal, and there may be doubts that the questions do not serve the needs and purposes of students and teacher.

Taking a second look at basals should include, according to Guszak (15), determining the concept load of various stories and the optimum questions for drawing upon these, also the appropriacy of recalling some facts or happenings. In addition, Guszak stated:

> Teachers might be better prepared for the guided reading task if they would ask themselves: 1. What kinds of reading thinking skills can be developed in this content? 2. In terms of this group's skills (or individual's) how should I budget the question types? 3. In terms of this group's skills, how relevant do the basal reader questions seem (15:112-13)?

Specific steps in building a questioning strategy are cited by Donlan (7):

1. Isolate major concepts you want your students to gain from the story and phrase them as applied level questions.

2. Subdivide major concepts, and phrase these items as interpretive level questions.

3. Determine which facts from the story shape the subconcepts, and phrase these as literal level questions.

4. Sequence the questions for class use in either of these patterns:

a. Ask all literal questions before proceeding to interpretive level questions, and so forth (similar to Hyman's Plateaus).

b. Explore each major concept fully at all levels before proceeding to the next concept (similar to Hyman's Peaks).

Simulation Strategies

Herber (21) did not agree with the assumption that merely asking questions, for example at the interpretive level, will teach students how to comprehend at that level. If the students already know how to interpret the reading, the questions provide reinforcing practice. If the students do not know how to interpret, questions will only test to see if they can interpret. Therefore, students should be shown how to perceive possible meanings.

Accordingly, Herber has authored the teaching strategy, "Simulation," defined as: "An artificial

representation of a real experience; a contrived series of activities which, when taken together, approximate the experience or the process that ultimately is to be applied independently" (21:192).

The strategy is initiated by teachers asking themselves questions such as "What does the author mean by what he says?"; "What conclusions can I draw from this reading material?"; or "How do the authors' ideas relate to my own ideas and experience?" Teachers write down their answers to declarative statements, which are then presented to the students who must review the reading to find support for accepting or rejecting the statements. It is Herber's opinion that in this way students develop readiness for questions, and he recommends the following sequence (21:199):

1. The teacher prepares statements for the students' reactions. References are included for where to look in the text to determine if there is information to support the statements.

2. Same as number one above, except no references are given.

3. The teacher prepares questions for the students to answer. References are given.

4. Same as number 3 above, except no references are given.

5. Students survey the reading material, raise their own questions and answer them.

6. Students produce statements of meaning, concepts, and ideas as they read.

Within each step, the teacher can adjust for abilities of individual students by varying the sophistication level of the statements or questions.

Herber has assumed, on the basis of empirical rather than experimental data, that it is easier for students to recognize that a stated idea is connected to an information source than it is to produce the statement in the first place as an answer to a question. Perhaps this may be true for literal level statements reflecting what the author actually said. There is general agreement that it is easier to locate a literal statement within the reading source, than it is to produce the statement from memory. However, Herber added:

> A person who can read independently at the literal level of comprehension can sort through all information presented in the text and distinguish the important from the unimportant. This is accomplished by establishing some purpose or objective for the reading which becomes the criterion for judging the significance or relevance of the information (21:194).

The assumption that it is always easier to recognize information and ideas, than it is to produce them, may not hold true. Particularly at the higher cognitive levels comprehension may depend on the strength of the students' identification with the given statements or questions. For example, when the questions are immediately relevant and concrete (as opposed to abstract or not as relevant

to the students' daily lives), students may have no trouble producing answers that reflect their own experiences relative to the content of the reading. Questions such as "Which would you like better - being a member of a big family like Evan's or of a small family? Why?" seem to have no need of a prior simulation strategy; and simulation as Herber describes it may, at least for beginning readers, be more difficult than answering such questions.

Students as Active Processors

What better way to insure relevance than to allow students, not only to set their own purposes, but also to raise their own questions about the reading. Durkin (8:454) has made the suggestion, and it has been validated by other studies, described as follows.

The ReQuest Procedure (28) was tested in one-to-one remedial settings, and found to be an effective method for improving reading comprehension as well as for activating and improving student questioning. The procedure begins when the teacher instructs: "We will each read silently the first sentence. Then we will take turns asking questions about the sentence and what it means. Try to ask the kind of questions teachers might ask in the way teachers might ask them" (28:58).

The teacher should actively model good questioning behavior. Another rule requires that responders be ready

to justify their answers by referring to the text or to background used to build or limit answers.

ReQuest is continued until the student can provide a reasonable response to the question, "What do you think is going to happen in the rest of this selection? Why?"; next the teacher asks the student to read to the end of the selection to check the accuracy of his prediction.

In a second study (20), students in an experimental group could ask an examiner a question every time they responded correctly to a question from the examiner. Results of this comparison study found that the reciprocal procedure (both students and teacher were questioners) was more effective in developing interpretive reading abilities than the control procedure (unilateral questioning by the teacher).

A third study (33) found that fourth grade students remembered answers to their own questions better than answers to a partner's questions.

The premise behind yet another research effort was:

> . . . if one believes reading is an active mental process then one should be concerned with teaching students a procedure for becoming active processors. With existing teaching strategies, instructors are requiring students to respond to another's, the teacher's, selected means of analysis. In utilizing this passive strategy, teachers may be keeping students from becoming active independent learners (1:17).

This study attempted to put theory into practice with active student-initiated comprehension strategies

which were compared experimentally with a control group receiving teacher-directed strategies for increasing reading comprehension. The active student-initiated response lessons included instruction in questioning strategies, story-telling, story theater, and role playing; many such activities have often been categorized by basal series as "follow-up" or "enrichment ideas."

Use of the experimental strategies did not result in lower gains in literal comprehension; and significant differences favoring the active student-initiated strategies were found in regard to nonliteral responses and in attitude toward reading.

Of the strategies detailed, teachers presenting background information was felt to be non-conducive to the primary instructional goal of producing independent readers. Instead of a teacher-dominated preview, a reciprocal review can activate students' own knowledge and experiences related to the reading content.

Teachers were also advised to be selective when using purpose-setting questions. Vague or irrelevant questions should be avoided, and students can be shown how to set purposes with relevance for themselves. Through prediction strategies, students' purposes become reading to discover the answers to their predictions.

Questions to stimulate discussion can be more effective if they are part of a strategy or planned sequence of

related questions. Questions can relate one level of thought to another. Also, questions can work together to help students integrate separate elements in the reading into global conclusions.

Simulation, or using the reading to locate support for conceptual statements at the Applied level, may be more difficult than answering questions formed from similar concepts but phrased to relate to students' own experiences. However, Herber's suggestions for building effective instructional strategies for reading comprehension could be used without the simulation component. For example, teachers could still begin by asking themselves: "What conclusions can I draw from this reading material?" In fact, Donlan's steps for building a questioning strategy utilize similar aspects of Herber's plan, with the exception of simulation.

Questions may be important to comprehension, but well-planned questioning strategies can be more effective in producing readers who show good comprehension. As Spache has said: "Readers who show good comprehension are characterized by a strong tendency to associative thinking, reacting while reading" (39:454). The project developed questioning strategies for improving reading comprehension at higher than literal levels.

Chapter 3

PROCEDURES AND ALTERNATIVE QUESTIONING STRATEGIES

Procedures

The first of two project goals was to analyze the instructional comprehension questions suggested by the Houghton Mifflin basal reading series. This required choosing a taxonomy of reading comprehension that would help determine which categories or levels the Houghton Mifflin questions could be placed into and also determine the distribution of questions at each comprehension level.

Five representative taxonomies were chosen for comparison; however after the review was begun, it became apparent that the review would be incomplete without examining the varying implications for education derived from the taxonomies by the authors themselves.

Some taxonomies were very specific about the tasks or educational objectives within each of their levels of reading comprehension. Others focused more on the inter-related nature of the comprehension levels, saying that the educational implications were to allow the levels to work together to bring about broad understandings, i.e., the comprehension of elements would integrate into comprehension of a whole story or message.

