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## ABSTRACT

This study explored elementary school teachers' perspectives on their evolving understanding of themselves and children as learners while they were co-researchers in inquiry about children's thinking. Through collaborative inquiry, professional reading, classroom experimentation, shared stories, and personal reflection, participants created a professional learning community and increased their focus on teaching for understanding, assumed more social constructivist stances, and modified classroom practices. Data collection included interviews, journals, field notes, research meeting conversations, and passages and comments from books and articles that participants read. Data analysis indicated that teachers began de-emphasizing test results and emphasizing student learning and understanding. They rethought how things were done in the classroom, viewed schedules and plans as fluid and flexible frameworks, and thought creatively about ways to structure classroom practice. They perceived that shifts in their thinking and their modifications in classroom practice were supported by: trusting relationships and a collegial atmosphere which supported risk taking; focus on student learning; their inquiry, which was contextually embedded in their shared experiences and classroom stories; seeing new connections between theory and practice; and experiencing opportunities to view multiple teaching practices, take risks, examine beliefs which drove their practice, and collaboratively inquire into the perspectives of others. (Contains 38 references.) (SM)

# Voyage of Discovery

## What Happens When Inservice Teachers Explore Teaching For Understanding Through Collaborative Investigation?

Paper presented at the  
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The University of Georgia



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## TABLE OF CONTENTS

Tamara’s Reflections	3
The Voyage Metaphor	3
Introduction to the Study	4
Purpose and Background of the Study	5
Perspective	14
Methodology	15
The Context	16
Forms of Data	19
Findings and Conclusions	20
Theme I, <i>Setting Sail: Becoming a Community of Learners</i>	20
Theme II, <i>Generating Knowledge: Trying and Testing</i>	21
Theme III, <i>Teaching for Understanding: Exploring a Child’s Underlying Conceptual Structure</i>	22
Theme IV, <i>Finding New Horizons and Beginnings: Classroom Implications of Teaching for Understanding</i>	24
“Changing the Direction of the Wind:” Implications for My Role as an Administrator	26
Relational Leadership	28
Significance of the Study	29
Concluding Statement	31
References	33

# What Happens When Inservice Teachers Explore Teaching For Understanding Through Collaborative Investigation?

## Tamara's Reflections

*I believe that students and teachers should have a respectful, inquiring relationship. . . I believe we should be open to one another's ideas and not discount them. Different teachers will/can perceive similar classroom events in quite different ways. For this reason, collaboration between teachers is most beneficial. The chance for collaboration during the voyage was - - - we would sit down and talk about specific kids and specific instances. We would read others' thoughts about teaching. Just talking to other teachers about that and just getting their insight and - - - I don't know. I can think how my day went in my head but if I talk about it to someone or I write it down, it just seems to be so much more meaningful.*

*The voyage inspired me.*

Tamara Bolden, 5<sup>th</sup> grade teacher and co-researcher

## THE VOYAGE METAPHOR

My personal life-metaphor is that of a voyage, as I love the water and sailing and spent over nine years of my life aboard a small vessel. I carried the metaphor into this research, and it was readily embraced by the co-researchers. My original invitation to participate in the study was presented to the teachers as an opportunity to join a "Voyage of Discovery." This metaphor held throughout the study as we engaged in collaborative inquiry as co-researchers, explored teaching for understanding, and considered the findings of our efforts.

## INTRODUCTION TO THE STUDY

This phenomenological study explored five elementary school teachers' perspectives of their evolving understanding of themselves and of children as learners as they participated with their assistant principal as co-researchers in inquiry about children's thinking. Through collaborative inquiry, professional reading, classroom experimentation, shared stories, and personal reflection, the participants created a professional community of learners that enabled them to increase their focus on teaching for understanding, assume more social constructivist stances, and modify their classroom practice.

Data collection included base line and concluding interviews, individual and interactive journals, field notes, and over 30 hours of transcribed conversations of research meetings over a six-month period, in addition to underlined passages and comments in margins of books and articles that the participants read. Data were analyzed through constant comparison.

This study offers a new vision for professional development. The teachers began to de-emphasize test results and focus on student learning and understanding. They began to rethink "the way things are done," to view schedules and plans as fluid and flexible frameworks, and to think creatively about ways to structure classroom practice.

The participants perceived that the shifts in their thinking and the modifications they made in their classroom practice were supported by: 1) trusting relationships and a collegial atmosphere which supported risk taking; 2) the focus on student learning; 3) their own inquiry which was contextually embedded in their shared experiences and classroom stories; 4) seeing new connections between theory and practice; and 5) experiencing opportunities to view multiple teaching practices, to take risks, to examine beliefs which

drive one's own practice, and to engage in collaborative inquiry into the perspectives of others.

The implications for administrators who seek to establish self-renewing schools include the need for relational leadership which establishes trusting relationships and a supportive school environment that focuses on student learning, and supports professional study of the literature and the sharing of stories about classroom practice.

