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ABSTRACT
         This paper reviews methods for conducting and
reporting teacher research. Through three cases, the paper explores
common and diverse methods employed in classroom inquiry. The paper
recounts the history of teacher research and discusses common
methodological characteristics as well as context-specific features
of teacher research. The first case traces a solitary teacher
researcher's search for methods that were appropriate and responsive
to his classroom questions. The second case explores the evolution of
methods across two longitudinal studies by a collaborative action
research team of classroom teachers and a university professor. The
final case describes the development and refinement of inquiry
methods employed by teacher researchers in the School Research
Consortium, a teacher-research community at the University of Georgia
site of the National Reading Research Center. The paper concludes
that although teacher researchers draw from and adapt methods from
other educational research paradigms, teacher research is its own
genre with a unique purpose and function: to reflect and act on
educational problems, interests, and issues that affect teachers and
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James F. Baumann
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University of Georgia
and *Clarke County Schools*

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About the National Reading Research Center

The National Reading Research Center (NRRC) is funded by the Office of Educational Research and Improvement of the U.S. Department of Education to conduct research on reading and reading instruction. The NRRC is operated by a consortium of the University of Georgia and the University of Maryland College Park in collaboration with researchers at several institutions nationwide.

The NRRC's mission is to discover and document those conditions in homes, schools, and communities that encourage children to become skilled, enthusiastic, lifelong readers. NRRC researchers are committed to advancing the development of instructional programs sensitive to the cognitive, sociocultural, and motivational factors that affect children's success in reading. NRRC researchers from a variety of disciplines conduct studies with teachers and students from widely diverse cultural and socioeconomic backgrounds in pre-kindergarten through grade 12 classrooms. Research projects deal with the influence of family and family-school interactions on the development of literacy; the interaction of sociocultural factors and motivation to read; the impact of literature-based reading programs on reading achievement; the effects of reading strategies instruction on comprehension and critical thinking in literature, science, and history; the influence of innovative group participation structures on motivation and learning; the potential of computer technology to enhance literacy; and the development of methods and standards for alternative literacy assessments.

The NRRC is further committed to the participation of teachers as full partners in its research. A better understanding of how teachers view the development of literacy, how they use knowledge from research, and how they approach change in the classroom is crucial to improving instruction. To further this understanding, the NRRC conducts school-based research in which teachers explore their own philosophical and pedagogical orientations and trace their professional growth.

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Donna E. Alvermann, Co-Director
National Reading Research Center
318 Aderhold Hall
University of Georgia
Athens, GA 30602-7125
(706) 542-3674

John T. Guthrie, Co-Director
National Reading Research Center
2102 J. M. Patterson Building
University of Maryland
College Park, MD 20742
(301) 405-8035

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About the Authors

James F. Baumann is a Professor of Reading Education and Associate Director of the National Reading Research Center at the University of Georgia. His research interests involve comprehension strategy instruction, the establishment of teacher research communities, and integrating skill instruction with literature. During the 1994-95 academic year, he participated in a job exchange, returning to teach second grade full-time in an Athens, Georgia, public elementary school.

Betty Shockley is a teacher with the Clarke County School District in Athens, Georgia. She is also a graduate student in Language Education and director of the NRRC's School Research Consortium. She has co-authored two books with JoBeth Allen and Barbara Michalove, *Engaging Children* and *Engaging Families*.

JoBeth Allen is a Professor in Language Education at the University of Georgia. She conducts collaborative research with teacher researchers in whole language classrooms, with a particular focus on the students teachers worry about the most.

Methodology in Teacher Research:
Three Cases

James F. Baumann
Betty Shockley
JoBeth Allen
*University of Georgia
and Clarke County Schools*

Abstract. *The authors review methods for conducting and reporting teacher research. They recount the history of teacher research and discuss common methodological characteristics as well as context-specific features of teacher research. Through three cases, the authors explore common and diverse methods employed in classroom inquiry. The first case traces a solitary teacher researcher's search for methods that we appropriate and responsive to his classroom questions. The second case explores the evolution of methods across two longitudinal studies by a collaborative action research team of classroom teachers and a university professor. The final case describes the development and refinement of inquiry methods employed by teacher researchers in the School Research Consortium, a teacher-research community at the University of Georgia site of the National Reading Research Center. The authors conclude that although teacher researchers draw from and adapt methods from other educational research paradigms, teacher research is its own genre with a unique purpose and function: to reflect and act on educational problems, interests, and issues that affect teachers and students.*

We found the prospect of becoming teacher-researchers intriguing but also somewhat daunting. We imagined all research to be a tangle of experimental groups and control groups, double-tailed *t*-tests and analyses of variance. We doubted our competence and questioned our willingness to commit ourselves to the effort we knew such a project would require. We did, nevertheless, commit ourselves, because we felt it was important for teachers to take advantage of every opportunity to speak and be heard, to develop a voice, and to establish their credibility concerning educational issues . . . .

[W]e came to believe that classroom research certainly could be done by teachers and that it was not necessarily a statistical analysis of a treatment applied to an experimental group. Our best insights came from observing and documenting our daily process. One team member commented:

You have a question, you're willing to document the process you go through [to answer it], and you're willing to share it in the end. That's what we need—people who will share their stories . . . . It's important that this kind of work comes from us, comes from teachers who are really teaching children and know.

—from "Teacher-Researchers Discover Magic . . . ." by Ann Keffer, Shelley Carr, Barbara Lanier, Leah Mattison, Debby Wood, and Randi Stanulis (1995, pp. 2 and 4)

Ann and her colleagues are teacher researchers in the School Research Consortium (SRC), a teacher research community affiliated with the University of Georgia site of the National Reading Research Center (NRRC) (Baumann, Allen, Shockley, 1994). Their reflection on the process of becoming teacher researchers is similar to that of other teacher researchers within the SRC (Allen, Shockley, Baumann, 1995). Most initially doubted their ability to conduct research, feeling overwhelmed by the technical aspects of conventional research methods. However, with a commitment to classroom inquiry founded upon the desire to improve their own teaching and supported by committed colleagues struggling with the same issues, SRC members sought out, adapted, and sometimes created research methods for teacher inquiry (Baumann, Shockley et al., 1995). A desire to understand the complexities of their classrooms, to improve their effectiveness as teachers, and to share their knowledge with others through stories pro-

vides SRC members the impetus to engage in research.

But what is teacher research, and what are the methods of teacher inquiry? Is there consensus about the characteristics of teacher research? Is teacher research an adapted or hybridized form of existing educational research paradigms, or is it a distinct research genre? Do teacher researchers simply borrow methods from established forms of disciplined inquiry, or is there something methodologically distinct about teacher research? Do teacher researchers tend to use similar methods, or does teacher research represent a wide array of methods and analyses? In this paper, we address these and other questions relating to methodology for teacher research.

We do so by first surveying the tradition of teacher inquiry and methods that have been recommended or employed, highlighting the historical and contemporary diversity of teacher research methods and opinions about them. Next, we present three cases of teacher inquiry and associated methods. We describe cases that range from a solitary classroom inquiry to a teacher research community. Case one, told by Jim Baumann, involves his experience as a solo teacher researcher in a year he left the university to teach second grade full time, during which he explored the journey he and his students took toward literacy. Case two, told by JoBeth Allen, is a methodological story of collaborative inquiry in which Betty Shockley, a first-grade teacher, Barbara Michalove, a second-grade teacher, and JoBeth, a university researcher, worked together on a multi-year investigation of literacy acquisition by low-income, diverse elementary school

children and their families. The third case, told by Betty Shockley as Coordinator of the School Research Consortium, explores the methodological diversity within the National Reading Research Center's (NRRC) teacher-research community. We conclude this paper with our collective thoughts and reflections on methods for classroom-based inquiry.

We present these cases not as comprehensive of the range of teacher-research perspectives, nor even as being representative of those we describe (all our stories are unique in their own ways). Rather, the cases reflect the diversity within the domain of teacher research, a major theme of this paper. By necessity, we focus on teachers rather than students in this paper because it is teachers who are in search of appropriate and useful methodology. However, we acknowledge that although professional growth and development are essential features of teacher inquiry, the ultimate purpose of the enterprise is to promote the educational, social, and emotional well-being of the students we teach in classrooms.

Methodology Survey

In this section, we provide a short historical review of teacher research, followed by a discussion of the fundamental principles that constitute teacher research. We then examine the diversity within teacher-research perspectives and conclude with thoughts on the paradigmatic identity of teacher research.

A Brief History of a Long Tradition

Historical treatments of teacher research recount a long and robust past, with notable periods of interest and disinterest in the movement. McFarland and Stansell (1993) trace the roots of teacher research from seventeenth- and eighteenth-century theologians and philosophers, such as Commenius and Rousseau who advocated observation as a foundation for child development and learning, to nineteenth-century European educators such as Pestalozzi and Herbart who developed and used naturalistic methods of observation for studying teaching and learning. Olson (1990b) presents Francis Parker's and John Dewey's experimental schools in the United States and Lowry's (1908) involvement of teachers in research efforts as evidence of inquiry-based teaching at the close of the nineteenth century. Lytle and Cochran-Smith (1994) cite Dewey's (1904) promotion of teachers' reflection on their work as a critical milestone in the history of teacher research. With the advent of psychological testing in the 1920s and 1930s, however, the prominence of teacher as inquirer diminished in relation to the rise of experimental investigations (Olson, 1990b), with interest not to resurface in earnest until after World War II.

All who examine the history of teacher research (e.g., Lytle & Cochran-Smith, 1994; McFarland & Stansell, 1993; Olson, 1990b) point to the action research movement of the 1950s as evidence of the resurgence of classroom-based inquiry. Corey's *Action Research to Improve School Practice* (1953) was representative of a large body of work (e.g., Corey, 1954; Shumsky, 1958; Wann, 1952; see a review by Wallace, 1987) that promoted teachers' examination of their practice as a means to improve their teaching. Interest in action research diminished again in the late 1950s (see

Olson, 1990b) due considerably to the criticism that research of this nature lacked scientific rigor (Corman, 1957; Hodgkinson, 1957). Nevertheless, some interest in action research continued through the 1960s and 1970s in the United States (e.g., Odell, 1976; Rainey, 1973) and to an even greater extent in Great Britain (e.g., Clark, 1972; Winter, 1982).

The significant British action research movement paralleled events in the United States, beginning in the late 1940s (Olson, 1990b) and blossoming in the late 1960s and early 1970s. It was led by Lawrence Stenhouse (1973, 1975, 1980; see Rudduck & Hopkins, 1985, for a collection of Stenhouse's writings), who formalized the action research movement with the creation of the Center for Applied Research in Education at the University of East Anglia. Through this center, Stenhouse promoted teacher research, often in collaboration with university faculty, as a means to engage in reflective action within classrooms and to promote teachers' status and professionalism. Stenhouse's colleague, John Elliott (1991, 1993; Elliott & MacDonald, 1975) continued this work through the Cambridge Institute of Education, a teacher research consortium whose members focused on locating and creating methods appropriate and useful for classroom research projects.

Since the early 1980s, there has been a virtual explosion of interest in, conducting and reporting of, and writing about teacher research. The current literature is filled with stories of teachers who turned to reflective, action-oriented teaching as a professional way of life (e.g., Bissex & Bullock, 1987; Cochran-Smith & Lytle, 1993; Goswami & Stillman,

1987). Over the last decade, teacher research has become an integral presence at professional conferences (e.g., numerous teacher-research presentations at the annual conventions of the International Reading Association and the National Council of Teachers of English) and within education periodicals (e.g., D'Alessandro et al., 1992; Dillon, 1988; Llorens, 1994; Teale, 1995; the initiation of *Teacher Research: A Journal of Classroom Inquiry* in 1993). Furthermore, there has been a steady stream of published collections of teacher-research investigations (e.g., Allen, Cary, & Delgado, 1995; Daiker & Morenberg, 1990; Hansen, Newkirk, & Graves, 1985; Mohr & McClean, 1987; Olson, 1990a; Patterson, Santa, Short, & Smith, 1993; Patterson, Stansell, & Lee, 1990; Pinnell & Matlin, 1989; Wells, 1994).

