

# Learning (about Learning) from Four Teachers

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*For two years university-based researchers observed, interviewed, and had conversations with four elementary school teachers to understand how their beliefs and classroom practices about reading changed or remained the same over those two years and to develop a theory about how teachers construct new beliefs and change their practices. Over the two years of the study, all four teachers introduced into their classroom new language, beliefs, and/or practices. Three of the teachers did so experimentally, trying out new ideas and juxtaposing them with current beliefs and practices. At the end of the two years, two of these three teachers had altered their beliefs about reading and teaching reading and had transformed their practices. We believe that substantive change occurred for these two teachers because they experimented with new ideas and practices and because they focused on the skills and strategies of individual students. The paper explores the implications of these findings for being a teacher educator.*

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## Theoretical Background

The philosopher Charles Sanders Peirce (1877; reprinted in Buchler, 1955) offers a compelling argument that the actions of individuals are based on and driven by their beliefs. For example, when I (see the Authors' Note for a discussion of the authorship of this paper) open the door to any room—in a school or in someone's home—I believe (although often not consciously) that the floor in the room will hold my weight and so enter without hesitation. If I doubted that the floor would hold my weight, I would do some investigating first. Peirce considers this investigation as one of the four ways that individuals *fixate belief*. The four ways include:

1. Believing what one wants to believe (*tenacity*).
2. Believing what someone else has said is true (*authority*).
3. Believing what one always has and which seems reasonable (*a priori*).
4. Believing what one has tested out through investigation (*scientific method*).

It is only through the fourth way, *scientific method*, Peirce argues, that any new understanding or knowledge can be constructed. The other three ways cannot be generative.

Peirce (1877) also refers to the fourth way as the *method of experience*. His definition for *scientific method*, then, varies from the meaning the phrase carries in the 1990s. His term instead parallels what is currently referred to as *inquiry*, that is, as reasoned exploration

of an issue/concern. Peirce believed that individuals conduct their explorations by using inductive, deductive, and abductive logic. The goal of the explorations, according to Peirce, is the construction of new knowledge, which Peirce considered synonymous with new belief. This notion again parallels the modern conception of *inquiry* as it is discussed relative to education, for inquiry has as its goal the creation of life-long learners, what Franke, Carpenter, Fennema, Ansell, and Behrend (1998) refer to as individuals involved in “self-sustaining generative change” (p. 67).

From a Peircian perspective, fixing belief through *tenacity*, *authority*, and *a priori* means can be seen as response to a particular situation or set of ideas. In contrast, through the *scientific method* knowledge is generated by means of reasoned reflection, which Peirce believed could lead to the creation of new knowledge. For him, then, the only means of achieving self-sustaining generative change would be to engage in inquiry.

Peirce (1877) presents a reasoned, theoretical perspective on the learning process. Teacher educators, however, are charged with the very practical endeavor of helping to support the self-sustaining generative change process of the teachers with whom they work. To support these changes they need a practical theory of teachers as learners, of how teachers construct new beliefs. They need to understand the particulars of the generative change process. They need to examine closely whether teachers who engage in scientific

method/inquiry change their beliefs and practices. They need to know if indeed inquiry is generative.

Most of the research on teacher change does not meet this need because it is intended to alter classroom-based beliefs and practices of K-12 teachers. Research on staff development, for instance, is often viewed "as both individual and group processes designed systematically to examine and change practices" (Richardson, 1994, p. 109). To use Peirce's (1877) terms, what the researchers seem to hope in these studies is that teachers will fixate belief based in part on the *authority* of the ideas and thinking to which they had been exposed. For example, Richardson's (1996) review of the research on teaching, the Summer 1996 issue of *Action in Teacher Education*, and the 1998 themed issue of *Teaching and Teacher Education* on professional development and reform-based teaching describe studies in which university-based educators attempt to convince K-12 teachers to change their practices based on the authority of research findings, such as the effectiveness of constructivist teaching. In these studies, it is therefore difficult to distinguish classroom-based changes that were not generative and could be significantly influenced by the teacher educator as *authority* from classroom-based changes that were generative and privilege *inquiry*.

While I have engaged in similar staff development efforts (see, for example, Stephens, 1990 in which I first report using a process called Hypotheses-Test, a framework I suggest teach-

ers use to think about children as readers) and share with these researchers a belief that practice should be informed by research (and a hope that exposure to constructivist ideas will lead to more constructivist beliefs and practices), my goal in this study was to try to understand scientific inquiry as used by teachers independent of a context in which classroom-based changes in beliefs and practices were both intended and desired. That is, I was interested in teachers' *inquiry* processes in the same way that early psycholinguists (e.g., Brown, 1970) were interested in children's oral language development. I wanted to understand the *inquiry* process as independently as possible from an externally driven attempt to change teachers' classroom-based beliefs and practices. Just as Brown would have distinguished between language development that occurred in play or home settings from language development that occurred as part of a speech therapy program, I wanted to distinguish between the learning that occurs when teachers conduct *inquiry* and learning that occurs as part of in-service efforts designed to change teachers' classroom-based beliefs and/or practices. I wanted to understand teachers as learners in situations in which the possibility of teachers' adopting the beliefs and practices of their teachers (*authority*) was minimized.

In my review of the literature, I therefore looked for studies that explored the on-going inquiry process of teachers independent of a classroom-focused staff development effort. The studies that most closely met this crite-

rior were studies conducted by teachers on their own practices (e.g., Atwell, 1987; Avery, 1993; Five, 1992; Parker, 1997; Reif, 1992; Shockley, Michaelove, & Allen, 1995; White, 1990). While I found these studies interesting, they focused on what had been learned and, most often, retrospectively, on how the generation of new beliefs seemed to have occurred. These studies then did not inform my understanding of fixating belief as part of on-going inquiry. Other studies focused on changes in practice rather than on changes in belief. For example, Edwards (1996), a university professor, worked to understand the particulars of teacher learning as it occurred. However, the two teachers in his study who had different practices as a result of their implementation of a new-to-them packaged curriculum were teachers who considered the new program to be consistent with what they already had believed. His study, then, did not provide insight into the process of fixating belief through inquiry. These teachers fixated belief *a priori*, by believing as they always had.

According to Peirce (1877), inquiry begins when individuals experience doubt. Peirce's ideas about doubt are very much like Piaget's ideas (in Ginsburg & Opper, 1979) about dissonance. Both believed that *doubt* or *dissonance* occurs when current ways of thinking are juxtaposed with events that can not be fully explained by those ways of thinking. In designing this study I therefore decided to look for situations in which teachers might be encountering new information they might not be able to use their current

beliefs to explain. Such situations would help me understand if and how dissonance/doubt served as catalyst for teachers. At the same time I wanted to maximize the possibility that teachers would resolve doubt and fixate belief based on inquiry, not on deference to authority, and so I needed to find situations in which teachers would be encountering new information but, simultaneously, were *not* being encouraged to change their classroom-based beliefs and practices based on that information.

At the time of this study, I was working at the Center for the Study of Reading, a Reading Recovery Training site, and was surprised to learn that teachers enrolled in Reading Recovery classes were in just this situation. Reading Recovery, developed in New Zealand by Marie Clay (1985), is designed to accelerate the progress of first grade children who are most at risk of reading failure. The goals are to help the children read at levels commensurate with their average peers, to do so in the least amount of time possible, and to enable the children to continue to improve their reading performance after being discontinued from the Reading Recovery program. In order to achieve these goals, each child receives half an hour of instruction daily from a specially trained Reading Recovery teacher. Clay explains that the success of Reading Recovery is contingent upon a teacher's skills in implementing what she refers to as a "superbly sequenced programme determined by the child's performance," and upon a teacher's ability "to make highly skilled

decisions moment to moment during the lesson(s)” (p. 53). To learn how to design such a program and to make these “highly skilled decisions,” teachers enroll in an intensive year-long “training course” that includes (a) 30 hours of assessment training prior to the beginning of school; (b) a weekly in-service class; (c) daily teaching of four children; and (d) school visits. This daily teaching occupies half of a teacher’s workday and is part of a pull-out program; the other half of the day, they teach in their regular classroom, usually first grade or Chapter I.

As a part of what is referred to as Reading Recovery “training,” teachers are taught a specific set of procedures that they are told are not intended for and should not be tried in the classroom. I was fascinated by this caveat. When Marie Clay visited the site and stayed for several weeks, I had the opportunity to engage in a number of conversations with her and Jan Gaffney, then the Director of Reading Recovery in Illinois, about this caveat. In those conversations I came to understand that they both very strongly discouraged teachers from using Reading Recovery procedures in their classrooms. Marie Clay explained that this was communicated to teachers during their Reading Recovery classes and that to help emphasize this point, she very intentionally had these words and these words only on one of the pages in her book, *The Early Detection of Reading Difficulties* (1985): “Most children (80-90%) do NOT require these detailed, meticulous and special reading recovery procedures or any modification of

them. They will learn more pleurably without them” (p. 47).