### PURPOSE AND BACKGROUND OF THE STUDY

*Learning is a social activity that is enhanced by shared inquiry. Learners learn with more depth and understanding when they are able to share ideas with others, engage in the dynamic and synergistic process of thinking together, consider other points of view, and broaden their own perspectives.*

Walker & Lambert, 1995, p. 18

The purpose of this study was to examine teacher's perspectives of their evolving understanding of themselves and of children as learners as they participated in a staff development program as co-researchers in inquiry about children's thinking. As an administrator in an elementary school, it was my goal that the teacher-participants would build a bridge between theory and practice and gain more respect for the integrity of their own perceptions and ways of knowing, in addition to those of the children. I hoped they would gain a deeper understanding of social constructivism and the implications that it holds for teaching and learning. It was my desire that I, and the teacher-participants/co-researchers, would enhance our ability to scaffold children's learning in the classroom. I envisioned that our work together of thinking about children's thinking and reflecting upon our perceptions would facilitate the classroom teachers' movement from *transmitters* of

knowledge to “*facilitators* of children’s understandings” (Oldfather, Bonds, & Bray, 1994, p.13.) (See similar processes reported by Hollingsworth, 1989; Thomas, 1994). This vision was grounded in a belief that rethinking the nature of learning begins with new knowledge about how students think and learn (Marshall, 1992), and a belief that as teachers engage in inquiry and construct their knowledge collaboratively, they modify their teaching practices (Ball, 1990; Florio-Ruane & Lensmire, 1990; Wood, Cobb, & Yackel, 1992; Rowland, 1984).

This study is grounded in the belief that it is the inquiry into other perspectives that provides a new view and original thought for rethinking what we believe we know. Sharing our own thoughts and listening to the thoughts of others often motivate rethinking. Rowland (1984) asserted that “deliberately focusing on this inquiry element for some of the time and sharing it with other teachers would appear to have a direct effect on how we understand our own teaching” (pp. 545-55).

Growth and change in beliefs, perspectives, images, and/or personal theories, evolve into growth and change in practice in a symbiotic, interactive process. Neither occurs without the other, nor is the process hierarchical. Ayers (1995) asserts,

Learning to teach well involves a deep engagement with the surrounding social and historical environments. It also involves knowledge of various literacies--ways human beings have described and understood their worlds; it involves knowing oneself, one’s attitudes, beliefs, values, and prejudices, as well as, one’s underlying conceptions of knowledge and knowing. (Ayers, 1995, p. 60)

Current research on teacher change suggests that teachers are not resistant to change, but that they change all the time. Richardson and Anders (1994) argue that

collaboration and setting goals to help teachers to become reflective toward their practice and to develop methods of inquiry, allow them to gain and continue the reflective process.

The collaborative process is not based on a deficit model of change. Rather than beginning with the premise that teachers are not doing something correctly, the collaborative process assumes that reflection and change are ongoing processes of assessing beliefs, goals, and results. Experimental changes in practice may, in fact, lead to less than desirable effects. The important element, therefore, is the development of a change and reflection orientation to allow the teacher to continue to question both new and old practices (Richardson & Anders, 1994, p. 163).

Mewborn (1995) utilizes both reflection and collaborative inquiry as an integral part of her study. Her findings include descriptions of four preservice teachers' personal theories about mathematics, and Mewborn (1995) concluded that an examination of classroom experiences can assist preservice teachers to identify the beliefs that they hold and recognize the ways in which these beliefs conflict with desired teaching practice.

Florio-Ruane and Lensmire (1990) used a similar approach to that of Mewborn (1995) and were optimistic about the results from their attempts to challenge and enrich preservice teachers' pre-existing beliefs about children and writing instruction. The researchers stated that the preservice teachers,

embraced the idea that children were making sense with writing long before receiving formal instruction. Children's "mistakes" were seen not as simple errors to be corrected and instructed about, but as opportunities for the teacher to think about how to respond and plan for future instruction. (Florio-Ruane & Lensmire, 1990, p. 287)



Several possible explanations are offered for this response. Florio-Ruane and Lensmire (1990) suggest that their preservice teachers may have had fewer hard and fast conceptions of what children are like than they had of what teachers are like. The focus on children and the formal knowledge that was provided about children did not seem to threaten the students' sense of themselves as teachers. It may have allowed them to trust their own experience as learners and develop multiple views of teaching and learning to write. The final possibility offered was that perhaps the focus on the child rather than on the teacher was an opportunity for the teacher educator and preservice teacher to share a common point of interest and reference. This point of reference may enable teachers to examine their belief systems with less risk to self than the more traditional roles of teacher/evaluator and student/evaluated.

All of these studies report that positive outcomes, in the form of teacher change and growth, are supported by collaboration, methods of inquiry, and a focus on children and on a child's thinking. The researchers, children, and participants in these studies (Florio-Ruane & Lensmire, 1990; Mewborn, 1995; Thomas, 1994; Rowland, 1984) all sat on the same side of the table in the role of advocates rather than adversaries (Florio-Ruane & Lensmire, 1990) and engaged themselves in collaborative inquiry.

Thomas (1994) bridged her role as a teacher educator with that of participant observer along with classroom teachers. Rowland (1984) and Armstrong (1980) functioned as co-researchers/teachers in the classroom. My study (Oakley, 2000) engaged all of us as co-researchers in inquiry. These works maintained a focus on the child and engaged classroom teachers in collaboration, reflection, and inquiry. Rowland (1984) is very clear about the excitement and motivation that this experience provided.

