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Questioning the Author: A Yearlong Classroom Implementation to Engage Students with Text

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Abstract

This article describes the development and implementation of Questioning the Author, an instructional intervention that focuses on having students grapple with and reflect on what an author is trying to say in order to build a representation from it. The implementation involved a social studies teacher, a reading/language arts teacher, and their 23 inner-city fourth-grade students in a small parochial school. Analyses of transcripts of videotaped lessons and classroom observations revealed that teacher talk decreased in quantity and increased in quality with more emphasis on questions focused on constructing and extending meaning and more skill in refining and using students' comments in discussion. Changes in the content of student talk were also documented. These included an increase in the number and complexity of student-initiated questions and evidence of the development of student collaboration. Teachers' journal entries and students' responses in interviews provided insights about their views of the implementation.

Current models of reading emphasize that successful reading is a constructive endeavor in which readers actively make sense of information in text by putting ideas together and integrating them with prior knowledge. Research with students and their interactions with texts has shown, however, that younger and less adept readers tend to take a less than active role in the reading process. Inexperienced readers are less likely to note inconsistencies in text content (Markman, 1979), to monitor what they understand from their reading (Cross & Paris, 1988; Garner & Taylor, 1982), and to employ strategies to keep their reading on track (Paris & Oka, 1986).

Recently, much work has focused on developing instructional techniques to en-

courage students to become actively involved in reading. Although the body of work has a common focus of promoting active engagement with text, researchers have pursued several distinct directions toward that end. One major direction has been to encourage students to respond actively to what they read through collaborative discussion. Collaboration, in which students share and challenge each others' ideas, is seen as key to promoting students' engagement. A number of different approaches toward fostering collaborative discussion have been developed, such as the Reflective Thinking Project (Anderson et al., 1992), the Book Club Project (McMahon, Raphael, Goatly, Boyd, & Pardo, 1992), the Conversational Discussion Groups Project (O'Flahavan & Stein, 1992), Instructional Conversations (Goldenberg, 1992), and the Junior Great Books reading and discussion program (Denis & Moldof, 1983). Although the discussion format seems to increase student involvement with literature, it is important to note that these discussions take place after reading. Thus, the ongoing process of constructing meaning that takes place "online," or during reading, is not addressed.

Another line of work directed toward encouraging readers to assume more active roles has focused on the teaching, modeling, and practicing of strategies that mature readers use as they read. A number of different strategies and teaching methods have been proposed, such as reciprocal teaching (Palincsar & Brown, 1984), informed strategies for learning (Paris, Cross, & Lipson, 1984), direct explanation (Duffy et al., 1987), transactional instruction (Pressley et al., 1992), and cognitive process instruction (Gaskins, Anderson, Pressley, Cunicelli, & Satlow, 1993). Promoting the use of strategies attempts to focus on the ongoing process of reading, and these approaches have met with success in having students learn to use strategies and even in promoting comprehension. A potential drawback of strategy-based instruction, however, is that attention may become focused on the sur-

face features of the strategies themselves rather than on reading for meaning. In fact, some researchers have questioned the necessity of emphasizing specific strategies if the goal of reading as an active search for meaning could be kept in mind (Carver, 1987; Dole, Duffy, Roehler, & Pearson, 1991; Pearson & Fielding, 1991).

The significance of an active search for meaning can be seen in two lines of work. One is the revision of texts intended to make them more coherent for young readers (Beck, McKeown, & Gromoll, 1989; Beck, McKeown, Sinatra, & Loxterman, 1991; Britton, Van Dusen, Gulgoz, & Glynn, 1989; Duffy et al., 1989; McKeown, Beck, Sinatra, & Loxterman, 1992). Beck et al.'s work in revising texts for young readers made them aware that the process of revising a text requires active engagement with its contents and grappling with ideas in order to understand what the author was trying to say. This insight made us consider that we might encourage students to grapple with text ideas by helping them to acquire a "reviser's eye." Key to a reviser's eye is the difference between trying to understand and trying to make something understandable.

The difference between understanding and making something understandable makes contact with a line of research on self-explanation, in which students are directed to provide explanations for presented information (Chi, Bassok, Lewis, Reimann, & Glaser, 1989; Chi, de Leeuw, Chiu, & La Vancher, 1994; Pressley, McDaniel, Turnure, Wood, & Ahmad, 1987; Pressley, Symons, McDaniel, Snyder, & Turnure, 1988). Both Chi and her colleagues and Pressley and his colleagues have found that self-explanations can be elicited from students, and that when they are, students are better able to learn the material presented to them (Chi et al., 1989, in press; Pressley et al., 1987, 1988).

The focus of the present research is an instructional intervention called "Questioning the Author" that has ties to theory and

research related to discussion, strategy instruction, and self-explanation. Questioning the Author is a deceptively simple approach with a minimum of apparatus. Its focus is to have students grapple with and reflect on what an author is trying to say in order to build a representation from it. This is accomplished by having students consider segments of text on-line, in the course of initial reading, and respond to teacher-posed Queries such as "What is the author trying to say?" and "What do you think the author means by that?" The Queries are designed to invite students to explore the meaning of what is written in the texts they read.

The kinds of questions posed give dialogues their shape and tone (Burbules, 1993). Questions can be developed so as to open a dialogue by encouraging expressions of "understanding, interpretations, elaborations" (Burbules, 1993, pp. 87-88). Yet the kind of narrow, retrieval-based questions that traditionally accompany school lessons serve more to limit than to activate meaning-getting. The Queries used in Questioning the Author are designed to invite "understanding, interpretation, and elaboration" by having students explore the meaning of what is written in the texts they read.

The intent of interrogating the ideas in a text through dialogue with the author is to "depose" the authority of the text by actualizing the presence of an author as a fallible human being. Textbooks have an authoritative status in the classroom (Luke, DeCastell, & Luke, 1983; Olson, 1980), which, in combination with the often less-than-coherent nature of textbook prose (Beck et al., 1989, 1991; McKeown et al., 1992), can give students the impression that problems in comprehending textbooks lie with them. The notion was that in changing the way students (and teachers) address a text, that is, by challenging the authority of the textbook, blame for comprehension difficulties could be shifted from students' inadequacy to authors' fallibility. In turn, stu-

dents might be more likely to question text ideas and dig into their meaning.

Questioning the Author is responsive to the text-processing demands that less-than-coherent texts can create for young readers, focuses on readers' interactions with text as it is being read, situates reader-text interactions in whole-class discussion, and encourages explanatory responses to questions about text. Although Questioning the Author shares with discussion, strategy-instruction, and self-explanation approaches a goal of activating and engaging readers, it addresses these issues through a unique constellation of four features: (a) It addresses text as the product of a fallible author; (b) it deals with text through general probes for meaning directed toward making sense of ideas in the text; (c) it takes place in the context of reading as it initially occurs; and (d) it encourages collaboration in the construction of meaning.

The purpose of this article is to describe and analyze a year-long classroom implementation of Questioning the Author. Our goal for implementing Questioning the Author was to learn the extent to which teachers found the approach viable, how it changed their interactions with students, and the extent to which students' interactions with text were affected, both in the classroom and when they were reading on their own. Stated more specifically, the purpose of this article is to describe and analyze what Questioning the Author became in one school for two teachers and 23 students who took our prototype of Questioning the Author and developed it in their own classrooms.

Preparation for Implementing Questioning the Author

The School, Teachers, and Students

The study was conducted at a small parochial school located in a predominantly African American, lower SES community in the center of a large city. This school was selected because we wanted to work with a population of at-risk students, and we were

able to obtain the cooperation of the principal and two teachers who taught reading/language arts and social studies to fourth graders. We were interested in early intermediate students because it is at this time in school that content-area reading takes on greater importance in the curriculum, and thus a reader's skill in building meaning from a variety of text types becomes more significant.

The school housed about 200 students, one class each from kindergarten through eighth grade, and 11 full-time teachers. Each teacher was responsible for teaching one or more content areas for several grade levels. In addition, two full-time Chapter 1 teachers provided remedial reading and math instruction to approximately 100 eligible students.

The two teachers from the school who agreed to participate in the study were Elizabeth Farrell and Susan Kelley (pseudonyms chosen by the teachers). Ms. Kelley came to the project with 3 years of classroom teaching experience and was primarily responsible for teaching social studies and other content-area subjects to the fourth-grade class of 23 students. Ms. Farrell, who taught the same fourth graders reading and language arts, had 4 years' teaching experience. The teachers were paid as consultants during the project for the extra time involved in attending meetings and keeping journals.

The students involved in the Questioning the Author implementation were all of the fourth graders in the school, 15 girls and 8 boys. All but two of the students were African American.

Instructional Setting

In order to familiarize ourselves with how the teachers conducted their classes, we observed five lessons in each teacher's classroom in the spring of 1992. From these observations we learned that these teachers taught in a traditional manner, with lessons that focused on a text section or story, which was read in round-robin style, fol-

lowed by a teacher-led question-and-answer session directed toward retrieving text information. Students provided brief responses based on information taken directly from the text, and the teachers then evaluated the correctness of the response and moved on to the next question. This kind of lesson exemplifies the traditional initiation-response-evaluation (IRE) pattern that has been documented by researchers as the standard classroom interaction for decades (Bellack, Kliebard, Hyman, & Smith, 1966; Cazden, 1986; Mehan, 1979).