The prevalence of classroom inquiry as a methodological orientation for educational research by and with teachers has not been reflected so widely in collections of research syntheses and perspectives. For example, as Cochran-Smith and Lytle (1990) note, the *Handbook of Research on Teaching* (Wittrock, 1986) fails to include reviews written by teachers and virtually ignores published teacher-researcher investigations (an exception being the methodology chapter by Erickson, who points to the power and promise of teacher researchers). Similarly, the first and second volumes of the *Handbook of Reading Research* (Pearson, 1984; Barr, Kamil, Mosenthal, & Pearson, 1991) have no chapters on, about, or by teacher researchers. The American Educational Research Association-sponsored *Complementary Methods for Research in Education*

(Jaeger, 1988) fails to acknowledge teacher research as a method, and the National Conference on Research in English/National Council of Teachers of English-sponsored *Multidisciplinary Perspectives on Literacy Research* (Beach, Green, Kamil, & Shanahan, 1992) omits teacher research as a distinct perspective (although Moll, 1992, describes collaborative research with teachers in his chapter).

More recent volumes may indicate that teacher research has achieved some status within the established educational research community. For example, there is a chapter by Burton on teacher research within the International Reading Association/National Council of Teacher of English-sponsored *Handbook of Research on Teaching the English Language Arts* (Flood, Jensen, Lapp, & Squire, 1991), and there is a "Teacher Research in English" entry by Lytle and Cochran-Smith in the National Council of Teachers of English-sponsored *Encyclopedia of English Studies and Language Arts* (Purves, 1994).

In spite of the absence or delayed acceptance of teacher research within the realm of educational compendia, many individual writers have dealt with methodological issues. Buckingham's (1926) *Research for Teachers* may have been the first teacher-research "methods" text, and one of the few volumes available for many years, but a plethora of works is currently available (e.g., Brause & Mayher, 1991; Calhoun, 1994; Goswami & Stillman, 1987; Hopkins, 1993; Hubbard & Power, 1993; Kincheloe, 1991; Mohr & Maclean, 1987; Myers, 1985; Nixon, 1981; Oja & Smulyan, 1989; Sagor, 1992). But what are teacher-research methodologists reporting?

What consensus or diversity is there under the broad umbrella of methods suggested and used in action and teacher research?

Principles and Consensus

In spite of considerable philosophical and methodological diversity within the teacher-research movement, there are several important common principles. One involves the perspective and process of classroom inquiry. Virtually all accounts refer to a teacher researcher's unique perspective, that is, a teacher's daily presence and intimate relationship with the research situation and participants. This insider, or emic, perspective (Cochran-Smith & Lytle, 1993, p. 43) enables a teacher to live the research experience in a manner an outside (e.g., university) researcher cannot. Atwell (1993, p. ix) argues that the emic perspective brings power and insight to the research process: "My admittedly subjective role as provider for and teacher of these students, which I was careful to describe, did not negate my findings. My role as teacher made my findings possible, it made them specific and context rich, and it made them valuable to many of the teachers who read about them." Erickson (1986, p. 157) suggests, however, that the emic nature of teacher research may simultaneously be a limitation: "In some ways the teacher's very closeness to practice, and the complexity of the classroom as a stimulus-rich environment, are liabilities for reflection."

A principle related to the insider perspective of teacher research is the interrelatedness of theory and practice and the critical reflection on them, that is, the notion of praxis (Cochran-

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Smith & Lytle, 1993; Kincheloe, 1991; Lather, 1986). Mayher and Brause (1991) see this process as theory building and fundamental to teacher research. They maintain that teaching practice stems from teachers' beliefs, or their theory of teaching. Therefore, a change in practice implies a change in personal theory. The process of theory/belief change involves "reflection-in-action of one's current practice; understanding and transforming research findings and theories so they can form the basis of practice; and sharing problems and reflections with colleagues both locally and nationally" (Mayher & Brause, 1991, p. 23).

Another area of general consensus involves the fundamental elements of teacher research. Bissex (1987) states that a teacher researcher is an observer, a questioner, and a learner, all roles that result in a more complete teacher. Patterson and Shannon (1993) acknowledge differences among teacher researchers but describe similar fundamental qualities: "Diversity is a powerful characteristic of teacher research, but all researching teachers share a common process of reflecting on their practice, inquiring about it, and taking action" (p. 10). Burton (1991) also cites action and reflection as what teachers do in classroom inquiry, but adds the element of reciprocity, that is, reflection leading to action and vice versa. Wells (1994, p. 26) takes these qualities and places them in an "action research cycle," which consists of four recursive components: observation, interpretation, planning for change, and action. Wells adds to these components the pervasive element he calls the "practitioner's personal theory," which guides the research cycle. It is by making connections between practice and theory, Wells argues, that teachers create the reflectiveness, the hallmark of teacher research.

Reflection and action alone, however, do not constitute teacher research. Although such qualities are necessary for teacher research and are likely to make one a better teacher, they are not sufficient for the process to occur. Teacher research must be a consciously initiated process that is implemented with a plan for data gathering and analysis. Patterson and Shannon (1993) state that "methods of inquiry need not be sophisticated, but they must be systematic" (p. 9). Cochran-Smith and Lytle (1990, p. 3) define teacher research as "systematic and intentional inquiry carried out by teachers." They elaborate as follows:

> *Systematic* refers primarily to ways of gathering and recording information, documenting experiences inside and outside of classrooms, and making some kind of written record. *Systematic* also refers to ordered ways of collecting, rethinking, and analyzing classroom events for which there may be only partial or unwritten records. *Intentional* signals that teacher research is an activity that is planned rather than spontaneous. (Lytle & Cochran-Smith, 1994, p. 1154)

On the other hand, there is a fluid aspect to classroom inquiry. Hubbard and Power (1993) note that teacher research methods might be "complicated and messy," and "you cannot divide the process into neat linear steps" (p. xvii). Patterson and Shannon (1993) concur that teacher research is "organic, some-

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times messy, unpredictable, and generative—just like the teachers' lives in and out of school" (p. 9). In spite of this necessary flexibility and fluidity, teacher research is not amorphous. There is a structure to it as in other forms of disciplined inquiry (Shulman, 1988). The methodological structure of teacher research, as we will demonstrate in the following cases, involves organized documentation and data collection, systematic analyses, and thoughtful interpretations of results.

Epistemological Diversity

One characteristic on which teacher-research perspectives differ is in the manner in which knowledge is viewed and acquired. Cochran-Smith and Lytle (1993) offer a four-part structure for views of knowing through teacher research: "an approximation of university-based research; a more grass-roots phenomenon that has its own internal standards of logic, consistency, and clarity; a reflective or reflexive process that is for the benefit of the individual; or a dialectical process of action and reflection aimed at social change" (p. 9). Drawing from this framework, we conceptualize the epistemological focus of teacher research as being established, pragmatic, or radical.

As Lytle and Cochran-Smith (1994) argue, some teacher researchers (e.g., Myers, 1985) take a fairly *established* approach, primarily viewing classroom inquiry as a means to replicate traditional, university-based methodology. This view of teacher research is much like the early iterations of action research, which involve modifying extant educational research paradigms and tools to address hypothesis-testing types of teacher questions. Our conception of an established approach, however, goes beyond this quasi-positivistic view of teacher research to include teacher researchers who draw from existing research traditions, be they quantitative, qualitative, historical, philosophical, or others.

The *pragmatic* approach involves selecting or creating methodological tools and procedures appropriate for addressing teachers' classroom-based research questions. Such tools are typically those employed in qualitative or interpretive research, but not always. Sagor's (1992) five-step methodological process illustrates this pragmatic view: "The process of collaborative action research has five sequential steps: (1) problem formulation, (2) data collection, (3) data analysis, (4) reporting of results, [and] (5) action planning" (p. 10). Hubbard and Power (1993) represent the pragmatic perspective by offering various "research designs" (see chap. 3 and Appendix A) that teachers employed in their classroom studies. These designs typically involve question generation, selecting and collecting relevant data, data analysis, and reflection.

Teacher research viewed from a *radical* epistemological orientation is a means to free teachers from ideological constraints imposed by economic, social, and cultural conditions that have an impact on education and teaching and learning in schools (e.g., Carr & Kemmis, 1986; Gitlin et al., 1992). For example, Berlin (1990, p. 14) likens teacher research to a militant exercise that involves a "long revolution." Kincheloe (1991, p. 19) describes teacher research as "critically grounded action

research" that presupposes, among other things, the rejection of positivistic perspectives and the underlying assumption that all in education is political in nature. Shannon (1990) urges teacher researchers to move away from action and naturalistic research toward critical research so that they can examine the politics of reading instruction, and move toward the restructuring of the organization, goals, and procedures in literacy programs.

We place no relative value on these perspectives and readily admit that they are intellectual constructs to describe retrospectively inquiry that teachers have done. Each perspective, with its differing assumptions about how to learn and know about classroom events, leads to different questions and thus different methods for addressing them. These multiple epistemologies support the emerging theme in this review that teacher research is defined and described by and through its diversity.

Paradigmatic Identity

We are left with the question of whether teacher research represents its own, unique methodological paradigm, or whether it is an evolutionary hybrid on the educational research family tree. Many teacher researchers and theorists (e.g., Bissex & Bullock, 1987; Mohr & Maclean, 1987) argue for its uniqueness, with Atwell (1993, p. viii) referring to a "new research paradigm." We agree.

Cochran-Smith and Lytle (1993) assert that comparing teacher research with institutionalized (university) forms of research limits our understanding of classroom inquiry by teachers. Rather, they argue that "it is more useful to consider teacher research as its own genre, not entirely different from other types of systematic inquiry into teaching yet with some quite distinctive features" (p. 10). The variable features of teacher research, as Cochran-Smith and Lytle (1993, figure on pp. 12–13) describe, involve the ownership of teacher research, the nature and source of teachers' research questions, the theoretical frames teachers bring to inquiry, and the generalizability and utility of what is learned. For example, with regard to research questions, Cochran-Smith and Lytle describe university-initiated research questions as "generally emerging from study of a discipline . . . and/or analysis of theoretical and empirical literatures," as opposed to teacher-research questions "generally emerging from problems of practice" (p. 12). Our research on the evolution of teachers' questions within the SRC (Baumann, Allen et al., 1994) supports the notion that the immediate, day-to-day realities of classroom life, not esoteric theoretical or empirical constructs, guide teachers in their inquiry.

As we attempt to demonstrate in the following cases, although distinctive from institutionalized education research, teacher research does not represent a routinized, prescriptive paradigm, nor do we believe it should. Rather, teacher research is an evolving philosophical orientation toward practical theory. Teacher researchers wonder about the interrelated aspects of their work—who their children and caregivers are, what their social and cultural experiences are, and what that means for teaching; they wonder what the curriculum shouts and whispers; they wonder

what the political context of school and schooling says and hides. In short, they wonder how to do the work as best they can.

Teacher research critics and skeptics may view this paradigm as lacking in structure and rules. That is not so, as we have tried to demonstrate. Teacher research is not haphazard; it has definitive characteristics and principles of application. But indeed there is variety in how such principles are applied in the doing of teacher research, as each of us has experienced and as we shall demonstrate in the following cases. Therefore, we present these cases not as comprehensive of the range of teacher research perspectives, nor even as being representative of those we describe. The cases reflect the diversity within the domain of teacher research. Nevertheless, we believe that within this diversity emerge the essential qualities of the teacher-research genre: reflection and action through systematic, intentional inquiry about classroom life.