From my experience of working on my own in a classroom, I had begun to realize that whenever I looked really closely at what the children were doing, the choices they were making, and the forms of expression they were using, then a picture began to build up of a child who was, in some sense, more “rational” than I had previously realized. It seemed that, the closer I looked, not only the more I saw, but the more intelligent was what I saw. . . . It was those occasions when I was able to reflect sufficiently to provide some understanding of why the children worked in the way they did that motivated me as a teacher. A few such insights into their learning were worth more than a battery of objective measures of their performance. (Rowland, 1984, p. 4-5)

Rowland’s (1984) belief in collaborative learning led him to state that “two teachers with certain shared values are able to engage in a deeper analysis of the children’s work than would be possible through solitary reflection” (p. 5). Rowland’s (1986) work in a learning community called The Leicestershire Classroom Research Inservice Education Scheme and the Research Consultative Group (RCG) included teachers from a wide range of schools who met for two or three days each term to share materials and notes they had made about children’s activity in the classroom. The RCG found that classroom inquiry “capitalizes upon the different viewpoints of teachers in order to evolve deeper understandings of the particular” (Rowland, 1986, p. 31). Change and growth were facilitated by the focus on the activity and understanding of children rather than on the performance of a teacher. Rowland (1986, p.34) asserted, “It is not directly our performance which is open to challenge but our understanding of children.” Thomas (1994) echoes Rowland’s (1986) themes and conclusions.

Thomas (1994) was a participant-observer in the classroom on a weekly basis over an eight-month period supporting the four teacher-researchers who engaged in authentic assessment and who each focused on four students. Thomas (1994) defined authentic assessment as “the attempt to understand how students construct meaning, to see learning metaphorically through student eyes” (p. ii) and found that it was a key factor in helping teachers come to know students in new ways. Collaborative inquiry contributed to teacher growth and change and supported teachers’ move “from positions of ‘received authority’ to finding authority within themselves” (Thomas, 1994, p. iii). This move in position might be called *epistemological empowerment*. Oldfather (1992) defined epistemological empowerment as a “sense of intellectual agency and ability to know that emerges from a strong sense of the integrity of one’s own processes of constructing meaning” (p. 3). Thomas (1994) and the teachers who participated in her study described their growth and changes as not only significant, but also as not what they had expected. The unexpected, yet two most important of the seven identified themes to emerge were, “Knowing Students” and “Changing Relationships.” The changes that were experienced were significant and lasting, and all of the participants perceived that they had learned as much about themselves as about the students. Although the teachers described a number of factors that supported the changes such as time, autonomy, choice, and demonstrations, two factors emerged most strongly. One was the opportunity to collaborate and talk informally over extended periods of time. The second was the value of actually seeing and documenting learning (Thomas, 1994).

Rowland (1984) found that such collaboration “represents an attempt to create for ourselves the kind of learning environment that we would aim to build with the children,

one in which we equally teach and learn from each other and collaborate in our control of that process” (p. 157). “It is the teachers’ and children’s experience of the classroom which is authentic, their reflections upon it which are most significant, and it is in these that our understanding of children in the classroom will be rooted” (Rowland, 1986, p. 31).

Oldfather (1992) engaged students and researcher together as co-researchers in an inquiry into motivation. They found that the collaborative construction of meaning was one of the elements that supported students’ motivation to learn in their elementary classrooms (Oldfather & McLaughlin, 1993). Oldfather (1992, p. 8) defines *the continuing impulse to learn* as,

on-going engagement in learning that is propelled and focused by thought and feeling that emerge from the learner’s processes of constructing meaning; it is characterized by intense involvement, curiosity, and a search for understanding, as the learner experiences learning as a deeply personal and continuing agenda.

In order for teachers to provide the continuing impulse to learn, however, they must first experience it themselves. If we wish to rethink our thinking about learning and teaching, we will need to understand our own practice and have opportunities to share those thoughts with our colleagues. Teachers need to explore multiple perspectives of children’s thinking and cultivate images of the possible and desirable. Change from the inside out, from the bottom up, changes teachers themselves, “and therein lies the power” (Bissex & Bullock, 1987, p. 11). Feiman-Nemser (1983) argued that

the likelihood that professional study will affect what powerful early experiences have inscribed on the mind and emotions will depend on its power to cultivate

images of the possible and desirable and to forge commitments to make those images a reality. (p. 157)

Lyons (1990) asserted that the interaction between the teachers' perspective of knowledge and knowing and the students' ways of knowing are characterized as *nested knowing*. "Students and teachers come together in a special relationship in learning, having a clear epistemological basis. . . . In learning, teachers and students influence and are influenced by each other's ways of knowing; they are nested knowers" (Lyons, 1990, p. 173-74). Lyons (1990) argued that, "the goal teachers seek in their practice is a widening of their own and their students' perspectives" (p. 174), and that professional development for teachers seems to be better understood as involving a new way of seeing and being in relationship with learners and learning (Lyons, 1990). She stated that while her case studies offer glimpses of the dynamics of teachers' change and growth, the studies do not precisely explain or describe what precipitates change and exactly how it comes about (Lyons, 1990, p. 175).

My research (Oakley, 2000) contributes to an understanding of the qualities that support teacher change and growth, and describes the modifications that the teachers made in their practice and ways that they began to assume more constructivist stances. I agree with Lyons (1990) that teacher change and growth seem to "involve a web of values and ideas, ways of knowing and interacting, and being in relationship with other knowers" (p. 175). My work (Oakley, 2000) weaves multiple relationships, perspectives, interactions, and ways of knowing in an effort to provide what Schifter and Fosnot (1993) referred to as "compelling portraits of individual possibility" (p. 183).

