# Developing Engaged Readers in School and Home Communities

edited by

**Linda Baker**
*University of Maryland, Baltimore County*

**Peter Afflerbach**
*University of Maryland, College Park*

**David Reinking**
*University of Georgia*

**NRRC** National Reading Research Center

*A Consortium of the University of Georgia and the University of Maryland*

# Perspectives for Literacy Research

James F. Baumann
*University of Georgia*

Deborah R. Dillon
*Purdue University*

Betty Shockley
*Clarke County Schools, Athens, Georgia*

Donna E. Alvermann
*University of Georgia*

David Reinking
*University of Georgia*

The editors of this volume asked us to present in this chapter a selective survey of perspectives for literacy research, and in particular, research approaches that have the potential to provide insight about the development of engaged readers and engaged teachers. Providing even a selective survey in a single chapter is no small feat, of course. Complete books have been written to synthesize educational research perspectives (e.g., Jaeger, 1988); large sections of research handbooks have been prepared that deal with methods of educational research (e.g., Part I of Wittrock, 1986); and full texts have been created that describe specific research methodologies (e.g., Campbell & Stanley, 1963; Eisenhart & Borko, 1993; LeCompte & Preissle, 1993). Hence, our treatment of research methods in this chapter is neither comprehensive nor detailed.

To help us decide what to feature and describe in this chapter, we took a look at ourselves and the sponsor of this book, the National Reading Research Center (NRRC). The NRRC was created with the belief that research in literacy education ought to be *multidisciplinary* and *multimethodological*. Thus, the NRRC consists of researchers whose backgrounds are from diverse fields within the mainstream of education (e.g., reading and language education, science education, educational psychology, ele-

mentary and secondary education) and from related disciplines (e.g., child and family development, cognitive psychology, human development). As a result, the methodological orientations of NRRC researchers run the full gamut: quantitative, qualitative, survey, ethnographic, teacher research, and case study, among others.

Further, the NRRC research agenda was crafted with the belief that inquiry in literacy should also be *multiperspective*, that is, the idea that research should be conducted by persons whose educational experiences encompass a range of viewpoints. In particular, we believe that multiperspective research must represent teachers, children, and others in classrooms and schools, so that educational research is not only *about* teachers and students but also *involves* them in inquiry into literacy teaching and learning (Allen, Shockley, & Baumann, 1995). As a result, the NRRC supports research conducted not only by academicians but also by professionals who work full time in school settings: specifically, researchers who are elementary, middle, and secondary school classroom teachers; supervisors, coordinators, and principals; special education teachers and school librarians; and the like. Sometimes the school-based researchers have their own research projects and sometimes they collaborate with university-based researchers, but always the projects from this perspective strive for authenticity, ecological validity, and credibility.

Because we could not be comprehensive in our coverage, we chose to select for discussion a combination of traditional and contemporary modes of inquiry in literacy research. Through these discussions, we hope to convey how these diverse research methods can provide insight into engaged reading and teaching. Because some aspects of research are personal and learned through experience, our voices in the following sections are likewise personal and experiential. Thus, we identify the writer of each section so that it will be clear whose voice, reflections, and experiences are being related. To accommodate this style, we have chosen to speak in the first person.

The remainder of this chapter is organized into discussions of five different research perspectives, followed by a brief concluding section. First, Deborah Dillon describes how qualitative inquiry can provide rich descriptions and insights into classroom life. Dillon is a skillful qualitative researcher (e.g., Dillon, 1989), and she teaches graduate courses in qualitative research methods.

Second, Betty Shockley conveys how teacher inquiry or teacher research can lead to reflective practice for classroom teachers, and how it can provide insight into classroom life. Shockley has taught first grade for 10 years, has participated in many teacher research projects (e.g., Allen, Michalove, & Shockley, 1993), and serves as the Director of the School Research Consortium at the University of Georgia NRRC site.

Third, Donna Alvermann relates how feminist scholarship, by focusing on change, provides researchers a valuable perspective for exploring literacy education issues. Alvermann, who is knowledgeable in both quantitative and qualitative methods, recently expanded her research expertise further to include feminist scholarship (Alvermann, 1993).

Fourth, James Baumann explores the advantages and limits of one type of quantitative research in literacy, the pedagogical experiment. Baumann, who has conducted several quantitative research studies, has recently begun to inquire about the appropriate place and uses of quantitative methods in literacy research (Baumann, 1993).