Case One

Individual Teacher Research: Jim's Experience

During the 1994–1995 school year, I returned to teach elementary school full time after a 17-year hiatus, during which I had attended graduate school and worked as a university education professor. In my year back in the classroom, I conducted two teacher-research studies. The following narrative describes this experience and the methodological soul-searching involved in identifying and employing research perspectives appropriate for my teacher-researcher role. It is important that the reader realize that, at the time of this writing (August 1995), I am only 2 months removed from the classroom, and my studies are still underway (some data gathering continues and much analysis is before me). Therefore, my exploration of teacher-research methods continues, and this story does not yet have an ending.

Background

This past year, I taught second grade at Fowler Drive Elementary School in Athens, Georgia. My position came about through a job exchange with Betty Shockley. Betty took a leave from her teaching position at Fowler, where she had taught for 11 years, to come to the University of Georgia and pursue a doctoral degree in Language Education. At the University, Betty taught my undergraduate Reading Education courses, while concurrently serving as Coordinator of the School Research Consortium.

I was assigned a second-grade teaching position at Fowler. I prepared to teach by obtaining a Georgia teaching license, which required me to take a university course in exceptional children and pass a state-mandated teacher certification test; later I set up my classroom, designed my curriculum, and participated in new-teacher inservice. The first day of school was August 19, and from that point on, I taught all day, every day for 180 school days, from 7:20 a.m. bus duty to after-school faculty meetings, PTO, and evening homework and planning. I received no special privileges due to my university affiliation;

rather, my duties and responsibilities were just like those of every other teacher at Fowler and in the district. My year in second grade was wonderful, exceeding my expectations with regard to the richness of my experience, what I learned, and what the children taught me (Baumann, 1995a, 1995b). An integral part of my teaching experience was to engage in yearlong, classroom-based inquiries through the National Reading Research Center's School Research Consortium.

In this case, I address methodological issues associated with classroom inquiry from the perspective of an individual teacher researcher. As noted in our introduction, each of these cases is unique and not intended to represent the experience of other individual or groups of teacher researchers. For example, my history as a university researcher, no doubt, influenced how I approached teacher research, and my research was supported by the NRRC. Furthermore, I acknowledge that I was a novice teacher researcher when I began my year in second grade and, at this point, remain an apprentice at best. Nevertheless, I did teach full time while simultaneously studying teaching and learning in my classroom, and therefore was a teacher researcher in the fullest sense.

Methodological History

I have engaged in educational research for over 15 years. My doctoral program in the late 1970s involved learning how to conduct educational research within the quantitative, experimental tradition. I followed the experimental research path through much of my career, primarily conducting classroom-based interven-

tion studies exploring the efficacy of various reading comprehension strategies and methods (e.g., Baumann, 1984, 1986; Baumann & Bergeron, 1993; Baumann, Seifert-Kessell, & Jones, 1992), although the manner in which I employed quantitative methods changed across these studies, primarily by increasing the external or ecological validity (Bronfenbrenner, 1976) through design modifications. I acknowledge the limits of quantitative, experimental research (see Baumann section in Baumann, Dillon, Shockley, Alvermann, & Reinking, 1995), but I continue to see value in research of this nature and may conduct additional experimental studies in the future.

In the past several years, however, I have expanded my repertoire of research methods in relation to questions that have not been readily answerable through the kind of experimental/control group studies I conducted in the past. For example, during the 1993–1994 school year, two 5th-grade teachers, Helene Hooten and Pat White, and I explored how to integrate planned, teacher-led instruction within a literature-based reading program framework (Baumann, White, & Hooten, 1994). Our purpose in this study was not to determine *whether* strategies could be infused within a literature-based framework; we felt confident that they could on the basis of extant research and our own experiences. Rather, we desired to find out *how* such a program of instruction could be designed, created, and modified to be as effective as possible. To answer this question, we selected an evolving research framework called *formative experiment* (Newman, 1990), which involves evaluating the factors that enhance or inhibit an in-

structional intervention's effectiveness and how the intervention might be adapted to achieve its educational goal (see Reinking section of Baumann, Dillon et al., 1995).

This methodological structure worked well given our question. We spent a year teaching students reading strategies in conjunction with trade-book reading while we gathered data on the successes and failures of our instruction and how we modified it on the basis of what we were learning. This methodological change from controlled experimental studies to the more "on-line" experimentation within the formative experiment framework paved the way for further growth as I sought methods compatible with my teacher-research questions.

Second-Grade Teacher-Research Studies

I conducted two studies during my year in second grade. One study was a self-examination of the impact returning to teach had on me as a classroom teacher, a college instructor, and a researcher and writer. The second study, which built upon the collaborative fifth-grade study with Helene and Pat, examined how a teacher might integrate reading strategy instruction in word identification and comprehension into a literature-based framework across an entire school year. Each study demanded its own methodology.

Impact of returning to teach. Clearly, given the introspective, personal nature of my return-to-teaching study, neither a conventional quantitative nor a formative experimental paradigm was appropriate. During the summer of 1993, while seeking an epistemological orientation for my self-study, JoBeth Allen

introduced me to several important literatures that helped me make my initial methodological plans. One perspective came from the action research tradition (e.g., Corey, 1953; Wann, 1952, 1953), and, in particular, the *educative research* framework described and employed by Gitlin et al. (1992). According to Gitlin and colleagues, educative research "challenge[s] the creation of hierarchical differences within the educational community between teachers and academics" (p. 6). Educative research provides a mechanism for teachers' voices to be heard and respected and for them to take action on the basis of what they have learned. Furthermore, educative research recognizes the "importance of reciprocity and equity" and "brings individuals together in such a fashion that all participants have a say in setting the agenda or topic and all have the potential to benefit and learn from the experience" (p. 7). This perspective was appealing to me because I was going to be a teacher myself, and I anticipated having the voices of colleagues, parents, and the children themselves guide me in my inquiry.

The second perspective JoBeth introduced me to was *hermeneutic phenomenology*, the interpreted descriptions of lived experiences. Max van Manen's *Researching Lived Experience: Human Science for an Action Sensitive Pedagogy* (1990) seemed to be particularly relevant to my methodological needs. According to van Manen (1990), "hermeneutic phenomenological research edifies the personal insight (Rorty, 1979), contributing to one's thoughtfulness and one's ability to act toward others, children or adults, with tact or tactfulness" (p. 7). A phenomenological approach

involves asking a "what is it like?" question. In my case the question was, "What is it like to return to teach elementary school after a 17-year hiatus?"

Van Manen (1990) argues that the methodological structure for research from this perspective involves a "dynamic interplay" among the following activities, all of which seemed to characterize the study I conceived: "(1) turning to a phenomenon which seriously interests us and commits us to the world; (2) investigating experience as we live it rather than as we conceptualize it; (3) reflecting on the central themes that characterize the phenomenon; (4) describing the phenomenon through the art of writing and rewriting; (5) maintaining a strong and oriented pedagogical relation to the phenomenon; (6) balancing the research context by considering part and whole" (pp. 30-31). The appeal of the hermeneutic phenomenological perspective was that it provided a framework for engaging in a self-study of my everyday lived experience (Dilthey, 1985) as a teacher. Critical elements of both educative and phenomenological research include personal histories, school histories, peer observation and commentary, and ʜ.ʜifact collection and analysis—just the kinds of data that I anticipated collecting.

Teaching reading strategies through literature. In my second Fowler Drive Elementary School study, I wanted to examine carefully the process of implementing a reading strategy instructional program within a literature-based framework, but to do so from the teacher's perspective and developmentally across an entire school year. Because this study was similar to the one Helene, Pat, and I had done in fifth grade the year before, which employed a formative experiment structure and which suited our needs quite well, I decided to use this paradigm again. Therefore, my plan was to document the ongoing effectiveness of incorporating word identification, vocabulary, comprehension, literary, and writing strategies into the literature we were experiencing in the classroom. I would accomplish this by collecting data as I progressed throughout the year, analyzing the efficacy of my developing instructional model, and modifying it as appropriate given ongoing results. Thus, as school began in August 1994, I felt well equipped methodologically to conduct the two studies I had planned.

Epistemological Evolution

Cathy Fleischer (1994) described her 14-year (and still ongoing) development as a teacher researcher as a "research odyssey" (p. 86), in which she simultaneously conducted classroom-based inquiry and read extensively about teacher research and literacy. This odyssey resulted in "connections and disconnections between my practice and my reading," leading her "around bends, across barriers, toward a place and a stance teachers and researchers are surveying and may perhaps even occupy" (p. 7). Although my odyssey has been much less than 14 years (but is still ongoing), I too found, after teaching a class of 7- and 8-year-olds full days while trying to do research, that there are indeed bends and barriers in the road. Being the teacher while simultaneously trying to be a researcher is not the same as being an outside researcher working with one or more

teachers (e.g., even though I taught classes of students regularly as part of the fifth-grade formative experiment, that experience was very different from being the classroom teacher who is there all day, every day and is ultimately responsible for the children's learning and well being).

In a recent conversation with JoBeth Allen (personal communication, August 10, 1995) about some of the salient characteristics of teacher research, she suggested a short list of three:

- Teacher research must be doable, given everything else that is going on in a teacher's life before, during, and after school.

- Teacher research must be true to the intent behind it (reflective and action-oriented) and responsive to the students and their families.

- Teacher research must be second to students; though not discrete from teaching and certainly capable of enhancing instruction, teacher research must never interfere with or detract from a teacher's primary responsibility to help students learn and grow.

In retrospect, my research perspective and methods have indeed evolved over my year in the classroom due to issues of doability, trueness and responsiveness, and the primacy of students. This fluidity, by necessity, was true for both studies I conducted in my classroom.

Responsive and unresponsive methods. My back-to-teaching inquiry, as it evolved throughout the school year, became a more solitary study than I had anticipated. As a result, I found

the collaborative educative research framework (Gitlin et al., 1992) not as responsive as I had expected. For example, a cornerstone of educative research is horizontal evaluation, which involves dialogue among those involved in the research: "Horizontal Evaluation is a process in which teachers collaboratively analyze the relationship between their teaching intentions and their practices" (Gitlin et al., 1992, p. 52). I had originally planned on achieving this collaboration by conferring regularly with my "trading-places" partner, Betty Shockley, as well as by having other elementary classroom teachers within the School Research Consortium observe my teaching and then meet with me to discuss what they observed. Given the demands of teaching and the challenges I faced as a retro-novice (I viewed myself as a beginning teacher all over again), finding time to meet with Betty and having classroom visitors regularly was not a high priority. (And, honestly, having guests in my classroom was not something I relished early in the year, as the blemishes exceeded the beauty in my teaching. In retrospect, this involved the issue of "studying up" versus "studying down" [see Allen, Buchanan, Edelsky, & Norton, 1992; Harding, 1987], as I realized that I would be the "subject" of someone else's study [up] by having others in my classroom observing me. In short, I was threatened by the notion of visitors critiquing my teaching, which engendered strong emotions and taught me an important lesson about power relationships in research.) As a result, educative research as an epistemological framework essentially fell by the wayside during the school year; this implies no criticism of the

method, only a mismatch between my goals and methods.

The hermeneutic phenomenology framework (van Manen, 1990) proved to be more resilient and responsive to my needs as a researcher. Although I continue to explore and learn about this perspective as I analyze data and write about my experience (I am no expert in "human science research"), the notion of a methodological approach that embraces the lived experience and is dependent upon anecdotal narrative felt right throughout the school year and still does. In fact, the notion of personal narrative as a primary method (e.g., Carter, 1993; Connelly & Clandinin, 1990; Krall, 1988) became more salient and integral to my research as the year progressed. My journal was narration, audio and video recordings of class events were stories in live action, and the interviews I conducted with children, parents, and others were first-person accounts.