Orienting the Teachers to Questioning the Author

Our collaboration with the teachers began during the summer of 1992. The starting point of our interactions was discussion of the theory and research that led us to create Questioning the Author. We pointed out that much of the text material students read in elementary and middle school fails to help young learners see connections between ideas and often assumes background knowledge that the students may not have. We discussed the difficulty that teachers have in recognizing these problems because, as mature readers, they make connections during reading that the texts have not explicitly made and bring knowledge to the texts that young students do not necessarily have.

The remaining sessions with our teacher collaborators were directed toward acquainting them with Questioning the Author and planning for the fall implementation. Toward that end, we introduced the teachers to two tools we had developed in pilot work with individual students, which represented a prototype of Questioning the Author. The first tool was a Modeling Protocol to be used by the teacher to demonstrate how a reader might think through the ideas presented in a text in order to build understanding (Beck, McKeown, & Worthy, 1993; McKeown, Beck, & Worthy, 1993). The Modeling Protocol is based on a brief text from a fourth-grade social studies book

and involves modeling the processes of a skilled reader reflecting on and evaluating text statements. For example, a statement in the text reads, "Russia has used rockets to put a new moon in the sky"; the commentary on this statement in the protocol is, "Hmmm, I don't know what the author means. How can you put up another moon?"

The second tool was a set of Queries designed to initiate and focus discussion about texts (Beck et al., 1993; McKeown et al., 1993). The Queries are presented in Table 1. Initiating Queries, such as "What is the author trying to say?" help begin discussion of text, and Focusing Queries, such as "That's what the author says, but what does it mean?" provide guidance for furthering discussion. The original Focusing Queries were aimed at expository text, to help students clarify the information they read. A separate set of Focusing Queries was developed for narrative text to foster students' understanding and appreciation of stories by drawing attention to an author's manipulation of narrative elements such as plot shifts ("How has the author let you know that something has changed in the story?"), characterization ("How do

things look for [character's name] now?"), resolution of conflicts ("So, how did the author settle that for us?"), and author's style or technique ("How is the author painting a picture here?"). The Queries developed for narrative text are shown in Table 2.

Members of the research team and the teachers analyzed transcripts and videotapes of tryouts of Questioning the Author that the researchers had conducted with groups of students the previous school year. Our intent here was to familiarize the teachers with how Questioning the Author functioned, to learn the teachers' view of how the technique could work, and to understand concerns they might have in implementing an approach that was clearly a marked departure from their usual way of conducting lessons. In the course of viewing the tapes, the teachers identified some concerns about how Questioning the Author might influence classroom interactions. These included the potential chaos that could result from reducing teacher control of discussions and the time that it would take to cover material in Questioning the Author fashion. Despite their concerns, both teachers expressed enthusiasm about

TABLE 1. Queries Developed to Guide Questioning the Author Discussions

Goal	Queries
Initiate discussion	What is the author trying to say? What is the author's message? What is the author talking about?
Help students focus on the author's message	That's what the author says, but what does it mean?
Help students link information	How does that connect with what the author already told us? How does that fit in with what the author already told us? What information has the author added here that connects to or fits in with _____?
Identify difficulties with the way the author has presented information or ideas	Does that make sense? Is that said in a clear way? Did the author explain that clearly? Why or why not? What's missing? What do we need to figure out or find out?
Encourage students to refer to the text either because they've misinterpreted a text statement or to help them recognize that they've made an inference	Did the author tell us that? Did the author give us the answer to that?

TABLE 2. Focusing Queries Developed for Narrative Text

Goals	Queries
Encourage students to recognize plot development	What do you think the author is getting at here? What's going on? What's happening? What has the author told us now?
Motivate students to consider how problems are addressed or resolved	So, how did the author settle that for us? How did the author work that out for us?
Help students recognize author's technique	How has the author let you know that something has changed in the story? How is the author painting a picture here? How did the author let you see something/feel something/smell something? What has the author told us that (character's name) doesn't know? What is the author doing here? How did the author create humor/suspense/sadness (etc.)? Why do you suppose the author used foreshadowing/flashback (etc.)?
Prompt students to consider characters' thoughts or actions	How do things look for (character's name) now? What is the author trying to tell us about (character's name)?
Prompt students to predict what a character might do	Given what the author has already told us, how do you think (character's name) will handle this situation?

the potential of Questioning the Author for their students' learning.

Method of Implementation

The teachers implemented the approach in the fall of 1992. Several weeks after school started, the teachers began using Questioning the Author as the basis for their work in fourth-grade social studies and reading/language arts whenever text was the focus of a lesson.

Data Collection

Data collection began with observation and videotaping of baseline lessons for the two teachers in the spring of 1992. We observed each of their classrooms five times and videotaped one lesson for each teacher in the spring. Documenting the implementation effort, which spanned September to May, involved frequent classroom observations by members of the research project, weekly videotaping of each teacher, weekly after-school meetings with the teachers, journals that the teachers kept and showed to us once a month, and the teachers' ob-

servations of each other. The sources of data that these activities provided are as follows:

- Videotapes (all of which were transcribed) of 25 social studies lessons and 21 reading/language arts lessons and one baseline lesson for each class
- Notes of 38 meetings with the teachers, 11 during the summer of 1992 and 27 during the 1992-93 school year
- Observation summaries, which included 42 by project members and three from each teacher observing her colleague
- Each teacher's journal entries, which comprised more than 30 typewritten pages for each teacher
- Debriefings and lesson narratives, two types of written reflections that the teachers generated after the end of the school year, totalling 18 typewritten pages for each teacher

In addition to these sources, we had students' responses to individual comprehension tasks that were administered as pretests and posttests, as well as interviews with students about their views of Questioning the Author.

Data Analysis

The data can be viewed as comprising three categories. The first category consisted of data related most directly to the lessons, that is, the videotapes, transcripts, and observation summaries. The second category provided a commentary on the implementation, consisting of entries from the teachers' journals, teachers' reflective writings, meeting notes, and students' responses to interviews. The third category was a measure of individual effects of the implementation on students' independent comprehension and consisted of results from the individual pretests and posttests.

Lesson analysis. The major focus in analyzing the data was exploring patterns of interaction during Questioning the Author lessons as evidenced by transcripts of the videotaped lessons. The analysis of transcripts included both the development of indices of changes in isolable aspects of the lessons and a qualitative analysis of excerpts of classroom discussions.

The precise nature of the analyses was not determined a priori, but rather was derived from the patterns observed in the data. Our approach was first to use the observation summaries as well as the transcripts to get a sense of how the lessons were going. As we noticed movement toward greater engagement with text on the part of students, and encouraging and maintaining greater student involvement on the part of the teacher, we then examined the transcripts to identify actions that were contributing to our impressions and to check for patterns of such actions.

The patterns that emerged were analyzed through the development of categorical indices or explored qualitatively using full excerpts. We developed indices to examine four aspects of the lessons: (a) the questions teachers asked in conjunction with discussion of text, (b) teachers' rejoinders to students' responses to questions, (c) the relation between the amount of teacher and student talk, and (d) student-initiated remarks. We applied the indices to

a sample of six transcripts for each teacher, one baseline lesson and five Questioning the Author lessons selected to represent five time periods across the year, September, November, January, March, and May. Within each period, a lesson was randomly selected.

The qualitative analysis of full lesson excerpts was done to provide another perspective on patterns of classroom discussions. Qualitative examination of extended sequences from lessons reveals a richer picture of the depth and tone of the interactions.

Teacher and student commentaries. The commentaries that the teachers and students provided, that is, the teachers' journal entries, peer observations, and written reflections, and the students' responses to interviews, gave the teachers' and students' own perspectives on the implementation. To examine their perspectives, we conducted a content analysis of themes that emerged from the teachers' writings and students' responses.

Individual effects. Data from an independent comprehension task administered to students at the beginning and end of the year provided yet another perspective. The task assessed students' ability to build meaning from text and to monitor that meaning-building. Responses to text were evaluated for level of comprehension and whether students monitored their comprehension. Table 3 presents a time line of activities and data collection in conjunction with Questioning the Author implementation from January 1992 through the summer of 1993.

Evolution and Effects of Questioning the Author

Our main thesis is that social studies and language arts lessons in which text was the focus of instruction moved from direct question-and-answer sessions toward participatory discussions based on cycles of constructive conversation. To provide a template of the instructional context in

TABLE 3. Time Line of Activities and Data Collection

Time	Activity
January 1992	Initial contact with principal of elementary school; permission obtained for working in the school Meeting with teachers to explain project. Both teachers agreed at this time to collaborate with the research group
February 1992–May 1992	Five observations in each teacher's classroom Videotaping of one baseline lesson in each classroom Three meetings with teachers
June 1992–August 1992	Teacher orientation sessions Planning for implementation of 1992–1993 school year
September 1992	Videotaping of one baseline lesson in each classroom Observations Administration of individual comprehension tasks (pretests) to fourth graders Three meetings with teachers
October 1992	Introduction to students of Questioning the Author by Ms. Kelley using Modeling Protocol First Questioning the Author lessons in both teachers' classrooms Demonstration lessons taught in each classroom Four social studies lessons and four reading/language arts lessons videotaped Six observations in each classroom Four meetings with teachers
November 1992–May 1993	19 social studies lessons and 15 reading/language arts lessons videotaped 21 observations in each classroom 17 meetings with teachers Three peer observations of each teacher by her colleague (March–April) Individual comprehension tasks (posttests) administered (May)
June 1993–August 1993	Debriefing Planning for 1993–1994 implementation

which the implementation began and how it changed under Questioning the Author, we present two brief excerpts. The first is from the baseline social studies lesson that we videotaped in the spring of 1992, and the second is from a Questioning the Author discussion in the spring of 1993.