Fifth, David Reinking describes the approach of formative experiment, which enables a researcher to evaluate the effects of an instructional goal in a flexible, interactive manner that is quite unlike procedures employed in a traditional experimental study. Reinking is experienced in quantitative research methods, but he has found formative experiments particularly well suited to his NRRC research on the impact of technology in classrooms (Reinking & Pickle, 1993).

## QUALITATIVE INQUIRY
*Deborah R. Dillon*

As a qualitative researcher, I am interested in understanding the social and cultural aspects of classroom life, specifically, the acts of teaching and learning that occur within classrooms. In several studies, I have observed the literacy practices and interaction patterns of high school teachers and students as they engaged in English/reading and science lessons (Dillon, 1989; Dillon, O'Brien, Moje, & Stewart, 1994). Additionally, I have worked to determine what these events mean to the participants involved. Questions that have guided my observations include the following: What is the nature of the social organization in this classroom? How do teachers and students work together to make sense of literacy events? How do teachers and students interpret the events in which they participate? How do past and current events in school and outside of school influence teachers' and students' actions and beliefs during lessons?

My research questions and my desire to understand classroom events from the emic, or participant's, perspective reflect the way I view the world of schooling and my role as a researcher within that world. My research agenda also reflects why I engage in educational research—*to understand what is going on*—because I believe that understandings of what occurs in classrooms are essential to the success of school reform initiatives. To clarify these issues, I discuss the basic assumptions underlying qualitative inquiry, outline the characteristics of qualitative inquiry, and

speculate about the promise this way of viewing life in schools holds for literacy researchers.

## Assumptions Undergirding Qualitative Inquiry

I have talked with colleagues who use qualitative methods in their research programs. They exclaim, "I'm doing an ethnography" or "I'm involved in fieldwork in which I'm interviewing people, writing field notes, and collecting documents." My immediate response as a research methodologist is to ask two questions: What is the purpose of your research? What are your research questions? I believe that the *purpose* of research and the *questions* that support those purposes determine the type of inquiry researchers choose. Simultaneously, the research purposes and questions that interest us are influenced by our beliefs about the "way we go about seeing the world" and the "way we know things" (Alvermann & Dillon, 1991).

For example, qualitative researchers, unlike quantitative researchers, do not typically manipulate the setting (cf. Reinking's section, this chapter) or set a priori constraints on the outcomes of their research (cf. Baumann's section, this chapter). Rather, qualitative researchers use a discovery-oriented approach (Guba, 1978), focusing on identifying and understanding classroom events, the social and cultural context in which these events occur, and the meanings events hold for participants engaged in them.

A discovery-oriented approach implies that qualitative researchers hold particular ontological and epistemological assumptions that shape our methodologies (Hitchcock & Hughes, 1989; Lincoln & Guba, 1985). *Ontological assumptions* undergird our beliefs about the nature of reality or reality in the social world. Qualitative researchers believe that there are multiple constructed realities that occur in context and over time, realities that must be studied in a holistic fashion.

Researchers' ontological beliefs give rise to *epistemological assumptions*, which undergird our beliefs about the basis of knowledge, the form it takes, and the way in which knowledge can be communicated to others. For example, qualitative researchers believe that the researcher and the participants involved in a study are interactive and influence one another. Thus, qualitative researchers acknowledge the importance of their own experiences, beliefs, and values, and their relationships with participants; all of these relate to their research.

Finally, methodological choices spring from epistemological beliefs and refer to the ideas and concepts that shape the selection of particular data-gathering techniques. Methodological choices also help researchers narrow the appropriate framework of a study. Techniques for collecting and analyzing data are then shaped by methodological considerations.

In sum, qualitative inquiry is more than using particular data-collection methods. Rather, it assumes a holistic way of viewing teaching and learning, multiple data-collection methods used to capture the complexity of life in schools and other educational settings (e.g., homes; see Sonnenschein, Brody, & Munsterman, chap. 1, this volume), and the use of participants' and researchers' voices in interpreting what occurs during literacy lessons.

