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ABSTRACT

Preservice teachers can be taught skills in questioning techniques through a three-stage process of modeling, practicing, and evaluation. In a methods course taught by the authors, education students were confused by the variety of questioning techniques available, and would not adopt effective and efficient approaches to questioning. A three-stage model, to teach students about questioning techniques, consisting of initial training, practice and evaluation, and final evaluation, was used by teacher educators. During initial training, two paradigms of question types were presented: (1) affectively oriented questions for encouraging discussions about pupils' feelings toward reading passages as well as eliciting critical evaluation; and (2) cognitive questions for assessing comprehensive skills in textual materials at three academic levels. The education students discussed, observed, and analyzed each questioning method. In the second phase, students submitted examples of each question type, and classified and analyzed both their own and their peers' questions. In the final stage of training, students analyzed and evaluated the quality of all their own and their peers' work from the beginning of the semester. (FG)

TEACHING TEACHERS TO QUESTION QUESTIONS

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Ever since the time of Socrates questioning has been recognized as a vital tool for both teachers and students. However, findings by Singer (1978) and Ruddell (1977) indicate that while researchers and teachers alike acknowledge the primacy of the question-response interaction, few teachers are actually using this vital tool to its potential. One place where effective questioning behaviors and habits may be developed is in undergraduate teacher preparatory courses.

As trainers of prospective teachers, the authors were anxious to create awareness of and competence in effective use of different questioning approaches. They therefore presented to the preservice teachers in lecture format several paradigms illustrating questioning procedures designed for multi-level comprehension, those requiring broad and narrow responses, as well as questions used to elicit emotional response to literature. In retrospect, the results were what they should have been: confusion. Since the different approaches for questioning overlapped, an in-class presentation was not sufficient for students' understanding.

Our failure to communicate a necessary teaching skill raised more fundamental questions. What are the responsibilities of teacher trainers in the sole reading class for teachers? How do we present the spectrum of available opinions, evidence, approaches and techniques in the small amount of class time available? Do we present a wide range of techniques for our classes' perusal, or do we preselect the best techniques and train

students in their use? Our answer was and remains: both. Students in reading preparatory courses should be made aware of different approaches and methods; then, a preselected "best" approach should be trained and nurtured. The skills requisite for questioning in reading were grouped into two basic paradigms. The use of affective questions was chosen for use with literature, and the use of cognitively oriented questions was selected for textual passages.

A second issue that was apparent due to our "failure" was making the assumption that when techniques are endorsed in a methods class, they are automatically adopted. This is just not the case. Effective, efficient approaches to questioning were not adopted by students. Their questions in both written assignments and in actual teaching, remained largely at a literal level, in a closed format. For example students wrote questions to use when sharing literature with children. Even after the first presentation, 57% of their questions were judged to assess a literal level of comprehension. Apparently, telling students what works is not enough. To change teaching behaviors in questioning it is necessary to train a small, well defined approach in class and then reinforce its adoption over the semester. This was accomplished by attaching a questioning rider to every assignment. For example, questions in lesson plans, directed reading activities, classroom interaction, and literature sharing were all evaluated by peers and by the instructors. This adoption process has three stages; 1) initial training, 2) practice with evaluation, and 3) final evaluation.

INITIAL TRAINING

During the training stage, students were made aware of various questioning paradigms through course text assignments and a short class discussion. When the confusion surrounding the differences between paradigms was apparent, students were shown how several approaches could be condensed into a dichotomy of cognitive and affective questions. A description of these paradigms and their initial training strategies follows.

Affective questions

This paradigm involves the use of affectively oriented questions for encouraging discussions of feelings about children's books and poems as well as critical evaluations of their literary worthiness. Since we know from experience that prospective teachers will not automatically use such open-ended, divergent questions, we need to present a convincing rationale for their use and then provide adequate practice in developing and analyzing them. The training is designed to encourage questions based on two categories of literary response as described by Purves and Beach (1968): Engagement/Involvement and Literary Evaluation. These categories were chosen based on the research of Sàbo (1980) who found that the use of such questions positively influenced children's reading habits.

The procedures described here incorporate inductive processes and modeling. While the main purpose is to develop questioning strategies which tap the affective domain, a secondary aim is to familiarize students with selected children's books.

1. Following the sharing of a picture book, the instructor asks questions designed to encourage emotional and personal responses e.g. "How did you feel about this story?" "What part of the story made you feel that way?" These are followed by questions which invite evaluation of the content, form, and meaning of the work, e.g. "Was it worth reading?" "Would you recommend it to a friend?" "Why or why not?"

2. Students are then asked to analyze the questions they were asked; through discussion the two proposed categories are identified. A rationale for using these categories, Engagement/Involvement and Literary Evaluation is provided. The other categories in the Purves model--Literary Perception and Interpretation--are described and related to the cognitive paradigm. They are given little attention at this time because the emphasis here is on developing questions which stimulate discussions based on emotional response.

3. Students share a second picture book in small groups and work together to develop questions of an affective nature. Appropriateness is checked through class discussion.

4. Following the sharing of a third short children's book, the prospective teachers develop questions individually. They are then given a "Question Quadrant" worksheet (Figure 1) for analyzing their questions. Individual classifications are checked through comparison and small group discussion.

Question Quadrant
(Figure 1)

5. If possible, the students watch an experienced teacher sharing books with children in two different ways: using affective questions, then using cognitive questions.[1] Children's behavioral responses to the two modes of presentation are compared. Through discussion the advantages of the affective questions--greater enthusiasm and lengthier discussions--are highlighted.