The topic of the baseline lesson was the lifestyle of early settlers in Hawaii. The following excerpt occurred after students had silently read a brief segment of text about the food of the early Hawaiians:

Teacher: Tell me, what did the early Hawaiians eat? Tell me one thing when I call on you. Matthew?

Matthew: Dogs.

Teacher: Dogs. Rema?

Rema: Sweet potatoes.

Teacher: Sweet potatoes. Excellent. Brad?

This example, which went on in the same manner for approximately 15 more exchanges, typifies the pattern of all the baseline lessons that were videotaped; the teacher asked a question to which a student responded briefly, the teacher acknowledged the response and then asked the next question. Links between questions or responses were seldom noted, and there was no culmination to a discussion.

In Questioning the Author lessons, discussion typically began with an open-ended

question, and student responses and teacher follow-up comments or questions built on each other. Thus, the discussion was cooperative and constructive, in that responses by many students contributed to the building of ideas. The structure of the discussion seemed to be multiple and related cycles of querying, building, and elaborating ideas.

An excerpt from a lesson on international cooperation illustrates such a cycle. At this point in the lesson, a text segment had been read that stated that “countries cooperate, or work together, to share resources and goods through world trade,” and the teacher posed a question and called on a student to respond:

Teacher: What’s the author reminding us of here? Reggy?

Reggy: That we, um, that we trade countries out of their resources and they trade us out of our resources and we cooperate, by helping each other.

The teacher then used Reggy’s response to extend the discussion, including formulating a question from part of what the student had said. That question was in turn responded to with an explanation about how trade works:

Teacher: OK, Reggy said we help each other, and that’s how we cooperate. When you cooperate, you’re working together to get something done. What does Reggy mean by, “we trade resources out of their country”? What’s he talking about? Darleen?

Darleen: He’s talking about, when he says we’re trading resources out of our country, he means that other countries, like Britain and Japan and China, we get our cotton and our resources that we have that are really popular, and we trade them for money sometimes.

As illustrated by this exchange, the Questioning the Author orientation resulted in discussions that provided students with an opportunity to consider what the author had written in terms of what they knew and what other students knew and to use that knowledge in building a collaborative representation of the ideas in the text.

Laying the Groundwork for Change

Questioning the Author was initiated in the classroom with the social studies teacher’s presentation of the Modeling Protocol that we had developed. The lesson began by presenting the notion that textbooks are just someone’s ideas written down, and that making sense of those ideas may take some figuring out. The teacher then demonstrated this figuring-out process by using the Modeling Protocol and inviting students’ comments about the text.

Following the introduction, the two collaborating teachers used Questioning the Author with the fourth-grade class when reading and discussing text material. The teachers conducted their lessons with text by reading or asking students to read a portion of text, and then posing queries from the set of Engagement Queries that we had developed to initiate and focus discussion.

As the teachers worked with Questioning the Author, it was clear that the approach “upset the apple cart” of the traditional lesson in the way text was handled and in the way teachers needed to interact with students. In terms of the text, the Questioning the Author framework meant that lessons no longer consisted of reading straight through a text, followed by questions aimed at literal text information and direct student responses. Rather, the teachers needed to develop techniques for probing ideas as they were encountered in text, monitoring students’ understanding, and prompting students to grapple with text ideas.

Questioning the Author required the teachers to deal with students in new ways. Teachers were no longer getting brief, pre-

dictable responses from students, but rather longer, elaborated accounts of what students understood or did not understand from the text and student-initiated questions that could take the discussion in unspecified directions. Also, teachers were no longer dealing with a single student's isolated response; rather, students were reacting to each other's contributions, agreeing and disagreeing, challenging each other's ideas, and elaborating on peers' comments. Our developmental efforts over the year were directed toward supporting the teachers in handling the changes that Questioning the Author required and using the changes to bring about a productive learning environment.

The remainder of this article is devoted to describing how Questioning the Author evolved in the classrooms of our collaborating teachers. Toward describing and documenting the evolution, we first consider changes in the questions teachers ask, in the way they respond to what students say, and in the proportion of talk by teacher and student. We then examine changes in what students say in terms of their initiation of issues in discussions and the collaborative meaning constructed during discussions. In the subsequent section, we consider the effects on students' individual interactions with text in terms of the results of a comprehension task administered before and after implementation of Questioning the Author. Finally, sections are included that bring forth the students' and teachers' own voices as they express their views about the approach.

Questions and Queries

Questions are traditionally the engine of teacher-student interactions in classrooms, and questions, in the form of the Engagement Queries that we developed, provided the most direct guidance to teachers in conducting Questioning the Author lessons. As the teachers began to use Queries to frame their text lessons, they had to deal with several issues. One issue was the purpose of

Queries—to explore ideas—in contrast to using questions to check on students' recall of text information. The teachers sometimes posed questions designed to retrieve information but made use of words or phrases from the Queries, such as, "What did the author tell you about how many parts of the tundra there are?"

Another issue in adjusting to Queries is that they are used as material is initially read. Thus, teachers had to decide when during the reading of a text to intervene with a Query. The amount of text that is appropriate to read before a Query is posed varies greatly with the content and depends on the importance and difficulty of the ideas in a particular portion of a text.

Questions teachers asked. As the teachers reflected on their lessons by viewing tapes, reading transcripts, and discussing the effects of their efforts at our weekly meetings, we began to observe changes in the types of questions teachers asked during their lessons. As we examined transcripts of lessons, patterns in teacher questions emerged based on the type of information the teacher was seeking from students. A scoring scheme was derived based on these patterns and applied to the sample of lesson transcripts. The scoring scheme represented four general purposes for which questions were asked: (a) to retrieve information from the text, (b) to construct the message of the text, (c) to extend the discussion, and (d) to check students' knowledge of specific information.

Retrieve information. Some questions required students to retrieve information directly from the text with little or no transformation of the information. For example, "What is the Hawaiians' favorite food?" could be answered from the text statement, "The early Hawaiians cooked the roots, and then they generally pounded them on a board to make a paste called poi. This was a favorite food of the early Hawaiians."

Construct message. Questions were identified that required students to construct meaning from text information. Construct-

ing meaning required active manipulation of text ideas, such as making connections and drawing inferences. For example, having read and discussed that Antarctica was covered with a mile-thick sheet of ice and snow, students were presented with the text sentence, "Only small amounts of snow fall in Antarctica yearly." The teacher asked, "How does that make sense with what the author already told us about Antarctica?" to help students construct the message that because Antarctica's cold temperatures prevent snow from melting, small amounts eventually become massive ice sheets.

Extend discussion. Some questions prompted students to continue developing meaning by building on ideas that had been brought up in the discussion. This type of question often involved the teacher's incorporation of students' responses into the formulation of a subsequent question. For example, after a student named Aletha said, "The author is saying she's real mad," the teacher extended the idea by asking, "What's Aletha reminding us of? Why is that such a big deal?" in order to prompt students to consider the significance of the character's anger.

Check knowledge. A portion of the questions teachers asked checked on students' prior knowledge, such as asking students to recall the meaning of a word. For example, in a discussion about an author's description of a fox as "moving craftily" the teacher asked, "What did we say *craftily* meant?" Here the teacher was apparently checking to make sure students knew information that had already been discussed.

Changes in teachers' questions. The questions teachers asked were examined in the six sample lesson transcripts for each teacher that had been selected for analyses. For each transcript, all teacher questions were identified. Questions that were judged not to be part of the substantive discussion, such as procedural and rhetorical questions, were excluded from analysis. We identified the remaining questions as representing one of the four categories: (a) retrieve infor-

mation, (b) construct message, (c) extend discussion, or (d) check knowledge. One of the researchers coded each transcript for types of questions, and a second researcher independently categorized questions in 25% of the transcripts. Interrater reliability of 85% was achieved.

Table 4 shows the frequency and percentage of the types of questions asked in the baseline lesson and the mean of each type across the five Questioning the Author lessons for the social studies teacher and reading/language arts teacher. Because of the low expected frequencies in some of the cells of each teacher's table, we used a Fisher-Irwin exact test rather than the chi-square approximation to test for independence. A significant difference was found between the types of questions asked in the baseline and Questioning the Author lessons for both the social studies teacher ($p > .0001$) and the reading/language arts teacher ($p = .0217$).