## Characteristics of Qualitative Inquiry

Patton (1990) outlined several characteristics or "themes" of qualitative inquiry:

- Qualitative designs are naturalistic—the researcher does not attempt to manipulate the setting.
- Researchers assume a holistic perspective to understand phenomena as wholes and as complex and dynamic systems where the sum is greater than the parts.
- Researchers are sensitive to the context in which events occur.
- Researchers spend time with the participants, phenomena, and events they hope to understand; the researcher's own background and beliefs are an important part of his or her inquiry.
- Researchers assume that each case is unique and that it is important to capture the details of each unique case, allowing later cross-case comparisons.
- Qualitative inquiry requires in-depth study and multiple data sources—observations, field notes, interviews, documents—to capture the complexity of literacy lessons and participants' perspectives.
- Qualitative researchers are open to design flexibility when situations change, initial questions are answered, or new questions arise.
- Qualitative researchers employ inductive analysis strategies; researchers immerse themselves in the data, reading, comparing, and generating categories and interrelationships that explain events. (pp. 40–41)

To illustrate the assumptions and themes associated with qualitative research, I offer an example from my own work.

In the study of Mr. Appleby, a high school English/reading teacher, and his class of low-track, predominantly African American students (Dillon, 1989), I wanted to understand the interaction patterns between this effective teacher and his students. The following questions guided my work: How was the social organization in the classroom constructed?

What happened during lessons? What were Mr. Appleby's goals for students? How did the students interpret classroom events?

The research purpose and questions reflect my view of the world, that classroom events are constructed by the individuals involved in them and that events are context specific. Thus, as a researcher, I determined that I needed to spend an extended period of time in Appleby's classroom to describe and interpret events from the participants' perspectives. I employed the methodology of ethnography, which focuses on cultural processes or "sets of learned and shared standards for perceiving, believing, acting, and evaluating the actions of others" (Goodenough, cited in Erickson, 1986, p. 129). As Benedict (1934), a respected anthropologist, stated: "If we are interested in cultural processes, the only way in which we can know the significance of the selected detail of behaviour is against the background of the motives and emotions and values that are institutionalized in that culture" (p. 49).

The methodology of ethnography influenced my observations in the classroom and my choice of data-collection techniques. Specifically, I spent several months observing lessons on a daily basis to determine patterns of actions. I wrote field notes, videotaped lessons, interviewed Appleby and several students, participated in group activities, and visited students in their homes and as they attended other classes. As I collected data, I also tried to make sense of what I thought was occurring in the classroom. I did this by reading through my notes and interview transcripts after returning from school each day.

After I generated a sense of what I thought was going on in the classroom, I shared my interpretations with Mr. Appleby and the students to see how the picture I was constructing fit with their perceptions. When I wrote up my research, I tried to show the reader what was going on by including excerpts of verbatim classroom lesson transcripts followed by interpretive and interview comments to illustrate the claims I made. My goal was to show the complexity of Appleby's classroom—his actions, his students' actions, and how these individuals jointly constructed a context in which students could be successful and motivated to learn.

Please recognize that this example illustrates only one methodology, a few data-collection techniques, and one strategy for analyzing and interpreting data. There are many other methodologies, techniques, and strategies described in qualitative research methodology textbooks (e.g., LeCompte & Preissle, 1993; Lincoln & Guba, 1985; Patton, 1990). However, the integrity of qualitative inquiry is dependent on the congruence between one's ontological, epistemological, and methodological assumptions and the subsequent choices one makes in the research process. Otherwise, even the most creative methods of gathering and manipulating data are meaningless.

## The Promise of Qualitative Inquiry

Qualitative inquiry offers literacy researchers the opportunity to examine events as they unfold moment by moment. As qualitative inquirers, we can explore and interpret teacher and student interaction patterns in the context in which they occur. Teachers' and students' beliefs and perspectives on why events occur as they do during literacy lessons can be obtained. Thus, we work to make sense of processes, relationships, settings and situations, systems, and people (Peshkin, 1993). Further, we can understand the complexity of classroom life by uncovering the layers of interactions and determining how they fit together.

However, as Peshkin (1993) noted, qualitative researchers can go beyond description to interpretation by "providing insights that change behavior, refine knowledge, identify problems, clarify complexity, and develop theory" (p. 24). In the study with Mr. Appleby, my goal was to do all of the above. As I stated in the findings section of my paper, "careful scrutiny of how and why effective teachers facilitate classroom lessons will enable present and prospective teachers to identify and reflect upon their own actions as teachers in various contexts" (Dillon, 1989, p. 257). This scrutiny is necessary for collaboration between school and university colleagues working toward educational reform.

Along with the promise of understanding the complexity of classroom life, qualitative researchers face several challenges. First, we try to make sense of massive amounts of data in multiple forms (e.g., field notes, videotapes of lessons, teacher and student artifacts). Second, once data are analyzed and interpreted, we face the challenge of determining how to write a text that captures the complexity of literacy lessons. Texts rich in the description of literacy events are useful in helping us envision and understand classroom life. Along with description, however, readers need interpretive commentary to understand the events from the researcher's and participants' perspectives. Research reports that incorporate teachers' and students' voices, which represent their views about literacy events, are critical for consumers of research to understand the multiple layers of complexity that comprise life in classrooms.