Consequently the review of taxonomies also contributed to the second project goal to develop alternative questioning strategies to correlate with the Houghton Mifflin basal reading series. The choice of Herber's taxonomy was, however, based upon its primary function: to guide analysis of the Houghton Mifflin questions.

Results of the analysis determined that the three levels of Herber's taxonomy coincide with the three comprehension levels used by Houghton Mifflin for categorizing their post-story discussion questions. Following is a brief comparison:

Herber	Houghton Mifflin
Literal: What did the author say? (details)	Literal: Recall of explicitly stated details
Interpretive: What did the author mean? (concepts)	Interpretive: Interpretations of what the author meant
Applied: What does his message mean to me? (principles)	Evaluative and Creative Thinking: Utilizing judgement and imagination to go beyond the explicit and the implicit information

However, Herber is much more explanatory than Houghton Mifflin, particularly about the Interpretive and Applied levels. To reiterate, Herber has said that at the interpretive level the focus is on relationships within the information given by the author and not on ideas external to that information, which would be the applied level. He also stated (21:196) that applied level principles often take the form of familiar sayings or truisms (e.g., axioms).

It was also found that Houghton Mifflin simply groups its post-story discussion questions by comprehension level, rather than a planned sequence, e.g., building literal and interpretive information to form applied level concepts.

Examination of the Houghton Mifflin questions for guided reading revealed that most are at a literal level. This fact is even stated in the Houghton Mifflin teachers' manual (p. 30) and was confirmed by an informal tabulation. However, the questions provided by Houghton Mifflin for post-story discussion are more evenly divided between the three comprehension levels.

For the second project goal, current research on the effectiveness of specific strategies for improving reading comprehension was reviewed, including comparison studies of experimental treatments versus control treatments.

As a result of this review, certain strategies were felt to be more appropriate than others for the project's intent: to develop strategies for improving reading comprehension through high level questions.

Elements from the selected strategies were synthesized into a set of procedural steps for composing a questioning strategy. These steps were then used to guide the development of questioning strategies for stories selected from Levels F through J, Houghton Mifflin basal reading series grades one to three. A representative story was chosen from each level to serve as an example of how questioning

strategies are built and utilized. The stories were chosen on the basis of their propensity for prediction, i.e., some stories, such as mysteries, are more conducive to conjecture about "What will happen next?"

The following steps are divided into teacher preparations for building a questioning strategy, and the actual procedures for using the strategies with students during guided reading.

Teacher Preparation:

1. After reading the entire story, record your own answers to the Evaluative and Creative Thinking questions included in the teacher's manual under post-story discussion. Think to yourself: "How does this story relate to my own experience?" Next ask yourself, "What conclusions or generalizations can I draw from my answers to these questions?" Phrase these as applied level concepts. (Note: At the applied level Herber labels these axioms as principles, here it was preferred to call them concepts. Also, at the interpretive level the concepts will here be called subconcepts.) Any question from the basal which you feel would not be relative to your students' experience, or may be irrelevant to the applied level concepts you wish to emphasize, should be excluded at this time. Questions may also be rephrased if they are too abstract; keep them as concrete as possible, e.g., requiring personal judgement. (Note of caution: The applied level concepts are your guide to the story and are

used with the students only as questions: either questions from the basal or questions written by yourself. These applied level concepts that are first identified will guide subsequent analysis of other comprehension questions suggested by the basal series for use with the storyreading component.

2. Determine which of the interpretive and literal questions support the applied level concepts. Again, weed out any questions irrelevant to the concepts on which you wish to focus. Keep in mind that interpretive level questions should reflect what the author has implied which can lend support for the applied level concepts. Also, literal level questions should probe the details which shape the interpretive level subconcepts.

Procedure to be used with students to develop their reading comprehension:

3. Begin with prediction, described as follows: (a) Prediction can be guided toward applied level concepts that the teacher has previously identified through the first steps in building a questioning strategy. (b) If you are unsure or have reason to believe the students may not have adequate experiental background for a particular story then you might ask: "What do you see in this first picture that you would like to know more about (or ask me about)?" Or, as Manzo (28) suggested, after reading the first sentence the students may ask questions about its meaning. When it is the teacher's turn to ask, your questions can begin

to elicit speculation about what the author may have implied.

Strategies will emphasize prediction because of the need to better utilize students' prior-knowledge and make the reading more relevant and motivational for students.

4. Questioning strategies begin after students have completed silent reading of portions assigned by the teacher. You should first check students' predictions by asking questions such as: Were you right about what you thought the story would be about?

5. During guided reading of the story when the teacher asks the students to stop and verify the accuracy of their initial predictions, the teacher can also utilize applied level questions requiring personal evaluation, such as: "What do you think . . .?" or "Have you ever . . .?"

6. Questioning strategies are organized into sequences which need not always begin with the lowest comprehension level, e.g., the sequence may at appropriate times begin with the interpretive or applied levels, rather than the literal level. Nor do they always end in applied level concepts.

7. Relevant questions suggested by the basal series may be included and/or you may add alternative questions when the basal questions seem irrelevant to the applied level concepts you have decided to emphasize.

Alternative Questioning Strategies

Following are the alternative questioning strategies developed by this writer for use with six representative stories from Houghton Mifflin. After the strategies for each story, a complete copy of the story text is included.

WHAT MARY JO SHARED, Cloverleaf, Level F, pp. 302-310 and 320-34, Houghton Mifflin Reading Series.

Teacher Preparation

Description:

What Mary Jo Shared is a story about a shy black girl named Mary Jo, who was reluctant to participate in Sharing Time at school. She wanted to share something no one else had shared, but she couldn't seem to find the right thing. When she finally thought of sharing her father, it was a hit with the other children, who wanted to share their fathers too.

Analysis

The Houghton Mifflin teachers' manual suggests the following questions for Evaluative and Creative Thinking (pp 310-24; note: Due to the length of this story, Houghton Mifflin has divided it into two teaching units). The writer's suggestions for answers to these questions are given after each question. While some of the answers lead to applied level concepts, others do not. Any applied level concepts were included with the question/answer that had inspired them.

Questions for the first teaching unit, are as follows (from p. 310):

1. "What kind of person do you think Mary Jo was?"

She was a shy, perfectionist type. According to Herber's taxonomy, this question should be at the interpretive level, rather than the applied level. If it were at the applied level, the question might be: "Have you ever known someone like Mary Jo?"

2. "Why do you suppose Mary Jo didn't think her friends would listen to her if she shared something?"

This is much the same question as no. 4 under interpretive thinking, p. 310; the answer there was: "She didn't think the children would listen if she shared something ordinary." Although this question is also not at the applied level, it did lead to applied level concept one: "Shyness is sometimes relative to how prepared one is for a request to tell or do something."

3. "Why do you think Miss Willet called on Mary Jo to share almost every day?"

Miss Willet may have been worried about how shy Mary Jo was and thought she needed to learn how to talk in front of a group. Also not an applied level question, instead it is at the interpretive level, as defined by Herber.

Questions for the second teaching unit are as follows (from p. 324):

1. "Why do you think Mary Jo's father always asked her if she had shared in school?"

He was worried about how she was doing in school. This question is not at the applied level, as defined by Herber; it is at the interpretive level.

2. "Why do you think Mary Jo didn't tell her father she was going to share him?"

She wanted to surprise him. This question is not at the applied level, as defined by Herber; it is at the interpretive level.

3. "What do you think Mary Jo would have done if her father had not been able to come to school?"

Perhaps she'd ask her mother. This question is not at the applied level; as defined by Herber it is at the interpretive level.

4. "Have you ever had the same kind of problem that Mary Jo had? What did you do about it?"

This question is the only one of those suggested for Evaluative and Creative Thinking to go with this story that is truly at the applied level, as defined by Herber. The part "same kind of problem" seems vague; does it mean the problem of being afraid of talking in front of a large group, or the problem of not knowing what to share? However if the emphasis is to be on divergent thinking, students could go either way with their answers. Applied level concept two: "Sharing something about ourselves is an important way of getting to know each other. It tells others: This is part of me, who I am, and that I'm a unique person."