The key change in the types of questions teachers asked as a result of Questioning the Author was a shift from retrieving information to constructing meaning, particularly in extending the construction of meaning. The analysis shows that when teachers used Questioning the Author they no longer focused on factual questions, asking students to take information directly from the text, but rather on questions that asked students to think about and construct meaning from what they were reading. Although both the social studies and the reading/language arts lessons show a decline in Retrieve Information questions and an increase in Extend Discussion questions, the shift was not as dramatic for the reading/language arts teacher as it was for the social studies teacher. In the baseline social studies lesson, the teacher did not ask any questions that required students to construct the author's message. The great majority of questions required students simply to retrieve information from the text. In contrast, the reading/language arts teacher's baseline lesson was more evenly divided be-

TABLE 4. Frequency (and Percentage) of Question Types in Baseline and Questioning the Author Lessons: Social Studies and Reading/Language Arts

	Retrieve Information	Construct Message	Extend Discussion	Check Knowledge
Social studies:				
Baseline lesson	33 (77%)	0 (0%)	3 (7%)	7 (16%)
Questioning the Author lessons:				
Mean	4 (12%)	7 (21%)	15 (44%)	8 (23%)
SD	1.10	.84	4.10	4.27
Reading/language arts:				
Baseline lesson	13 (43%)	4 (13%)	10 (33%)	3 (10%)
Questioning the Author lessons:				
Mean	5 (12.5%)	5 (12.5%)	26 (65%)	4 (10%)
SD	4.21	2.07	4.69	1.92

tween Retrieve Information questions (43%) and the combination of Construct Message and Extend Discussion questions (46%).

A key factor in the difference in the results for social studies and reading/language arts may be distinctions between the two content areas. In social studies, students are reading for the purpose of learning new information; thus, teachers have a greater tendency to ask students to retrieve information from the text as a way of finding out whether students have the information. In contrast, in reading/language arts, students are more familiar with narratives in terms of both content and structure. Thus, teachers may be more inclined to devote attention to getting students to react to story ideas and events rather than merely retrieving them from the text. However, even though the reading/language arts teacher started with less focus on Retrieve Information questions than the social studies teacher, the proportion of these questions decreased greatly, and virtually all of that drop represented a shift to Extend Discussion questions.

Another notable change in questioning pattern was a rise in Check Knowledge questions for Questioning the Author social studies lessons. This result could be attributed to students revealing more of what they did not know in working through text during Questioning the Author lessons.

Thus, the teacher may have become more attuned to checking students' knowledge.

Teachers' Rejoinders to Students

The changing nature of teachers' questions produced a change in the classroom discourse pattern, which we have described as cycles of querying, building, and elaborating text ideas. In this environment, teachers' rejoinders to students' responses are no longer aimed at evaluating their correctness, but rather toward monitoring understanding and guiding meaning building. Classroom observation summaries suggested that such changes in the nature of teachers' rejoinders were, indeed, a major aspect of Questioning the Author.

Making comments public. In a preliminary examination of teachers' rejoinders in baseline and Questioning the Author lesson transcripts, we noted differences in how teachers reacted to student responses in order to make them public. Bringing student responses into the public arena is important because it represents a first step in using students' ideas as grist for developing discussion.

The notion of placing students' comments in the public arena is related to the concept of "revoicing," which has been used to describe a teacher's modification of students' comments (Bill, Leer, Reams, & Resnick, 1992; Michaels & O'Connor, 1993). Teacher actions labeled revoicing have in-

cluded rephrasing, selective repetition, and higher-order restatements. In our view, it is important to emphasize the purposes that these different teacher actions may serve. For example, rather than just repeating a portion of a student's comment, providing a higher-order restatement of the comment may enable the teacher to focus the comment so that it is more targeted on the issues being discussed. In an attempt to capture these differences, we developed a classification scheme that distinguishes among three types of teacher responses that place students' comments in the public arena: (a) repetition, (b) paraphrasing, and (c) refinement.

Repetition. Teachers frequently made students' responses public by repeating the student's comment verbatim or nearly verbatim. For example:

Tanika: It's a tree that has a fruit.

Teacher: Yes, breadfruit is a tree that has a fruit.

Paraphrasing. Teachers also made students' comments public by paraphrasing them. We identified a teacher's rejoinder as paraphrasing when the student's comment was reworded but the intended meaning was not modified. Although a teacher's paraphrase may change the wording significantly, as in the example below, the substance and focus of the original statement remain the same:

Heidi: It's a model of something big.

Teacher: It's smaller than the real thing.

Refinement. We identified instances in which teachers made substantial modifications to student comments, which we labeled refinements. Refinements of student comments shaped the comments toward integrating the students' ideas into the discussion. Teachers may refine students' comments by clarifying, focusing them in a

particular direction for discussion, or by restating them in more sophisticated language.

In the example below, the class had just read a segment from their social studies textbook describing how crops are used in world trade, with cotton as one example of a valuable crop. April's question about countries that do not grow cotton has the potential of opening up the discussion to other commodities used in trade, but because she had difficulty articulating it, this important concern could be lost. Notice how the teacher clarified the question for April and the class:

April: I have a question. If the other country, if they're not so popular with cotton, and um other resources that we're popular with, how come they have ways to give us money, if they can't get it from other countries?

Teacher: Well, is what you mean that these countries don't [grow and] sell cotton, so how do they get their money?

This clarification served well, as the class then focused their discussion on April's concern by using evidence from the book and from their own knowledge.

In the example below, the teacher supplies the label *future* for that concept as described by the student Roberta:

Roberta: I think that they mean by "Building a Better Tomorrow," that doesn't mean like, build a better tomorrow, like, *tomorrow*. It means like, not tomorrow.

Teacher: So, you're saying it doesn't really mean just tomorrow. It means *future*. Right? Is that what you're trying to say?

Changes in making comments public. To obtain a systematic look at how both teach-

ers made students' comments public, we analyzed the student/teacher exchanges in the same set of baseline and Questioning the Author lessons used in the analysis of teacher questions. For each lesson, we identified the instances in which the teacher responded to a student's contribution and used the student's ideas in the response. These accounted for approximately half of the responses in all of the lessons. These responses that were made public by the teacher were classified into the categories discussed previously: (a) repetition, (b) paraphrase, and (c) refinement.

Table 5 presents the frequency and percentage of students' responses made public that fell into each category for the social studies teacher and reading/language arts teacher, respectively. Again, because of low expected cell frequencies, a Fisher-Irwin exact test was used to test for independence. For the social studies teacher, a significant difference was found between the way students' responses were made public in baseline and Questioning the Author lessons ($p = .0002$). However, for the reading/language arts teacher, no significant difference was found ($p = .5551$).

The baseline lessons of both teachers were nearly identical in the types of responses to student comments. For both teachers, the most common way of making students' contributions public was repetition; paraphrases and refinements of students' contributions were relatively rare. In

Questioning the Author lessons, both teachers increased their tendency to refine students' comments. However, as Table 5 shows, for the social studies teacher the shift in that direction was dramatic, whereas the language arts teacher maintained a greater focus on repetition.

As we considered the apparent lack of change in the use of repetition by Ms. Farrell, the reading/language arts teacher, we sensed that there might be differences within that category. This is because although we had noted that repetition seemed to be characteristic of Ms. Farrell's interactions with students, her use of repetition appeared more complex than the initial conceptualization of the category revealed. With this in mind, we reexamined the responses coded as repetitions for Ms. Farrell and did indeed find that they could be sorted into two distinct types. The first was a simple repetition in which the student's comment was restated and nothing more was done with it; the comment had no effect on how the lesson continued. In the other type of repetition, Ms. Farrell repeated the student's comment and then went on to use that comment, such as by formulating a question from it to pose to the class, challenging a student's thinking, or drawing attention to an aspect of the story. For example, in a lesson about a story in which a family had found a parakeet, the class worked to put together clues about where the parakeet had come from. One

TABLE 5. Frequency (and Percentage) of Ways Teachers Made Student Comments Public in Baseline and Questioning the Author Lessons: Social Studies and Reading/Language Arts

	Repeat	Paraphrase	Refine
Social studies:			
Baseline lesson	22 (92%)	0 (0%)	2 (8%)
Questioning the Author lessons:			
Mean	11 (38%)	7 (24%)	11 (38%)
SD	1.14	1.82	5.70
Reading/language arts:			
Baseline lesson	21 (70%)	4 (13%)	5 (17%)
Questioning the Author lessons:			
Mean	21 (64%)	3 (9%)	9 (27%)
SD	9.42	1.52	2.77

student stated that the parakeet had had "a Jewish owner." Ms. Farrell replied, "Jewish owner? What's our big clue?" apparently to encourage the students to provide the evidence for the response.

In terms of the two types of repetition, the reexamination showed that, for the baseline lesson, 48% of the repeats were simple repetitions, whereas in 52% of the cases the student's response was repeated and then used as part of the teacher's next move to elicit further student responses. Across the Questioning the Author lessons, only 25% were simple repetitions, and 75% were used to elicit more discussion. Thus, it appears that Ms. Farrell's rejoinders to students in reading/language arts lessons did undergo change during Questioning the Author, although in a somewhat different way than Ms. Kelley's social studies lessons. Rather than shifting to refining students' responses, Ms. Farrell often used repetitions of students' remarks to formulate her next move.