Schifter's work (Shifter & Fosnot, 1993; Simon & Schifter, 1987) in an inservice program for teachers of mathematics called the Educational Leaders in Mathematics (ELM) Project combined a summer inservice in teaching mathematics with intensive, ongoing, follow-up support. The teachers showed evidence of having developed constructivist views of mathematics learning as a foundation for their classroom decisions, in addition to, integrating new strategies into their instructional practice, and many reached a level of development that indicated that the teachers based decisions on what their students understood and were less concerned with what they themselves should or should not be doing.

Teachers are no longer preoccupied with their own actions, concentrating instead on student learning. They are able to monitor student understanding and can fluently revise their lessons as necessary, adding intermediate steps, extending applications in one direction or another, or confronting misconceptions. . .The focus is on student learning in particular, not just on teaching behaviors that generate student-centered lessons. (Schifter & Fosnot, 1993, p. 188)

As the teachers and I worked together as co-researchers, we focused on student learning. It was important for us to learn to listen in multiple and integrated areas, that we learn to listen to ourselves, to each other, and to the children. At times we had a predetermined purpose for listening to the children, but I believed that if we really wanted to hear the children's voices, we also needed to learn to listen with what Heshusius (1995) referred to as a *participatory mode of consciousness*. This mode allows teachers to dissolve the boundaries that sometimes keep us from knowing others, and paradoxically, from knowing ourselves more fully.

The perceived importance of learning to listen to children in my study is grounded in the work by Commeyras (1995), who argued that there are many insights to be gained from “seriously considering what the students want to know, what they are curious about, and what they see as important to understand and explore through discussion” (p. 105), and in Paley’s (1989) belief that “children have much to teach us, if we but stop and listen” (p. 142).

### PERSPECTIVE

*I do not go about trying to discover a ready-made world.  
Rather I seek to understand a social world  
we are continuously in the process of constructing.*

Wolcott, 1990, p. 147

My theoretical perspective is informed by social constructivism in which learning is seen as a socially constructed process that occurs through interactions with others. Teaching is viewed as facilitating another’s growth through scaffolding the other’s learning, understandings, and thinking, thus enabling the other to do with *assistance* today, a task that they will be able to *alone* tomorrow (Wood, Bruner, & Ross, 1976; Vygotsky, 1978). The assumption is made that scaffolding most effectively occurs when the learner’s present level of understanding is known to the teacher. Learning is viewed holistically and cannot be separated from all that the person is or from their present and past-lived experiences. Learning “presupposes a specific social nature and a process by which children (and adults) grow into the intellectual life of those around them” (Vygotsky, 1978, p. 88).

## METHODOLOGY

*When embarking upon a voyage and looking for a new adventure,  
the mood of the sea and the direction and strength of the wind  
will determine the difficulties of the journey and  
whether or not successful landfall will be made.*

Oakley

This study was conducted over a five-month period with myself and five classrooms teachers who worked together in an elementary school. We participated as co-researchers engaged in inquiry into children's thinking, meeting together on sixteen different occasions for two or more hours each time and discussing the writings and work of other investigators (e. g., Fosnot, 1989; Rowland, 1984; Paley, 1981). We worked to build a supportive learning community for ourselves, tested ideas in the classroom, and wrote reflective journals, which we shared with one another. In one sense, we were all investigators, yet in the on-going and final analysis, I was the major interpreter of the data.

This inquiry was centered on the perceptions and voice of the participants themselves. As co-researchers, the five teacher-participants, Dione, Jeannine, Joyce, Pat, and Tamara, and I, Jeannie, investigated children's thinking and our perceptions of the experience. We participated together from many-sided roles and perspectives. Our roles were multiple and hyphenated: participant-teacher, teacher-researcher, researcher-participant, participant-observer, observer-researcher, researcher-administrator, administrator-teacher, and all of us collaborative inquirers and learners.

These hyphenated roles resulted in data that are multifaceted, diverse, and rich. Utmost care was taken to keep the data connected with the voice or voices from which they emerged. I wanted each of us to become *known* in the sense of being recognized for who



we are and connected to our perceptions and words throughout the study. The image I hold, in using the word *voice*, is compatible with Oldfather's (1992) concept of *honored voice*, which she used to reflect more than one's self-expression. "Voice comes from a deeper place than our throats. Voice comes from our hearts, from our minds, and from the deepest places of knowing and feeling" (p. 10).

### The Context

I did not so much select the context for this study as the context "selected" me. Certainly, the study could have been conducted at other schools or with other participants within this school, but by doing the study in this place with these people, I did not need to find key informants or gatekeepers in order to gain entry into the field or to spend large amounts of time establishing rapport. The prior connections between all of us and our shared grounding in the school culture enabled us to engage in our inquiry from a stance of support and trust from the very beginning of the journey. The participants selected themselves, and the school selected all of us. The "mood" of both the school and the county culture supported our efforts and helped us feel the direction of the wind. I suppose this selection of context could be called "convenience sampling" (Patton, 1990, p. 181) because the study was done in the school where all of us work, and perhaps this is how the study began. However, the data that were gathered came from "information-rich" (Patton, 1990, p. 181) cases supported by the context where it was gathered and nurtured by the sense of trust, effort, and sharing, in which the participants engaged.