Procedure for Developing Students' Comprehension

Prediction

In order to focus on the applied level concept two, and to introduce decoding of the new word "share," begin by asking: "Can someone tell me what the word shared means in these sentences?" (Print on board: I shared my cookie with a friend. At school I shared news about my trip to Grandmother's house.) "What do we call it when we share at school?" (Sharing Time or Show and Tell.) "Do you like to share during Show and Tell? Why or why not? What kinds of things do you like to hear the other kids share?"

Next ask students to predict from the title and picture on p. 179 what they think the story will be about. If necessary to stimulate guesses, include the pictures on pp. 180-81, plus the picture discussion suggested by Houghton Mifflin (p. 304, TM).

Silent Reading:

Students read to p. 183 to find the answers to their predictions.

Questioning Strategy to build comprehension of applied level concept one: "Shyness is sometimes relative to how prepared one is for a request to tell or do something."

Literal:

1. On p. 180, find the sentence that tells what Mary Jo was afraid to do. Why was she afraid? (She was afraid

to stand before the other children and tell about anything. She didn't think they would listen.)

2. What was it Mary Jo always did when Miss Willet asked if she had something to share? (She shook her head and looked down at her hands.)

Interpretive:

3. Why do you suppose she acted like that? Or, what does that tell you about the kind of person Mary Jo was? (She was easily embarrassed, and a shy person.)

4. Why do you suppose Mary Jo didn't think her friends would listen to her if she shared something? (She was afraid they'd be bored; she didn't want to look dumb or foolish.)

5. Have you ever done the same thing?--not been able to say anything or look at someone when they asked you something? Why? What were your feelings?

Questioning strategy:

Literal:

1. Did Mary Jo get ready for school that day quickly or slowly? On p. 181 find and read the sentence that tells (P. 305, TM.) (She got ready for school and ate her breakfast as fast as she could.)

Interpretive:

2. Why could Mary Jo hardly wait to get to school the day she was going to share her umbrella? (No. 1 under

interpretive, p. 310, TM.) (It was the first time she was going to share.)

Literal or Interpretive, depending on students' abilities:

3. Why did Mary Jo decide not to show her new umbrella? (P. 305, TM.) (Amost everyone in the class had one.)

Interpretive:

4. How do you suppose Mary Jo felt when she didn't share something? (Disappointed.)

Prediction:

Set purpose for reading the next three pages by having students make observations about the pictures on pp. 184-85. Ask: "What do you think Mary Jo will do next? How can we find out?" (READ!)

Silent Reading:

Read through pp. 184-86.

Questioning Strategy:

Literal

1. Did Mary Jo share anything at the next sharing time? Or, at the interpretive level: Did Mary Jo solve her problem? Why not? (No, because she didn't want to share only one grasshopper when Jimmy had five grasshoppers.)

Prediction

To set the purposes for reading pp. 187-89 ask: "What other things might Mary Jo share?" And/or: "Look

at the pictures on p. 187, what do you think these things have to do with Mary Jo's problem?" (Things that have been shared by Mary Jo's classmates). Ask someone to read the subtitle aloud after all have first read it silently. Continue the picture discussion provided by Houghton Mifflin, p. 308, TM. Next, to develop or clarify prior understanding of key terms and also to avoid introducing new words out of context, try this: "Squeeze is another word that tells how the elephant is trying to fit through a door that is too small. It begins the same as the word squeak. Read this sentence to yourself and see if you can find the word squeeze." (Print on board: Mary Jo was trying to squeeze the elephant through the door.)

Silent Reading:

Students read pp. 187-89 to find out if Mary Jo finds something to share.

Questioning Strategy:

Literal:

1. Did Mary Jo find something to share? (No.)
2. What kinds of things did the other children share? (Letters, pets, etc.)
3. Why didn't Mary Jo share some of those things? (E.g., she didn't share a letter from her grandmother because she didn't have a grandmother.)

4. Why didn't she share the elephant? (He wouldn't fit through the door; another answer such as: She didn't share because he wasn't real--it was only a dream, would be at the interpretive level because it is only implied by the author.)

This ends the first teaching unit as set out by Houghton Mifflin.

Prediction:

To set purposes for the next section, and review ideas from previous reading: "The last time you read you found out about Mary Jo's problem. What was that problem?" "Why do you think Mary Jo thought it was important to share something no one else had shared?" (From no. 4 under Interpretive Thinking, p. 310, TM.) (She didn't think they would listen if she didn't share something new and unexpected.) "What kind of person do you think Mary Jo was?" (From no. 1, under Evaluative and Creative Thinking, p. 310, TM.) (Shy.) The picture discussion on p. 320, TM, can now be used to stimulate ideas for prediction. After students are given the chance to read the subtitle on p. 190, "Mary Jo Thinks of Something," ask: "What do you think Mary Jo will do about sharing?"

Silent Reading:

Students read to the end of the story to find out if their hypotheses are correct.

Questioning Strategy to develop comprehension of applied level concept two: "Sharing something about ourselves is an important way of getting to know each other":

Literal:

1. How did Mary Jo solve her problem? (She shared her father.)

2. Did Mary Jo tell her father what she was going to do? (No.) What did she say when he asked her? (It's a secret.)

Interpretive:

3. How do you think he felt when he found out the secret? (Surprised, then pleased.) Or, did it bother Mary Jo's father that she had shared him? Why do you think that? (From no. 1 under Interpretive Thinking, p. 324, TM.) (No, he said he enjoyed visiting the class.)

4. When Mary Jo began to share her father, what did all of the other children start to do? (Talk about their fathers; from no. 4 under Literal Comprehension, p. 324, TM.)

5. How could Mary Jo tell that the other children liked her idea of sharing her father? (They all wanted to share their fathers, also they clapped; from no. 2, under Interpretive Thinking, p. 324, TM.)

6. What interesting things did Mary Jo tell the class about her father? (Each student could name one thing, e.g., he was a teacher, he liked to go fishing and to read, etc.)

Applied:

7. Have you ever had the same kind of problem that Mary Jo had--not knowing what to share? What did you do about it? (Adapted from no. 4, under Evaluative and Creative Thinking, p. 324, TM.)

WIZARD OF WALLABY WALLOW, Sunburst, Level G, pp. 233-39, Houghton Mifflin Reading Series

Teacher Preparation

Description:

The Wizard of Wallaby Wallow is a story about a mouse who visits a wizard, hoping to get a magic spell for turning himself into something else. The mouse gets a bottle without a label telling what kind of spell it is; and when he thinks about the possibilities for what animal it might turn him into, he decides being a mouse isn't so bad after all. The Wizard learns the spell has made the mouse happy; and assuming it is because the bottle was without a label, he takes the label off all his other bottles of spells.

Analysis:

The Houghton Mifflin teachers' manual suggests the following questions for Evaluative and Creative Thinking (p. 239). The writer's suggestions for answers to these questions are given after each question. While some of the answers lead to applied level concepts, others do not. Any applied level concepts were included with the question/ answer that had inspired them.

1. "Do you think the wizard was wise to take all the labels off the spell bottles? Why or why not? What might happen?"

No, because someone might get a spell that would harm instead of help. Or, yes, because the spells really didn't do anything--it was the person or animal who changed himself by the way he thought about himself. Applied level concept: "We should depend more on ourselves than on something magical or someone else who doesn't know us as we really know ourselves."

2. "Have you ever wanted to be someone or something else and then realized that being you was really better after all? Tell us about it."

This question was felt to be interrelated to no. 1 preceding, and it wasn't necessary to answer it separately.

3. "If there really were wizards, it would be nice if they could change things in such a way that good things would happen, wouldn't it? If a wizard could change one thing to make our world better, what would you want it to be? Why?"