Teacher versus Student Talk

If Questioning the Author promotes constructive discourse, a critical issue to consider is, Who is doing the constructing? Typically, one consequence of the traditional IRE lesson format is that teachers dominate the talk that occurs in a lesson and students are given few opportunities to respond at any great length during a lesson (Alvermann, O'Brien, & D. R. Dillon, 1990; Cazden, 1986; Goodlad, 1984; McNeil, 1988; Stubbs, 1983).

The changing pattern of discourse observed within Questioning the Author lessons included a shift away from teachers' domination of discussion. In order to examine the extent to which this shift occurred, we computed the amount of teacher talk and student talk in the same sample of 12 lesson transcripts (six for each teacher) used to examine the questions teachers asked. Each line of the 12 transcripts that represented teacher or student talk was counted. Incomplete lines, even if only a

single word, were counted as one line. The only segments of the transcript that were excluded were those where students or teachers orally read text for the first time.

Table 6 presents the frequency and percentage of teacher and student lines of talk in the sample of lessons for the social studies and reading/language arts teachers, respectively. A chi-square test on each teacher's data showed that in both cases the change in the proportion of teacher to student talk was significant. For social studies, $\chi^2(1) = 41.08, p < .0001$; for language arts, $\chi^2(1) = 32.32, p < .0001$. These results indicate that in both the social studies and reading/language arts classrooms the teachers' dominance of classroom talk receded under Questioning the Author. Concomitantly, the proportion of student talk increased notably.

The increase in student talk is in fact greater than proportional examination might convey. This is because the total amount of classroom talk in both social studies and language arts lessons increased under Questioning the Author, and it was the students who were almost totally responsible for that increase. The amount of student talk more than tripled in social studies and more than doubled in reading/language arts.

In considering what may have motivated the increase in student talk, the social studies teacher's shift toward more refinement of students' comments is one possible contributor. Another likely influence was the teachers' authentic modeling of an inquiring attitude toward text. The transcripts revealed instances in which the teachers made public their thinking about text by demonstrating that text can be confusing and ambiguous even for a teacher. Consider a few of the spontaneous comments teachers made in the course of grappling with text ideas:

- You may be right. You probably are right. You know what? I don't know.
- I'm confused by that number. I have no idea what the author means by that.

TABLE 6. Frequency (and Percentage) of Teacher and Student Lines of Talk in Baseline and Questioning the Author Lessons: Social Studies and Reading/Language Arts

	Teacher	Student
Social studies:		
Baseline lesson	275 (80%)	67 (20%)
Questioning the Author lessons:		
Mean	311 (60%)	211 (40%)
SD	16.13	26.18
Reading/language arts:		
Baseline lesson	255 (71%)	105 (29%)
Questioning the Author lessons:		
Mean	255 (52%)	240 (48%)
SD	50.95	40.78

- Gee, I don't understand. First the author tells us they have enough food, clothing, housing. And then he says they don't have the money to get this food, clothing, and housing. What's going on here?

Teachers' authentic responses to text may have influenced students' willingness to reveal their confusions about text information.

What Students Say

The findings discussed in the foregoing section suggested that the changing nature of teachers' actions led to increased student participation in Questioning the Author lessons. A key issue is the character of that increased participation. Classroom observations portrayed Questioning the Author discussions as forums in which students successfully constructed meaning from text. This constructive process was characterized by collaboration among students, monitoring understanding of the text, and enthusiasm and involvement. In this section we explore the observed characteristics of students' participation.

Students' involvement in the discussions was exemplified by a propensity for students to initiate their own questions and comments about topics under discussion. An examination of student-initiated comments and questions is the focus of the following section.

Student-initiated inquiries. Students' own questions are a valuable learning de-

vice, "for when students ask, learning follows" (J. T. Dillon, 1988, p. 7). Yet in traditional classroom lessons, even those described as discussions, the teacher fully controls the discourse; student questions are rare (J. T. Dillon, 1988; Graesser, Person, & Huber, 1992). For example, in 27 high school classroom lessons observed by J. T. Dillon (1988), the average rate of student questions per hour of class time was two—even though the classroom teachers who were observed all described their lessons as discussions.

On the basis of the increase in student-initiated comments and questions that we observed in Questioning the Author lessons compared with the teachers' baseline lessons, we undertook an analysis to examine these differences in a systematic way. The analysis used the same 12 lesson transcripts. For each lesson, we identified comments and questions about the subject under discussion that were initiated by students. An example is the student's question, "What is smallpox?" asked in response to a paragraph that included a comment about the seriousness of smallpox without defining the disease. Excluded from this analysis were answers to questions initiated by the teacher or another student, conversational remarks, and procedural questions.

Figure 1 shows the change in the number of student-initiated questions and comments from baseline and Questioning the Author lessons for both social studies and

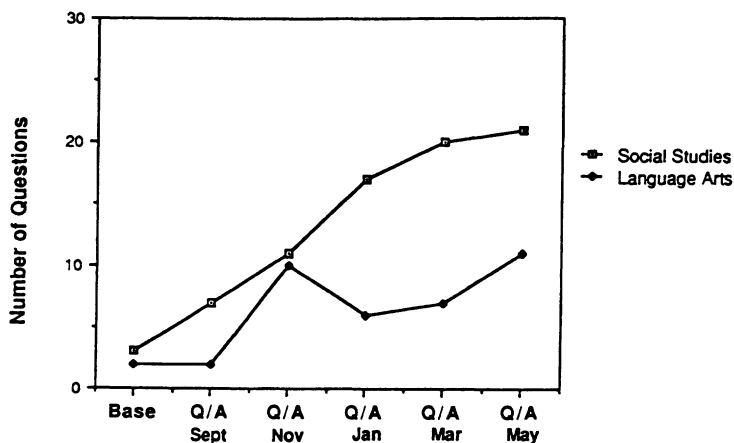


FIG. 1.—Number of student-initiated questions and comments in social studies and reading/language arts lessons from baseline (base) to Questioning the Author (Q/A).

reading/language arts. The figure shows that, as anticipated, the baseline lessons for both teachers contained few student questions or comments, only three in the social studies lesson and two in the reading/language arts lesson. In Questioning the Author lessons, the number of student inquiries gradually increased for both subjects, although the increase was more dramatic in social studies lessons. This difference may be due to distinctions in the content of the lessons. That is, students may have more confusions about the expository material in content areas such as social studies and thus may be more likely to bring up concerns about content material. Regardless, the later Questioning the Author lessons for both subjects contained far more student initiations than Dillon's (1988) analysis would predict.

Consideration of the content of student-initiated questions and comments provides some insight into the character of student participation in Questioning the Author lessons. Comparison of the questions and comments asked in baseline and Questioning the Author lessons suggests that over the course of the year, students' remarks became more complex.

In the baseline social studies lesson, the few student inquiries that were made were

direct requests for factual information. Although such requests were also observed in Questioning the Author lessons, there were many other questions that pointed to students' trying to make sense of the concepts presented in the text. In some cases students seemed to be puzzling over what the text's author had said, demonstrating monitoring of their comprehension. The two questions that follow exemplify this orientation:

- Did they mean that they have some kinds of deer that they use for meat and [different kinds] that they use for milk?
- Like, um, Japan, we trade stuff to Japan, and Japan trades stuff to us, like, how can we give them our money? Don't they have different money from us?

Some comments demonstrated grappling with text information in order to make it comprehensible. An example of such a comment was in response to a social studies text segment that describes various Alaskan animals. Included in each animal's description is the fact that the animal changes colors from season to season, but instead of integrating this information, the text describes each animal's color change as if an isolated phenomenon. The student's spontaneous comment shows that she has

synthesized the data and concluded the reason for the changes:

- I think [the author's] trying to say, um, that certain birds in Alaska and the fox, and the deer, they change colors to protect themselves.

Although student-initiated inquiries in social studies were directed toward constructing and extending text information, students' comments in reading/language arts lessons consisted almost exclusively of opinions and interpretations of events and characters in a story in light of personal knowledge and experiences. For example, "They're acting like me and my brother do sometime." Additionally, students made spontaneous predictions, "I don't think Nellie is going to get the job," and asked questions about characters' actions and story events such as, "Why did he do that?" and about author intent, "Why does the author bring up the sik-sik?" The intent of these comments did not seem to indicate a change from baseline comments, however, because the only two student-initiated comments in the baseline reading/language arts lesson were similar.

Another aspect of student involvement in Questioning the Author was students' responsiveness to their peers' contributions. In baseline lessons, students never acknowledged each others' comments except to correct wrong answers or to comment on "dumb" questions asked by their classmates. In Questioning the Author lessons, however, many responses showed that students were listening to their peers and responding to them in a spirit of collaboration. For example, we heard many comments like: "I think that's a good question, Jamal," and "I think I can answer your question, Thomas."

Further, we saw many examples of students using the comments of their peers to formulate their own responses. Such remarks included elaboration of peers' comments, such as, "I have something to add to

what Temika said"; attempts to clarify what another student had said, such as, "I think what Yvonne's trying to say is . . ."; and frequent statements of agreement and disagreement with points that other students had made. Exchanges such as these indicated that, instead of the competitive nature of student-student interaction seen in baseline lessons, students were treating Questioning the Author discussions as collaborative, meaning-constructing dialogues.