Once I understood that teachers were actively discouraged from using procedures from Reading Recovery in their classrooms, I began to wonder about the theory behind the procedures. Might the elementary school teachers feel that the Reading Recovery teacher leaders were encouraging them to change their classroom practices based on the theories behind Reading Recovery? Marie Clay quickly dismissed this possibility. The elementary school teachers, she explained, were not given access to the theory, but only to procedures. One particular conversation stands out in my mind. It took place in my dining room and I pointed to the blank wall, visually creating three circles, in a triangle formation, with Reading Recovery on the left, teachers’ classrooms on the right, and theory higher on the wall, above the other two circles. I said I understood that Reading Recovery teacher-leaders strongly discouraged connections between Reading Recovery and teachers’ classrooms but might teachers not infer theory from their Reading Recovery classes and so go from procedures to theory and from theory to their classrooms? Marie Clay emphatically said, “No” and that theory should be much higher on the wall. It was out of reach for the teachers, she said. Teachers could not handle theory. Teachers who were participating in Reading Recovery were *not* taught theory and were not given access to theory; they were taught procedures.

Based on these kinds of conversations, my colleagues and I felt confident that teachers who were involved with Reading Recovery classes were nearly ideal teachers to learn from. They were exposed to new ideas (for one-on-one teaching situations), which increased the possibility of doubt/dissonance, but they were discouraged by the teacher-leaders from using the new ideas in their classrooms. If the classroom teachers resolved doubt and fixated belief primarily based on *authority*, they would do as their instructors recommended and not try any of the new ideas in their classrooms. If they fixated belief primarily by believing as they always had (*a priori*) or what they wanted to believe (*tenacity*), they would not make any changes. If, however, they primarily fixated belief based on *inquiry*, they might test some new ideas in their classrooms. We therefore thought this situation could potentially provide us with the opportunity to observe that which we wished to understand: the generation of new beliefs. It also allowed us to test out our hypothesis that inquiry could lead to a change in beliefs and practices.

### **Gathering Data and Constructing Meaning**

Our research team worked out a research plan. The team consisted of myself, Jan Gaffney, and research assistants Candace Clark, Judy Shelton, and Janelle Weinzierl. A fourth research assistant began the study but later left it for personal reasons. We decided that one person would pair off with two different teachers and visit each teacher's

classroom and talk with her about what she was doing for two years. Because Jan was teaching one of the Reading Recovery classes, it seemed problematic for her to be collecting data. We thought that had she done so, teachers might have shifted their practices in a direction they believed Jan supported. I also did not pair off with teachers. Because I was a professor of language arts, I worried about how much the beliefs teachers thought I held might influence their comments and perhaps even their beliefs and practices. We hoped that the teachers would be less likely to be influenced by the research assistants, who did not have terminal degrees in either reading or language education. Each research assistant then was subsequently paired with two different teachers.

During the first year teachers were visited by the research assistants for half days, twice in the first or second week of the school years and then at six-week intervals throughout the year. Notes were taken during their observations and, after the observation, the notes were expanded into a comprehensive *retelling*. (See Appendix A for sample pages of elaborated field notes.)

After each observation the research assistant held conversation-like interviews during which she sought to understand how teachers were thinking about the practices that had just been observed. The research assistants also explored questions, generated in research team meetings, that we felt a team would be important to ask in order to understand better the teachers' ideas and beliefs. For example, they

asked variations on such questions as, "What do you think makes you a successful teacher?" "How do you know you've had a good day?" and "Does this classroom represent your ideal?" In these conversations, teachers also talked about their Reading Recovery classes as well as about the sense they were making of the new information they were encountering in those classes.

The teachers were also interviewed before the year began, using a semi-structured interview format (see Appendix B) that explored teachers' beliefs and practices. The after-observation conversations and beginning-of-the-year interviews were taped and subsequently transcribed. Copies of initial interviews and observations were returned to the teachers for their comments. In so doing we hoped to begin to establish a trusting relationship between teacher and research assistant as well as increase the trustworthiness (Lincoln & Guba, 1985) of our data. At the end of that first year, we again scheduled semi-structured interviews. (See Appendix C for a list of the kinds of things we wanted to be sure we understood.) During the second year we repeated the pattern of data collection, observing teachers three to four times that year. Our goal was to understand, across the entire two years of the study, how teachers thought about and taught reading.

At the time of our study, 24 teachers had registered for Reading Recovery classes at the University of Illinois. Half of the teachers were in a class that met on Tuesday; the other half were in a Thursday class. About half the

teachers were classroom teachers, the rest taught Chapter I. We wanted to be sure we included some teachers from each class (because differences in classes might turn out to be related to changes in beliefs and practices) and some who were Chapter I and some who were classroom teachers (again, in case there were patterns associated with the differences in responsibilities). Based on our resources (four research assistants and two professors) and our time frame (two years), we could reasonably include eight teachers in our study. Our only other factor was physical location. Each research assistant would be working with two different teachers and we wanted it to be possible for them to visit both teachers in one day. We therefore paid attention to the location of their school districts when we selected the teachers. We picked four teachers from each class who could be paired with each other based on geographical location of their school districts, two of whom were Chapter I teachers and two of whom were classroom teachers.

During the study the entire research team met weekly for 4 hours to discuss field experiences, Reading Recovery, and research methodology. In this way what was observed and talked about in one visit informed subsequent observations, interviews, and discussions. In our conversations and through our reflections, we focused on trying to understand each teacher as a learner. Using qualitative research techniques (see, for example, Glaser & Strauss, 1987; Lincoln & Guba, 1985; Strauss, 1987; Strauss & Corbin, 1990), we searched for and identified patterns in

the data and then used those patterns and our data to write narratives at three different points in the first year. We wrote about the teacher as she appeared at the beginning of the year, we analyzed and described changes over the first half of the year, and, at year's end, we wrote to put the year in perspective.

We used the narratives in three ways. First, synthesizing understandings into narratives helped each research assistant understand if she had gathered the kind and depth of information that allowed her to tell a trustworthy story of the teacher's beliefs and practices and/or of changes in beliefs and practices. Second, by sharing these narratives with each other, we increased our common understanding of what we had been seeing and hearing. We were therefore better able to profit from each other's thinking. Third, sharing the narratives with the teachers provided us with a way to get feedback from them about the trustworthiness (Lincoln & Guba, 1985) of the patterns we had identified. It provided the teachers with the opportunity to tell us whether they agreed with the patterns we had identified or if they did not.

In our data collection, in our analysis, and subsequently in our narratives, we focused our attention on teachers' beliefs and practices about reading. We wanted to understand how teachers thought reading should be taught and what grounded their thinking. We also wanted to understand the practices that the teachers employed and why they chose them. Our goal was both to understand teachers' initial beliefs and practices about reading and

about reading instruction and to trace change and consistencies across the two years.

For example, consider the sample of field notes from Annabelle's classroom during Year One (see Appendix A). In her description of the classroom (see lines 26-30), the research assistant noted that "commercially made vowel letters and pictures" were on a bulletin board. Those letters and pictures had been on that board for the first four observations. In the first interview the research assistant asked about those letters and pictures. She did so in order to understand why Annabelle had chosen to display them. Annabelle responded that the pictures helped the children learn "their letters and their sounds."

As we reviewed and coded our data over time, it became apparent that in the interview that occurred before and after the year began, during our observations, and in the conversations that occurred after each observation, Annabelle frequently referred to letters and sounds, sometimes using the word *phonics*, and consistently emphasized the importance of children's learning this information. We therefore considered this to be a pattern in the data, a pattern that reflected a belief Annabelle held about reading. Once we identified a pattern, we re-read the data to see if we could find evidence that contrasted with the pattern. (Strauss and Corbin [1990] refer to this as negative case analysis). We did the same with all the data we considered to be related to teachers' beliefs and practices about reading: We noted information that



seemed related, asked teachers about that information, and then looked for consistencies and inconsistencies in beliefs and practices across time. In this way we identified beliefs and practices of each of the teachers in the study. We then conducted a negative case analysis to try to disconfirm the beliefs and practices we had identified.

We simultaneously used qualitative research methods to look for patterns across teachers. For example, when we noticed that several of the teachers started asking their students when they were reading aloud, “Does this make sense?”—an expression we knew they had encountered in Reading Recovery—we began to wonder about teachers’ language. Did teachers use different language over the course of the first year? Over both years? If so, how was the change in language related to what they were learning in Reading Recovery? We also began to wonder about the instances in which the language seemed to stay the same and yet the meaning changed and about the times when the language changed, but the meaning seemed to stay constant. These kinds of questions helped focus subsequent observations, conversations, and led to additional rounds of data analysis.