This question encourages divergent thinking; however, it goes too far beyond the purpose of improving comprehension during reading.

Procedure for Developing Students' Comprehension

Prediction:

Conjectures about what the story will be about are made from the title and picture on p. 133. Many children may remember seeing the movie The Wizard of Oz, which draws a similar moral to this story. (Briefly, Dorothy was caught

in a tornado and whirled to the make-believe Land of Oz. During her adventures there trying to get home to Kansas, Dorothy had the way home in her possession, but she didn't find out how until she finally realized what made home desirable.) Ask students if they have ever wanted to be someone or something else. This will set the stage for the following questions to stimulate prediction.

1. What is a wizard? (A magician or person who performs magic.)
2. What kinds of things does a wizard do? (Makes magic spells for turning people into something else.)
3. Does a wizard usually do good things or not so good things? (Good.)
4. Are wizards real or pretend? (Pretend.)
5. What do you think the wizard in this story might be like, or what special things might he do?
6. What do you suppose those bottles in the picture are for? (Magic drinks or potions.)

Student Reading:

Students read to p. 137 to find out how accurate their guesses are.

Question Strategy:

Interpretive:

1. Was the Wizard of Wallaby Wallow like what you thought he'd be like? Why or why not? (Answers should

reflect something about his spells--that they were for changing people into other animals.)

Literal:

2. What was the wizard doing before the mouse came? (Busy trying to put the bottle with his spells in order.)

3. How was he putting them in order? (Putting them back on the shelf in alphabetical order.)

Interpretive:

4. What does alphabetical order mean? (ABC order, spells beginning with A first, B second, etc.)

5. Why did the wizard need to put his spells in order? (Because they were so mixed up he couldn't find anything.)

6. How did the wizard feel about the job of putting his spells in order? (Grouchy.) How do you know? Find and read the sentence that tells what the wizard said to the mouse. Try to make it sound like you think the wizard would sound. ("Oh, horse feathers! I'm never left alone long enough to get anything done.")

The next question is one of those that border on either literal or interpretive, depending on the students' abilities.

7. Why didn't the mouse shoo when the wizard told him to? (Because he was used to that and it didn't bother him; also, whatever he wanted must have been more important than being scared of the wizard--could mention the parallel with Dorothy in Oz.)

Interpretive:

8. Why did the mouse think he needed a magic spell? (Because being a mouse wasn't easy--nobody likes mice, they set traps and cats after them. Each student could name one thing.)

9. Why do you suppose the wizard gave the spell to the mouse without charging him for it? (Since it had no label, he didn't know what it was, so this was a chance to get rid of it, and the mouse; also the wizard was probably in a hurry to get back to his work and since the mouse didn't know for sure what he wanted it would probably take a long time to help him.)

10. Did the mouse get what he wanted? (Not exactly, he just got a spell that would turn him into 'something else' and he didn't know exactly what it would be--he also didn't really know what he wanted.)

Prediction:

"What do you think the 'something else' will turn out to be? Or, if you were the mouse, what would you want the 'something else' to be?" (Probably not a cat, maybe an animal, such as a dog, that everyone likes and has an easy life.) "Let's read to find out."

Silent Reading:

Students read to the end of the story to find out answers to their predictions.

Questioning Strategy to build comprehension of applied level concept: "We should depend on ourselves, etc." (see p. 79).

Were you right about the animal you thought it might be? (No one could be right since the mouse gave the bottle back to the wizard without drinking it.)

Literal:

1. Name an animal that the mouse thought he'd like to be.
2. Why did the mouse decide he'd just as soon not be a butterfly? (Because they don't live very long.) Continue the same for the turtle, bee, ant, bird, and elephant, when the cat comes up ask:

Interpretive:

3. On p. 140 when the story said the mouse 'turned white' at the thought of becoming a cat, what does that mean? (The mouse was scared to death.)
4. When the mouse is thinking that the spell might be for turning people into mice, he says, "on me it wouldn't even show. It would be 'like dropping egg on a yellow bib.'" What does that mean? (Eggs are yellow and don't really show on a yellow bib.)
5. Did the mouse ever drink the magic spell? (No.) Why not? (He realized that being a mouse had its problems, but at least he knew what they were. Whatever he might have been changed into may have had worse problems.)

Literal:

1. What animal did the mouse finally decide was best for him? (Himself.)

2. What was the wizard doing when he came to the door the second time. (Same as before--may need to ask what 'grumbling' means.)

3. Did the wizard know the mouse at first? Read the sentence that tells you his. (He didn't recognize the mouse at first.)

4. Why didn't the wizard recognize the mouse at first? (He thought the mouse had changed; also the wizard may have been so busy he forgot all about the mouse.)

5. Did the mouse say he had changed? (He said maybe.)

Interpretive:

6. How could he have changed since we know he didn't change into another animal? (He was not a happy mouse.)

7. What did the mouse say had made him change? (The magic spell.)

8. How could it have been the magic spell that changed the mouse, since he never drank any of it? (Just thinking about what he could be changed into made him realize that being a mouse wasn't so bad after all. So, having the magic spell made him think and thinking was what made him happy about himself.)

9. How did the wizard feel when the mouse told him the spell really worked? (So excited he could hardly talk.)

10. Why would this make him so excited? (Because it was the first time one of his spells had worked.)

11. What does this tell you about the kind of wizard he was? (Not very good at making magic spells.)

12. What did the mouse neglect (forget) to tell the wizard about the spell? (That he hadn't really drank any.)

13. Do you think the wizard's spells would work if someone really drank them? Why or why not?

14. Why do you think the wizard took the labels off all the bottles? (He thought if it worked for the mouse without a label they must all work better without labels.)

Applied:

15. Do you think the wizard was wise to take all the labels off the spell bottles? What might happen? (From p. 239, TM.)

16. Have you ever wanted to be someone or something else and then realized that being you was really better after all? Tell us about it. (From p. 239, TM.)

EVAN'S CORNER, Tapestry, Level H, pp. 242-64, Houghton Mifflin Reading Series

Teacher Preparation

Description:

Evan's Corner is a story about a young black boy living with his family of eight in a large city. When Evan decides he wants a place of his very own, his mother lets him pick out a corner of their two room apartment. At first he is happy "being lonely" in his corner, but soon it is lacking something. Although Evan works hard to add personal touches, including a picture and a pet, he still feels dissatisfied. His mother helps him to see that he needs to step out of his corner and help his younger brother fix up his corner.

Analysis:

The Houghton Mifflin teachers' manual suggests the following questions for Evaluative and Creative Thinking (pp. 247-64). (Note: Due to the length of this story, Houghton Mifflin has divided it into two teaching units.) The writer's suggestions for answers to these questions are given after each question. While some of the answers lead to applied level concepts, others do not. Any applied level concepts were included with the question/answer that had inspired them.

1. "Which would you like better--living in an apartment building or in a house? Why?

Living in a house can be good, especially if you like to have space to get away from everyone when you need privacy. Living in an apartment is OK if you can make what you have suit your needs. Both places have advantages and disadvantages, so its not really the place where you live that makes a home, but how you live in the place. Applied level concept one: "A house is not a home until we make it personal, e.g., adding our favorite things, etc." (Note: Applied level concept one is secondary to concepts two and three, and is therefore only indirectly referred to during guided reading--it does appear during the initial prediction strategy.)

2. "Do you think being alone can be different from being lonely. If so, why?"

The concept behind this question actually appears later on p. 264 as interpretive level questions nos. 1 and 3. It is a difficult concept, especially as phrased here, and inclusion may depend on students' abilities.

3. "Which would you like better: being a member of a big family like Evan's or a small family? Why?

Being a member of a big family like Evan's would be OK if it was like Evan's. His family seemed to be a happy family that cared for each other. Some examples: Evan's mother took time to listen to his problems, and Evan's older sister played with their brother Adam and

helped take care of him. The main advantage to being a member of a small family would be more time with mom and dad, less brothers and sisters to share the parents with. Applied level concept two: "The size of one's family is not as important as how the family members interact and whether they think of others besides themselves." A child can't really choose the size of the family he lives with, but he can choose what kind of family member he will be.