Constructing meaning in classroom interactions. Students' acknowledgment of their peers gives some clue to the collaborative nature of discussion and the thoughtfulness of student responses typical of Questioning the Author lessons. A richer picture of Questioning the Author discussion can be gained from a more extended look at classroom interactions, which are the focus of this section. Excerpts are presented from a social studies lesson of November 24, 1992, and a reading/language arts lesson of March 9, 1993.

Social studies. An excerpt from a social studies lesson on the early people of Siberia demonstrates students' construction of meaning, enthusiasm and involvement, monitoring of comprehension, and collaborative effort. The topic began with the following two sentences, which the teacher read aloud: "Some of the early people who lived in Siberia were reindeer herders. They depended on reindeer to fill all their needs." The teacher then asked what the author meant by *reindeer herders*. Notice that several students offered partial notions, and components of the concept began to accumulate:

Teacher: Hmm. What do you think the author means by "reindeer herders"? Tammy?

Tammy: They got a whole bunch of reindeer.

Teacher: Try to figure out what the author means by "they were rein-

deer herders." Tammy gave us one idea. What do you think, Antonio?

Antonio: That they raised the reindeer and they took them and they traveled places.

Teacher: Oh, OK. What do you think, Jamal?

Jamal: That they were getting a whole bunch of reindeers together, a lot of reindeer together in one place.

Teacher: Oh! Jamal said that reindeer herders means that they get a lot of reindeer together in one place and I think you're right. How many people think that's what a reindeer herder is? Hmm.

Several students began to talk at once, and Ms. Kelley called on Shanelle, who moved the discussion by using the text sentence about the reindeer filling needs. Notice that Shanelle instantiated the notion of "needs" and described how reindeer could fill them:

Shanelle: I think reindeer herders mean that hunters go out for reindeers and depend on reindeer for their food, clothing; use the reindeer's fur, use everything out of the reindeer.

With the concept now mostly in place, Ms. Kelley pointed out that what the author is describing is a synthesis of what Jamal and Shanelle have said. She then called on Shanelle to recap the motivation to gather reindeer:

Teacher: That's really great. You know what? Jamal and Shanelle took two ideas and if you put them together, that's what the author's trying to tell you. Jamal said reindeer herders means they go out to get all these rein-

deer together and why, Shanelle? Tell us again.

Shanelle recapped her own contribution succinctly, adding to it the notion of a place to live as a need:

Shanelle: Because they're hunters that go out and that depend on reindeers for their food and their fur and places to live.

Before moving on to the next text statements, Ms. Kelley called on several more students, who showed how they were integrating the concept with their prior knowledge. First, April connected the Siberians' use of reindeer with a notion studied in an earlier text unit, Eskimos' use of caribou:

April: The people who we learned about, the Eskimos, they make their houses for the summer or winter I think, out of caribou.

Alvis's comment below suggested he was monitoring his comprehension, checking his understanding by making an analogy between reindeer herders and an evidently more familiar concept, sheep herding. Notice that he added the idea that the herders feed the reindeer, which functions to distinguish herders from hunters:

Alvis: Isn't um, reindeer herders like sheep herders? Isn't it like, a group of reindeers or sheep and um, then at least a man or two men, they feed them, they gather them up, they round them up and eventually they kill them.

In the excerpt just presented, students worked together to construct some understanding of the lifestyle of "reindeer herders." Students' contributions included offering ideas, building on peers' ideas, and adding elaborations from prior knowledge. *Reading/language arts.* The excerpt presented in this next section is from the dis-

cussion of a fictional selection entitled "The Enchanted Tapestry." The excerpt shows the construction of meaning, collaboration, comprehension monitoring, and enthusiastic involvement exhibited in the social studies lesson. These qualities are played out somewhat differently, however, in a way that demonstrates the distinctions between discussions of expository and narrative text. Discussion of expository text is directed at making sense of information so that it can be understood and learned. For narrative text, the sense-making process is mainly directed at understanding how a story unfolds and how elements contribute to its unfolding. An important element in interacting with narratives is involvement with the characters of the story, which is shown in the following excerpt, through students' ability to get in touch with a character's perspective and to evaluate that perspective in terms of the story situation.

"The Enchanted Tapestry" is a retelling of an old Chinese tale of a poor weaver who lives with her three sons, two of whom are lazy and greedy and one of whom is helpful and loving. The woman is weaving a very special tapestry. Her older, greedy sons urge her to finish the tapestry so it can be sold, while her youngest son tells her never to sell it, because it is her dream. The excerpt picks up at this point, with the reading of the following text segment:

Suddenly a gusty wind blew in through the western window, ripped that tapestry from its frame, and whirled it away out the eastern window. They all pursued it, but it swirled away into the distance and vanished.

The old woman fainted. When she had recovered enough to speak, the widow called her eldest son to her bedside and said, "Li Mo, go to the East and find my tapestry, or I will die."

Grumbling, Li Mo set out and traveled east.

The teacher asked "what just happened," and several students constructed a summary of the scene. Ms. Farrell then

asked what it means when someone grumbles, and a student responded, "It means that he was mad and he didn't want to go." Ms. Farrell's next question set the discussion in motion:

Teacher: He's mad, he doesn't want to go. Now, what's weird about that? Why did the author say "grumbling"? Why did he let us know that? Why is that weird? Roberta?

The first student to respond put her own feelings into the character's situation, evaluating his reaction from her perspective:

Roberta: Because why would a boy want to be so tired to go out—I mean, I would do that for my mom, but I won't be that tired. I mean, he's like the oldest son. He has to do something around the house.

Ms. Farrell then called on Tammy, who framed the situation in terms of the character's own goals, to get gold in exchange for the tapestry:

Tammy: I don't think, I don't see why he would get mad when he wanted his mom to sell her tapestry, so that they can get gold and money. I don't know why he wouldn't want to go out getting it so his mom could finish it, and then he might see if she'd sell it.

Ms. Farrell acknowledged Tammy's well-taken point, clarified it, and then invited Shanelle to contribute. Shanelle's comment took account of another facet of the character's own perspective:

Teacher: Alright. Well, that's a good point. Tammy says that maybe he *should* go get that tapestry because of the money it will bring him. What do you think Shanelle?

Shanelle: Um, but I think that the reason why he would do lots of grumbling is because at first a gusty wind was outside blowing. And he would have to go all the way out into the gust, and through the gusty wind to try and catch this tapestry.

Teacher: So you think that's why he's mad. 'Cause he doesn't want to go out into the weather. Darleen?

The next student to join the discussion acknowledged what Shanelle said, but countered that rationale with the importance of the mission the mother has given her son:

Darleen: I think what's weird about it is, um, I agree with Shanelle a little bit, that he might be mad 'cause he had to go out in the woods just to find a tapestry, and, but, I don't think that's right because his mother was gonna die if he didn't.

Ms. Farrell responded by acknowledging the significance of that "little detail" to the story before resuming reading. As the lesson proceeded, class time was running out, so Ms. Farrell moved to read the ending of the story. In the midst of her reading, the bell sounded, and groans of disappointment were heard. She rushed to read the ending, and as she delivered the last line, the students responded by applauding!

The excerpt from "The Enchanted Tapestry" lesson indicates the thought, effort, and energy that students put into a Questioning the Author discussion. Students' reaction to the story's conclusion suggests some of the benefits they received in return.

Students' Growth on an Individual Comprehension Task

A long-term goal of Questioning the Author was to have students incorporate enhancements in constructing meaning and monitoring understanding into their own independent reading. To evaluate whether

students may have moved toward that goal, students were individually administered a pretest and posttest comprehension task. However, because the task was administered under a pretest-posttest design only, with no control group, the results are only suggestive of growth under Questioning the Author.

Task materials and administration. The materials used for the individual comprehension task were two expository texts from existing commercial materials that were adapted to ensure that they were comparable in length (134 words and 135 words) and number of central text ideas. One text, "The Honey Guide," described the mutually beneficial relationship between an African bird called a "honey guide" and an animal called a "honey badger." The other text, "The Hermit Crab," described how hermit crabs take shells from other animals and use them as their homes. The texts were counterbalanced by using each text as the pretest for half the subjects and as the posttest for the other half.

The pretest was given early in September, before implementation of Questioning the Author, and the posttest toward the end of the school year in May. The tasks were presented to students individually by one of the investigators. Each student was given a copy of one of the texts and asked to read it silently. After the student finished reading the entire text, the investigator read each paragraph to the student, stopping after each paragraph to question the student about his/her understanding. Responses were tape recorded and then transcribed for analysis.

Evaluating students' responses. To assess students' interactions with the texts, two types of questions were asked, one to probe students' ability to construct meaning and the other to probe students' ability to monitor understanding. The constructing meaning question, in the form of, "What is the author trying to tell us in this paragraph?" or, "What's the author's message?"

was the initial question asked after each paragraph. The monitoring question, in the form of, "Is there anything here that the author didn't say clearly?" or "Does that make sense?" was asked after students had responded to the first question. Students were asked the constructing-meaning question after each of the four paragraphs in each text. The monitoring question was posed three times for each passage.