Not all my data were "continuous narrative descriptions" (Erickson, 1986), however. Children's writing, class artwork and other artifacts, numerous school documents, classroom photographs, and the like were also fodder for my analyses. I even found quantitative data—numbers, at least—feeding into my self-study. For example, the informal reading inventories that I conducted at the beginning, middle, and end of the school year provided estimates of students' instructional reading levels, and these estimates proved to be instructive data for assessing children's growth in reading ability across the school year (Baumann, 1995b). I also took a look, albeit a skeptical one, at the results from the March-administered standardized tests, in rela-

tion to more authentic measures of students' growth and learning.

Formative misfit. I also experienced methodological change in the reading strategies study, moving away from the formative experimental framework as the school year progressed. This occurred because the study, as conceived, was not doable and potentially jeopardized my teaching effectiveness. Formative experimentation requires that a researcher gather evaluative data in an ongoing manner to assess the impact of the instructional intervention, in this case my efforts to integrate strategies into literature-based instruction. I was able to do this the year before as a guest in Helene's and Pat's fifth-grade classrooms, but it did not work so well when I was the classroom teacher. Although I was preparing and teaching strategy lessons that conformed to the goals of the study, I was unable to gather the necessary ongoing, evaluative data (e.g., videotaping lessons, interviewing children, having others observe my strategy lessons). As noted previously, this was because I was consumed with relearning how to teach youngsters: developing rapport with the children and their caregivers; understanding their abilities, experiences, and environments; organizing my classroom and my days for effective instruction; preparing appropriate lessons; creating a management program that was comfortable and workable; and so forth. In short, for about the first half of the school year, I needed to devote my energy and time primarily to doing what it took to be the best teacher I could for my children and their families, and if that meant letting some planned data-gathering slide, so be it.

All through this period and throughout the entire year, however, I did faithfully gather and create narrative data, continuing daily to make lengthy journal entries in which I reflected on my work and its impact on me, my students, and their families. I also took numerous photographs, I continued to conduct IRIs, and I saved almost everything: my detailed daily lesson plans, letters and notes to parents, originals or copies of just about everything the children produced in the way of written work and artwork, and so forth.

In early spring, I used NRRC project funds to employ Gay Ivey, a doctoral student at the University, to assist in data collection for the strategies project. We reviewed the formative experimental frame and alternatives. In looking at the data gathered thus far, we decided that a qualitative, interpretive case study (Merriam, 1988) would be an appropriate means to address our research questions, which now were, What do children learn about reading and writing within a literature-based instructional environment? and How can reading and writing strategies be taught explicitly, efficiently, and with transfer? We chose a case study because it enabled us to engage in "an intensive, holisti · description and analysis of a single entity, phenomenon, or social unit" (Merriam, 1988, p. 16), in this instance second-graders' literacy strategy development within a literature-based environment.

Given the modified research plan, Gay and I focused on data collection for the strategies study during the spring. She videotaped lessons I taught, and she kept a journal in which she documented the instruction, the students' reaction to it, and her evaluation of the instructional environment. I focused more on strategy instruction in my daily journal entries. Gay interacted with the children during strategy lessons (e.g., joining me during assisted reading times). She also conducted one-on-one, videotaped interviews with all the children, during which they read for her and demonstrated their strategy knowledge while she queried them about their reading habits, attitudes, skills, and knowledge of literature.

In sum, research methods evolved during the process of teaching in relation to doability, trueness and responsiveness, and my instructional responsibilities. Thus, the methods coming out of the teacher research studies were not the same ones I planned going into the experience. I believe that the flexibility I afforded myself as a teacher researcher to modify research methods resulted in studies that were more responsive to the questions I had posed. This flexibility and responsiveness is extending into data analyses.

Flexible Data Analyses

Even though I may not have been conscious of it at the time, I did engage in data analysis throughout the school year. This occurred as I reread my daily journal; examined prior lesson plans while making new ones; compared results of one IRI with results from prior administrations; reviewed photographs; examined children's writing folders and reading journals for progress; and looked back at report card narrative comments while writing new ones. Nevertheless, these ongoing data analyses, a phase that is just commencing, were not systematic. And given the method-

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ologically evolutionary nature of these investigations, my analysis plans are likely to be modified further as analyses proceed.

Data sources. Data that fed into both of my investigations include, but are not limited to, the following sources:

- My personal journal, which spanned the 2½-year process of planning for, implementing, and reflecting on my teaching experience, including daily entries for the 180 school days in second grade.

- 180 daily lesson plans, which detailed all instructional activities and materials.

- Originals or copies of the children's work, including their writing folders, published class books, reading response journals, content subject projects, bulletin board displays, and artwork.

- Numerous still photographs of the children working in the classroom and playing on the playground, as well as photos of special events (e.g., a second-grade operetta) and displays (e.g., bulletin boards, art displays).

- Letters and correspondence I wrote to parents and caregivers and notes I received from them.

- Video recordings of classroom events, including our Reading Strategies period, DEAR (drop-everything-and-read) time, Reading/Writing Buddies time (each of my students read and wrote with a fifth-grade student weekly), daily Class Meeting, and the individual literacy interviews Gay Ivey conducted with each student.

- Gay Ivey's journal, which focused on children's growth in literacy strategies and literary knowledge.

- Various school and district documents (e.g., new teacher orientation packet, faculty meeting notes, after-school workshop materials, PTO materials).

- Informal Reading Inventories on all students, conducted three times (August, January, and May).

- Narrative statements I wrote about each child's academic and social progress.

- Post-school-year interviews with Betty Shockley, my "trading-places" partner; Patricia Brown and Kim Lord, the principal and assistant principal, respectively, at Fowler Drive; Sally Hudson-Ross, a colleague at the University who returned to teach high school on a similar job exchange the year prior to my experience; and Veda McClain, a graduate student at the University who had two children (one in another second grade) attending Fowler Drive.

- Audiotape transcripts or notes from post-school-year conversations I had with several of my students and their parents or caregivers; these conversations occurred in the children's homes and involved the

children's and parents' assessments of and feelings about their second-grade experiences.

Return-to-teaching study analysis. I am engaging in hermeneutic phenomenological reflection and writing (van Manen, 1990, chaps. 4 & 5). This involves the process of thematic analysis, in which one uncovers the "structures of experience" within the "lifeworld" one is exploring. In my case, thematic analysis involves extracting and understanding the essence of what it means to return to the lifeworld of a classroom teacher. All data sources are feeding into thematic analysis, particularly the narrative elements (e.g., my journal, the interviews, home-visit transcripts and accounts, Gay's journal). Visual and artistic sources (e.g., school photographs, children's work, video images) are also important data in phenomenological analysis.

Thematic analysis proceeds by isolating thematic statements within the data, interpreting emerging themes, and extracting essential themes. Hermeneutic phenomenological research is fueled by writing, which is not viewed as an end product but essential to the *process* of thematic analysis. As van Manen (1990, p. 124) states, "Writing is our method." Therefore, the texts I have created through my journal writing, anecdotal record keeping, interviews, and so forth constitute ongoing analysis, and they provide grist for subsequent writing, revising, and analysis.

As the first step in thematic analysis, I am organizing, preparing, and previewing all relevant data. For example, I am currently rereading my personal journal while simultaneously correcting errors in transcription. I have secured a qualitative text analysis computer program, which I may use for retrieval and analysis of journal textual information. I am also rereading and correcting transcription errors of the interviews with colleagues, as well as the records of the home visits (some of which were audio recorded and transcribed, and others for which I took notes and wrote descriptions from them afterward). Gay Ivey has transcribed all videotapes; I will read them and view the tapes, looking for the essential themes in my teaching. I am reviewing all the photographs of the school year and inventorying them for content. These data, as well as the other sources noted above, are being entered into the thematic analysis process so that the essence of my lived experience in second grade can be identified and understood.

Strategies study analysis. For the qualitative, case study paradigm (Merriam, 1988), Gay and I chose an interpretive format involving the process of analytic induction (Katz, 1983; Znaniecki, 1934). Analytic induction made sense because it would permit analysis *following* data collection at the end of the school year (the alternative, constant comparison, was not feasible given my immersion in teaching responsibilities). As noted, data were analyzed in an ongoing manner, but not in a systematic fashion, so analytic induction felt right and is working well currently. We also decided on the comprehensive selection of participants (LeCompte, Preissle, & Tesh, 1993, p. 72), that is, including all children in my class within the case, to avoid the loss of variation.

As first steps in inductive analysis, I am organizing, preparing, and previewing all narrative data noted above. Additionally, Gay and I are reviewing my daily lesson plans, categorizing the instructional objectives and foci for all literacy-related activities. We will then assemble these activities into logical groups (e.g., word identification lessons, literary discussions, comprehension strategy instruction) for subsequent analysis. I am also assembling and analyzing all assessment data. For example, I am creating reading profiles for each student by collapsing and synthesizing IRI data, so that I can document growth in reading levels and strategies (from miscue analyses) across the three IRI administrations. Gay is assembling case records for each of the children in my class. This involves copying and physically putting together all the data germane to each individual (e.g., their written work, published stories, references to individuals from my journal and Gay's journal, home visit transcripts, IRI data, photo records, etc.).

Once these steps have been completed and the physical cases assembled, we will proceed with the analytic induction process. This involves a series of recursive elements (Robinson, 1951): the phenomena to be studied are defined, hypothetical explanations are created, cases are studied to determine if the data fit the hypotheses, and hypotheses are reformulated or the phenomena are redefined. This process will be followed to determine if and how the case records address our questions about second-grade students' development as strategic readers within a literature-based environment.

Methodological Musings

What has my experience taught me about teacher research and methods for it? I have learned that conducting classroom inquiry while being the teacher responsible for the class represents a research situation different from any other I have experienced. This uniqueness is attributed to a teacher-researcher's emic position and total affinity with the research environment. While employing or borrowing from extant research traditions, particularly interpretive ones (Erickson, 1986), teacher research is more than an ethnographic approach to classroom research, and teacher research goes beyond participant observation. The teacher researcher is a doer-evaluator, the person who does the job while concurrently examining the work and its impact. This is akin to the reflective practitioner notion (Schon, 1983) but extends it to include the systematic collection, reflection, and analysis required for disciplined inquiry (Shulman, 1988). In short, the teacher researcher systematically studies her or his work with the objective of doing it better as a result. This is simultaneously a simple, powerful, and daunting goal.

The environmental affinity involved with teacher research accrues both benefits and costs. As a teacher researcher, there are many benefits: You are there all the time to see and experience the multiple dimensions of academic and social learning across an extended time period; you can act upon what you see and learn first-hand, evaluate the impact of your actions, and then initiate new actions; you have paradigmatic flexibility in selecting methods that match your research questions; your teacher-research efforts

are professionally fulfilling, and your voice is credible when sharing what you learned.

On the cost side, teacher research is time-consuming, hard work that adds a layer to an already hectic professional work schedule (it did not become "organic" for me, as it has for others; see the following cases); you must guard against having the research interfere with or detract from your primary instructional responsibility; and you must be sensitive to elitism that might arise among individuals or groups of teacher researchers. In spite of its potential costs, I have no doubt that my year would have failed to be as rich and significant as it was had I not systematically reflected on and acted upon my teaching. Although researching while teaching may not be for everyone (and maybe not an every-school-year event for those who do value it), I can attest that it does provide a teacher a powerful opportunity to learn, understand, and grow, both professionally and personally.

Case Two

Collaborative Research Team: Betty, Barbara,[1] and JoBeth's Experience

In 1988, Betty Shockley was teaching first grade and Barbara Michalove was teaching second grade at Fowler Drive Elementary, a school that was examining the effectiveness of its literacy instruction for students who struggled in school. The school invited JoBeth Allen, a local university teacher, into a long-term partnership to develop whole language

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[1]Although not an author on this paper, Barbara Michalove is the third member of our research team.

instructional approaches and to study their influence on the children teachers worried about most, those who found learning to read and write difficult.