This introduction is not a complicated paradigm but one that is quite difficult to sell. It requires risk-taking insofar as the answers and discussions are generally unpredictable. Furthermore, these affective questions contradict teacher questioning practices for effective learning

[1]The authors developed a videotape for this purpose through grant no. 2-22280-340. For further information contact either of them at: 4H01 Forbes Quadrangle, University of Pittsburgh, Pittsburgh, PA 15260.

of content material which focus on text based information. Finally, affective approaches propose that children's understanding of all the details and information contained in a story need not be quizzed regularly; that, in fact, such testing may impede enjoyment and motivation for further reading. With practice, however, prospective and experienced teachers alike may come to realize that in adopting affective questioning strategies for sharing literature, they are not abandoning the cognitive realm altogether. For, whenever children can express feelings or opinions about a literary selection and can provide arguments and reasons to support their stances, they are exhibiting an underlying understanding of the concepts presented.

Cognitive Questions

The second questioning paradigm involves the use of cognitive questions for teaching and assessing comprehension skills in textual materials. While students generally recognize the assessment value of questions, they need also to become aware of the teaching possibilities inherent in questioning strategies.

True to the example with affective questioning, telling students about cognitive questions was not enough. In fact, even after an in-class presentation on questioning related to levels of comprehension, students constructed largely literal questions to accompany a content subject lesson. It became obvious that they need repeated chances to practice making multi-level questions. Therefore, after a discussion centered on what students know, remember, and think aobut questions, including questions' locations in passages, the following training procedure adopted from Alvarez and Others (1979) and based on Herber's (1970) three level guide was developed.

A. Three levels of comprehension.

1. Following a short passage, readers are asked to indicate which of several accompanying statements are literal, or derived from the passage. Discussion resolves potential differences.

2. Similarly, readers are asked to indicate in a second list which of several statements are inferential, or based on passage information but require reader input. Again, discussion resolves conflict.

3. A third set of statements is checked for an applied level of comprehension, or based on reader judgments, generalizations or other summative operations. Especially for applied levels, discussion attempts to resolve conflict. It should be noted that discrete classification of statements into separate levels is not the goal. Rather, flexible intuitive notions about the existence and definitions of different levels is desired.

4. A second passage is accompanied by a mixed set of statements from all three levels. Individual sortings are checked through group comparison and discussion.

5. With a third passage, readers generate separate lists of literal, inferential and applied statements. After exchanging with partners, readers transform statements from each level into questions. In a short discussion students share questions and preliminary evaluations of the questions' quality. Discussion of quality and format leads to the next section.

B. Open and Closed questions.

1. A discussion of definitions for open and closed questions is summarized by listing student-generated examples on the chalkboard or overhead screen.

2. Following oral reading of a selected passage (perhaps a newspaper article) students write examples of open and closed questions.

3. Students receive a handout (figure 2) with the three levels of comprehension and narrow and broad questions. Following a second passage students write narrow and broad questions at three different levels.

PRACTICE AND EVALUATION

The second stage of adoption is student practice with feedback. For practice with both cognitive and affective questions, assignments encourage students to use their previous training. Affective questions, which are written by the students for literature sharing and for basal reading assignments, are classified with the help of the Question Quadrant (figure 1). Students evaluate their own as well as peers' questions. This classification activity accompanies all assignments that involve affective questions. As students assimilate the categories and their defining criteria, the chart is abandoned for efficiency. Similarly, classification of cognitive or text-based questions accompanies all class assignments that use questioning about textual materials. The questions students write for content methods courses are also subjected to the scrutiny of classification by peers. At intervals over the course of the semester, the three-level handout (figure 2) is imposed on groups of questions. As with the Question Quadrant, the three level handout is gradually phased out as students internalize its divisions and criteria. For both paradigms, disagreements that usually occur surrounding individuals' different classifications are brought to whole-class attention for vigorous discussion and resolution. The key, of course, is spaced practice with feedback and interaction.

FINAL EVALUATION

In the final stage of training, students compare question samples taken from their work over the course of the semester. Students then exchange question samples and try to arrange each other's questions in time order.

Since correct ordering of these question samples is dependent on both the quality of the questions and the perceptions of the arranger, students receive an evaluation with relatively small threats. Finally, students are invited to view the videotape of cognitive and affective questions in response to shared literature. (see note 1).

While several aspects of questioning are presented in the context of this approach, two main skills are trained. Students learn to construct cognitive questions at three levels of comprehension and in open and closed formats; and they also learn to formulate affective questions in two motivating modes. Further, in the course of the levels of comprehension activities, different leveling paradigms are mentioned. But the main acquisition should be mastery of cognitive questioning at three levels and affective questioning in two modes.

If preservice teachers are to understand and develop skill in questioning, they need to understand that no one paradigm is adequate for all purposes. For developing enthusiasm for books and for motivating a lifelong reading habit, affective questioning strategies work. For challenging higher-level thinking about text, as well as assessing perception of literal messages, cognitive questions are in order. Communicating and demonstrating these approaches is a good first step. Modeling, practicing, and evaluating questions increases the likelihood that future teachers will become skilled questioners in the classroom.

Classify the questions by recording the numbers in the appropriate sectors.

Write a few key-words for each numbered question.

No.	Literary Perception	No.	Interpretive
No.	Engagement Involvement	No.	Literary Evaluation

FIGURE 1

QUESTION QUADRANT

	Open Questions More than one answer. Broad-based, divergent	Closed Questions One correct answer. Narrow, convergent.
Literal "What the author says"		
Inferential "What the author means"		
Applied "Use of author's information."		

FIGURE 2

COGNITIVE QUESTION CLASSIFICATION FORM

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