The inquiry was situated in a small elementary school where at the time of the study, I was an Instructional Lead Teacher. This is an administrative position similar to an Assistant Principal. The major difference, and hence the title, is that the position is seen as

a resource for teachers. The position calls for heavy involvement in curriculum, instruction, and teacher support, in all areas of student learning. As coordinator of the Student Support Team, teachers referred students to me if they had concerns about behavior, parental support, attendance, or academic progress, and together we planned approaches and strategies. We conferenced together with parents and education professionals who helped construct supports for the students' improvement and continuing progress. Additionally, I also had to at times act as an evaluator and carried out classroom observations using the Georgia Teacher Observation Instrument (GTOI) and conducted follow-up conferences. I was involved in curriculum decisions, budgeting, and purchasing equipment and materials. In partnership with the principal, I was responsible for schedules and lesson plans, the Special Instructional Assistance Program (SIA), parent educational opportunities, field trips, speakers, and the day-to-day orchestration of the school.

The county in which the school is located is a mixture of small town, farming, and bedroom communities that are within a 45-minute commute to a large metropolitan city. The county is growing at a rate of seven-percent a year and becoming more and more transient. It is beginning to feel the strain of larger county problems, but this statement applies more to nearby schools than it does to the school in which the study was conducted. The school is small by most standards and contains only twenty-one classrooms, kindergarten through fifth grade, with a total of 450 students, less than ten-percent of whom are of African American or other minority. Approximately thirty-percent of the students receive free or reduced lunch and/or breakfast assistance. Even when all staff members are counted, including support staff and custodians, the number hovers under sixty-five. Teacher turnover had been slight until recently and this consistency of

staff and small school size enabled teachers to share stories about individual children as the students moved from grade to grade. The school was awarded both a School of Excellence Award and a Blue Ribbon School Award in 1994 and has received several substantial grants, including a very large technology grant. During the period of the study, the staff was successfully involved in achieving school-selected goals for Georgia's Pay-for-Performance Program. Several teachers at the school have been recognized at the national, state, and county levels for outstanding achievements. The amount of teacher involvement in conferences, awards, and presentations would be impressive in even a larger school or more cosmopolitan district.

There is something special about this school. Even strangers who are unaware of the school's past accomplishments make comments when they first visit about how the school feels friendly, happy, special, or inviting. Perhaps it is the greeting they receive, not only in the main office, but also from others up and down the hall who seem genuinely glad to see them, even though they have no idea of the reason for the visit. Perhaps it has something to do with the brightly colored murals on the walls that seem to proclaim delight and pride. This special something is an "old-time" sense of family and community. Carried with this sense of family and community were high expectations of teacher commitment, dedication, and professional development.

It was, however, this same sense of high expectations that contributed to several illusions that the teachers held concerning planning, curriculum, scheduling and time constraints. Curriculum guides, pacing charts, lesson plans, schedules, and prior administrator directives, had been left unexamined and were most often perceived to be inflexible, unbending, and unchangeable. Administrative and teacher roles had been

viewed as separate and distinct. Taking risk through exploration and experimentation was carried out behind closed doors, if at all, and was often accomplished with an air of uneasiness about the ensuing consequences if teachers were not following schedules, plans, and curriculum guides, when an administrator came to observe. This engagement in co-research by an administrators and teachers learning together as co-researchers, and exploring and treating plans, schedules, and curriculum as flexible frameworks, was unique in this context.

### Forms of Data

Data included baseline and culminating interviews with each participant, and transcriptions of the sixteen meetings of discussion, sharing, and planning. Over thirty hours of transcriptions of our sessions together and the five reflective journals were coded using the constant comparative method of analysis. I kept a personal field diary along with methodological notes as I transcribed and coded the data. The Non-numerical Unstructured Data-Indexing, Searching, and Theorizing (NUD-IST) software from Sage Publications was used to organize the data, strands, and themes.

Questions that emerged during the ongoing analysis were presented to the group, and individual journals were kept by each participant and written at least twice a week for an average total number of entries per participant of 40 entries. The journals were responded to or checked on a weekly basis in a manner that was decided by the group. We alternated between my responding to each individual journal and a rotation system among the participants. I used data and investigator triangulation strategies (Mathison, 1988), as well as, member checks to confirm statements and to clarify and expand upon previously stated ideas, both during the process and in the final presentation of emerging themes.

## FINDINGS AND CONCLUSIONS

*Just as the sea moves in upon itself, feeding life and information continuously into the flow and depth of its own creations, educational leaders and participants must reinvent themselves through continuous reflection on the experiences, beliefs, and values that give daily interpretation and meaning to their lives in schools.*

Lambert, 1995, p. 197

The focus question for this research was: What are teachers' perspectives of their evolving understanding of themselves and of children as learners, as they participate as co-researchers in inquiry about children's thinking? Four themes were identified: Theme I, *Setting Sail: Becoming a Community of Learners*; Theme II, *Generating Knowledge: Trying and Testing*; Theme III: *Teaching for Understanding: Exploring a Child's Underlying Conceptual Structure*; and Theme IV, *Finding New Horizons and Beginnings: Classroom Implications of Teaching for Understanding*. All of the four themes were connected and interwoven rather than sequential. All influenced and supported the expansion of our vision of learning and teaching for understanding.