Several teachers were a part of the school's research group that first year, conducting case studies in their classrooms. However, Betty and Barbara collaborated closely with JoBeth, and a team was born which continues to the present. Our first study, a four-year, multiple-case study culminated in *Engaging Children: Community and Chaos in the Lives of Young Literacy Learners* (Allen, Michalove, & Shockley, 1993); our second study was a two-year study of home-school connections reported in *Engaging Families: Connecting Home and School Literacy Communities* (Shockley, Michalove, & Allen, 1995). We currently work together within the SRC.

Creating Responsive Methods

Over the course of these studies, we have created ways of gathering information and learning from it. Our research methods grew out of the realities of classroom life, which changed not only from year to year but from day to day. Because each group of students was unique, opportunities for data collection were different. Because analysis was ongoing, we designed methods responsive to what we were (and were not) seeing and hearing.

Responsive data collection included: (a) observational notes from both insider and outsider perspectives, focusing on individual learners; (b) observations of children and interviews with teachers and other adults outside the classroom setting; (c) ongoing records

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of student progress such as reading inventories, logs of one-to-one reading and writing conferences; (d) full-day observations of each classroom to record a fuller context than more focused reading and writing observations; and (e) interviews that JoBeth initially conducted outside the classroom, but that became more effective when Barbara conducted them within the instructional context of the classroom. Responsive data analysis included weekly reviews of all data sources on a focal child, the writing and sharing of research narratives, and interpretive dialogue techniques.

We learned to research by engaging in the research process. We created, adapted, reflected on, and revised methods predominantly from qualitative research. Flexibility and invention are fundamental to many qualitative traditions according to LeCompte, Preissle, and Tesh (1993):

> Sources and types of data are limited only by the creativity and energy of the researcher. . . . Data, then, are any kind of information which researchers can identify and accumulate to facilitate answers to their queries. . . . [A]s ethnographers negotiate initial relationships with participants . . . they discover other possibilities for and limitations to acquiring data. (pp. 158–159)

For *Engaging Children* (Allen et al., 1993), we began studying six children from Betty's and Barbara's classrooms, following their school experiences and literacy development for three years. Many of our methods grew out of our weekly data-analysis discussions. In the beginning, Barbara and Betty worried that to be considered "real researchers,"

they should be taking the kind of detailed observational notes JoBeth wrote. They even tried it—briefly. The result was intense frustration, sending them in search of methods that could be readily incorporated into their teaching lives. They came up with individual ways of detailing their decision-making as teachers and documenting students' literacy development. This took time, however, and constant experimentation.

Betty harkened back to high school and college "research" experiences and found only the *Cliff Notes*, encyclopedia, and index-card models. That first year, she organized anecdotal notes by topics on index cards. Her next strategy, "read to learn," proved more fruitful. She read other teacher researchers like Nancie Atwell (1991) and Vivian Paley (1981, 1990) to learn how they integrated research with teaching. She began to identify links between thought and action, claiming her teaching journal as a legitimate and lasting record of experience. She used student conference logs and reading inventories as substantive accounts of individual and collective change over time. She cultivated the habit of dating work samples and anecdotal comments. She became the teacher with the notebook, recording direct quotes and descriptions as primary data sources.

The key came for Betty and Barbara when they made research a natural aspect of each day instead of one more thing to add on. Eventually, record keeping became an organic part of classroom routines (even though the records took many forms, from sticky notes to memos during telephone calls late at night). Both teachers developed forms of documentation

that highlighted classroom experiences, a body of data that, over time, informed both daily practice as well as long-term research interests. JoBeth added the critical second pair of hands and eyes in each class; she focused in on one child per visit, recorded conversations and other peer interactions, and documented the processes of text writing and reading. We were learning what each of us had to contribute to the collaboration and discussing on a weekly basis the kinds of information that were valuable.

From these discussions, we expanded our data collection from observational notes and teaching journals. We wanted more of the child's perspective, so we applied Almy and Genishi's (1979) guidelines:

- we asked children about themselves (in quarterly interviews);

- we observed children in various settings (individual, pairs, small groups, whole class);

- we studied children through others at school (we interviewed the media specialist, art, music, PE, and especially Chapter 1 and special education teachers) and in their lives outside of school (we interviewed the Boys Club director and made home visits); and

- we assessed development (daily writing, notes on classroom reading, and quarterly miscue and retelling analyses).

In addition, we set up weekly pen pal letters with JoBeth's undergraduate classes, through which we learned from the written dialogue as well as from the analyses of the preparatory teachers. JoBeth kept a research journal by talking into a tape recorder each day as she left the school. This provided a record of research decision points (Alvermann, 1988), that is, the development, modification, or abandonment of data collection or analysis strategies. Finally, in order to provide a richer context for readers, we stepped back from the living of classroom life and recorded and reflected on it in "a day in the life" of each classroom. These detailed, full-day transcripts of each classroom from JoBeth's observational vantage point, in combination with lesson plans and teaching journals, became Betty's and Barbara's teaching stories that laid the foundation for *Engaging Children* (Allen et al., 1993).

In our second study, we examined connections between home and school that Betty fostered with a set of "parallel practices" she developed in first grade (home-school literacy journals; oral and written family stories; parent, child, teacher reflections). Barbara continued with the same children and families in second grade. By this time, Betty had come to view her classroom as "data world," a place where remarkable things happen every day to gather, ponder, and interpret in relation to future teaching decisions. Consequently, she collected a great deal of information and asked parental permission to share what they were learning together with others, even though the first year was not designed as a research study. During the second year of the study, we were systematic in our data collection of the same sources of information and some additional

Table 1. Data Sources and Collection Time for *Engaging Families* Study

Information source	Collection year/time
Tell Me About Your Child (letters from parents)	beginning of each year
Home Interst Inventory (by parents and children)	1st grade, beginning of year
Clay's Word Writing Assessment	1st, beg/mid/end
Standard Topic Writing	1st & 2nd, beg/mid/end
Informal Reading Inventory	1st & 2nd, beg/mid/end
Samples of Daily Writing	1st & 2nd, weekly
Houghton Mifflin Periodic Reading Survey	2nd, quarterly
Home-School Reading Journals (dialogue among families, children, and teacher)	1st & 2nd, all year
Family Stories (written by adult family members)	1st & 2nd, varied
Parent Reflections & Expectations Survey	1st & 2nd, end of year
Student Reflections & Expectations Survey	1st & 2nd, end of year
Anecdotal Notes	1st & 2nd, throughout
Parent Meetings (notes)	2nd, monthly

Note. In addition, Betty occasionally taped recorded oral storytelling and videotaped a family storybook reading party in her classroom. Barbara photographed classroom interactions and a family picnic at the park.

ones. Table 1 shows the data we collected and when we collected it.

Together we constructed and redesigned these methods, keeping them responsive to the children and to our ongoing analysis. For example, in the first study when a data-analysis session focusing on the quarterly interviews JoBeth did with each child revealed that at least one child was "putting her on," Barbara suggested that she, as the teacher, take over the interviewing, incorporating the questions into her daily reading and writing conferences. Barbara knew the children better and was able to embed questions in a logical instructional framework and interpret responses in the full context of the classroom.

The study had built-in triangulation not only of data sources, as seen in Table 1, but also of perspectives. Betty and Barbara taught the children during different years, and JoBeth was an outsider. Frequently at data analysis sessions, especially in year two of both studies, Barbara discussed a child's current literacy and classroom life, Betty related that to the previous year, and JoBeth asked clarifying questions. At times these discussions led to the collection of new data or to the redesign of a current strategy. Thus, ongoing data analysis was critical to the design of responsive methods. It was also critical to building an interpretation of what we were living.

Interpretive Dialogue

Throughout our collaboration, we have discovered the power of talk to reflect on lived

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experience, to challenge interpretations, to generate assumptions, and to examine biases (e.g., JoBeth became worried that she was ignoring a child in the first study when she dreamed she had killed him). We created time to talk within a variety of structures, depending on the phase and focus of the project. These included a paid substitute teacher for weekly during-school data-analysis sessions, weekly or biweekly work sessions at good restaurants, and weeklong writing sessions at inspiring settings each summer (see the appendix in Shockley et al., 1995).

In his 1986 handbook chapter on qualitative methods in research on teaching, Erickson wrote:

> As Hymes notes (1982b), interpretive research methods are intrinsically democratic; one does not need special training to be able to understand the results of such research, nor does one need arcane skills in order to conduct it. Fieldwork research requires skills of observation, comparison, contrast, and reflection that all humans possess. In order to get through life we must all do interpretive fieldwork. What professional interpretive researchers do is to make use of ordinary skills of observation and reflection in especially systematic and deliberate ways. Classroom teachers can do this as well, by reflecting on their own practice. Their role is not that of the participant observer who comes from the outside world to visit, but that of an unusually observant participant who deliberates inside the scene of action. (p. 157)

How did we deliberate on our observations? What forum allowed the comparison, contrast, and reflection necessary for interpretive research? We developed a process we call *interpretive dialogue*, carefully recorded analytic conversations about data that often served as oral drafts. Whether we were talking about one child and one week's data on that child at weekly Shockley/Allen or Michalove/Allen analysis meetings or a whole year's interactions with a family, we taped or hand-recorded our insights, both mundane and inspired. We also had frequent role dialogues concerning writing and authorship, discussing each writer's time, interest, strengths, weaknesses, and professional goals. We "listened" to and discussed other writing voices, novel research (e.g., *Praying for Sheetrock*, Green, 1991) as well as well-researched novels (e.g., *A Lesson Before Dying*, Gaines, 1993), and tried to honor our individual voices either by identifying section authors or writing in the lead author's voice.

As part of a larger school team in the first study, we wrote occasional research narratives, one- or two-page written interpretations of phenomena that interested, bothered, or puzzled us. This was a data-analysis strategy from the work of Jane Hansen, Donald Graves, Ruth Hubbard, and colleagues (Hubbard & Stratton, 1985). Few people felt comfortable or had the time to write for each meeting (or even most of the meetings). However, we would come back to research narratives several years later and use them as a primary data-analysis strategy in *Engaging Families* (Shockley et al., 1995). We had a wide variety of information on each child/family/teacher relationship we were

studying (see Table 1), which we analyzed individually (e.g., one week each of us would read all the data on Adrian); wrote a narrative interpretation of the issues, themes, and questions that resulted from the analysis; and then met to read and compare our narratives on that focal child.

Although the key to data analysis for us has been interpretive dialogue, we did not discover how important it was until we tried another approach. JoBeth had been studying grounded theory (Glaser & Strauss, 1967) and suggested that we try the fine-grained coding of the constant comparative method. We spent several full days reading about the methodology, coding four sets of transcripts together, and generating an extensive code list. We agreed to code the other sets on our own and to come together weekly to compare our analyses. A short segment of the lengthy code sheet follows:

TQ	teacher question
/Y/N	yes/no (type TQ)
/auth	author focus
/lrn	learning focus
/lks	likes of reader
/gnr	genre focus (silly books)
/prc	process (is C reading book?)
/eval	evaluation (of reading process, development)

Using the emerging codes, we coded a fourth journal set together, adding and clarifying subcategories. Our retreat over, we agreed to meet once a week having each "coded" the same set of data (one family/child) independently.

A funny thing happened at the first weekly meeting: We decided we did not like our analysis process. Betty, as principal investigator, crystallized the misgivings we were all feeling. She said, "I'm worried that we're missing the forest for the trees. We're breaking this rich interaction down into little codes that become almost meaningless." We discussed what is unique about teacher research. When JoBeth typed out the code sheet, the analysis became more mechanistic than insightful. We stopped talking about children and families and talked instead of matching, modifying, or adding codes. The agenda Betty had written for our meeting included the following quote from Nancie Atwell (1991):

> I worry about attempts to package teacher research as another formula to be followed, shutting down the possibility of surprise through a slavish adherence to the conventions of experimental inquiry. . . . It's [classroom research's] power lies in thinking side by side with others—our students among them—who care as much about writing, literature, and learning as we do. (p. xvi)

We decided that we were more interested in informing and affecting educational practice than in generating theories about it. We wanted to look closely at an experience that seemed meaningful to all participants and ask, What made this meaningful? What meanings did different people create from it? What difference for families, children, and teachers did the experience make?