4. "If you could pick a corner in this classroom or in your home to have as your own, which one would you pick? Why?

Although related to Evan's need for a place of his own, this question was not answered because discussion would center on students' reasons for choosing their particular corner, rather than why they would want to pick any corner in the first place (e.g., because of a need for privacy, etc.)

Questions for the second teaching unit are as follows (from p. 264).

1. "Do you think it is important for a person to have a place that is just his or her own? Why or why not? Would it be a good idea for the person to stay in his or her own place all of the time? Why or why not?"

Yes because this is a basic human need; on a personal level we can experience the need for a private place to sort out inner thoughts. We also recognize as important the need for contact with others. Applied

level concept three: "Sometimes we all need a special place to go to be by ourselves. We also need to be with friends and family at other times."

Questions 2, 3, and 4 are not answered because they were considered to be irrelevant to the main idea(s) in this story.

2. "If you needed to earn money to buy something, how would you do it?"

3. "Sometimes people who have everything that anyone could wish for still want something more. Why do you suppose that this is so?"

4. "If you had to choose a pet for yourself to love and take care of, what kind would you choose? Why?"

5. "Did you like the way this story ended? Why or why not?"

Yes, because Evan experienced the applied level concepts just identified in a very real yet agreeable manner--Evan's mother helped him to discover something special about himself. (Student answers may be completely different from mine, therefore this question may be unnecessary, especially since the implications may be brought out through other applied level concepts.)

Procedure for Developing Students' Comprehension

Prediction:

Have students predict from the title and picture on p. 153 what the story will be about. This particular title seems rather obscure and particularly if students

aren't familiar with prediction strategy, it may not elicit very elaborate predictions. Furthermore "city-life" scripts (i.e., real experiences with life in a large city) will probably be unfamiliar to students living in a small, rural town. To activate students' memories, questions such as "how can you tell this is a city street?" (p. 242, TM) are good, but don't go into enough depth. Additional questions may be needed to stimulate prediction, such as:

Interpretive:

1. Can you guess the name of the boy in the picture? (From the title, it is probably Evan.)
2. What do you think he is doing? (Walking down the street.)
3. What else does the picture tell you about him? (He is about the same age as the students, 7 or 8, black, and looks sad, maybe he has a problem.)
4. How can you tell this is a city street? (Sidewalks, traffic lights, tall buildings, etc.)
5. What can you tell us about those tall buildings? (They could be stores, or apartments where people live.)

Applied:

6. Has anyone ever lived in an apartment? What was it like? Or, if students haven't lived in an apartment, What do you imagine it would be like?
7. How do you suppose it would be different from living in your house?

8. What might your house have that an apartment wouldn't have? (A garage, a yard with grass and trees, etc.; if students don't mention the rooms, bring it up, e.g., an apartment might not have a family room, dining room, basement, play room, or game room, etc.)

9. Which would you like better: living in an apartment building or in a house? Why?

Now sum up for students: "I can see you already know more than you thought you knew about the place where the boy, Evan, probably lives. What else could you find out about Evan from the story?" (Likely answers: what he is doing, or if he really has a problem.) "How are you going to find out?" (READ!)

Silent Reading:

Students read pp. 153-60.

Questioning Strategy to build comprehension of applied level concept two: "The size of one's family is not as important as how the family members interact."

To check predictions, ask: "What did you find out about Evan?" (Some of the details leading up to Evan's request to his mother for a place of his own should be elicited if not spontaneously given, e.g., the things he saw on his way home from school that had a place of their own.)

Literal:

1. Find and read the sentence on p. 157 that tells us something about the size of the apartment Evan lived in. (Only two rooms.)

Interpretive:

2. Would tis be a large or small place to live in? (Probably small.)

3. Since there were only two rooms, what do you suppose they might be? (Living room and bedroom? Living room-bedroom combined and a bathroom?)

Applied:

4. How is this different from the size of your home? (Most homes will have more than two rooms; if students don't mention this, ask if anyone remembers what the story said about Evan's mother's kitchen--there wasn't one, she had to share with another lady down the hall.)

Literal:

5. Read for us what Evan thought about the size of his family (on p. 157). ("Mighty lot of family.")

Interpretive:

6. Do you think it was a large family? (Yes, eight is big these days.)

7. Now that we know Evan lived in a very small apartment with a rather large family, how do you suppose he felt about it? (May have made him feel crowded.)

Applied:

8. Is your family larger or smaller than Evan's? Which would you like better--being a member of a big family like Evan's or of a small family? Why?

Prediction:

Set purposes for reading the next section by asking: "What do you think is going to happen next?" Or, "What other things might Evan do in his corner?"

Silent Reading:

Students read pp. 161-65.

Questioning Strategy:

Literal:

1. On p. 161 find and read the sentence that tells what Evan said when Adam asked if he was being lonely in his corner again. ("No," said Evan, "I'm just wasting time, in my own way. In my own corner.")

Interpretive:

2. What do you think Evan meant by that (wasting time in his own way)? (Perhaps it was his way of showing independence; he felt his corner was a place where he could do anything he wanted without being criticized.)

3. Why do you think Evan didn't let Adam come into his corner? (Bcause he wasn't ready to share it yet.)

4. How did Evan tell Adam 'no,' without hurting his feelings? (He suggested Adam could choose his own corner.)

5. Why do you think Adam didn't know what to do in his corner? (He was probably too young to play alone for long; from p. 247, TM.)

6. What does it mean: The walls in Evan's corner were bare? (They didn't have anything hanging on them.)

The following two questions, nos. 7 and 8, are borderline between literal and interpretive; the next questions, nos. 9 and 10, are interpretive.

7. What did Evan do about the bare walls? (Painted a picture in school.)

8. Why couldn't Adam draw a picture for his corner? (He couldn't find any paper; he didn't have any crayons; and Lucy was too busy to help.)

9. Why didn't Adam ask Evan to help? (Because Evan said he was enjoying peace and quiet, which implied to Adam that he didn't want to be bothered.)

10. How do you suppose Adam felt about this? (Left out.)

Prediction:

(Note: Since this next section begins the second teaching unit in the teachers' manual, it may be necessary to review what was read earlier. For example: In our earlier reading, what did we find out Evan wanted?

(A place of his own.) "Did he get what he wanted, and was he happy with it?" (Yes, and maybe.)

Use the subtitle, "What Evan Needs," and pictures on pp. 166-67 to tell why you think Evan is so wide awake. (He has some thinking to do about his corner.) "What other things can you think of that Evan could add to his corner? Read to find out if you are right."

Silent Reading:

Students read pp. 166-74.

Questioning Strategy:

Literal:

1. What things did Evan think of that he needed to put in his corner? (A plant, a desk and chair, and a pet turtle.)
2. How did Evan go about getting what he wanted? (Students can tell in their own words about what Evan did.)

Prediction:

"Do you think Evan will be able to earn the fifty cents to buy a turtle? Why or why not?"

Silent Reading:

Students read pp. 175-79.

Questioning Strategy:

Literal:

1. How did Evan get the fifty cents for his turtle? (He earned dimes for carrying people's groceries home from the supermarket.)

Interpretive:

2. How did Evan feel about what he accomplished? (Proud.) How do you know? (On p. 179, Evan said proudly, "I earned some money Mister!")

3. What does proudly mean? (In a way that showed he was pleased with himself.)

4. On p. 178, what did the author mean when she said Evan's heart sank? (He was disappointed.)

Prediction:

"Let's read the rest of the story to find out whether Evan will finally be satisfied with his corner."

Silent Reading:

Students read pp. 180-84.

Questioning Strategy to build comprehension of applied level concept three: "Sometimes we all need a special place to go to be by ourselves. We also need to be with friends and family at other times."