In conclusion, a qualitative perspective holds great promise for literacy research. It provides researchers with an important means to view the world and to address significant research questions about how teachers teach and students learn. Peshkin (1993) noted: "There is no prototype qualitative researchers must follow. . . . The travels we take . . . can only be facilitated by a type of research that gets to the bottom of things, that dwells on complexity, and that brings us very close to the phenomena we seek to illuminate" (p. 28). This should be the continuing goal of literacy researchers.

## TEACHER INQUIRY: AN ORGANIC AND ESSENTIAL PERSPECTIVE
*Betty Shockley*

Every day I teach, I am aware of new opportunities for research. Some questions are rooted in the dynamic context of my particular classroom; others are generated by outside influences. There are community issues and individual queries. How long will Preston depend on letter strings to convey his meanings? What is the history of basal adoptions in this state, and how did they gain such a stronghold? What happens to the literate sensitivities of learners when they have choices about what they read, what they write, and what they think?

Research for me takes on an organic perspective, a view that within the ongoing structures of each school day, teachers are engaged in integrated questioning, observing, and reflecting. By systematically arranging these natural processes, teacher research can become inherent and essential to the profession. Teachers and their students should not feel their decisions are dependent on the research of others. We can position ourselves as participants in the development of theory and knowledge.

As a teacher-researcher, I have felt more in control of my own learning and thus more secure in my choice to offer similar liberating opportunities to my students. By using instructional frameworks such as reading and writing workshops that allow for the constant rearticulation of learning at an individual as well as a community level, my students and I can more naturally accommodate the dynamic nature of inquiry. The idea that there is just one right way to respond to a story, for example, is not part of our operational paradigm. We come to see the act of discovery as being what our work together is about.

Nancie Atwell (1991) saw the potential for classroom research to impact students as well as teachers:

We know that children learn by example and by making sense of meaningful situations. Think of the example we set as teachers who conduct research, of the payoff when we make learning make sense, of the model we provide when we demonstrate curiosity and thoughtfulness. If we want to eradicate ignorance, I can't think of a better way to start than by showing our kids how we find the problems that interest us, in hope that they will find the problems that interest them. (p. 13)

Over time, a whole language philosophy and research perspective have allowed me to move beyond the boundaries of my classroom to gather and contribute information about teaching and learning. By reading broadly the research of others and exploring ways to include the knowledges of not only students but also their families, I continue to learn. This

kind of ongoing inquiry has been facilitated by the creation of a set of dependable and supportive routines that I termed *parallel practices* (see Baker, Allen, et al., chap. 2, this volume). These practices of dialoguing through journals, writing family stories, and sharing decision making allow for the constant flow of information within school and between home and school (Shockley, 1993).

I see teachers as creators of theory who act as situated knowers (Collins, 1991) and who, by organizing their thoughts and actions in explicit ways, can add important understandings to their own day-to-day work as well as the work of other researchers, whether they be in schools or academies. My concern continues to be how collaboration and dissemination can become more organic to the work of teachers and more essential to the whole of educational research. I would like to address this concern by sharing ways I have found to blend and focus my research while maintaining my primary role of teacher (see Jervis, Carr, Rogers, & Lockhart, chap. 11, this volume, for additional perspectives on teacher inquiry).

Getting started is the biggest hurdle. Thinking of adding one more thing to an already packed school day may seem too overwhelming to consider. Gaining focus is an additional challenge. When I read Ralph Fletcher's (1993) insights about helping students gain a focus in their writing, I associated his advice with the research work of teachers:

Focus does not mean writing shorter pieces. The crucial aspect of focus is that getting narrower allows the writer to go deeper, to get under the surface of a story by delving into one particular part of it. Young writers tend to give equal attention to each part of a story. (p. 133)

For teachers, who are trying to manage so much at one time in the course of a day or a school year, consciously choosing a single focus for inquiry seems counterintuitive. We often think we have to try and solve all our problems at once when actually, if we allow ourselves to gain deeper insights into a particular aspect of our work, we may in fact acquire information that has broad impact.