Betty proposed a plan that we used the rest of the year:

1. Each researcher read through the original home-school journal to note illustrations, format, etc. (we were missing a great deal by merely reading typed transcriptions). The visual display of data was more illuminating than the reduced transcripts.

2. Each researcher read the child's cumulative notebook Betty and Barbara had assembled, which included all data sources, making analytic memos as we read (journal transcripts had 3" right margins).

3. Each researcher wrote a 1–2 page narrative that included patterns of response and pivotal point of change, questions for further exploration, telling excerpts, and so forth.

4. At dinner meetings, we read the narratives aloud to each other, comparing insights, generating new questions, proposing issues and categories.

5. We made a three-column (one for each of us) chart of key insights, points of agreement and difference, and questions. We talked about the children, their families, and ourselves from our unique perspectives.

6. We continued to study the practices of other researchers.

We felt much truer to ourselves and to our data through our approach of written narratives and interpretive dialogue. The dread we had been feeling about line-by-line coding was replaced with an eagerness to read, write, ponder, discuss, and construct a meaningful interpretation. One reason we feel the process worked so well was that we had both the "insider's view" that teachers bring to school-based research, and an "outsider's view"

(Erickson, 1986). Betty was the teacher who had generated the first year's data; she had a yearlong relationship with the children and families through which to interpret journals, reflections, and so forth. Barbara was the teacher who currently taught the children and interacted with the families; she was able to update the previous year's data with current information about how the child was developing, what pattern the second-grade journal was taking, and so forth. JoBeth was the outsider, who did not know the children or their families; she asked questions that led us beyond the "taken for granted" and helped make the familiar strange for Betty and Barbara. Through interpretive dialogue in our weekly analysis sessions, and even more intensively during our summer writing sessions, we asked "From your perspective. . .?" questions of each other, aware that it was not consensus we were after but multiple perspectives.

At several points in our data analysis, we stepped back from the individual children and families and generated broad, working assumptions about ourselves, the children, and their families. We asked ourselves What are we learning? We generated assumptions, which we continuously modified by rereading the data. The following are a few examples:

Assumptions About Ourselves as Teachers

• When we learn from parents, we make more informed decisions on behalf of kids.

• When we listened to and read family stories and journal entries, we developed "funds of knowledge for teaching" (Moll, Amanti, Neff, & Gonzales, 1992).

Assumptions About Parents

- All these parents care about their kids just like we care about ours.

- The journal process supported and developed many parents' sense of efficacy, both as parents and as teachers.

- Family members often provided very explicit literacy instruction. Many had a repertoire of literacy support strategies; they would nudge, back off, press, and encourage children to feel successful. Occasionally the interactions became stressful, but the journal often served as a way of changing to more enjoyable interactions.

Assumptions About Children

- Children grew in their ways of responding to literature, and they grew in their literary conversations, both oral and written.

- Children saw the adults closest to them—their parents and teachers—as readers and writers.

In the first study (Allen et al., 1993), we had broadened the dialogue by interviewing many people inside and outside the school. Similarly, in the second study (Shockley et al., 1995), we invited families to participate in the dialogue that helped us learn why and in what unique ways they had interpreted the experiences. These "member checks" occurred in a variety of ways. We took notes at monthly parent meetings during which Betty and Barbara frequently asked parents for their perceptions. For example, at one meeting, we asked parents how they would describe the school,

saying we felt giving the demographics and free-lunch count was inadequate. At another, Betty read a draft of an article about our shared home-school experience and asked for feedback (Shockley, 1993). We occasionally called parents to clarify or interpret events. We included three Family Portraits in *Engaging Families* (Shockley et al., 1995); during the revision stage, we gave each family a draft of its portrait, the section we had written about them, and again asked for written or verbal feedback. We were delighted by the serious and helpful responses.

Finally, the interpretive dialogue was impetus for and integral to countless rounds of drafting, responding, and revising. There was a constant interplay between written and oral composition. Each summer we gathered all our data, notes from our weekly analyses (including research narratives), boxes of professional references related to our study, three computers, and literary fiction that provided models of effective writing. We retreated for a week to a lake, ocean, or mountainside sanctuary and wrote for two 3-hr blocks each day; in the evening, we each read aloud what we had written that day, gave each other feedback, and made revision notes.

Research for us is a communicative art, an evolving lesson on constructing meaning. We talked to understand the children, each other, and ourselves. We wrote to talk and talked to write. We read to write, sharing and discussing the works of favorite fiction writers as well as professional educators. Through our collaboration, we grew professionally in ways that became fundamental to our definitions of ourselves as teachers. We wanted to share the

power and joy of our experience with other teachers. Out of that desire, we created a plan for a broad network of teacher researchers, the School Research Consortium. The next section details their methodological evolution and insights.

Case Three

Teacher Research Community: The School Research Consortium Experience

It is a research day. Teachers who work together as researchers within the School Research Consortium (SRC) knew time was what they needed, time away from their teaching duties and school sites periodically to review their research needs. This reserved time for research was divided into two parts: The first half of each research day was used by individuals and teams to talk and plan while the second half found us reunited as a whole community for additional discussions and updates. In the following dialogue, Buddy Wiltcher, Beth Tatum, Barbara Jarrard, Mindy Rhoades, and Patti McWhorter are meeting at Beth's house to discuss their research progress and plans.

Patti: It takes so long to write because we all feel like we need to tell our stories first. . . . That seems to be part of our research process when you live your research like that and like we're doing.

Mindy: Part of it is it's your life. . . . You don't go and you don't just measure things. . . . It's not like chemistry.

Barbara: There's no right or wrong answer.

Patti: That may be part of the phenomena.

Buddy: The story's the background.

Patti: Right. . . . The story's the context.

Mindy: [Without it] It's like giving people a novel and saying, "Read Chapter 14!"

Stories of teacher research are contributing to a rich and varied legacy of lives and learnings within the context of classrooms. Such stories help build a tradition among and between teachers that can be resurrected and revised as others engage in similar adventures. Each story is a unique tale of successes, confusions, and disappointments. Though plotted in different ways, they remain true to an emerging genre defined by setting and character, that is, classrooms and students.

The SRC is a community of researchers who share their stories of research with each other and with a broader community of educators through oral and written retellings. The SRC is supported by the University of Georgia site of the NRRC. From its conception, the NRRC has viewed school-based research as central to its mission and has worked to support research agendas that teachers have identified as critical. The first SRC studies were initiated at the beginning of the 1993–1994 school year. As a long-time teacher researcher in the local school district, I (Betty) have felt membership in this community beyond my role as SRC Coordinator. I write to give some order to the many stories embedded in the individual efforts to bring self-initiated research to practice.

Table 2. SRC Project Titles and Descriptions

Title	Description
Middle School Student's Favorite Books and Factors Affecting What They Choose to Read	As media specialists, Shu-Hsien Chen and Barbara Davis wanted to know more about students' book choices. They worried about the students they saw leaving the media center empty-handed and complaining, "I can't find a good book," so they designed a study that would be sensitive to the voices of the students and the teachers in their middle school. Using interviews and surveys, they identified favorite reading materials and the factors that affected the choice of those materials.
Literacy Education for a Democratic Society (LEADS)	JoBeth Allen and Barbara Michalove, along with a group of teachers from a variety of school systems in the Atlanta/Athens area, were interested in exploring issues of activism within the teaching profession. Currently the group is spending time discussing readings related to education for democracy in preparation for implementing and studying Literacy for a Democratic Society in its various classroom manifestations during the coming school year.
Bridging Picture Books and Chapter Books: The Reading Challenge Project for Third-Grade Students	Nancy Baumann, Christine Fuentes, and Jane Holman shared a concern about the difficult transition many children seemed to have from reading picture books to reading chapter books. Their study aimed to find ways to better support students in making this literate leap.
Computer Journals	This was Tina Allen's first attempt at combining research with teaching. She was eager to build research into her Chapter 1 program as she worked to facilitate the writing development of two of her students through dialogic computer journals. But she found research to be an on-again, off-again process of adjustments.
Teachers as Writers: Focusing on the Classroom	Ann Keffer, Debby Wood, Shelley Carr, Leah Mattison, Barbara Lanier, and Randi Stanulis worked together for two years to understand how thinking of themselves as writers and actually experiencing the process within a community of teachers who write might help them better understand the issues their students faced as writers. They experienced their first year of work together as "magical," but then in a second year went through a period of serious concern about the demands of their combined roles as teachers and researchers.
Active Learning, Interactive Classrooms, and Literacy Instruction	Patti McWhorter, Barbara Jarrard, Mindi Rhoades, and Buddy Wiltcher have been working together for two years to coordinate and document the changes that take place for teachers and their students when their high school classrooms become more student-centered. In their view, "It is on this sharing of control, the subsequent shifting of roles and responsibilities, and the resulting effect on literacy instruction that our study is focused."
A Parallel Journey: The Role of Memoir and Personal Narrative in the Construction of Literate Relationships	Karen Hankins began her first year of study with a project designed to help her better support the three students in her kindergarten class who had been identified as being fetal-alcohol syndrome or crack babies. In her self-study, an extension of the first year's work with the students, she recorded and examined through memoir writing her life episodes that either enhanced or discouraged the potential for interactions and connections with these three children and their families. She also claimed that "by combining case study and memoir, I will be generating a method for reflective qualitative analysis."
Exploring How Elementary and Middle School Partnerships Encourage Students' Engagement in Literate Activities	Georgiana Sumner and Johni Mathis are sisters with a shared concern for finding ways to motivate students to read. Georgiana taught second grade and Johni taught eighth. They have worked together as researchers within the SRC for two years. Their second year experience gave rise to troubling concerns regarding the value of doing research that does not turn out to be an exciting proclamation of success with all students all the time.

The combined stories of the researchers within the SRC tell of a developing methodology that is both varied in adaptations and unified in purpose. By developing and documenting their particular pathways to understanding, teacher researchers capture a record of growth and change that too often has been lost to the profession.

Our stories have beginnings but not endings. We are still much immersed in our processes of becoming teachers who research. For purposes of this condensed version of our storytellings, only eight of the seventeen projects initiated by the 40 SRC members will be highlighted. These story segments are taken from written reflections by the teacher researchers present for our last group meeting of the 1994–1995 school year. Each teacher was asked to outline specific methodologies used in her or his project and to briefly isolate and elaborate their data analysis procedures. The title, authors, and a highlight of their research stories are included in Table 2 to provide a sort of book-jacket look at the many concerns SRC researchers consider worthy of their time and study.

Learning by Doing

Much is new and unresolved for us as a community of teachers who also research our beliefs and practices. Sylvia Ashton-Warner (1963) in her book *Teacher* announced, "I know all this because I've done it" (p. 34). This kind of claiming to know by doing is the emerging hallmark of the SRC. As teachers, we often feel privileged by special insights that are possible because of our unique positioning within classrooms with students on a daily basis. As members of the SRC, we accept and celebrate this unique perspective. Instead of being educated ahead of time in a particular research tradition, we choose to start from our own beginning places, to develop methods that work for us. We are learning to adjust and adapt and invent our research practices as we work to achieve better understandings. We are in the process of doing it for ourselves. Whatever has gone before will certainly serve us well in this endeavor, but nothing influences us more strongly than our own unique responses to researching as teachers.