### Theme I, *Setting Sail: Becoming a Community of Learners*

*Learning is a social activity that is enhanced by shared inquiry. Learners learn with more depth and understanding when they are able to share ideas with others, engage in the dynamic and synergistic process of thinking together, consider other points of view, and broaden their own perspectives.*

Walker and Lambert, 1995, p. 18

The success of any journey depends upon one's companions and the community they create together, as well as the mood of the weather that surrounds them. Through the telling of our stories we begin to develop a shared vision, try on different points of view,

and revise our own directions, to continue or to deviate from the course we have chosen to follow.

Theme I, *Setting Sail: Becoming a Community of Learners*, was the foundation for the collaboration. The participants reported that this was essential to all that followed. The key categories in Theme I were: (1) the supportive aspects of the group laid the foundation for the participants' ability to take the risks necessary for our learning and sustained our struggle to learn and to make sense together; and (2) the participants and I experienced trusting relationships, an adventuresome spirit, a renewed sense of ourselves as learners, and a safe environment to generate knowledge through the trying and testing that was reported in Theme II, *Generating Knowledge: Trying and Testing*.

Theme II, *Generating Knowledge: Trying and Testing*

*Teachers learn best by studying, doing, and reflecting;  
by collaborating with other teachers;  
by looking closely at students and their work;  
and by sharing what they see.*

Darling-Hammond, 1998, p. 8

Inspired by reading the ideas and investigations of others and supported by the positive climate for adventure and learning, the teachers generated knowledge by “trying-on” ideas and sharing their experiences with the group. Experimenting with ways of investigating children’s thinking, looking deeply for student learning, finding how they were connecting ideas, and gaining access to some of their pre-existing concepts, brought teaching and learning into a sharper focus. In differing ways and degrees, the teachers used this knowledge to make modifications in their classrooms and teaching practice.

Theme II, *Generating Knowledge: Trying and Testing* detailed the teachers' experimentation. I selected four examples to spotlight in this theme: (1) in first grade science, "Rowlandy Days" were days modeled after Rowland's descriptions of letting children's learning take the lead; (2) "Seasonal Concepts" dealt with concepts and questions about what makes the seasons; (3) "Fibonacci Series: On a Mission" depicted work with two students and their quest to find mathematical patterns; and (4) "Dead Monkeys Smell Bad" described efforts to teach long division. The teachers "tried on" and tested ideas found in our shared readings, as well as those generated by the group and discovered during personal inquiry and reflection. Although there were many other examples that I could have chosen, these four represent the most extensive and far-reaching illustrations of the teachers trying and testing ways to expand their vision of student learning and to improve their teaching practice. It is not the actual experiment that is important as much as it is the process of generating knowledge through experimentation and coming to see student learning at a clearer and deeper level.

Theme III: Teaching for Understanding: Exploring a Child's Underlying Conceptual Structure

*The real voyage of discovery  
consists not in seeking new landscapes  
but in having new eyes.*

Proust

The trying and testing provided opportunities to look carefully and listen thoughtfully to what the students had to tell us about their learning and understanding. Looking beneath the surface past procedural and physical displays expanded our vision of learning. An expanded vision of students' learning, reflection upon our own personal student experiences, and calling to mind images of what teaching could and should be

evolved into shifts in classroom practice and increased efforts to assume a social constructivist stance and to teach for understanding.

Several projects and experiments helped us to become more aware of the need to focus on a child's underlying conceptual structures and learn from individual students: to have "new eyes." The individual interviews conducted for the *Children's Thinking Project* (Oldfather, West, White, & Wilmarth, 1999), the questions that were asked, the views of students' understanding about the Seasonal Concepts, and the attempts to discover and follow students' thinking during the "trying and testing," led us to become more sensitive to ourselves and our students as learners. This contextualized learning environment provided opportunities to re-examine what had previously been accepted as learning. Modifying classroom practice in an attempt to discover pre-existing student concepts and support learning that was more closely connected with understanding brought feelings of frustration, as well as, feelings of success and excitement. The teachers experienced a collision between the pressures of accountability of covering the curriculum and their enhanced knowledge of what is needed to teach for deep conceptual understanding.

Theme III: *Teaching for Understanding: Exploring a Child's Underlying Conceptual Structure* addressed the strategies the teachers used and the ways in which they began to search for the child's underlying conceptual structures. Categories included: (1) ways in which teachers began to focus on student learning and to look more thoughtfully and to listen more carefully to what they saw; (2) how the teachers questioned what they saw on the surface and expanded their vision of "good teaching" and learning; and (3) ways in which the teachers struggled with the challenges and rewards of teaching for understanding. Examples included results and references from their interviews with



children and ways in which the teachers assumed more social constructivist stances. The teachers indicated that when they were successful at discovering a child's underlying conceptual structures and then provided teaching that resulted in deeper conceptual understanding, teaching became a magical experience.

Theme IV, *Finding New Horizons and Beginnings: Classroom Implications of Teaching for Understanding*

*One cannot discover new oceans  
without first losing sight of the shore.*

Unknown

To venture into new oceans or into new or different thinking, approaches, or strategies, requires confidence and a spirit of adventure. Motivation to make the journey begins with a belief that modifications in practice are desirable, along with the courage to be able to lose sight of the old and sometimes more comfortable shore, in addition to holding an image of how the new destination or different approach might appear.