One of my best opportunities for beginning a personal research agenda was participating in a small study group at my school facilitated by JoBeth Allen of the University of Georgia. There I found a way to enter and maintain a dialogue within a supportive group. The best part of this experience was coming to understand my own teaching philosophy and decision making. Taking time to identify and claim my educational philosophy was an investment that paid multiple dividends, but it was particularly helpful when later faced with the data analysis task of understanding my actions within the context of classroom interactions. In preparation for our meetings, we encouraged each other to write one-page narrative reflections on our classroom experiences. As we

shared our interests and concerns, we discussed and honed our philoso-
phies and collected our experiences around us like warm blankets against
the elemental forces of pacing guides and standardized tests.

When Barbara Michalove, a colleague in the Clarke County Schools,
JoBeth Allen, and I first began our research collaboration (Allen,
Michalove, & Shockley, 1993), we faced a rather amorphous challenge.
The school faculty had decided to focus their collective interest on
reducing the retention rate and making school a more successful
experience for all students. In conjunction with this schoolwide mission,
JoBeth, Barbara, and I posed our initial question: "What are the effects
of whole language instruction on the children we worry about the most?"
Just deciding who those "most worried about" children were was much
more difficult than we originally presumed. As teachers we worried about
all our children in one way or another. Learning to limit ourselves to a
manageable number of students was an effort that took time and focus
but eventually led us to broader issues.

In the beginning, Barbara and I as classroom teachers could not imagine
how we were going to do research at the same time we were meeting
our responsibilities as teachers. To be honest, JoBeth's freedom to record
dialogues and observations without the added encumbrances of constant
monitoring and teaching made us a bit jealous. When we saw her detailed
observational notes, it challenged us to make manageable and meaningful
adaptations in order to participate effectively as active researchers. Slowly
we developed our own workable systems for learning with and from our
students. Writing in our teaching journals, keeping anecdotal notes that
landed on our desks until we had time to claim them after school, and
collecting samples of children's literacy became part of our natural
classroom life. We also designed ways for more authentic forms of
assessment, such as informal reading inventories, to become more
integrated with practice. In effect, we learned to look for artifacts and
other data sources within the "dailiness" of our school day. Bettina
Aptheker (1989) helped me understand the importance of this kind of
work when she wrote about the issue from a feminist standpoint:

> The search for dailiness is a method of work that allows us to take the
> patterns women [teachers] create and the meanings women [teachers] in-
> vent and learn from them. If we map what we learn, connecting one mean-
> ing or invention to another, we begin to lay out a different way of seeing
> reality. (p. 86)

We also learned how to make analysis enjoyable by meeting for dinners
away from school where we shared writings about specific children, events,
and insights. We set aside time in the summers to write away from the
demands of family and work. This concentrated time for transferring our
data and analysis into focused writing was crucial.

It did not take long for us, however, to recognize how our efforts
informed our practice. Our decision making became grounded in class-
room events, supported by insights we were able to gain from JoBeth's
transcripts of what she saw occurring in our classrooms along with our
own systematic data-collection procedures. In our efforts to document,
we were constantly calling the unconscious into view by searching for
patterns in our work and in our students' efforts. As teachers we do not
often realize the far-reaching possibilities of our daily efforts. Accepting
and finding explicit outlets for the taken-for-granted-knowledge (Collins,
1991) of teachers is an important aspect of our work.

Becoming a teacher-researcher is both a self-appointment and a proc-
ess. On a long drive back to Georgia from the International Reading
Association's conference in Orlando, JoBeth, Barbara, and I began to
discuss future research projects. Barbara was very interested in continuing
to develop work I had initiated with students and their families. She
wanted to see what it might look like in second grade with older children.
We were excitedly making our plans when JoBeth, our model and mentor
asked, "Is there a place in this research for me?" Suddenly we realized
that we, as classroom researchers, had taken the lead and accepted the
constancy of research in our own professional lives. It was now a part of
our organic whole of being a teacher.

As teachers struggle for self-defined standpoints, I hope for broader
appreciation in the research community for their ways of knowing and
sharing that knowing. What we write as teacher-researchers matters. How
we write should represent our own personal configurations of reality.
Recently when introduced as a published teacher-researcher to a univer-
sity researcher, I was immediately challenged by this person as to whether
I had "written up my work in that Heinemann way or like real research."
Devaluing the representations of knowledge as a result of the perceived
sophistication of the written reporting seems contrary to the spirit of a
learning community. Nancie Atwell (1991) had concerns about this issue
too: "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 theory" (p. xvi).