Reducing our sense of professional isolation through our work together in the SRC has been a first step toward the construction of a professional identity that is grounded in our own developing research traditions. It helps move us beyond a profession of technicians who are judged by how well we are able to repeat the performances of others to what Seymour Papert (1993) termed an "epistemological pluralism" (p. 6). This view encourages a variety of responses and accepts the influences of multiple contexts and personalities. Papert (1993) further encourages this perspective with, "The problem for society is to give teachers the same pluralist support that the best of them give their students. Individuals at different places need support to move from where they are. . . . The practical consequence is that change cannot come about except pluralistically" (p.75). The SRC acknowledges multiple perspectives through its support for varied and evolving methods and welcomes the particularity of response inherent in each teaching/researching situation.

In the following sections, I outline aspects of evolving context-specific research methods, methods teachers are learning by doing. Teachers are beginning to trust themselves to be sensitive and systematic in developing their own research designs. As we share what we are learning about methods that work for us, we become what Nanci Atwell (1991) described as "adult[s] who learned in public" (p.8). We risk this published reflection not only to offer ideas to other teacher researchers but also to enhance our learning-by-doing cycle of action and reflection. In Papert's (1993) words, "In education, the highest mark of success is not having imitators but inspiring others to do something else" (p.78). Teacher researchers need to know that there is room for their independent creations within what should be a constantly evolving research perspective.

Balancing ReACTions

Achieving a balance between teaching and research. J. Bartoli (1995) in *Unequal Oppo·tunity: Learning to Read in the U.S.A.* wrote, "I think the uses to which we put our research are every bit as important as the purity of the methodology—possibly more so" (p. xvi). This concept works well for what we have come to view as a central feature of our researching processes: the fit between teacher needs and student needs in the research process. The alignment of research to particular teacher and student needs is a key to unlocking passions for the process and principles for research design. Each new school year and each new group of students bring with it a revised set of challenges and opportunities. Being sensitive

and responsible to this concept is unique to the research of teachers. Vivian Paley (1990), a long-time teacher researcher, adds credence to this kind of wisdom. She, too, has come to know by doing and recalls, "Such is the way life in the classroom reinterprets the research. Whatever else I may choose to watch and record, my subjects draw me into deeper concerns and more vivid visions of their world" (p.19).

We are teachers and researchers on a day-to-day basis. Keeping our balance between these two dimensions of our professionalism is a new challenge. Many SRC members have experienced a kind of see-saw effect when the daily demands of teaching outweighed the more long-term commitment to studying it. This weight shifting has been most evident in the SRC when teachers change grade levels or when system responsibilities such as national testing or standards evaluations are imposed on an already full workload.

The Teachers as Writers group (see Table 2) really felt the impact of these kinds of changes on their attitudes toward research during the 1994-1995 school year. After a highly motivating and successful first year as teachers researching their own involvement with writing, they proceeded to what seemed a logical next step—documenting ways in which their personal insights and experiences with writing might prove helpful for supporting their students as writers. What originally seemed so simple and straightforward turned into a year overburdened by the presence of research. Members of the group reported feeling "guilty" all year because they kept putting off focusing on their research issues

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due to more pressing systemic demands. Debby said, "Our community changed, people changing grade levels. I hadn't had a homeroom in five years; that's real different for me." Shelly agreed and added, "Ann was our glue. She was the only one who didn't have change." It was also the year their school had to do their five-year standards accreditation review which required many more work hours.

This rising or sinking feeling can also be related to the group dynamics present with each new class of students. Listening closely to students may be one of the most important ways of gathering information for teacher researchers, but it is also one that keeps the teacher researcher off balance, unable to lay out a careful methodology in advance. Barbara Jarrard learned, "I really have to listen carefully to different groups of students." Ann Keffer arrived at a similar understanding: "As important as it is to ask ourselves what questions we most want to answer through our research, it is just as important to ask ourselves what questions a particular group of children are peculiarly suited to help us answer. . . . This year I've been stunned by how much my students can tell me if I just *listen*." Barbara Jarrard has also learned to capitalize on this knowledge source. She wrote, "I ask my students to help cover the parts of data collection I know I am not very good at by building in reflective pieces in their projects." Many SRC researchers are coming to agree with Nanci Atwell (1991): "When teachers conduct research in [their] classrooms, [they] learn that kids' knowledge counts—and the kids do too" (p. 13). We seem to listen to our students more intentionally when we are involved

as researchers. Communication between and among students and teachers can be facilitated when research finds a home in our schools.

Tina Allen identified student interviews as her most helpful data source. This talking-to-understand process was used successfully by most of the SRC researchers. Finding ways to accent connections with students through research can lead to heightened respect and awareness for both students and teachers. Linda Rief (1992), another teacher researcher explained:

> I have to be a learner in and out of my classroom so I won't lose sight of what it's like for my students—so I will continue to hear their voices. I don't ever want to set myself up in the front of that classroom again sitting on a stool with all the answers. Like Byrd Baylor [Byrd & Parnell, 1978] in her book *The Other Way to Listen*, I want always to remember, "If you think you're better than a horned toad you'll never hear its voice—even if you sit there in the sun forever" [p. 17].

Creating methods that help keep the balance. When our community first banded together, there were many discussions at SRC meetings about "What are data?" It was not an easy process deciding what to count as data sources and how to go about managing them. Teaching journals are probably the most often suggested form of documentation offered to teacher researchers. Several of the teachers in the SRC reported initial attempts to remain true to such a procedure only to feel troubled by it over time. Many tried to blend its use into

practice but reported frustration with their attempts, as Barbara Jarrard's experience demonstrates:

> I started out trying to keep notes in a writing journal, but after a fairly good start at keeping up with it, it was always somewhere else when I wanted to jot something down, so I started writing on scraps of paper which sometimes got to the journal and sometimes didn't. As I realized this wasn't working very well for me, I began to jot notes at the end of my lesson plan in my plan book which gave me very limited space. Although this wasn't a perfect solution, it did teach me that writing a little was better than nothing and in many ways better than a lot. I can almost always find time for a little when sometimes I would not start to write a lot of information. At first I really felt everything I wrote down had to be perfect and complete and this compulsion was causing me to spend time I didn't have on what should have been just notes.

Karen Hankins had her story too of learning to cope with the many options and issues related to data collection in school settings. She had journals and writing folders for each child but worried that her records could easily become incomplete when one of the journals was lost and when one of her students hid pieces of her writing. Her school copy machine budget did not allow her to make ongoing copies of these materials either. She did develop a helpful habit of using yellow sticky notes as cues for future evaluation, placing them directly on collected data sources. She had a tape recorder running in her classroom some days so she could listen to it at night. She found her own voice to be overly intrusive and described the experience as "so painful I just didn't do it as often as I should have." She also interviewed her students and their parents. In an honest reflection of "This is really how it is!", Karen remembered:

> I jotted notes on everything from napkins at lunch to wrapping paper. I keep a journal but it is never with me when I need it! I don't carry it with me but sit and write when I am alone. I really wish I had the things I had written on. The best was a piece of laminating film that had dropped to the floor as we were trimming the edges of the laminated stage decorations while we watched the music teacher put the kids through a play practice. As I trimmed those edges, I was observing Nat. . . . It may give a person who keeps neat field notes a migraine thinking about it. But that piece of recycled school minutiae was a story in itself. It needed no date . . . dress rehearsal day. It needed no context to give me a clue of where and what I was doing when I made the observation . . . cutting the edges off stage decorations. It held in its lightweight transparency the weight of a teacher's cloudy thinking on those last days of school when she's trying to do three things at once. . . .

Patti McWhorter's comments also illustrate this evolving process of data collection:

> I discovered early in this process of becoming a teacher researcher that I

could quickly go overboard in data col- lection. Saving all student work was impractical. . . . Copying was out; the budget was not large enough—nor was there enough time for me to do this. Audio- and videotaping was a good idea, but again, I had to decide what to tape. I think it all came down to predicting what would support, address, answer our research questions. Even then, things could take place spontaneously in class when I least expected it. At those points, I had to make myself jot notes in my journal or somewhere, so I could remember and describe those important moments.

My plan book, in the second year of my classroom research, became a research log. I adapted my daily planning sheet to accommodate daily observations and notes. Since my plan book became a research journal, it worked for me. The plan book was always there— open—ready for me to jot notes. It was efficient. I liked it. Since I have always been a teacher who does a lot of notes about "next time I teach this" in my plan book and folders, this method fit more naturally into my routine while teaching than a separate journal. I use a separate journal for more intense reflection—less quick jotting—when I really need to process something about my teaching or my professional life.

Debby Wood's honesty with respect to the trials of data collection is another indication of just how disconcerting dealing with data collection can seem:

We had such a hard time finding meth- ods that we thought were practical and

feasible. To this day, I have not been able to master the use of a teaching journal. The idea of being videotaped gives me hives. I don't know if it was because we were so exhausted from the first year or what . . . but none of the traditional methods of collecting data were inviting to me. . . . I don't think I spent a lot of time reflecting on what type of data would best serve the project. . . . I thought of what strategies I could fit into my existing classroom structure and what wouldn't drive me insane.

Data collection methods were closely related to the issues of balancing research and teaching. As noted in the two previous cases, teachers had to create methods that were do- able, that helped them integrate research and teaching, and that were responsive to students. Most of us would agree with Karen: "The data I collected was more what than why, more process than product, more pain than proce- dure."

Shu Hsien and Barbara Davis also told of having to modify their original research plan to better accommodate the demands of school life and how this worked to their advantage. Origi- nally, Barbara was going to interview teachers and students during the school day. According to Shu and Barbara:

The problem with interviewing the stu- dents during the school day was that the teacher's free time did not correlate with the students' free, less-restrictive time. As for the teacher interviews, the sched- ule during the course of the school day fell through. Consequently, it became necessary to do all interviews at the end

of the day, after the children had been dismissed. Time restraints also necessitated that group interviews, rather than individual ones, be done. We were, however, surprised and happy with the results of these interviews and feel that the students and teachers spoke much more freely in group situations than they might have done in one-on-one interviews.

Finding that balance between plans and realities helped Shu and Barbara insure not only a sense of success with the process but also a research surprise that will prove helpful to others in the SRC. Group interviews outside the demands and pressures of a school day created a fit between research needs and student needs, and it provided better data. Becoming sensitive to shifts and changes in situations and feeling free to adjust research designs accordingly can be a teacher-researcher's friend or foe, depending on the level of frustration she or he is experiencing at the time.

There was one method that everybody seemed to designate as essential—the importance of talk. Patti went so far as to declare, "At the university there's time to talk. That time is a source of power. Until we acknowledge that, they keep and have the power and we have none." This reaction to the isolation many teachers feel as they work behind their classroom doors every day expresses the need for more frequent and open participation opportunities for teachers. Rarely do they feel their voices are being recognized in public discourses on teaching and learning. Debby Wood said matter-of-factly, "Conversation *was* our data." This power of talk was not only a method used for establishing relationships with data but also contributed greatly when interpreting data. I include a discussion of this most simple but essential methodological feature in the following description of data analysis.

Balancing the effort. According to the Teachers as Writers group, "Talk *is* data" as well as data analysis. "We had our personal writing, but it was the talk about the writing that was important to us and led us to the insights we gained." In fact, talk was so important that Georgiana recommended that next year the SRC provides "two day release time . . . one day to talk it all out. Day two ready to sit down to writing."

Joint interpretation of data seems critical to SRC researchers. This aspect of the process helps reduce feelings of professional isolation and develops broader understandings among researchers within the SRC community. Christine Fuentes found "that discussions among ourselves were the best motivators and clarifiers for the project and modifications that needed to be made." Shelley Carr wrote essentially the same thing: "Discussing methods with my partners and other researchers was the best help. . . All of our analysis happened during group meetings. . . . Many of our findings seemed to just appear from our conversations." Debby Wood elaborated on the process, explaining: "We would read the transcripts individually and would highlight parts that struck us as important. Then, as a group, we would share and discuss these themes."