Literal:

1. Was Evan satisfied with his corner yet? (No.)

Interpretive:

2. When Evan told Adam about his new turtle, he boasted. What does it mean to boast? (To speak with pride, to brag, like a show-off.)

Applied:

3. Why wouldn't you want to be called a show-off? (Because it means you are so pleased with yourself that you forget how others feel, and that usually makes others mad or hurt.)

Literal:

1. Why couldn't Adam get a close look at Evan's turtle? (He wasn't supposed to go into Evan's corner.)

Interpretive:

2. How do you suppose this made Adam feel? (Sad.)

3. What else made Adam feel sad? (Evan said he couldn't have a pet of his own for a long time--til he was much older.)

Literal:

1. How has Evan used his corner? Let's each name something. (See p. 182.)

2. Were all these things enough to keep Evan happy? (No.)

3. Who did Evan go to for help? (His brothers, sisters, and finally his mom.)

4. How did Evan's mother feel about his corner? How do you know? (From the way she is smiling in the picture, also they both saw it was beautiful.)

5. What did Evan's mother say was the answer to his problem? (Just fixing up your own corner isn't enough. Maybe you need to step out now and help somebody else.)

Interpretive:

6. Do you think she had the right idea? What makes you think so? (Both boys look happy now.)

Applied:

7. Do you think it is important for a person to have a place that is just his or her own? . . . Why or why not?

8. Would it be a good idea for the person to stay in his or her own place all of the time? . . . Why or why not?

THE OHIO RIVER, Windchimes, Level I, pp. 239-40, Houghton Mifflin Reading Series

Teacher Preparation

Description:

The Ohio River is an informational article about the barges and towboats which use the Ohio for transporting large loads of raw materials. Because of this the author likens the Ohio to a water highway. The main focus of the article is a description of how a lock works to enable boats to go up and down hills on the river. Note: The major emphasis of Herber's comprehension strategies is expository reading materials. Therefore this information, which closely relates to the following narrative story, Barge Ahoy, was included to demonstrate how applied level concepts can be formulated with this type of content.

Analysis:

Houghton Mifflin did not provide Evaluative or Creative Thinking questions for this article. In this situation, according to Herber, one should ask: "What broad generalizations can I draw from this story?" or "How can I relate this story to my own experiences?" The writer's suggestions for answers to these questions are given, followed by the applied level concepts.

The author himself provides a generalization in the first paragraph of the article: "The Ohio is one of the

largest and most important rivers in the United States." Reading on, the implication is that the Ohio is important because of its function and length, i.e., the Ohio is a major transportation artery across the eastern part of the U.S. However, it seems much easier to first comprehend the importance of a familiar river close to home, before trying to understand the importance of a far distant river. From prior experiences students may be led to understand that the various uses people have for rivers affect that river's importance. Applied level concept one: "Rivers can be very important to people." Applied level concept two: "Rivers have been changed as people make use of them"; this relates to understanding what a lock is and how it works.

Procedure for Developing Students' Comprehension

Prediction:

Have students read the title silently, then ask them to predict from the title and picture on page 266 what the story will be about. Predictions will most likely include something about boats, so try to elicit further ideas about what kinds of boats are pictured. (Most children are at least familiar with tugboats.) For example, if students predict the story will be about boats on a river, then ask: "Can you tell me more about the boats?" or "Are the boats in the picture the same?"

To engage students prior knowledge about rivers, ask: "What river flows right beside Newport?" (The Pend Oreille.) "What do we use the Pend Oreille for?" (Recreation: fishing, boating, etc.; generating electricity.) "Where does the Pend Oreille flow from here?" (Past Cusick, clear into Canada where it flows into the Columbia River, which flows back into Washington state on its way to the ocean.) "Do you think the Pend Oreille is important to the people living in Newport?" "Why?" (If student responses are inadequate you may want to point out past importance for moving logs to the local mills; in fact the pilings by Diamond Mill, which the children will be aware of, were used in a similar manner to the jetties mentioned in the story.)

"What else can you think of that other rivers, perhaps the Columbia, do for people? (If students are unfamiliar with the Columbia or give few responses, the teacher may wish to lead into reading of the story by suggesting: "Perhaps that's a question the story will answer for us.")

Silent Reading:

Ask students to read to find out if they are right about what they think the story will be about. Read through the next to the last paragraph on p. 266.

Questioning Strategy for building comprehension of applied level concept one: "Rivers can be very important to people."

Interpretive:

1. Were you right about what you thought the story would be about? Why or why not?

2. When the author calls the Ohio River a 'water highway,' what do you think he means? If this brings inadequate responses, ask clarifying questions, such as:

Applied:

3. What do we usually think of as a highway? (A road for cars and trucks to drive on.)

4. How is a river different from a highway for cars and trucks? (It has water instead of tar and gravel.)

5. How is a river the same as a highway for cars and trucks? (Both move people and things from one place to another.)

6. Will someone sum up for us what a water highway is? (A water highway is a kind of road where people use boats instead of cars and trucks to get from one place to another.)

7. Do you think both kinds of highways are important? Why or why not?

Literal:

8. If it isn't brought up by the students, then be sure to ask: What did you find out about the kinds of boats used on the Ohio? (A barge is a large flat-bottomed boat used for moving loads of coal, etc.; a towboat, similar to a tugboat, is used to push or pull barges.)

Prediction:

Students may use the picture of a lock (p. 267), which may or may not be familiar, to suppose what the next part of the article will be about.

Silent Reading:

Students read through the next to the last paragraph on p. 267.

Questioning Strategies to build comprehension of applied level concept two: "Rivers have been changed as people make use of them."

Check predictions by asking: "How close was your guess?"

Literal:

1. What problem did the author say barges have? (Going uphill or downhill without spilling their loads.)
2. What has been built on the rivers to solve this problem? (Locks.)

3. What did the author say a lock looks like? (A stone or concrete building in the water, or a big room with no ceiling.)

4. Find and read the sentence that tells what is at each end of a lock. (Watertight gates.)

Interpretive:

5. What did the author mean when he said the gate was watertight? (It will not let any water through.)

Applied:

6. How do you suppose a lock got its name? (Because it locks in the water.)

Prediction:

Set purpose for reading by asking students to read to find out how a lock actually works to help boats go uphill and downhill on the river.

Silent Reading:

Students read up to but not through the next to the last paragraph on p. 268.

Comprehension Strategy

The concept of how a lock works is difficult, and it may be necessary to put a diagram on the board and either show yourself how a lock works or have a more capable student show.

Prediction:

To stimulate thinking ask: "What other things, besides locks, have been built on rivers to make the rivers more useful for people? (Dams, jetties or docks, etc.)

Silent Reading:

Students read to the end of the story on p. 268.

Questioning Strategy:

Literal:

1. What is another word that means the same thing as a boat dock? (Jetty.)

Interpretive:

2. Tell in your words what you think the compound word 'lockmaster' means. (A person who is in charge of locks.)

3. What does being in charge of the locks mean the lockmaster has to do? (His job is to make sure the boats pass through the locks easily.)

Applied:

4. If the boats couldn't pass through easily, what do you think might happen? (Boat traffic would jam up, and fewer boats could use the river for transport.)

BARGE AHOY, Windchimes, Level I, pp. 246-51, Houghton Mifflin Reading Series

Teacher Preparation

Description:

Barge Ahoy is a story about Amy and Liz, who were left home alone one foggy night when their Uncle Burr, a lockmaster, had to help with some barges that had broken loose on the Ohio River. The girls heard sounds of one runaway barge near their jetty and realized a towboat might ram it in the fog. Liz held one end of a rope tied around Amy's waist, so that Amy could carefully wrap aluminum foil around the jetty posts. The reflected foil saved the towboat from collision.

Analysis

The Houghton Mifflin teachers' manual suggests the following questions for Evaluative and Creative Thinking (p. 251). The writer's suggestions for answers to these questions are given after each question. While some of the answers lead to applied level concepts, other do not. Any applied level concepts were included with the question/ answer that had inspired them.