There were some changes on the research team during the second year. There were also some classroom-based changes. One of the research assistants left the team; one teacher taught Reading Recovery full-time instead of part-time and so was no longer in the classroom; another teacher left the classroom to work full-time in the library. Because of these changes, while we

read and thought through the data from all eight teachers, we focused our analysis on the more consistent and, therefore, trustworthy data: data that were collected by the same member of the research team throughout both years and that were from four of the teachers who remained in their classrooms over the two years of the study. Coincidentally, those four teachers had been enrolled in the Tuesday section of the Reading Recovery class; two were Chapter I teachers, two were first grade teachers. All eight teachers had originally been given pseudonyms; the four that remained were Annabelle, Betsy, Eleanor, and Frances. Annabelle and Betsy worked in the same school district and both taught first grade. Eleanor and Frances were Chapter I teachers who also taught in the same school district, a district some distance from the one that Annabelle and Betsy worked in.

After data collection was completed, we re-read the data from both years of the study, using qualitative research techniques to identify patterns in the data. Based on these patterns, and consistent with Geertz’s (1973) call for *thick description*, we wrote case studies for each teacher. These case studies showed each teacher’s beliefs, practices and, as applicable, changes, across the two years of the study. In this way readers could see what we saw.

As a research team we believe that our case studies mirrored what we saw and heard over the two years of the study. All four teachers felt likewise. Although they have not read the abridged case studies presented in this

paper, they did read and respond to the elaborated field notes, the transcriptions of the taped conversations, an earlier version of this paper, and the narratives we wrote about each of them and with which the abridged case studies are consistent. Their comments to those documents were exclusively clarifying remarks.

## Results

We next present the results of our analysis. In the first section the patterns we found for each teacher are captured in abridged individual case studies that provide a condensed overview of each teacher's beliefs and practices over the two years of the study. In the second section we report patterns across all four teachers that emerged from our cross-case analysis.

### *Findings from the First Analysis:*

#### *Case Studies*

##### **Annabelle**

Annabelle had a master's degree in special education. She started her teaching career as a special education teacher. She described teaching as "present it, see who gets it, go back over it as necessary." Over the first 17 years of her career, she taught special education for 13 years, taking four years off when her children were young. When she heard about a part-time reading teacher job, she applied. She got that job and had it for three years. In that job she "was told that I was to write stories and to work on vocabulary words and to do sentence structure. Those were the three main thrusts." The "person who had done it before" told her this. A kinder-

garten teacher in the building, who had also had this part-time job at one time, also explained to Annabelle that this was what needed to be done. For the last three years, then, Annabelle had been teaching what the two previous teachers had taught. It seemed that, in part, she based her practices on the *authority* of other teachers.

When Annabelle learned that Reading Recovery training was being offered in her district, she asked her principal if she could participate. She was interested in it because she had heard that the program enabled children to "get back" into regular classes. It was subsequently arranged that Annabelle would spend the morning as a first grade teacher. In the afternoon the physical education teacher would take over the class while Annabelle did Reading Recovery.

When we met with Annabelle before the school year began, we learned that the children she would be working with had participated in a program called *Writing to Read* (1986). She described this as a pull-out program in which the children at her school spent an hour a day for one semester writing on the computer, using a software program designed to teach them sound/symbol correspondence. Annabelle believed that the children would learn their letters from this experience. Because they would already know their letters, she felt her job was to teach them the words and skills they needed to "get" before they went to second grade. As she remarked in the October interview in Year One, "My thing is to stay in the same book and just work

with the words over and over to make sure they're learned."

At the beginning of the Year One, these *a priori* beliefs about what the children needed to learn drove many of the decisions Annabelle initially made about classroom practices. Her practices were also influenced by what she believed other teachers (as authorities) were doing, or expected, or told her to do. Over the two years of the study, Annabelle's beliefs about what children needed to know remained constant and her practices continued to be based on what she already believed to be true (*a priori*) and to be influenced by the expectations (*authority*) of others. In practice this meant that throughout the two years of the study, Annabelle continued using many of the same instructional activities she had used at the beginning. When we observed and asked about what seemed to be new practices, Annabelle often explained that the new practices were not a part of any change in her teaching philosophy. Instead she spoke of the changes in one of three ways: (1) they were a new way to do something she had always believed in, (2) they were done because she was worried about what skills the children would miss if she didn't, or (3) they were included because she felt she needed to do them to go along with the practices and suggestions of others. We came to understand, however, that Annabelle only went along if the new practices were consistent with her beliefs about what the children needed to know.

During the spring of the second year, for example, Annabelle was using

worksheets, round-robin reading, and explicit phonics instruction. She described all three of these as being in direct conflict with what she had learned in Reading Recovery. In the last interview of Year One, she commented, "You know, if you say that word (phonics) in Reading Recovery, you get your fingers slapped and maybe your mouth too." However, Annabelle held strongly to her *a priori* belief that the children needed to know phonics. As she explained in Interview Six of Year One: "They've got to be able to attack a word when they can't get it through context. They can't get it from a picture. They can't get it from sentence structure because it starts the sentence. They've got to have a way to attack it." Annabelle repeatedly came back to this point throughout the two years of the study. Indeed, in the first part of the Final Interview of Year Two, she explained that in spite of what she had learned from Reading Recovery, she was "putting phonics on another shelf instead of down clear at the bottom and non-existent." Annabelle stressed that her belief directly conflicted with Reading Recovery:

ANNABELLE: The Reading Recovery teachers, I think, are telling me different. They're really stressing meaning, to teach the child to read for meaning. And just then go back and check with the phonics. But my kids, the kids I've had, couldn't check it because they didn't know enough phonics to check it with.

RESEARCHER: So how would you like to teach the phonics?

ANNABELLE: I don't want to have to. I want them to go to that (laughs) that (Writing to Read) computer program . . . . (It) is unbelievably nice.

RESEARCH ASSISTANT: What is it about that that teaches them the phonics?

ANNABELLE: Well, I think it's the way it's presented. They sit through a program on a TV monitor and they watch letters bounce around. I mean, unless they're sleeping it's hard to miss. Unless they're really dumb or something's wrong. They can hardly miss.

Since it was not always possible for all the children to learn their phonics this way, during Year Two Annabelle taught phonics by drawing attention to letters and sounds within Big Books and also through "writing." She explained, "I . . . just have them write a bunch of *b*'s and say *buh* as they do it . . . . And a bunch of drill work which is really boring and doesn't mean anything to a lot of kids." Annabelle added that by doing this, "The kids are better." She particularly felt that the "low kids" were better at phonics, even though "they may not be good at using it." For Annabelle then, a "typical" day at the end of the second year reflected her continuing *a priori* commitment to helping children learn sounds, letters, and words, her deep concern that she not get "behind" on those skills and her willingness to "go along" with practices that were consistent with her *a priori* beliefs.

## Betsy

Betsy had been teaching for 14 years and had a master's degree in elementary education. In those 14 years she had taught remedial kindergarten, half-day kindergarten, Chapter I, kindergarten (for 8 years), and first grade. For 12 of those 14 years, she had "taught Direct Instruction." The previous year, Jan Gaffney, the state director for Reading Recovery, had worked with three of the children from Betsy's room and Betsy was pleased with the progress they had made. Betsy wanted to learn more about Reading Recovery, had applied to be "trained" and was accepted. She felt she needed "a kick in the rear" after teaching for 14 years and felt that Reading Recovery might provide that energy. During the first year of the study, then, she would be teaching first grade in the morning and Reading Recovery in the afternoon.

Betsy and the other teachers in her building used a program called DISTAR (Engelmann & Bruner, 1974) for both reading and math and, with DISTAR, ability grouping was necessary because "sometimes on both ends—on the high and the low end—you have to use other material." Betsy was a part of the original group of teachers who been trained in DISTAR and shared with the DISTAR authors a belief that children first needed to know "their letters and sounds." She formed ability groups based on how much the children "already knew."

Betsy's practices during the first six weeks of Year One were consistent

with the *a priori* beliefs she detailed to us before the year began and during the first three after-observation conversations. The fourth conversation was held after our third visit in October and, in contrast to her previous approach of describing her current practices, this conversation was characterized by (1) Betsy's spontaneous comparisons between Reading Recovery and DISTAR; (2) her focus both on the tensions between the assessments made by the Reading Recovery teacher and the classroom teacher and on the things that did not "transfer" from Reading Recovery to DISTAR; (3) her interest and subsequent inquiries related to the research base for Reading Recovery; and (4) comments she made about herself as a learner. Betsy made it clear that she had systematically begun to explore, to conduct classroom-based *inquiries* and that Reading Recovery was serving as a catalyst for those *inquiries*.