Levels of constructing meaning. Student responses to the constructing-meaning question were read, and responses that comprised inaccurate information about the text were identified. The remaining responses were analyzed for levels of constructing meaning.

Toward establishing levels of constructing meaning, we constructed a situation model for each paragraph of the text. A situation model was considered to be a description in generalized terms of the situation the text seemed intended to present. For example, consider the first paragraph of "The Honey Guide": "The honey guide is an African bird that likes to eat beeswax. It can smell a beehive from far away, but its beak isn't strong enough to break open the hive. So, the honey guide goes off to find a honey badger." The situation model developed for this paragraph is as follows: "The honey guide has a problem: it wants food, but it can't access the food source. The solution to the problem involves finding a partner who can."

Three levels of constructing meaning were identified, with responses scored as level 3, representing the highest level of constructive activity, and those scored as level 1, representing the lowest. The extent to which a response matched the situation model was the main criterion used in assigning responses to a particular level. Responses categorized as level 3 gave evidence of students' having constructed a complete model of the situation described in the text, using their own words.

One other type of response was also categorized as level 3. These responses re-

flected grappling with text content in an attempt to construct meaning. In such responses, students may have exhibited confusion but were able to acknowledge their lack of understanding. For example, consider a student's comment, "Um, the honey guide can open the beehive itself, but up here it said it had to get a honey badger. I don't really understand."

Level 2 responses were similar to level 3 responses in the inclusion of references to all or most text concepts, but the language of level 2 responses stayed very close to text language, in contrast to the transformed language exhibited in level 3 responses. Responses categorized as level 1 included references to text ideas, but the references were sparse and unrelated and presented minimal evidence of students having constructed a situation model.

Monitoring for understanding. We scored responses to the monitoring question by evaluating students' monitoring of their own understanding as either successful or unsuccessful. There were two types of successful monitoring, acceptance of the text based on understanding and nonacceptance of the text with reasons. Responses were scored as acceptance based on understanding when students accepted the text as making sense and provided evidence that they had understood the text, which was taken from either students' responses to the prior constructing-meaning question or additional information they provided in response to the monitoring question. The other successful monitoring condition, nonacceptance with reasons, was recorded when students said the text did not make sense and explained the source of their confusion.

Responses to the monitoring question were categorized as unsuccessful under two conditions, nonacceptance without reasons and acceptance based on poor understanding. Nonacceptance without reasons was scored when students did not accept the author's message as being clear but did not provide any reasons for their nonaccept-

ance. Acceptance based on poor understanding was when students were willing to accept the text as clear, although they had demonstrated poor understanding of it in their responses to the constructing meaning question for that paragraph.

Changes in students' interactions with text. Students' responses to the questions on the pretest and posttest were scored by two investigators, and 20% were scored by a third rater. Interrater reliability was established at .90.

Constructing meaning. Figure 2 presents the pretest and posttest responses to the constructing-meaning question, "What's the author trying to tell us?" which was administered four times for each text. The results show that lower levels of constructive activity dominate the pretest. In fact, two-thirds of students' responses demonstrated either misunderstandings or isolated repetition of text statements (incorrect and level 1). In contrast, on the posttest more than half the responses demonstrated higher levels of constructive activity (levels 2 and 3).

To evaluate pretest to posttest differences statistically, each student was given a pretest and posttest score by summing the level of each of the student's four responses to the constructing meaning questions to produce a single score ranging from 0 to 12. The mean pretest score was 4.96 (SD = 2.77), and the mean posttest score was 6.91

(SD = 3.52). The difference between these means was tested using a matched pairs *t* test, which showed that the difference was significant, $t(22) = 2.13, p < .05$.

Monitoring. The monitoring question, "Does that make sense?" was not asked in some cases, because of ambiguity in the examiner's script about how to probe student responses that were garbled. Thus, on this question we restricted our analysis of the data to those students who did not miss more than one opportunity to answer the questions on both the pretest and posttest. This meant that 19 of the 23 students were included.

The results of the monitoring question were dramatic. As Figure 3 shows, the results of the pretest and the posttest are virtual mirror images of one another, with nearly three-quarters of the students failing to monitor the extent of their comprehension on the pretest, and with more than three-quarters of the students succeeding in doing so on the posttest.

In order to evaluate statistically the changes from pretest to posttest, the number of successful answers from the subjects' two or three opportunities on each test was converted to a proportion, and a sign test was used to test the difference between the subjects' pretest and posttest responses. Fifteen of the 19 subjects included in our analysis showed an increase in the proportion

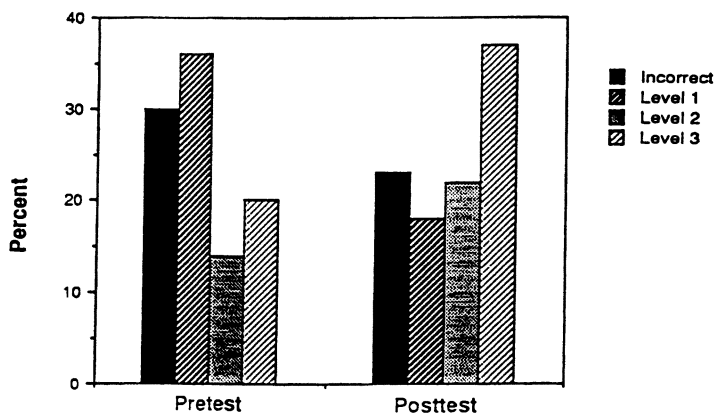


FIG. 2.—Percentage of students demonstrating various levels of constructing meaning

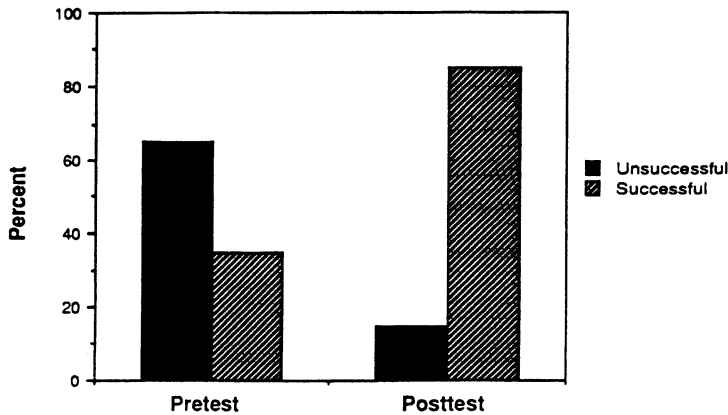


FIG. 3.—Percentage of students demonstrating unsuccessful and successful monitoring

of successful monitoring responses. Three of the four subjects who showed no improvement were at ceiling on the pretest. Only one subject did worse on the posttest. The statistical significance level of the test was $p = .0003$.

The monitoring result may be even more meaningful than the result for the constructing-meaning question, because a reader cannot always make sense of a text, as is the case if it has poor coherence or requires extensive background knowledge. It is possible, however, to recognize when one is confused. Indeed, recognition of the existence of a problem is a necessary first step in trying to deal with it.

The overall results from analysis of the individual tasks show that students in an independent comprehension situation were indeed moving toward the kind of engagement with text ideas characteristic of the collaborative discussions that had taken place in their classrooms. The findings relate to students' abilities both to construct meaning and to monitor their understanding. As noted earlier, the extent to which these results are due to students' experience with Questioning the Author cannot be said with certainty because of the lack of a control condition. However, the pattern of results across the constructing meaning and monitoring questions coincides with experiences under Questioning the Author. That

is, the monitoring result was more dramatic, and persistent monitoring and questioning of the extent to which text made sense and was successful in communicating ideas were stressed in Questioning the Author interactions. Thus, it seems reasonable to expect a greater change in monitoring. However, subsequent studies that include appropriate control conditions will be needed in order to establish with greater confidence the role of Questioning the Author in independent comprehension growth.

Students' Voices

Over the course of the school year, the teachers reported comments their students made that indicated the students' changing views of author and the reading process. We made a systematic attempt to capture these views through questions asked at the conclusion of the individual comprehension task (posttest). Students were asked (a) to explain the kind of reading and discussing they did in social studies and language arts classes, and (b) why they thought they talked about things during reading.

An examination of the transcripts of students' responses revealed several recurring themes. Two of the most common themes were realization of how the reading process could be hindered if an author did not express ideas clearly, and involvement in the

process of constructing meaning, including collaboration with other students, as an element that could mediate the process.

Students frequently expressed their perspectives on the author's fallibility:

- [Questioning the Author] is good because some things the author don't say in a clear way. He's just bursting them out and he don't tell you what they really mean.
- What you do is you learn more about what's written down than just what's written down. You explore more into it.
- You need to figure out and put the clues together, but you don't have all the clues.

Many students commented on the importance of working together in constructing meaning from text:

- We find out different things from our teachers or some of our other classmates. Like me or somebody else might know what [the author is] saying and they can tell us and help us out.
- Me and Alvis, we always get in something. We always disagree with each other. Then we read on and start disagreeing with ourselves. Then we find out about our disagreement and why we were wrong. We disagree with ourselves if we're wrong.