1. "Amy was determined to help, and she didn't stop trying to find a way. Can you think of things you were able to do because you didn't stop trying?"

This question requires divergent answers; if time permits it could stimulate a lively post-story discussion. Applied level concept one: "If at first you don't succeed, try, try again." It is not intended that students parrot back this common saying; rather if used to guide comprehension during reading, it may bring about interpretive questions such as: "Do you think the girls will give up trying to help?"

2. "Uncle Burr had quite an unusual job, and sometimes he had to do dangerous things. What are some other kinds of jobs you can think of that might be dangerous? Explain your answer."

This is another excellent question for stimulating post-story discussion, but not vital for comprehending during actual reading of the story.

3. "Why do you think Amy didn't tell Uncle Burr on the phone what really happened? Do you think Uncle Burr will be surprised when he finds out what the girls did? Why or why not?"

She may have thought he'd be worried, or perhaps even mad that they took such a risk. According to Herber's taxonomy this question seems more interpretive than applied; however, the thought occurred that the story might encourage students to attempt dangerous feats without regard for safety and caution. Accordingly an emphasis was put on the precautions the girls used in the story,

and the fact that they worked together. Applied level concept two: "Two heads are better than one." This concept was reflected in interpretive questions such as "Do you think Amy could have done what she did by herself without Liz's help?"

4. "Even though the girls were young, Uncle Burr believed that they could take care of themselves when he had to leave. Do you think you would be scared if you were left alone like they were? Why or why not?"

This question could be used effectively during reading to establish relevancy for students and insights into the story characters' motives. If this question were related to the story plot, e.g., "Do you think the girls will be scared because Uncle Burr left them alone?"; it can foster prediction. Taken a step further, it leads to the applied level concept three: "Fear is often put aside when one has to act quickly in an emergency."

Procedure for Developing Students' Comprehension

Prediction:

Have students read title silently, and use the title and picture on p. 269 for prediction. "What do you think might happen in this story?" and "Why do you say that?" Ask students who haven't given a prediction to choose one of the other students' suggestions.

Silent Reading:

Students read to the end of p. 271.

Questioning Strategy: Check predictions by asking, "Were you right about what you thought would happen?"

The following questions were provided by Houghton Mifflin on pp. 250-51, TM.

Literal:

1. What emergency sent Uncle Burr out that night? (Some barges had broken loose on the river.)
2. Why was it so important to catch the barges right away? (If the barges were to hit the locks, they could jam the gates and nothing could get through.)
3. What problem was there with the weather that made it even more difficult that night to find the barges? (A very thick fog had settled over the river.)

Interpretive:

4. The story tells us that Uncle Burr was a lockmaster. How was catching the runaway barges a part of his job? (His job was to make sure that boats could pass through the lock easily; he had to make sure that the gates were not jammed by the barges.)
5. Why do you think Uncle Burr didn't take Amy and Liz with him when he went to catch the barges? (He didn't think they would be of any help, and he was afraid they might be in danger on such a foggy night.)

Applied:

6. Even though the girls were young, Uncle Burr believed that they could take care of themselves when he had to leave. Do you think you would be scared if you were left alone like they were? Why or why not?

Prediction:

For setting purposes, ask: "Do you think the girls will be scared because Uncle Burr left them alone?"

Silent Reading:

Students read to the end of p. 274 to find out the answer to their guesses.

Questioning Strategy:

Literal:

1. Were the girls scared? (Yes, but not for themselves.)
2. What were they scared about? (They were worried about a towboat hitting Uncle Burr's jetty because of the fog.) How do you know?
3. What did the girls think would help solve the problem? (Lots of lights.)

Interpretive:

4. How would lights help? (Make the jetty show up so the towboat wouldn't hit it.)
5. What do you think the sentence at the end of p. 272: "Her eye fixed on the reading lamp." means? (From p. 248,

TM.) (She was staring at the reading lamp with the idea of using it to light the jetty.)

6. Why wasn't the reading lamp a good idea? (No place outside to plug it in.)

7. Did turning on all the houselights help? Why or why not? (No, because they were too dim, probably because they were too far away.)

8. Why didn't burning the trash work? (It didn't last long enough.)

Applied:

9. Can you think of any ideas for lighting the jetty that Liz and Amy haven't thought of? (Flashlights, etc.)

Prediction:

"Do you think the girls are going to give up now? Why or why not?"

Silent Reading:

Read to the end of the story on p. 280 to find out if you're right.

Questioning Strategy for building comprehension of applied level concept one: "If at first you don't succeed, try, try again"; concept two: "Two heads are better than one"; and concept three: "Fear is often put aside when one has to act quickly in an emergency."

Literal:

1. Did the girls give up? (No.) What else did they try? (They wrapped aluminum foil around the jetty posts.) Did it help? (Yes.) Tell how. (Captain Donovan saw the reflection of the foil, also he heard the dinner bell ringing.)

2. What did Amy and Liz do that they weren't supposed to do? (Go out on the jetty at night.)

Interpretive:

3. Why do you suppose it wasn't allowed? (Because it was dangerous, in the dark it would be easy to fall off the jetty into the river.)

4. What did the girls think of that showed they were being careful in spite of the danger? (To bring a long rope and a life jacket.)

5. When the story says Liz helped Amy tie one end of the rope securely around her waist, what does that mean? (She helped her tie it tightly and firmly so it wouldn't come untied.)

6. Why was it a good idea for the girls to take a rope and a life jacket with them? (If Amy fell into the river, she would be connected to the jetty railing, and the life jacket would keep her from drowning.)

7. Do you think Amy could have done what she did by herself without Liz's help? (Probably not because she

wouldn't have anyone to hold the rope, and it would have been much more dangerous.)

Applied:

8. What might have happened if Amy had tried to do it by herself? (She may have been seriously injured or worse.)

9. What did Amy mean when she said: "But we didn't have time to be too scared."? (They were so busy thinking of ways to help they didn't let being afraid stop them from trying.)

10. Do you think the girls should have gone out on the jetty that night? Why or why not? (Yes, because it was important, etc.; or no, because it was too dangerous, etc.)

11. Amy was determined to help and she didn't stop trying to find a way. Can you think of things you were able to do because you didn't stop trying?

A RIDE ON HIGH, Passports, Level J, pp. 155-60, Houghton Mifflin Reading Series

Teacher Preparation

Description:

A Ride on High is a story about two young boys who ride an elevated train to a baseball game; but one boy, Tony, loses the token he needs for the ride home. When he can't find it, his friend, Chester, remembers that the elevated goes a long way further, but eventually comes to an end. They are scared, but take a chance and ride to the end, where the train turns around and brings them back home. Although they miss the game, they decide the ride was well worth it.

Analysis:

The Houghton Mifflin teachers' manual suggests the following questions for Evaluative and Creative Thinking (p. 160). The writer's suggestions for answers to these questions are given after each question. While some of the answers lead to applied level concepts, others do not. Any applied level concepts were included with the question/ answer that had inspired them.

1. "What are some other ways the boys might have solved their problem after Tony lost his token?"

The boys might have asked someone else for help--a policeman, or passenger, etc.

2. "Tony stayed in the bleachers and watched two innings before he remembered his lost token. Why is it easy sometimes to ignore things that frighten you?"

People hope that maybe if they ignore something that bothers or frightens them that it will go away by itself. Eventually though they have to face up to the problem. If we continue to ignore our problems, they often get worse instead of better. Applied level concept one: "Running away from our problems won't solve them."

3. "Do you think Chester would be a good person to be with in an emergency? Why?"

Yes, because he remembered something from a past experience with riding the el and used that knowledge to guess what the train would do. He took a chance because he was pretty sure he was right. Applied level concept two: "Sometimes we have to act in an emergency without knowing for sure if we're doing the right thing, but that may be better than giving up or waiting for the sure thing to come along."