For example, in Reading Recovery Betsy had learned that the Reading Recovery process was built around observations made of good readers and that the techniques she was learning to teach the children in Reading Recovery were ones that good readers had been observed using. By October of Year One, Betsy was observing her "top readers and watching them [to see] how they attack things." She also mentioned her "own daughter, who's a first grader. I watch her." As a result of her *inquiry* she concluded that "what I am teaching my lower children in Reading Recovery [to do], she does." Similarly, Betsy felt that what she was learning in

Reading Recovery was "exactly what the top group is doing." She characterized her job as having to "get the other ones to realize what they need to do." Betsy explained that "I think . . . sometimes where we [teachers] fall down is we don't think about [what we are doing]. [We're not] doing research to find out." She noted that while teachers in her school often talked about "problems. . . nobody's ever asked me, 'What can we do to remedy this?'" Betsy felt she was doing that now: thinking about what she was doing, conducting research, trying to figure out what she could do to remedy things.

In March of Year One, Betsy talked extensively about what she had learned from watching the individual children in her classroom, her first-grade daughter, and her three-year-old. She also talked about what she had begun to learn from watching both children who struggled and were in Reading Recovery and children who struggled but were not in Reading Recovery. Betsy explained that she had begun to assess all the children by "just listen[ing] to the child read."

The day before school started in Year Two, Betsy found out that a change in assignment she had requested had been worked out. She would be moving to a different school, teaching half-day kindergarten, and spending the other half of the day doing Reading Recovery. Betsy had asked for this transfer because she had become increasingly frustrated teaching an academic morning of first grade with no opportunity to follow up and do the

more hands-on and one-on-one things with children in the afternoon. Betsy could have chosen to stay at her same school and only teach first grade but she “hated” the idea of giving up Reading Recovery. She also was interested in experimenting more with curriculum. Teaching half-day kindergarten in a school that did not mandate DISTAR provided her with that opportunity.

During an observation in December of Year Two, the research assistant had noticed that when the children were doing some independent work that day, Betsy had asked two children to work together and then had been watching them. She wondered what Betsy was thinking. Betsy explained that she was “just listening” to see what the one child’s “answers” were. She also wanted to see what strategies he was using. In this way, throughout both years of the study, Betsy consistently shared what she learned from these kinds of *inquiries*. Based on what she had learned from her *inquiries* across both years, Betsy decided not to teach Reading Recovery the following year, but rather chose to teach full-day kindergarten. She wanted a chance to investigate her new beliefs all day long.

### **Eleanor**

Eleanor, a Chapter I teacher, had a master’s degree in reading. She had been teaching for 11 years, 9 of those as a Chapter I reading teacher. She shared a classroom with another Chapter I teacher and each 45-minute period of the day, they each took five to six children from the same classroom. The previous year they had taken children

from first, second, third, and fourth grade classrooms. There were two first grades that year, so they took ten from each classroom. Eleanor believed that all these children shared a common characteristic: “They don’t listen.” They didn’t listen “in their classroom when the teacher is giving directions or introducing a new sound or new words” and, at first, they didn’t listen when they came to her Chapter I class:

I’ll say, “Put the crayons on your desk” and at the beginning of the year, they don’t hear me say that or maybe one will. And I’ll say, “I’m not going on until everyone has done what I’ve told them to do.” They’ll start looking around and that one will sit there so smug, you know, she knows or he knows he’s done (what I said) so everybody real quick gets their crayons out.

Eleanor believed that the solution to the children’s reading problems was to teach them to listen better. At the beginning of each year, she told the research assistant that she therefore spent at least 50% of each instructional period doing listening exercises from workbooks.

Eleanor’s practices during the first half of the first year were remarkably consistent with her *a priori* beliefs. Most of the instructional time was spent on listening exercises and the remaining time was focused on what Eleanor considered skill work. In October of Year One, for example, “listening” included responding to questions such as “Which is bigger, an elephant or a house?” “Which is colder, the sun or ice?”

By December Eleanor began to change some of her practices. For example, when a child asked how to

spell a word, instead of spelling it for her, or telling her to choose another word—both responses she had made previously—Eleanor said to the child, “What’s it start with?” When the child responded, “a,” Eleanor drew a large rectangle on the board and separated the rectangle into five boxes. She put an *a* in the first box. Eleanor then asked what sound the child heard next. The child responded, “*n*” and then “*j*.” Eleanor responded, “It could be, but it isn’t. What’s the other letter that has the ‘juh’ sound?” When the first child did not know, she asked another child, who said “*g*.” The first child then added “*e*” and “*l*” and Eleanor congratulated the child for figuring out how to spell the word on her own. Eleanor explained that in her classroom she was “trying out” some of the ideas and practices she was learning in Reading Recovery.

Eleanor noted that in addition to her curricular *inquiries*, she was paying more attention to individual children. As she explained:

I think this year and the other years, I more or less grouped them, looked at them as a group rather than individually. I knew that this one just did not understand some of our reading rules. Another one was a beautiful reader but could not understand. But you had to work all together with them and incorporate it for all of them.

As time went on, she began to change this pattern. In Reading Recovery, Eleanor had “learned that I was not seeing a lot of things that were there to be seen and that were giving messages.” She was therefore paying more attention to individual students and “building (instruction) on what (she’d)

observed that day, about that child.” She explained that she was “thinking differently” now.

The pattern of fewer “materials centered” events and increased “learner” and “learning” centered events continued into and throughout the second year. Indeed, throughout the Year Two conversations Eleanor talked often about the children as thinkers and about what she was learning from observing their thinking. In May, for example, she commented, “The thinking. . . this is what amazes me. . . if you can get them to think it is amazing what they can do.” Eleanor felt that she could “see the growth” and explained that “just by having a child read to you, you can tell if they can read or not.” “In essence,” Eleanor concluded, she was “drawing them in and making them think.” In order to do this, Eleanor decided that she needed to “individualize” her instruction. She wanted to work “with the group as individuals rather than just treat them all as a group.” To do this well, Eleanor explained, careful teacher observation was essential. It was a “BIG factor. . . you have to know what you are seeing and why you are seeing and what to do about it.”

### Frances

Frances had a bachelor’s degree in elementary education and had taken 18 hours in reading. During the time of our study, she taught Chapter I in the morning and did Reading Recovery in the afternoon. The year before, as a first year teacher, Frances worked half time as a Chapter I teacher and half time as a Reading Improvement teacher. Within

Chapter I, Frances had focused her instruction on reading skills.

Frances believed that all students from the same grade level who were in Chapter I had similar needs, and so during the first year of the study, she worked on the same skills with each group of children and almost exclusively worked with the group as a whole. Across all grade levels, Frances believed that there should be an “equal balance between. . . phonics and learning words by sight.” To teach phonics, she might choose “three or four during one 40-minute period” and say, “We’re going to work on these three letters and the sounds they make.” Frances attributed her *a priori* beliefs in phonics to a course she had taken in her junior year in college and to her own experiences, as a child and as a teacher:

We had a book [in college] that we read through and we took a test over the phonics, the different sounds they make [and they taught us] different activities, different ideas that you can incorporate with phonics. That’s [also] how I grew up. I can remember reading words by their sounds that they say and I think that was just something that I learned in elementary school that maybe just stuck with me. I see a lot of kids that learn that way. . . .being able to read because they can sound out the word. They know what the letters say, so they can sound it out.

In the beginning of the study, Frances explained to the research assistant that she did not expect her practices to be affected by Reading Recovery “in any way.” She didn’t see “how it could . . . . Reading Recovery is primarily for one on one instruction, not for teaching in groups.” By December of the first year, however, Frances

began to “try out,” to experiment, with new practices, practices she was learning about in Reading Recovery. When she introduced a new book, for example, she “previewed” the book with the children first, reading the title, talking about what it might be about, turning the pages and encouraging the children to predict what might happen, based on the pictures, and drawing their attention to words she believed would be new to them. When she had multiple copies of a book available, she asked the children to use their fingers to point to each word as they read out loud together. When a child read something that did not fit the context of the sentence, she asked, “Does that make sense?” She used the expression, “Get your mouth ready” when students were hesitating before trying an unfamiliar word, she encouraged the children to figure out words on their own, e.g., “I think you can get that word,” and she praised a child when he/she “corrected it all by him/herself.” Frances’ activity-based routine, however, stayed constant, as did her beliefs about the skills the children needed to work on. Each day there were 3 or 4 activities, each tied to one of the *a priori* skill areas Frances had delineated in the interview before the first year.

By November of Year Two, Frances was describing her approach as a “cook-book” approach. She did not feel it was possible to individualize instruction for each child. Frances did, however, try to individualize the groups. She felt one group of children, for example, “need[ed] to be reinforced with their phonics” and the another group she felt



“respond[ed] to the big books and writing activities and the computer.”