Trying and testing, experimentation, and alterations, in approaches and practice involve risk; risk of failure, risk of loss in terms of wasted time spent toward the wrong effort, risk of exposure, and risk of teaching inadequately. The shifts in thinking and modifications in classroom practice that the teachers made during this study were supported by an enhanced vision of teaching and learning that grew from reading the professional literature, from personal reflection, and from shared stories. The relationships that were formed and the positive learning environment that was created nurtured this enhanced vision of teaching and learning, and supported the ways in which we modified our thinking, or “adjusted our sails,” in order to better teach for understanding.

Because we cannot “change the direction of the wind,” we must “adjust our sails” if we wish to change our course or direction. Theme IV, *Finding New Horizons and Beginnings: Classroom Implications of Teaching for Understanding* describes the “sail adjustments” or modifications the teachers made in their practice in order to enhance teaching for understanding. Theme IV also includes recommendations for what conditions supported our efforts to accomplish those goals and the implications for administrators in their role of supporting self-renewing schools.

The data indicated that the adjustments that the teachers made included: (1) increasing their focus on and actively searching for student learning, (2) thinking about curriculum with an improved view of student needs, (3) using mentors and peers to tutor, (4) tightening the schedule for more efficient use of time, (5) integrating subject area instruction, (6) exploring alternative grouping possibilities, and (7) viewing both the schedule and lesson plans as fluid frameworks that could be deviated from for the good of effective learning. The teachers began to think creatively about ways to structure classroom practice and began to see some previously perceived constraints as illusions. The teachers began to rethink “the way things are done.”

The teachers reported that their increased experimentation was supported by the positive learning environment that was created. The teachers perceived that looking thoughtfully at what the students were learning and listening carefully to what it was the students understood supported their shifts in practice. The teachers examined the scope and sequence of the curriculum in light of student learning needs and knowledge, pre-testing and eliminating some lessons and units, and extending others to accommodate deeper conceptual learning. They often changed the usual order and sequencing of the

lesson itself, sometimes supplying hands-on experimentation first and using what they saw the students do with the materials as information about what they needed to teach next. They offered the teacher-presented portion of the lesson after they observed the students' success or difficulty with the task.

The teachers' efforts to focus on student learning and the successes they experienced in terms of their personal excitement and rewards led to a search to find ways to modify classroom instruction, practice, and structure, in order to provide more opportunities to see, support, and teach toward deep conceptual understanding. There were a great many educational circumstances and constraints that we could not change, but like sailors throughout the world, determination, planning, and skill, could be used to "adjust our sails," and enable us to reach the destination we had in mind, regardless of constraints or the direction of the "wind."

"Changing the Direction of the Wind:" Implications for My Role as an Administrator. What I desire and value, as the building level administrator, school leader, and "captain," is to keep all of us successfully moving toward the desired destination. I have the power to provide the climate, the framework, and the resources. I have the power to encourage and to support the needed sail adjustments. I often have the power to "change the direction of the wind." I can set the tone and climate that support opportunities to experience multiple teaching practices, to take risks, to examine the beliefs that drive one's own practice, and to engage in collaborative inquiry into the perspectives of others. I can build a framework for collaborative and sustained approaches that enhance student learning, and I can nurture and support professional change and growth.

The collaborative experience has made me more comfortable with the constant “changing of hats” that my principal role requires. I can be an open and sympathetic ear, a resource for exploring alternative approaches and for thinking creatively about ways to structure classroom practice, and still be “the boss.” Having to make the sometimes difficult decisions about teachers’ professional lives does not preclude me from intense involvement in those lives, or from knowing them well enough to be able to provide or find what it is that they need to be more successful in their task of teaching children.

Participation in this collaborative inquiry has given me new confidence about my abilities to successfully provide relational leadership and has enhanced my knowledge about what is needed to support teachers’ growth and professional development. As the teachers and I engaged in collaborative discussions and struggled to improve teaching and learning, I was provided with access to inside information about classroom life and ways in which the teachers perceived curriculum, procedures, schedules, and teaching. I gained a new and essential trust for teachers’ abilities to deliver a thinking curriculum and to teach for understanding, if they are provided a supportive school climate and the opportunities to reflect, share and engage in collaborative inquiry.

I was reminded of the need to give specific and direct permission for teachers to “adjust their sails” and to provide a climate where teachers are free to take the risk required to make modifications and to offer a thinking curriculum. Although many administrators in this county, including the director of curriculum, have always viewed the curriculum and pacing guides to be flexible guidelines, the teachers in this study, who had been in the county for many years, needed for that message to be stated clearly. I was reminded of the

need for trusting relationships, involvement at a personal level, and for a continual renewal of our focus on student learning.

The participants and I still remain closely connected to one another and to our dedication to continually improve our professional practice: the teachers with their students, and I through supporting and providing a professional learning climate and growth opportunities for my staff by providing relational leadership.