Procedure for Developing Student's Comprehension

Prediction:

The title and picture on p. 156 may possibly direct predictions toward flying and airplanes, consequently you may want to include the pictures on pp. 158-59. This should elicit guesses about what an elevated train is; although students may not know what it is called. In that case,

use clarifying questions such as: "Has anyone ever seen an elevated train or a subway? Where? Tell us about it." (If they have, try to elicit that such trains are usually built in large cities.) Also ask: "From their names could you guess which train goes high above ground and which goes underground? What do you think is the reason the elevated trains are built up above ground instead of along the ground like a regular train?" (Because cities lack for space, and this way cars and trucks can travel on the street below at the same time the train runs high above.) Purpose for reading: students are to read to find out about a problem two boys had during a ride on the elevated train.

Silent Reading:

Students read pp. 156-61.

Questioning Strategy:

Literal:

1. Why were the boys going on the elevated that day? (To see a baseball game at Tony's cousin Charlie's school.)

Interpretive:

2. What problem did the boys have on their way to the game? (Tony lost his last token and didn't have money to buy another so he could get home.)

3. What was the token used for? (Letting them onto the train platform through a turnstile.)

Applied:

4. Has anyone ever seen a turnstile and could explain to the others what it is? Sometimes we see them in supermarkets or any entry gate to a sports arena.

Literal:

5. How did Tony lose this token? (It fell out of his pocket and slipped through a crack in the platform.)

6. Find and read the paragraph on p. 161 that tells what Tony said when he lost it. Interpretive: Who could read it aloud to sound like Tony would have? (May need to discuss meanings of "gasped" and 'wailed.')

7. Where did Tony decide to look for it? (Down under the train.)

8. What was he going to do if he couldn't find it? (Find his cousin Charlie.)

Interpretive:

9. Tony didn't really want to ask Charlie for help. Why not? (Because Charlie wouldn't like being bothered--he said earlier he didn't want trouble from two little kids.)

Prediction:

After reading the subtitle on p. 162, students predict how they think Chester and Tony will get home.

Silent Reading:

Students read to the end of the story.

Questioning Strategy for building comprehension of applied level concept one: "Running away from our problems won't solve them."

Interpretive:

1. Did Tony find the token under the train? (No.)
2. Why couldn't Tony talk to his cousin Charlie when he got to the game? (The game was about to start and he guessed Charlie was already in the outfield, so he was caught in a crowd that pushed him up to the high bleachers.)
3. On p. 162 what does it mean: "A cold lump settled in Tony's stomach when he remembered his lost token? (He was scared and upset, etc.)
4. Why do you think Tony watched two innings before he went back to the train platform where Chester was waiting? (He knew he probably wouldn't get to come back; he hoped the problem would solve itself.)

Applied:

5. Have you every tried to forget a problem that frightened you because you didn't know what to do about it? Did it help to forget it?

Questioning Strategy for building comprehension of applied level concept two: "Sometimes we have to act in an emergency without knowing for sure if we're doing the right thing, but that may be better than giving up or waiting for the sure thing to come along."

Literal:

1. What was Chester's idea for getting the boys back home? (They would take the train to the end of the line where it turned around. Then they would not need tokens to get on a train going toward home.)

Interpretive:

2. Find and read the paragraph on p. 164 that tells how Tony felt as he thought about Chester's plan. Why do you think it said, "Tony pulled himself up as tall as he could and held his breath?" (He was trying not to be scared and needed to psych himself up to go with Chester.)

3. Why do you think Tony felt frightened at the beginning of the long ride? (He wasn't sure they would get home safely--fear of the unknown.)

Literal:

1. How did Tony feel about missing the game? (He didn't mind. He was glad that he had a long ride home on the el.)

Applied:

2. Do you think Chester would be a good person to be with in an emergency? Why.

Chapter 4

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary and Conclusions

Five taxonomies were compared. Four classification systems distinguished their categories based on relationships their authors perceived within the complex behavior called reading comprehension. The fifth, Bloom's system for classifying thinking behaviors, was indirectly related. Some taxonomies, such as those of Barrett and Guszak, concentrated on the relationship between comprehension abilities and the observable behaviors that were evidence of the abilities' presence. The others, those of Herber and Pearson and Johnson, were not only concerned with observable behaviors, but more importantly the nonobservable relationship between the reader and the text.

Herber stated: "Reading comprehension can be simplified by defining it as a three-level process" (21:40).

Herber's taxonomy was seen as a gradual shifting of emphasis from what is in the text towards what is in the reader's head. For example:

1. The literal level is intrinsic; that is, the reader's focus is on the information the author has given in the text.

2. The interpretive level is also intrinsic, but the reader depends more on his experiences and reasoning abilities to form interpretations of what the author meant.

3. The applied level is extrinsic; that is, the reader synthesizes concepts gained at the interpretive level with his own knowledge and experience to form new concepts external to the text.

Although Herber's taxonomy of reading comprehension levels was settled upon as the most appropriate for guiding the analysis and development of comprehension questions; it should not be construed that his taxonomy would be apropos for every situation where teachers wish to improve reading/thinking abilities.

The following statement adapted from Gibson and Levin (12) remains pertinent: No single taxonomy will serve to describe reading comprehension because there are as many implications for education as there are students who read, things to read, and goals to be served.

Analysis of the Houghton Mifflin comprehension questions found their levels to be consistent with those of Herber's taxonomy; that is, both had three levels whose definitions seemed to correspond in meaning. There was an expected predominance of literal level questions provided by Houghton Mifflin for the guided reading portion. Relative to this Hyman stated

> . . . the oft-maligned factual memory question is not ipso facto a bad question. Students must build

> on what they recall in order to respond to and ask other types of questions. Thus, it is not a matter of 'good and bad' in regard to questions, but rather a matter of 'appropriate and inappropriate' (24:35).

As Hyman goes on to explain, appropriateness depends on when questions are asked, e.g., prior to, during, and after reading; also it depends on the cognitive abilities of the students.

During the review of previously tested comprehension strategies, one resultant principle was that questions are less effective if they stand alone. Consequently it was suggested that planned sequences of related questions serve as strategies to help students understand story plots and sequences, and to draw conclusions about the story as a whole. Analysis of the Houghton Mifflin questioning patterns found their post-story discussion questions in particular were not organized into this type of comprehension strategy. Accordingly, the project was an attempt to correct this through balanced sequences of higher and lower comprehension questions.

Recommendations

It is recommended that in order for the suggested strategies to succeed, the reading teacher must also consider the influence on reading comprehension of what Pearson and Johnson (31) label as the "reading environment." This includes factors such as the general atmosphere in which questions are asked, i.e., do students know they won't be

penalized for taking risks, say during convergent and divergent prediction? Other environmental influences not to be forgotten are the modeling behavior and feedback provided by the teacher and the student's peers.

It is also recommended that, just as basal reading series should be regarded as instructional guides, rather than recipes to be followed verbatim; so should the questioning strategies included in this project be viewed as alternative suggestions. As such they can and should be revised up or down in terms of complexity whenever the needs of individual readers intervene.

It is one thing for researchers to tell educators how to improve their instructional strategies, and another for educators to effectively turn the recommendations in to actual curriculum materials. The only true test is in classroom interactions between teachers and students. Therefore, before the project's questioning strategies can be considered valid, they must be field-tested in classroom pilot studies.

Since the project dealt with that complex and often unobservable quality of reading called the comprehension process, objective measures of success are difficult. What is the criterion for determining if students have learned what teachers expect of them, particularly when the primary purpose is for students to experience the reading/thinking process, and learning the content is secondary?

It is suggested that a simple, but effective criterion is teacher observations which reveal how competently and openly students are participating in discussions of reading contents. It is further suggested that teachers should encourage divergent as well as convergent answers, without becoming overly concerned about receiving singular or "right" answers.

To reiterate, the primary function of the project's questioning strategies was not assessment of what has or has not been comprehended. The purpose was to stimualte students' reactions and thoughts on higher than literal levels, both before and during as well as after reading.

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