In a recent television interview, Maya Angelou said, "Anybody can
learn at a certain level. Deeptalk is the challenge." This too becomes a
challenge for us as teacher-researchers—to talk deeply among and be-
tween ourselves and the educators of the academies and to find mean-
ingful homes for all our words. I see this acceptance as also potentially
organic and essential to the whole of research. Without mutual respect
and opportunities for co-informing, we continue to write only pieces of
a shared story. The "deepstory" continues to elude us. Alice Walker (1983)
continued this idea:

I believe that the truth about any subject only comes when all sides of the story are put together, and all their different meanings make one new one. Each writer writes the missing parts to the other writer's story. And the whole story is what I'm after. (p. 49)

As we participate in the construction of an epistemology based on respectful coalition and dialogue, I hope we accept and appreciate the wisdoms both of teachers and of academicians and see each as an essential part of the organic whole of the research story.

## FEMINIST SCHOLARSHIP
*Donna E. Alvermann*

A cornerstone of feminist scholarship is the belief that the purpose of research is to change the world, not simply study it (Stanley, 1990). Working from this perspective, I focus on three characteristics of feminist scholarship as a mode of inquiry in which self-reflection and action lead to change. But first a brief description of the multidisciplinary nature of feminist scholarship and its entry into literacy research circles is in order.

### Multidisciplinary Feminist Scholarship and Literacy Research

Across a diverse number of disciplines such as psychology, sociology, anthropology, and primatology, feminist researchers have demonstrated repeatedly how their scholarship is linked to social and political change (Reinharz, 1992). For example, in psychology, feminist scholar Michelle Fine (1985) conducted research that broke the silence surrounding the New York City Board of Education's exclusionary policies, many of which resulted in large numbers of urban minority students being pushed out or dropping out of school. Fine (1992) also documented how the concepts of *merit, choice,* and *tradition* are frequently used in litigation to gloss over the exclusion of some high school students for the so-called "common good" of others. In the field of sociology, feminist scholar Sara Delamont (1983) wrote about classroom bargaining processes in which students challenge their teachers' definition of what counts as knowledge and who should control it. Like Fine, Delamont conducted research aimed at disrupting or changing taken-for-granted power inequities and vested interests.

Feminist scholarship has captured the attention of literacy researchers only recently. For instance, Patti Lather (1988) published an article on research methodologies that empower women; Lorri Neilsen (1993) presented a paper on women as agents of their own literacy; Vivian Gadsden (1993) reported on intergenerational literacy among women; and Sandra

Hollingsworth (1992) wrote on literacy teacher education from a feminist perspective. My own research (Alvermann, 1993) has been influenced by these scholars and by feminist philosopher Sandra Harding (1987, 1991), whose thinking and writing on the methodological issues in feminist research provide the focus for this discussion.

### Method or Methodology?

The question of whether or not there is a method of inquiry that is distinctive to feminist scholarship is one of the most frequently addressed topics in feminist research literature. Most writers, including Stanley (1990), Fine (1992), and Harding (1987), have argued against such a notion. Harding does so on the grounds that a preoccupation with the method for gathering data—whether it be interviewing, observing, examining artifacts, and the like—tends to obscure the more distinctive and interesting characteristics of feminist scholarship. According to Harding, feminist scholarship involves (a) using women's everyday experiences as the resources for analysis and theory building, (b) conducting research *for* women so that partial and distorted claims *about* women from earlier research traditions can be corrected, and (c) locating the researcher in the same critical perspective as the researched. Harding has argued that these characteristics, discussed more in detail later, can be thought of as the methodological underpinnings of feminist scholarship because they provide guidance in how to apply general theories of knowledge and analysis to research on women.

*Women's Everyday Experiences.*  The first thing to note about using women's everyday experiences as the basis for feminist research is that the plural form of the word *woman*, not the singular, is used. This is done to signify that women's experiences cannot be generalized, or as Harding (1987) expressed it, "women come . . . in different classes, races, and cultures . . . [which means that] there is no 'woman' and no 'woman's' experience" (p. 7). This thinking also explains why contemporary feminist scholars prefer the term *feminisms* to the singular form of the word. But women's experiences also vary within the individual, in the sense that interests, identities, and desires differ, and it is the fragmented and contradictory nature of these different experiences that provides the bases for feminist research projects. Although the projects themselves may vary in terms of the questions women ask, their queries invariably address the need for changes in conditions that they see as impeding their personal freedom and development (Smith, 1987).