When we talked to Frances at the end of the second year, she explained that based on the results of her “experiments,” she had decided not to continue to use several of the “new” activities she had been trying over the two years of the study. She felt that in both whole language and Reading Recovery, “you are to pull in the skills using the literature” but she did not feel this had worked and that there “needs to be something [else] done [in small group settings for] the children who are highly at risk.” Francis was particularly concerned because the first graders this year had not been strong in “phonetics” and she felt “like she’d done a disservice to [the children] this year by not completely attending to the phonics.” Based on her reflections, Frances decided that the following year she would return to the materials and practices she had used at the beginning of the first year of the study.

What we came to understand, then, was that Frances’ *a priori* beliefs about what children needed to know to be successful had remained constant across the two years of the study. In her classroom Frances had experimented with other means and methods, trying various ways to help groups of children learn the *a priori* skills she believed they needed to know. She decided that the new means and methods did not “work”; they did not teach those skills. Frances believed that Chapter I children had “special needs” not met by the “new” methods and so planned to return to her “old,” pre-Reading Recovery prac-

tices the following fall. Any tension Frances felt was resolved by holding firm to previous ways of thinking.

### ***Findings from the Second Analysis: Patterns across Teachers***

The analysis of the data from each teacher allowed us to understand how each teacher thought about and taught reading. We then analyzed our data again in order to identify patterns across teachers. Based on our analysis of the data from all four teachers, we came to understand that while all four introduced new ideas, language, and practices into the classroom, only three did so experimentally, and, of those three, only two of the four teachers, Betsy and Eleanor, held fundamentally different beliefs at the end of the study than at the beginning. The other two teachers, Annabelle and Frances, continued to believe what they had believed before their experience with Reading Recovery had begun. Our analyses also led us to believe that Betsy and Eleanor’s transformation occurred because they fixated belief through inquiry and because they began to focus on and learn from observing the skills and strategies of individual children.

### **Means of Fixating Belief**

At the beginning of the study, we asked all four teachers about their previous reading-related practices as well as about the practices they anticipated using during the upcoming school year. We sought to understand why the teachers had chosen the practices that they reported using, or were planning to use. Through our conversations with

Annabelle, Betsy, Eleanor, and Frances we learned that all four believed that in order to read children needed to know sounds and words. None of the four spontaneously identified the source of this belief. Indeed, in spite of our sometimes very focused questions in the beginning of the study, only Frances made explicit how she came to believe what she did. What we came to understand was that all four teachers seemed to assume, to take as a given, that two things were true: (a) Children needed to know sounds and words, and (b) It was their job as teachers to teach children those sounds and words. Despite our many readings of the baseline data, we can find no instances in which these beliefs were challenged by any of the four. Nor could we find any instances in which any of the four considered their beliefs as an option among other possibilities. We concluded that, from a Peircean perspective, all four came to the study believing as they always had (*a priori*) about the importance of children knowing sounds and words.

While Eleanor shared this pattern with the other three teachers, Eleanor was distinguished from the others because she held an additional belief that one of the major reasons that children did not learn to read was that they did not listen. If they listened (to their teacher, for example) they would more likely be able to learn to read. Eleanor spontaneously traced the source for this belief to her observations of children. She explained that after she had gotten her master's degree in reading "still there were these little kids that did not

know how to read." She read *Reading Teacher* (an International Reading Association journal) "faithfully" believing that it had "to have answers" in it. She concluded that there "just weren't." She also did not believe that standardized tests provided answers. Over time, independent of professional publications, advanced course work, district standards, tests, and guidelines, Eleanor came to believe that children who struggled as readers had problems with listening and that if she could help them listen better, they would be better readers. She provided several examples of her observations and of how she worked to change the lack-of-listening-skills pattern. We considered this unique belief as one, in Peircean terms, Eleanor had achieved by testing things out for herself (*inquiry*). Over a number of years, she had observed groups of children who were struggling as readers and had come to believe that they all had problems with listening. She had "tested" this out by teaching listening skills and observing the impact of this work on the children. Based on her observations Eleanor concluded that this skill work helped children become better readers.

While the teachers then started out very similarly in terms of their beliefs in knowing sounds and words, as can be seen in the abridged case studies, there were considerable differences among them across the two years of the study. Annabelle continued to believe as she always had (*a priori*). While some of Annabelle's practices changed over the two years of the study, only her practices changed, not her ideas. Indeed,

despite our many returns to the data collected over both years of the study, we could find no instances in which Annabelle introduced changes experimentally. Rather, she added practices as long as they were consistent with what she believed (*a priori*) that the children needed to learn: sounds and words. If a new idea or practice was not consistent, Annabelle did not include it, even briefly, in her practices. In contrast, Betsy, Eleanor, and Frances began to fixate belief through inquiry.

Early in the first year, Betsy began to question the beliefs she held, to make comparisons between what she had been doing and believing and what she was being exposed to in Reading Recovery. The data we have on Betsy provides the most explicit evidence of fixating belief through *inquiry* in part because, starting in October of Year One, Betsy took the lead in the interviews and made explicit to the research assistant how she was thinking. Betsy reported that she looked forward to these conversations and at one point in Year Two called the research assistant up at home the day after an interview. She wondered if the research assistant could come back. As Betsy explained when they met, "I wanted you to come back . . . to ask me some things about the writing." Betsy was "trying to figure out what I believe about that" and she felt that it helped to have the research assistant ask clarifying questions. When they subsequently met, the research assistant began by asking, "Could you just tell me what's wrong?" Betsy then talked for 259 lines, broken only by two

remarks from the research assistant, each of which was a clarifying question.

Betsy pursued her *inquiry*, then, in the classroom via observations and in the interviews by reflecting on what she believed and by using the clarifying questions asked by the interviewer as a way to help her figure out what she believed. Betsy's *inquiry* also involved reading professional texts. As she explained,

A lot of my learning not only comes from Reading Recovery. You have to understand that . . . I have read millions of books and articles. . . . You learn by reading and reading and reading. Reading about new people, I mean, how people do things, getting ideas, why do they do things, and then just reading all kinds of different materials. I took that on myself.

Betsy made this same point at various times throughout the two years of the study. Another time, for example, she commented, "I try to get my hands on all the material I can to read. I probably am now to the point where I've read all I can read. I mean, I could read more, but . . . I need to observe now." On still another occasion, she commented, "I can *read*. I know what I *need* to be doing . . . That's the point I'm at now. I've read, I've read, I've read, I've read. . . . Now I have to see (other teachers) . . . I need to watch them. . . . that's where I am now."

Our time with Eleanor also provided us with an opportunity to understand fixating belief through *inquiry*. In contrast to Betsy, Eleanor's changes were more subtle and she talked less about them. For example, in the con-

versation-like interviews during the first year, Eleanor did not talk much about the changes she was making nor did she elaborate on the reasons for those changes. Ultimately, however, her changes, like Betsy's, were dramatic. When Eleanor first introduced new practices, she did so within what we referred to as brief "moments" and within an almost parallel strand alongside her old practices. Beginning in the spring of the first year, she experimented with Reading Recovery practices and ideas in her classroom. As she saw the progress the children made when she used those practices, she began to shift her ideas of what the children could do. By the end of that first year, in the more formal and lengthy interview Eleanor discussed the differences she was seeing in herself and attributed them to changes in her ability to be helpful to the children, e.g.,

We have always written but it was, maybe I didn't use the right words with them. It was rote. I always thought . . . the more writing they do the better they will be. But now . . . I know what to say to them [to help them].

Throughout and at the end of the second year, Eleanor talked about how she saw herself as having changed. She felt that now she had "something to offer them." Indeed, she said she'd "sign a contract, that the children with whom she worked in Chapter I would learn to read." Eleanor described having "felt a growth" within herself over the last two years. Eleanor's experimentation then led to a shift in her beliefs.

Like Betsy and Eleanor, Frances experimented both with practices and

with ideas. Her case study across the two years details the changes she made in her classroom and the differences in her thinking that she shared with us. In the interview before the second year, Frances explained to us that over the previous year, her ideas had changed "a bit." She was "more aware of what reading was." However, as shown in the abridged case study, these ideas did not represent a change in belief, but rather were ideas with which Frances experimented. She tried them on. She tested them out. Based on her *inquiries*, with both practices and ideas, Frances concluded that the "new" practices or ideas did not work for Chapter I children in small group settings. By the end of the second year, Frances decided to return to her prior beliefs and practices. From a Peircean perspective, Frances did engage in *inquiry*, but it did not lead to new beliefs. In the end, she chose to believe as she had always believed (*a priori*).

What intrigued us was the difference in "outcome" between the three teachers who experimented: Betsy and Eleanor, who significantly changed their beliefs, and Frances who did not. By making multiple trips through out data, we discovered a characteristic Betsy and Eleanor shared and that Frances (and Annabelle) did not. Betsy and Eleanor focused on teaching *children* and teaching skills and strategies; Frances (and Annabelle) focused on *teaching skills*. We referred to this pattern as "focus of instruction."