Talk with a trusted outsider was also an element of the process for several teacher researchers. Georgiana and Johni valued the participation of university researcher Michelle

Commeyras. As a "distant observer," Michelle offered someone "to talk with" that was "supportive" and "ı njudgmental" who could add "a different perspective [that was] not bogged down with classroom details." Ann Keffer recognized much the same effect when she wrote, "Our own group meetings always reenergized us, but talks with Betty [Coordinator of the SRC] helped the most. I found it exciting and helpful when NRRC folks started sending me articles that might bear on our research."

Several members of the community noted a variation of the talking-to-learn feature, the importance of preparing public presentations. Speaking to others created self-imposed deadlines and, as Ann mentioned, helped in "organizing our thoughts." Patti extended this line of thinking:

> I have slowly come to realize that preparing for conference presentations or workshops has pushed us to analyze what we know. . . . Somehow the live audience was the pressure we needed to get out of the "starting box" in data analysis. For me, this goes back to my need to talk out what I know, what I am learning in my research.

There is a necessary interaction of oral and written talk that can be used effectively by teacher researchers. Based on her years of experience as a teacher researcher, Barbara Michalove advocated "bringing written reflections" to group meetings because "they made [her] analyze and reflect throughout the year." She thinks sharing these written reflections with a "committed group of teachers" helps

maintain the connections between ongoing research and instructional decision making. Patti also discussed the significance of such interactions:

> The most helpful data analysis I have done is that which takes place when our small department research team meets on release days. Time to talk and write together is crucial, and we have developed an established routine. We work separately on our writing for the first few hours of the morning, then come together at lunchtime to share what we have completed, moving on to the larger SRC meeting later in the day.

And finally, Debby provided the following summary of her data analysis insights:

> I think it was important that we participated in this process [data analysis] throughout the year as opposed to waiting until summer. There would have been entirely too much data to analyze. The day-long retreats were by far the most beneficial type of support the SRC gave to me. The retreats enabled us to meet away from school and to focus on what we wanted to accomplish. There were no interruptions (from students, parents, or principals) and we thrived in this setting. We love the job we do with children . . . but every once in awhile it was such fun to have an "adult" day.

Learning From a Distance

As we stepped back from our deep commitment and involvement with our research

community in order to compose this section, we created an opportunity to see anew, to relive experiences of the past two years. This distance allows us to find some peace in what often feels like almost too dynamic a process. Many outside the education community believe that all teachers have to do is teach. They do not recognize or understand that their days are crowded with complex professional responsibilities that too often rest on the verge of toppling the apple cart. Adding research to the balance may not be for all teachers all the time, but, as we have learned in the SRC, once teachers bite from the research apple, many find that their sense of professionalism demands that they continue to pursue this opportunity. As Seymour Papert (1993) wrote, "Knowing that one can exercise choice in shaping and reshaping one's intellectual identity may be the most empowering idea one can ever achieve" (p. 125).

I believe that teacher researchers in the SRC may agree with Papert, but they recognize that this kind of professional fulfillment comes with a price. Adapting plan books as research records, learning to count on students as knowers, coming to value talk and writing as methods for knowing, and giving ourselves time to look back and review from a distance are helping us find our balance as teachers who also research. I believe Vivian Gussin Paley (1990) would concur as she once wrote, "Until I had my own questions to ask, my own set of events to watch, and my own ways of combining all of these with teaching, I did not learn very much at all" (p. 16). And as Ann points out so well,

Part of the story, too, is of our growing understanding of our roles as teacher researchers. After two years, we know that classroom research is not something one gets through with. Instead, it is a different approach to teaching in which theory informs practice and *practice informs theory* continually and immediately right in the classroom. If classroom research is to be an organic part of teaching, then it needs to be allowed to shape itself to the natural rhythms of a school year. The intensity with which we pursue our research needs to be allowed to ebb and flow to accommodate other demands on us and our students.

Barbara Jarrard discovered that "the material (data) I had collected the year before began to make more sense at a distance." Georgiana and Johni also found that relooking at data during the summer gave them information that was not apparent during the school year, noting that "your perceptions may not be what the facts are." Time to look back and not just forward is a difficult balance to achieve for teachers who always feel the encroaching demands of tomorrow before today is even finished. The new understandings that can emerge for teachers who research and who acquire the habits of data analysis as ongoing aspects of practice will know they have enriched their professional lives. When they share their stories with others, they give this understanding a life of its own that can travel through time from teacher to teacher, as Debby Wood was coming to recognize when she wrote,

[The first year of our study] was not child-focused so it didn't directly impact my instruction. But I was definitely affected personally and professionally. The interaction with my peers and the involvement with the SRC invigorated me and caused me to become excited about my profession and the possibility that I could possibly make a contribution to the profession as a whole. I'm sure this only made me better in my own classroom. We talk so much about self-esteem for our kids. Self-esteem isn't finite. I am still developing as a person and as a teacher. Becoming a teacher-researcher helped me value myself as a teacher in a new and important way.

In *Seeing For Ourselves*, Glenda L. Bissex (1987) went so far as to say, "If teacher research had been on the horizon ten years ago, I might still be in a classroom myself rather than having been driven to choose between knowing and doing" (p. 5). Teacher researchers in the SRC are knowing and growing by doing.

Conclusion

What do our three teacher-research cases say about methods for classroom-based inquiry? As in any collection of cases, they simultaneously represent uniqueness and commonality. A case is unique in that it is an "instance" or "example" of an event or situation (*Webster's*, 1980, p. 170). Our cases are unique because the experiences we have had are particular, and the voices we use to convey them are personal. Therefore, Jim makes no claim that his account of an individual teacher researcher is the same as others who have engaged in solitary classroom inquiry. JoBeth does not maintain that her description of their teacher/university researcher collaboration replicates the work of other such teams. Betty does not suggest that her unfinished story of the SRC duplicates the experience of other teacher-research communities. We have argued that teacher research is defined partly by its diversity, and we are confident that our cases support this assertion.

However, a case is "a set of circumstances or conditions" that contains "evidence supporting a conclusion or judgment" (*Webster's*, 1980, p. 170). Therefore, in spite of the diversity among our cases (and our acknowledgment that there are infinite other cases of teacher research, told and untold), our stories beg for a look across them to discover their commonalties. Thus, we structure our conclusion by looking at differences and similarities in teacher-research methodology.

Uniqueness

Teacher-research efforts differ not only in the researcher configuration, as our cases demonstrate (e.g., single researcher, collaborative inquiry, community of researchers), but also in the purpose behind a study. Purposes become manifest in research questions, which we have found to vary in source and substance (Baumann, Allen et al., 1994). Teachers engage in research to explore various questions that range from micro to macro level in foci, for example, how to help one child develop comprehension monitoring ability to how to improve

school- or system-wide comprehension strategies instruction. Whatever the question, however, pedagogy remains central; that is, how to do the work of teaching better.

Teacher research differs in epistemological orientation. Jim's single-classroom inquiry and the teacher/university researcher collaboration JoBeth described fit best within our "pragmatic" epistemological category (i.e., selecting or creating appropriate methodological tools). However, we have seen "established" studies (i.e., replicating university-based methodology) within the SRC, particularly within the first year of the community, as some teachers worked from their prior understandings of what counted as research. We also have "radical" SRC studies (i.e., having educational policy or political change as a research goal), for example, the Allen/Michalove examination of literacy in a democratic society (see Table 2). Teachers do research from various philosophical and political perspectives, and we believe that these multiple ways of viewing the world add to the richness of the genre.

Teacher-research studies differ dramatically in the types of data collected and used. Personal narrative has proved to be a powerful data source in many SRC studies. Observations and interviews were essential data sources in the Michalove/Allen/Shockley research, as well as in several of the SRC studies. Like many teacher researchers, Jim is finding his extensive daily journal to be a rich, primary record of his experience; in contrast, several SRC researchers found alternatives to teaching journals more effective for documenting classroom events and reflecting on them. Betty's "data world" view of classrooms leads each teacher researcher to collect and examine a unique assemblage of sources of information.

Likewise, data analysis procedures vary from study to study. As Betty has documented, SRC researchers have used verbal interpretations among and between research team members as viable and powerful mechanisms for examining and understanding data from their studies. In contrast, Jim has borrowed from extant methodological traditions to ground his analyses, although he has had to adjust methods according to their doability, responsiveness, and impact on his instructional responsibilities. Teacher researchers also create analysis methods, as evidenced by the interpretive dialogue procedure JoBeth described in their collaborative inquiry.

Thus, as our cases demonstrate, no two teacher-research studies are alike in form or function. However, each is driven by several basic tenets common to this developing form.

Commonality

As noted in our review, most descriptions of teacher research include the processes of action and reflection. As teacher researchers ourselves, we concurrently did the work of teaching while standing back and examining it. The seemingly paradoxical task of simultaneous doing and reflecting underscores the tension and exhilaration inherent in teacher research.

The emic view teachers have with respect to research is a distinguishing mark of classroom inquiry. Insider status provides a unique vantage point for a researching teachers' reflective actions, and distinguishing what consti-

tutes teaching and what constitutes researching becomes difficult and unimportant. As the teacher researchers cited in Betty's SRC story so eloquently stated, theory and practice become blended, if not blurred, in teacher research. Practical theories and theoretical practices are inescapable outcomes of teachers studying their work.

Methodological evolution is an inevitable characteristic of teacher research. Jim's choice of methods, as sensible as they seemed prior to day 1 in second grade, were only temporary. As soon as he got into the classroom and began to wrestle with the realities of researching while teaching, he found that methods needed to be adapted or scrapped. Teacher researchers are thoughtful in the methods they choose, but they cannot adhere to them slavishly. Methods are no more than tools of the trade that may and must be modified to achieve the goals underlying the inquiry.

A corollary to the preceding is the necessity of pragmatism in methodology. Methods must work in an efficient and effective manner for teacher researchers. JoBeth's, Betty's, and Barbara's frustrating venture into constant comparison and grounded theory led them back to their interpretive dialogue method. Why? Because it brought them back to the real purpose of their inquiry. It kept the experience whole rather than fragmented; as a result, they again enjoyed, rather than dreaded, data analysis sessions. The SRC researchers failed to find research journals as easy to keep and useful as reported by other teacher researchers in the published studies they were reading. Instead they found ingenious ways to make daily records of their research experiences, be they

addenda to daily plans, a hybrid plan-book/research journal, or literally notes on transparency scraps. If it worked methodologically, its use persisted; if it didn't, it atrophied or was thrown away.

As Betty documents, SRC researchers found the opportunity to have professional conversations a powerful methodological tool in teacher research. Having the time to discuss what was going on in classrooms and in students' lives released them from the isolation and anonymity of teaching-as-usual. The professionalism, esprit de corps, and simple self-esteem engendered by focused conversations with colleagues deepened their interest in, commitment to, and need for teacher inquiry. JoBeth described talk among team members and with the children and their parents as integral to their collaborative research. Even Jim, who studied himself and his classroom mostly in isolation throughout the school year, found post-school-year recorded conversations with colleagues, administrators, parents, and children extraordinarily illuminating.

We close by responding to the framing questions we posed at the beginning of this paper. Teacher research is an evolving philosophical orientation toward practical theory; it is not simply an adapted or hybridized conglomerate of existing educational research methods. It is true that teacher researchers adopt or adapt methodological tools from extant research traditions for data collection and analysis; this is in keeping with the pragmatic nature of much teacher research. As we have shown, however, teacher researchers also invent or create their own methods. But methods do not equate to methodology, and it is not

the source of the methodological tools themselves that distinguishes teacher research. Instead it is the unique and common characteristics we have discussed that define teacher research as its own genre. Therefore, we maintain that teacher research is a distinct, communicative art, a self-perpetuating lesson on constructing meaning. The diversity within this changing, reflective, action-oriented research-pedagogy makes it vibrant and fulfilling for those who engage in it and, we believe, enlightening and thought provoking for those who read, use, learn, and benefit from it.

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