A study by Jody Cohen (1993) provides an example of how research that uses women's everyday experiences can be a starting point for effecting changes. Cohen explored how high school students view male

aggression toward women. After reading a news magazine article about the alleged rape committed by boxing champion Mike Tyson, students in an urban high school began to question their assumptions about male aggression and female victimization. They tried out opposing stances in which the aggressor was viewed as the victim, and the victim became the aggressor. By helping students begin to deconstruct a controversial topic, such as the alleged rape, the teacher in Cohen's study was able to create safe spaces for them to exercise their own authority as readers. At the same time, she enabled students to question a text (in this instance, the news magazine article) that relegates males and females to stereotypical and gendered positions.

*Research for Women.* The second characteristic of feminist scholarship is the recognition that individuals experience the world through filters that are colored by their own personal histories. This observation holds true for males as well as for females, although it is the latter who are of interest here. From the time they are little girls through their adult lives, women "are taught to think as men, to identify with a male point of view, and to accept as normal and legitimate a male system of values" (Fetterley, 1978, p. xx). The tendency to view the world from a male perspective is played out in many ways, including the way females interact with males in classroom discussions of assigned textbook readings.

For example, in reflecting on our own research on text-based discussions, Michelle Commeyras and I have identified numerous instances in which we overlooked gendered discursive practices (e.g., allowing male students to interrupt female students repeatedly) that relegated females to passive roles or supported stereotyping by sex because on first glance these practices appeared "natural" or irrelevant to the research questions we asked (Alvermann & Commeyras, 1994). My own growing awareness of the inequalities in classroom talk about texts was heightened recently as a result of reading a study by the American Association of University Women (1992) on how schools shortchange girls. That study, with its report of how female students are called on less frequently than their male counterparts and are rewarded more often for compliance than for critical thinking, was instrumental in shaping my current research agenda. Presently, I am engaged in a year-long study designed to help young adolescent girls interrupt the discursive practices—those deeply ingrained beliefs and attitudes about "natural" or appropriate role identities—that conspire to silence their participation in class discussions and ultimately their voices as adult women.

*Locating the Researcher and the Researched.* The third characteristic of feminist scholarship is its insistence that as researchers we subject ourselves to the same critical scrutiny as the individuals we research. To

suggest that we can distance ourselves from the political and personal in the research projects we create is to attempt what feminist primatologist Donna Haraway (1988) caricatures as the "God trick . . . that mode of seeing that pretends to offer a vision that is from everywhere and nowhere, equally and fully" (p. 584).

Achieving equity between the researcher and the researched involves two separate decisions. One is the decision to "study up" rather than "study down." The other is the decision to reveal how our personal histories (gender, race, ethnicity, class, beliefs, and actions) may shape a research project and its outcomes.

Studying up and studying down are descriptors that refer to the hierarchical and unequal status in research arrangements (Harding, 1987). When we study ourselves and those in authority over us, we are said to be studying up. In contrast, when we study those whom we traditionally have assumed it was our prerogative or duty to study because of their place in the educational hierarchy, we are said to be studying down. For example, JoBeth Allen and her colleagues (Allen, Buchanan, Edelsky, & Norton, 1992) noted the tendency for university-based literacy researchers to study down. More often than not, professors study their students; it is rare indeed that they study themselves or someone in authority over them.

However, this hierarchical pecking order in educational research was reversed in Sandra Hollingsworth's (1992) study of learning to teach through collaborative conversation. In her 3½-year longitudinal study, preservice and beginning teachers found themselves in the curious position of being able to critique what Hollingsworth, a former public school teacher and the group's reading methods instructor, assumed to be appropriate instruction and grist for discussion. As Hollingsworth and the seven preservice and beginning elementary school teachers began to take a more critical and feminist approach to studying themselves, the agenda for their weekly conversations was opened up to include issues involving cultural diversity, classroom relationships, power, and professional voice. It was only after the teachers had numerous opportunities to vent their frustrations and to learn from one another about teaching in general that they were ready to consider Hollingsworth's original agenda, the study of reading and literacy instruction.