### **Focus of Instruction**

At the beginning of the study, all four teachers put skills (knowing sounds and

words) in the foreground and they believed their job was to teach skills to children. The text was one means to that end. Weinzierl from our research team referred to that as *Teaching Decontextualized Skills* (see Figure 1).

When the teachers operated from this perspective, the skills that they wanted to teach the children served as a lens through which they saw the children. What came back from children to teacher was information about whether or not the children were indeed learning those skills.

Beginning in the first year of the study, all four teachers introduced what they considered to be Reading Recovery procedures (e.g., "Hearing Sounds in Words") to the list of skills they taught children. They also began more frequently to teach skills within texts (see Figure 2). This was a practice they also attributed to Reading Recovery.

Here again, though, the focus on what the children needed to know served as a lens through which the

teachers saw the skill level of groups of children and by which they assessed whether or not the children had learned those skills. Skills, then, served almost as a screen that blocked their view of the children as learners.

By the middle of the first year, both Betsy and Eleanor began to shift the focus of their instruction from *Teaching Skills in Context* (see Figure 2) to *Teaching Children Skills and Strategies* (see Figure 3).

At the beginning of the study, all four teachers saw groups of students primarily through the lens of the skills they wanted to teach them. However, Betsy and Eleanor started to teach the children about strategies as well as skills and simultaneously to pay attention to not only *what* they wanted the students to learn but also to *what* the children were learning and to *how* the children were learning. They began to focus on the strategies not just of groups of children, but of individual children. They started to notice what each child

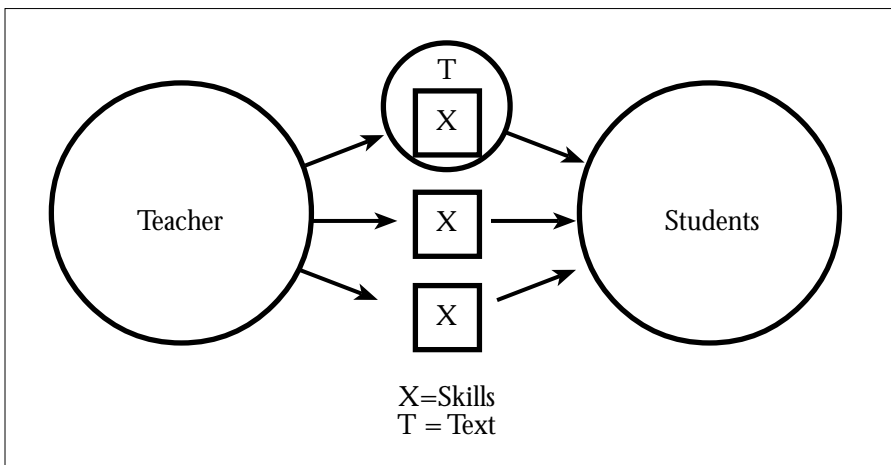


Figure 1. *Teaching Decontextualized Skills*

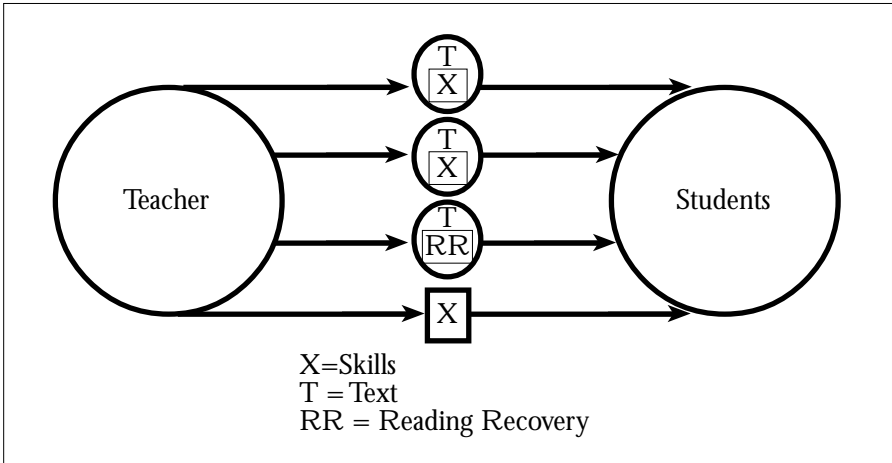


Figure 2. Teaching Skills in Context

“could do.” Their instructional goals (to teach skills and strategies) no longer blocked their view of any child. From this new perspective Betsy and Eleanor reported “seeing” things they had not been able to see before.

We have no evidence that either Annabelle or Frances shifted to this focus. The patterns in the data document that they continued to see groups of children through the lens of what they wanted them to learn. We have no

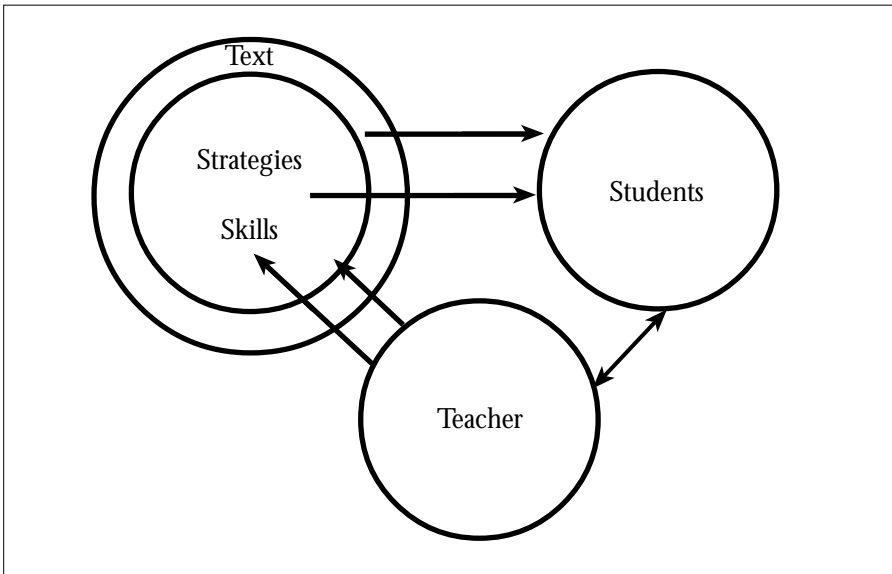


Figure 3. Teaching Children Skills & Strategies

observations of either Annabelle's or Frances's responding to the strategies of individual children. We have no record of their talking about the needs, skills, or strategies of particular children. Their behavior and their talk focused on how groups of children were learning the skills they were being taught. In our observations of and interviews with both Betsy and Eleanor, however, we have data that show their shift toward observing individuals and indeed can trace the paths they took towards seeing and addressing the skills and strategies of individual children.

**Betsy.** Betsy first talked about individual needs in the second interview of Year One. At that time, however, her ideas about "individual" needs were directly tied to the child's ability to learn the information from the DISTAR lesson. Betsy's focus at the beginning of this first year was on getting the children in the right group, placing them based "on their ability." Grouping was important because "direct instruction is *always in a group* (emphasis added)." In DISTAR, she explained, "You never put the child on the spot." Betsy felt that if she could get the placement right, most kids would catch on to "the reading process—the sounding out of words." Once she had the placements correct, because DISTAR was "teacher proof," the child learned to read. If a child was not successful in his/her group, if, for example, he/she was not able to "read (the whole story) in two and a half minutes with no more than three errors," then Betsy would change the placement.

For the first few months of Year One, Betsy continued to focus on teaching DISTAR lessons to small groups and making sure that the children were appropriately placed in those groups. In late October, however, as noted in her case study, she had begun "really starting to watch my top readers and watch . . . how they attack things and my own daughter—who's a first grader—I watch her." Five weeks later, in early December, the research assistant noticed that Betsy had begun to vary her instructional routine by including some language ("Does this make sense?") and techniques ("Sounds in boxes") from Reading Recovery. Within these changes, Betsy responded to children *individually* based on observations she had made about their reading strategies. To one child, for example, she said:

You know what I liked? You knew that wasn't right, didn't you? You stopped and you tried to figure it out. And I watched you figure it out. You need to cover it up and do one sound at a time instead of looking at the whole word. And you know what else I liked very much? When you figured out what that word was you just didn't keep reading, you went back to the beginning of the sentence.

In the interview after this December observation, Betsy explained the instructional changes she had been making:

I guess subconsciously I'm using techniques that I've been reading about and that the [RR] class is showing us to do. . . . I don't do it intentionally. . . . The [RR teacher leader] just happened to come in one day and was standing there and she . . . commented that . . . I used like in a minute three or four [RR] techniques . . . on one child.

It's not what direct instruction says to do . . . Like in direct instruction, you tell the child the word they don't know. In this, you let them keep working at it. . . You at least let them attempt to figure it out or maybe like I was saying, "Use the first sound," "What do you see coming up next." And then you see *the child* go back on the next one. He came back and he started doing it himself.