Students' comments about their awareness of the author's fallibility and their involvement in the reading process suggested that students were beginning to see themselves as capable thinkers who had ideas worth sharing. Students seemed to be developing the confidence to disagree or agree with the author's ideas, the ideas of others, and even with their own ideas in a collaborative discussion.

Teachers' Voices

As this discussion nears its conclusion, it seems appropriate to consider the perspectives of the teachers who implemented

Questioning the Author in their classrooms, to look through their eyes, to listen to their voices. Four primary sources present the viewpoints and voices of Ms. Farrell and Ms. Kelley. These sources include journals and peer observations, which were written throughout the course of the year, and reflective debriefings and narratives related to specific lessons, which were written at the end of the year. In analyzing the journals, peer observations, debriefings, and lesson narratives, the teachers' changing views of themselves and their roles as professionals, and of their students emerged.

Teachers' changing relationship to classroom and content. As the teachers began implementation, one of their greatest concerns was the effects Questioning the Author would have on the control they were establishing in their classrooms. In an early journal entry, Ms. Kelley admitted that she was "anxious about classroom management." Ms. Farrell also stated her concern about "how I would maintain control." As the year progressed, the teachers discovered that the key to issues of classroom management and control lay in finding a balance between classroom control and collaboration. As Ms. Farrell said in her end-of-year debriefing: "I now know that it is possible to share control of the discussion with students and not lose acceptable classroom decorum in the process."

As both teachers moved toward more shared control of discussion, they noticed that this redefined their role in fundamental ways. In a January journal entry, Ms. Kelley (social studies) described how her teaching style was changing: "I realized at one point in my lesson today that many students were talking at once. Instead of becoming frustrated and irritated, which definitely would have happened before Q the A, I became excited and eager to direct the chorus of responses. What a change in my teaching style—'direct' instead of 'stifle'!" In her debriefing, Ms. Farrell also explained how her ideas concerning the teacher's purpose in the classroom had changed: "Since I've

used Questioning the Author in my classroom, and because of the whole research experience in general, I've changed my outlook on teaching. I believe now that control is not the main issue in teaching. I believe that instruction doesn't solely have to originate with the teacher but can be acquired through peers in open, constructive exchanges."

A concern as the year began, especially for Ms. Kelley in social studies, was that using Questioning the Author might not allow enough coverage of content. In her debriefing, the teacher wrote about the change in that view: "The biggest change in my view of teaching has been an enormous shift to teach for depth of understanding and ownership of concepts rather than for exposure to a vast quantity of material." Ms. Kelley found this focus on depth of understanding reflected in her students, who suddenly were "demanding more not only from the text, but from themselves, their classmates, and their teacher, [which] forced me to acquire a deeper understanding about the ideas presented in the text."

Ms. Kelley provided an example of her need to deepen her understanding of text topics in a journal entry about her preparation for a lesson on Pearl Harbor. After expressing her frustration about the "vast amount of prior knowledge that the author had assumed the students possessed," The teacher relayed: "I was such a wreck about my own lack of prior knowledge on the subject that I spent the whole lunch period prior to teaching this text discussing Pearl Harbor with the other teachers (specifically the social studies teacher)." What surprised Ms. Kelley even more was that she had never noticed it before: "I couldn't help thinking that I had taught this same lesson without [my having done] any research [to gain information]. Amazing!"

Teachers' changing relationship to their students. Throughout their journals both teachers provided ample evidence that what was most exciting to them and encouraged them to continue using Question-

ing the Author came from what students were able to say and do during discussions. Ms. Kelley wrote about her changing expectations for students in an October journal entry, saying, "Thanks to Questioning the Author, I now expect my students to think and learn and explain rather than memorize, dictate, and forget." In a journal entry Ms. Farrell expressed her wonder at being able to "see" how the thinking of all her students was being transformed. "It's fascinating to watch them piece things together as we read the text." Ms. Farrell termed this piecing things together as "a collective, constructive experience . . . in which everyone had a stake."

Both teachers specifically pointed out that the collaboration engendered by Questioning the Author included their "low-ability" students. The importance of the success these students were now having in their classes was a constant source of encouragement. After assigning a portion of a text to be read, Ms. Farrell could not believe how involved all her students had become with the story. As she explained in a January journal entry: "They've read ahead, and even the "slower," less motivated students are joining in on the discussion with enthusiasm and vigor."

Throughout the year, Ms. Kelley frequently commented in her journal on the progress of a particular student, Alvis, who, until implementation of Questioning the Author, had experienced little success in school. Near the end of the school year, she wrote about an incident involving Alvis that seems to exemplify the effect Questioning the Author can have on individual students: "At one point [in the lesson] several students were jumping out of their seats and calling my name. Alvis even went so far as to hit me to get my attention. I told him he 'had to stop hitting me' and he told me he 'had to say something.' (I can't help but remember that this was the same student who I could not get to respond in my 'traditional' classroom.)"

Alvis's behavior reveals another aspect of students' change noted by the teachers, the development of positive attitudes toward learning. In her debriefing, Ms. Kelley commented further about the excitement generated by Questioning the Author: "Amazingly, this excitement was not being motivated by extrinsic rewards (stickers, candy, computer time, etc.) but was deeply rooted in the students' newly discovered quest for understanding and mastery of knowledge embedded in the text."

Commentary

We have described and analyzed Questioning the Author by telling three stories: how Questioning the Author developed, how teachers and the learning environment changed, and how students were affected as a group and individually. Because these stories are not discrete, a trace of their development reveals a crisscrossing or interweaving of themes that reinforce and enhance one another. The storytellers have blended their voices as well; students and teachers as well as investigators and researchers have been heard.

The stories that have been told reveal a picture of an environment in which teachers asked questions and responded to students in ways that opened up the discussion to encourage a collaborative focus on ideas, and students initiated questions, attended to peers' comments, and puzzled over meaning. The changes that occurred extended to how students dealt with text independently, in that students' performance on an individual comprehension task showed them more able to construct meaning from text and to monitor the extent to which they understood the ideas. In addition, excitement about the changes was evident in the lessons themselves and in teachers' and students' own words as they described experiences with Questioning the Author.

So, was Questioning the Author an instant, unqualified success? To the contrary, we have also provided evidence that the ap-

proach was neither easy for the two teachers to implement initially, nor was every experience with it ideal. This was the case despite extensive interaction and support of the teachers throughout the implementation year. Why was it not easy? We asked these two teachers to break habits they had developed in their teaching, habits that had worked to keep their students orderly, attentive, and focused on school tasks. We asked them to replace the groove of habit and predictability with an "anything-can-happen" format in which students often took the lead. The unpredictability of how students would react to ideas in a text and of the direction the discussion might take made each lesson unique, requiring adaptations during lessons.

The state in which we leave Questioning the Author after this implementation year is an unfinished one, as it should be. This is true for us as researchers and for the two teachers. The question, then, is, Where do we go from here? A large part of the answer lies in what Questioning the Author is and what it is not. Questioning the Author is flexible and open ended. For example, the Queries are not intended for use in a particular sequence but rather can be selected as appropriate to follow the contours of a particular text. We purposely provide few devices, which can distract as well as facilitate. Certain devices such as student journals, graphic organizers, principles for running a discussion, or particular strategies could all be invoked within the framework of Questioning the Author, and could, if used thoughtfully, facilitate thinking. But when such devices are prescribed as required components, it has been our experience that the focus of a lesson can sometimes be turned to the devices themselves. We did not want teachers worrying about "when to use the journals" or "how to draw a graphic organizer" or when to apply a particular strategy. Rather, it was our notion that any decisions to use such devices should grow from a focus on the meaning of a text.

Because of its simplicity, Questioning the Author will never be "finished," for the form it takes in a classroom depends on what the teacher makes of it. Herein lies its power and its challenge. The flexible space in which Questioning the Author operates gives it power, in that it does not prescribe for teachers exactly how things should be done. There are no scripts; there are no implements that must be used. Yet it is more than a general rubric that provides only principles with no hint of how to apply them. The simplicity of its design provides a manageable working space for initiating Questioning the Author as an approach for interacting with text. The Modeling Protocol and queries provide a starting point and a framework that can be built on. Beginning Questioning the Author is very simple for a teacher—just approach a text with some ready Queries. But the challenge of Questioning the Author's flexibility arises from what happens next, after text is read and Queries have been presented and responded to. As students respond, the teacher needs to make decisions about how to use those responses and when to give guidance in order to keep discussion productive.

Developing ways to help teachers most effectively along the way as new situations, questions, and pitfalls present themselves is the greatest challenge for us as researchers. It is our strong suspicion that any new approach to instruction will succeed or fail on the basis of how it is handled "on-line," after the initial introduction, training, and support. Too many innovations disappear at the first sign of trouble if that support fades after one or two sessions. The failure of approaches to teacher education that do not provide adequate follow-up support seems clear. Yet it is also clear that the high level of support we provided the teachers for Questioning the Author would not be feasible for wider disseminations. The challenge is to develop ways to sustain support for teachers as they undertake new approaches to instruction, but the extent of

that support must fit the pragmatics and resources of ordinary school settings. As we move Questioning the Author to other schools and work with different teachers, a significant focus of our work will be a kind of meta-implementation, monitoring and documenting our efforts in facilitating teachers' development of Questioning the Author in their classrooms.

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