Relational Leadership. Support for the continual improvement of professional practice begins with a positive school climate, which in turn is grounded in positive relationships among staff members. As the school principal and leader, I must be accessible to all, willing to mediate when relationships and communication between staff members become strained, and by example, demonstrate not only the expectations for a positive school climate and continual professional development, but also provide the ways and means to achieve it as well. Collegiality and collaboration are built upon trusting relationships, and trusting relationships begin with those established by relational leadership. I take my image and definition of relational leadership from Regan and Brooks (1995) who assert that:

Relational leaders work as a part of the group, not separate from it; to define and achieve specific goals arrived at collaboratively. They have faith in the wisdom of the group, guiding its members toward achievement of their goals, while at the same time recognizing and celebrating the achievements and contributions of each individual involved in the process (p. 41).

In order to provide a school environment that is conducive to continual improvement and learning, it is important to keep in mind that trusting relationships are at the heart of excellent and successful self-renewing schools.

### Significance of the Study

This study (Oakley, 2000) provides an in-depth look at the shifts in teachers' thinking that take place as they examine student learning over time in a collaborative manner. This research builds upon the work of Thomas (1994) regarding shifts in practice that can result from de-emphasizing standardized outcomes and focusing instead on student learning and understandings. Thomas (1994) asserted that:

All participants in the study--researcher, teacher/co-researchers, and students--experienced significant changes. . . nothing prepared us for the power of 'coming to know' learners in different and deeper ways. . . [the teacher's] focus became the student, not standardized outcomes. (p. 256)

This research (Oakley, 2000) provides a window into teacher dilemmas as they experience the collision between the pressures of accountability of covering the curriculum and their enhanced knowledge of what is needed to teach for deep conceptual understanding.

This study (Oakley, 2000) was an inside-out approach to understanding what teachers and schools must do to organize themselves to understand children's thinking and to support teacher growth and change. There has been a scarcity of support for teachers to rethink the nature of learning, beginning with prospective teachers' apprenticeship in the classroom and extending throughout their educational program and teaching career.

As a county-supported staff development course through which each teacher earned three Staff Development Units, this approach offers new visions for professional development and validates teacher organized study groups as a way for teachers to offer a “thinking curriculum” that builds upon the student’s understanding. It is through such opportunities that we can better meet the need for students to have their ways of thinking and knowing understood by their teachers.

The data indicated that the teachers’ continuing professional development was supported by this experience, and this positive perception on the part of all of the participants helps address a concern expressed by Darling-Hammond (1996). She asserted that once teachers enter schools and classrooms, they often have little hope of finding the support they need for continual growth. These five teachers were given a rare opportunity to experience multiple teaching practices, to examine the beliefs that drive their own practice, and to engage in collaborative inquiry into the perspectives of others. Thomas (1994), Mewborn (1995), and Florio-Ruane and Lensmire (1990) asserted that such collaborative and sustained approaches nurture and support change and growth in a way that “outside-in” or top-down approaches cannot.

The importance of the study (Oakley, 2000) lies in the rarity of in-depth documentation of inside-the-school support for collegial experimentation (Darling-Hammond, 1996) and the way that this research details the qualities that supported the teachers’ successful efforts to rethink the nature of learning. Through this research, we have contributed to the kind of understanding that is called for by Darling-Hammond (1996, p. 14). “It is as important to understand what can be done to create the conditions that enable good practice to grow and take root as it is to understand what the practices

themselves are.” Cochran-Smith and Lytle (1990) posit that there is little disagreement that teachers who engage in self-directed inquiry about their own work in classrooms find the process intellectually satisfying. These teachers testify to the power of their own research to help them understand and transform their teaching practices. Such was our goal as we began our collaborative inquiry voyage into children’s thinking. We were not disappointed.

### Concluding Statement

This work (Oakley, 2000) has been grounded in a belief that schools must do more than merely deliver instruction; schools must ensure that students learn and the students’ learning must be conceptually deep and transferable across time and subject matter. The world for which schools must prepare children becomes more and more complex at the turn of each day, requiring a model of instruction in which meaning is dependent upon understanding, and in which thought is both imaginative and embedded in experience.

This model of instruction in which meaning is dependent upon understanding requires teachers who are able to gain access to a child’s thinking and present opportunities for children to build upon their experiences. Such teachers require supportive school learning communities where they can engage in collaborative inquiry into the perspectives of others and participate in ongoing professional development that provides opportunities for teachers to share experience multiple teaching practices.

The teachers and I, a school leader and administrator, were able to move toward a more social constructivist stance and modify classroom practice during our work together in this study (Oakley, 2000). The teachers began to rethink “the way things are done,”



increase their focus on student learning, to view schedules and plans as fluid and flexible frameworks, and to think creatively about their classroom practice.

Although we have brought the story of this specific voyage of discovery to a close, the journey for all of us continues. In seeking to constantly improve our classroom practice, we must face the fact that we search for a destination of perfection we can never reach, simply because it is an ever-changing and fluid place. We are not dismayed by this knowledge, nor do we abandon the trip, because while we understand that perfection can never be reached, we know that we travel from a love of the journey rather than a desire to arrive at a specific location. For us, this voyage of discovery has resulted in more powerful teaching and enhanced knowledge about professional development that will continue on and on after this story comes to a close.

This voyage, like most, was at times frustrating and difficult, and sometimes mystifying and magical, but it was never lonely, and it was always worth the effort. We found the experience to be intellectually rewarding and report it openly with the hope that others can share our journey and take what they find of value to chart a new course of their own.

*When one looks into the sea,  
it requires an adjustment in focus  
to avoid seeing only a surface view,  
or worse, one's own reflection.*

Oakley

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