In this same interview Betsy talked at length about "one little girl that came in [who] was in the low group." Betsy "started using a lot of the things I had been taught [in RR] to move her real fast." The child was now in the top group. In addition to using expressions ("Does that make sense?") and techniques ("Hearing sounds in words"), Betsy told the interviewer that she was giving each child "time and little clues" so that the child could figure things out for him/herself.

By February Betsy had increased the amount of time she spent responding to individual children and in the interview after the observation, commented again about how important she felt it was to "work with kids individually." This pattern of modifying instruction to meet individual needs better and of responding to children based on observations of them as readers—which we observed and which Betsy talked about—continued throughout the first year of the study. Indeed, by the end of the year, Betsy was having each child read independently to her so she could "hear them, how they attack words, how they read sentences." She was then able to provide feedback to each child that helped the child become a more strategic reader.

During the second year Betsy continued her previous pattern of creating instructional contexts that allowed her to observe and respond to individual children. In December she talked about the particular needs of several different children, explaining to the research assistant the needs of each child and how she was trying to help them get ready to read. All she "really wanted" was for "each kid to learn at (his/her) own rate." By gearing instruction to the needs of each child, she hoped to get each child ready to read the next year, in first grade. When she assessed the reading abilities of her kindergarteners in March of the second year of the study, she was surprised to find that her they were all reading, "at the end of first-, beginning of second-grade level, or higher."

In talking about her teaching, both at the time and in the end of the year interview, Betsy consistently talked about the importance of focusing on and meeting the individual needs of particular children. It was clear to her, and she made it clear to us, that her observations of the strategies of individual children had served as a catalyst for the considerable changes she had made both in her beliefs and in her practices. In the final interview she noted that, "I think what I am doing is learning how kids learn" and that what she was discovering was that each child was different. "Before I was the leader," Betsy observed, "and now I try to expose them . . . and let them make their decisions about what they should do and learn from there. . . Kids are at such different levels."



**Eleanor.** We began to see glimpses of Eleanor's focus on the particular needs of children in December of the first year. During our interview with her that month, she mentioned her concern with being able to reach "that one or two I haven't been able to reach before." She noted that she often found herself "thinking so much about the one or two who just aren't getting it." In February of the first year, Eleanor talked extensively about one child she was working with in Reading Recovery. The child was doing very well and so had "tested out" of Reading Recovery. Eleanor was quite excited. She contrasted his success with what usually happened to the children in Chapter I, who were usually in Chapter I year after year. Eleanor commented, "I see that a difference can be made . . . and (that's) made me more receptive. . . . I realize changes can be made." In February she attributed these changes to Reading Recovery procedures and concluded that the procedures centered on "the observation and the one-on-one." She explained that she was learning to teach by building on what she "observed that day." As we reported in her portrait, Eleanor previously had grouped her Chapter I students and had "looked at the children as a group rather than individually." She was now valuing looking at children individually.

Eleanor's practices during the spring of the second year increasingly reflected her interest in the skills and strategies of individual students. During this time the research assistant noted that Eleanor often responded in sup-

portive, instructional ways to individual students. This approach contrasted with her previous pattern of considering responses as right or wrong and with her emphasis on whole group work. In the spring of the first year, for example, when a student asked to spell a word, rather than spell the word for the child, Eleanor more often responded, "What do you think it starts with?" or "What do you hear at the beginning? You had it started right. Now what do you hear?" When a child struggled with a word, rather than tell the word to the child, Eleanor more often asked, "Does that make sense?" or "Read that again. What word makes sense there?"

By the end of the first year, Eleanor concluded that her life was changing and that her teaching had "turned around." She explained that each student she worked with got "inside my heart and inside my mind." She felt she took them home with her. Each one, she explained, was "different" and, because of what she had learned from Reading Recovery, she felt she now had something to offer each and all of the children. Eleanor described her change:

It was not fun, yet it was. . . . You felt a growth within yourself and you felt you were learning something worthwhile. I have gone to many college classes and it's like "Oh, no, not another one of these!" [But Reading Recovery was different in that] Reading Recovery gets inside of you. You become enthused. It's just like YOU are learning; it's like being a new child, a new baby. You are seeing all of these things that have been there and all of a sudden you are seeing *this child*, this reading process, in a different way and how it all fits together.

During the second year we consistently observed Eleanor's responding to the needs of particular children, helping each child develop the skills and strategies he or she needed to be successful as a reader. By Year Two Eleanor had reorganized her practices in ways that made it possible for her to spend considerable amounts of time responding to individual children. During the second year the children spent more time writing than they had in Year One, and Eleanor circulated, helping each child with his or her writing and spelling, an instructional approach that helped the child learn about sound/symbol relationships as part of writing time. During the second year, the children also spent more time reading independently and both during the independent and small group reading times, Eleanor's responses focused on helping individual children develop appropriate reading skills and strategies. During this second year Eleanor explained to us that she now knew "how to individualize" and that she was keeping her instructional focus on helping each child become independent, be actively engaged, and become strategic. When she talked to us about these overall changes, she consistently tied her comments to her observations of and goals for individual children. She told us, for example, that she was teaching Royal "to think. . . think for himself," that she wanted Annette to be able to "predict what (she) will see," that she wanted Cathy to "think about what made sense." As noted in her portrait, Eleanor felt that she now had "the ability to work with the group as

individuals rather than just treat them all as a group" and was, therefore, individualizing instruction within the group.

### **Coming Full Circle**

We conducted this study in order to help ourselves as teacher educators construct a theory of teachers as learners, of how teachers fixate belief. We now have such a theory. We began the study believing that outside events had the potential to serve as catalysts. In our study we found that the exposure to new information via Reading Recovery classes did indeed serve as a catalyst for three of the teachers. We began the study believing that inquiry could potentially lead to learning. In our study we found that three of the four teachers conducted curricular inquiries, trying out the new ideas and practices to which they had been exposed. However, only two of these three teachers changed their beliefs and practices as a result of their inquiries. For only two of the three did inquiry lead to change, to the formation of new beliefs and, based on those beliefs, new practices. The two teachers, Betsy and Eleanor, not only engaged in inquiry but also focused their observations on the skills and strategies of individual students. What we had not anticipated was that inquiry would be necessary but not sufficient. This study suggests that the inquiry process can be generative for teachers if the data they use to inform their inquiry includes information about the skills *and* strategies of *individual* children.

Once we as a team had formed for ourselves a tentative theory about teach-

ers as learners, I turned my attention to the implications of our theory for my practices. Based on what I had learned from this study, I decided that if I were going to be genuinely helpful to teachers as learners, I needed to do the following:

1. Help teachers fixate belief through inquiry by (a) providing them with the opportunity to juxtapose their ideas with the ideas of other educators, and (b) serving as resource to teacher's inquiries by reconstituting my role as question asker rather than as information provider.

In this study three of the four teachers independently pursued inquiries in order to resolve tensions they felt, and some of those inquiries led to new beliefs and practices. The tensions came about when the teachers juxtaposed their current beliefs and practices with the new practices and beliefs they were encountering as part of Reading Recovery. To parallel this tension in my college classes, I seek first to understand teachers' current beliefs and then provide them with information about the beliefs and practices of other teachers, including those in their immediate community. In this way I hope to provide the possibility of tension being created in the juxtaposition.

In this study Betsy and Eleanor transformed their practices via experimentation. Annabelle and Frances did not. The potential for transformation occurred when three of the four teachers (Betsy, Eleanor, and Frances) engaged in inquiry. I worry that when those who are perceived to be authorities (e.g., university professors) give

answers, they potentially stifle inquiry; they limit discovery. I now believe that my job is to help teachers find their own questions and to support them as they seek to find their own answers. I am experimenting with learning to ask hard questions that sustain and support inquiry, to offer multiple alternatives for teachers to explore, and to refrain from closing down teacher inquiry by implying that my answers suffice for their questions.

2. Ground my work with teachers in the particulars of their classroom lives and the lives of the children with whom they worked. Too often, I had taught theory independent of experience. Based on this study, I decided, whenever possible, to work with teachers and children simultaneously so that teachers' inquiries (and mine) could be connected to particular children who had particular needs. In the reading assessment classes I teach now, for example, each teacher identifies a child he or she is worried about as a reader. Each teacher works one-on-one with that child for two hours a week, one hour of which is part of our class. In the remaining class time we help each other better understand the child and how to support the child as reader. While I suggest articles and books that teachers might find helpful, any reading that teachers choose to do is driven by their inquiry, by their attempt to know and support the child better (see Stephens et. al. 1996; Stephens & Story 1999; Stephens, Story, & Meyer-Reimer, 1997).

In this study Betsy and Eleanor used their observations of individual

children to inform their inquiry. For them this process was transformative. In testing out the implications of this transformation in my own classroom, one of the things I must learn to do is to consistently take an inquiry stance. Another is to find ways in the college classroom to ensure that (a) I observe each of my students (who are pre- or in-service teachers) and use that data to inform/transform my teaching and (b) I find ways for the students in my class to bring in and build on their observations of their K-12 students. As a teacher-educator I have come to believe that it is not longer acceptable to leave the learner out of the teaching equation.

### **Beginning Again**

Since the late 1980s and early 1990s a number of university-based researchers in the field of language arts have been writing about how research *on* K-12 teachers does not impact the practices of other K-12 teachers. They have often argued that K-12 practices would more likely be improved if K-12 teachers conducted their own research (see for example, Clandinin, Davis, Hogan, & Kennard, 1993; Cochran-Smith & Lytle, 1990, 1993; Hollingsworth, Dybdahy, & Minarik, 1993; Holt-Reynolds, 1991; Newman, 1991; Patterson, Santa, Short, & Smith, 1993; Richardson, 1994b; Russell, 1993). In this study, however, we conducted research on K-12 teachers not to impact their practices but to improve our own. I deeply appreciate the willingness of all 8 teachers to help us learn what we sought to know. Our journey from data collection to find-

ings to implications has been a challenging one, but I feel that I have finally ended up where I need to begin. I have a practical theory about teachers as learners and I have new ideas and questions about the way I need to alter my classroom practices in order to better support teachers as self-sustaining generative learners.

Kozol (1975) tells a story about some high school students who spent a year studying "Urban Crisis and Race Turmoil in the Nineteen Sixties." Kozol asked, "What was it for?" and one student explained that he hoped the study would lead to an A in social studies. Kozol pressed the issue, asking how the study impacted students' lives outside school. The student explained that he understood the problems better. He understood, for example, that, because of discrimination, some people have been held back and crippled. Others can move on to guaranteed success. The student understood as well that he was among those for whom success is guaranteed. Kozol's concern is that such knowledge would have been put to better use had the student worked to change current urban and racial patterns instead of simply documenting them.

When I went back to reread Kozol (1975) to confirm my recollection of the high school/urban unrest story, I discovered that I had forgotten the next part of it. After the classroom interaction (and being chided by the classroom teacher for pushing the students so hard), Kozol had coffee with the teacher who did college applications with the senior class. She pointed out how much

the colleges “love to see that stuff about Independent Research. . . . It looks so good! It knocks them out.” She suggested however that the research is ultimately both “safe” and, because it is not used, “unimportant.” Think, though, she suggested, what the universities would say, “when they find out *how much our kids are like their own professors!*” (p. 185; emphasis added).

I found this story deeply disturbing the first time I read it. It bothers me even more now, re-reading it in order to include it in this paper. We who conducted this study know more now than when we began. By publishing this article we make public what we have learned. As academics we are rewarded for this behavior. Like the story Kozol

tells, however, it seems both self-serving and unethical for us as authors to be the only ones to benefit from this study. We therefore tried to tell our story in a way that would be genuinely useful to others as well. We hope that it engenders doubt and leads to new questions about the role of inquiry and about the importance of learning about and from students. All of us who teach have the potential to use inquiry as a tool for gaining new understandings, for becoming life-long learners consistently engaged in self-sustaining generative inquiry. All of us can learn from observing our students. We hope our story of this study serves as catalyst for that agenda.

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## APPENDIX A: SAMPLE PAGES FROM ELABORATED FIELD NOTES

### Observation 4: November 28, Year One Teacher: Annabelle

I arrived around 8:15 and began to make a diagram of the room. The other teacher commented that there wasn't much up in the room because Thanksgiving decorations were taken down and that she was going to Pyramid to get some things. The things displayed in the room were teacher made materials and commercially made materials. No children's art or written work were displayed.

On the calendar bulletin board were two cups placed under the tens and ones sign. In the tens cup there were bundles of sticks; and in the ones cup there were single sticks. This was new since the last observation.

On the bulletin board near the window in the northeast corner, there were commercially made vowel letters and pictures. This has been in the room for all observations. On the blackboard was written “stars” and “checks” for behavior management. Also, on the board were directions for the writing table activity. “Write one word that starts with each letter.”

a	f	k	p
b	g	l	q
c	h	m	r
d	i	n	s
e	j	o	t

In the back of the room on the reading group blackboard were a few words written not as lists but probably during a reading lesson as examples. The list of words from Fish and not Fish was not on the board.

On the bulletin board over the sink were the same Writing to Read cycle words that were there for the last observation.

## APPENDIX B: INITIAL INTERVIEW

1. Organization of day, of week, of year. How are days organized; why are they organized that way; how long have they been organized that way; what are the influences of the organization.
2. Reading/writing/literature. How reading, writing, and literature fit into the organization; why they fit in that way; how reading and writing relate to each other; how each is organized and why.
3. What a typical reading/literacy experience might look like (and why it is set up that way).
4. How the teacher generally responds to children within that experience and why.
5. How the teacher responds (specifically) within that/those experience(s) (e.g., When a child comes to a word that s/he does not know, what does the teacher say/do? When a child is reading aloud and miscues, what does the teacher do? When a child is writing and misspells a word, what does the teacher do?).
6. How the teacher perceives the typical student/the range of students relative to reading.
7. What problems the teacher associates with difficulties related to reading and how she addresses those problems (i.e., what does she see as appropriate remediation?).
8. How the teacher assesses her students. How she knows they are doing well, having trouble, making progress, not making progress. How does she respond if the child is having trouble, not making progress?
9. The teacher’s background—training, degrees, teaching experience.
10. The teacher’s reason for choosing to become a Reading Recovery teacher. Her expectations (generally) and (specifically) how she thinks this will affect her as a teacher.



## APPENDIX C: FINAL INTERVIEW

- I. Let's talk about this year:
  - A. What has this year been like for you?
  - B. How has it been different from other years?
    - 1. Organization - Do you do school differently? If so, how?
    - 2. Reading/writing instruction
    - 3. Students
  - C. Have you changed as a teacher/person? If so, how? Do you see yourself any differently this year?
  - D. How do you account for this change?
    - 1. What made the changes occur?
    - 2. How did the changes occur?
  - E. What do you know now that you didn't know before?
  - F. How would you describe yourself now as a student as compared to being a student before?
- II. Reading Recovery:
  - A. What has Reading Recovery been like?
  - B. Has this experience been beneficial to you? Not so beneficial? What has been the most beneficial? Least beneficial? What are some of the things you learned about in your training that you might not have known before? Was there anything special about the training?
  - C. Let's look at the other side of the question, what are the things that you would change about the experience?
  - D. Have you changed as a result of Reading Recovery? Stayed the same? In what way?
  - E. If you were going to describe Reading Recovery to another teacher what would you tell them?
  - F. How would you describe your relationship with other teachers? administrators? parents? co-teacher? teacher leader?
  - G. How do other teachers react to your Reading Recovery program?
  - H. What things have been easier for you? Harder?
  - I. What have been some of the constraints? The support?
- III. Students:
  - A. When you are observing kids what do you think is important? What do you look for? Is that the same as last year?
  - B. When a child comes to a word he doesn't know, what do you do? (Determine how long the teacher waits.)
  - C. What do you do if the child misreads a word?
  - D. If you were going to go into a classroom and find the kids that were at-risk, what would you do?
    - 1. Are there some kinds of kids you anticipate being at-risk? Why?
    - 2. If you've identified a child potentially at risk, how do you deal with this?
  - E. What cues do you look for to identify a child who will potentially have difficulty reading? writing?
- IV. Teaching:
  - A. What really matters to you about teaching, etc.?
  - B. What do you think your strengths in teaching are? Were these strengths present in September?
  - C. What do you think you can improve? Did you always consider this an area for improvement?

- D What is critical for reading? (e.g., make task easy; controlled challenge)
- E Do you think that there are any kids that can't learn to read?
- F How do you teach writing?
- G How do you pick books?
- H What's the distinction between teaching and learning?
- V. Acquisition of reading:
  - A What are the essential skills a child should have coming into first grade?
  - B What do you consider to be essential elements to reading instruction? (I recall that you said . . . was important.)
  - C Have you noticed any changes in the way you instruct students in reading outside of Reading Recovery?
  - D What role does writing play in initial reading instruction?
  - E Does the parent have a role in the reading process?
- VI. Assessment:
  - A What role does assessment play in the instructional process?
  - B What types of things are important to assess in beginning readers?
  - C What recommendations would you make to a classroom teaching about assessing student skills?
  - D Has your view of assessment changed in the last year? If so, how?
- VII. Future:
  - A How do you think next year will be for you? Do you see it as being much different?
  - B What do you see as your goals for the next few years?
- VIII. Conclusion:
  - A. What are the teacher's questions and concerns.
  - B. Please clarify.