The decision to reveal relevant aspects of our own personal histories need not take on the magnitude of a full-blown confessional. Instead, as Harding (1987) pointed out, what is called for is simply an openness that acknowledges how unexamined assumptions and beliefs influence data-collection procedures and the outcomes of our analyses. In my own case, this need for conscious reflexivity helps me to avoid focusing so much on the individuals I study that I fail to examine how my personal history (European American female from a working-class family, a political activist

in the 1960s and 1970s, a university researcher with current interests in feminist pedagogy) shapes what I observe and ultimately infer from the data I gather. In the case of Sandra Hollingsworth, it was a matter of her becoming conscious of the fact that her desire to focus the teachers' conversations on literacy instruction was premature and leading to resistance on the part of the group. Finally, in both cases, by simply acknowledging that we are "the shapers of the very contexts we study" (Fine, 1992, p. 208), it is possible to avoid the pretense that literacy research can be either innocent or neutral (Harste, 1992). As Harding (1987, p. 182) argued, feminist inquiry is politically oriented and not the "value-neutral, objective, dispassionate" knowledge-seeking enterprise that is commonly accepted as scientific. (See Harding, 1991, for an extended treatise on how politicized inquiry actually increases the objectivity of the inquiry process.)

In summary, feminist scholarship focuses on change. What makes it research rather than mere rhetoric is the attention given to documenting and analyzing in a systematic manner those theories of knowledge and being in the world that shape all modes of inquiry, whether acknowledged or unacknowledged. Therein lies the rationale for asking questions about what is worth knowing (are women's experiences?), who should benefit from research on women, and how much of the research process should be open to scrutiny.

## THE PEDAGOGICAL EXPERIMENT:
## A QUANTITATIVE ANALYSIS EXEMPLAR
*James F. Baumann*

It is impossible to address the full range of issues associated with quantitative research in literacy within a short chapter section. Thus, I have chosen to sacrifice breadth for depth by discussing a few salient issues involved with doing and interpreting *one type* of quantitative research, the pedagogical experiment. I do so by describing and evaluating an experimental study in which I participated. I begin by providing some basic definitions, followed by a discussion of the salient issues; I conclude with some comments about the place of quantitative research within the broad array of educational research methods.

### Definitions

*Quantitative research methods* generally involve theory or hypothesis testing, sampling procedures designed to enhance generalizability, systematic measurement of concrete data sources, statistical analyses or mathematical models, and procedures amenable to replication by other researchers

(Linn, 1986; Shulman, 1988). Quantitative methods are typically subdivided into two strands: correlational studies and experimental studies. In *correlational studies*, researchers look for relationships between or among variables. A limitation of correlational studies is that one cannot make distinct claims about causation.

In contrast, in *experimental studies*, researchers directly manipulate variables, called *independent variables*, in order to ascertain causal relationships. Experimental studies occur in many fields, for example, in agriculture in which several types of fertilizers might be compared for their relative effectiveness in enhancing crop yields. A pedagogical experiment is an educational experiment in which, assuming specific experimental conditions are met, a researcher can test a hypothesis by providing differential instruction to groups of students and then measuring the effects on various quantitative measures. These postinstruction measurements are called *dependent variables*. Depending on the results of the experiment, a researcher may be able to make limited claims about causal factors. However, as I try to demonstrate, making suggestions about causation is not quite as simple and straightforward as it may seem.

### Salient Issues

Several years ago, Nancy Seifert-Kessell, Leah Jones, and I noticed that a number of researchers and writers had suggested that having readers "think aloud" as they read (i.e., relating orally the mental processes they are using while trying to puzzle out a text) would be an effective means to promote comprehension monitoring. We agreed that thinking aloud was a potentially powerful instructional technique, but we could find little research evaluating its efficacy. So we designed a quantitative, experimental study to test this claim (Baumann, Seifert-Kessell, & Jones, 1992).

In this study, we taught one group of fourth-grade students a variety of comprehension monitoring and fix-up strategies (e.g., self-questioning, retelling, and rereading and reading on) through the think-aloud technique (TA group), and they applied the strategies when reading realistic fiction stories (for details see Baumann, Jones, & Seifert-Kessell, 1993). Students in a second group read the same stories according to the directed reading–thinking activity (DRTA group), which involved heavy emphasis on predicting and verifying. Students in a third group read the same stories according to the directed reading activity (DRA group), which involved introducing new vocabulary, activating or providing background knowledge, and guiding the students' reading of the selection through questioning.

The design we selected for our experiment was the pretest–posttest control group design (Campbell & Stanley, 1963). It is a "true" experi-

mental design in that it requires that participants be randomly assigned to experimental and control groups. Random assignment ensures that all participants have an equal chance of being placed in experimental and control conditions, thus enabling a researcher to argue that any group differences were due to the effect of the independent variable rather than extraneous variables. Fortunately, the fourth-grade teachers in the school where we conducted the study allowed us to randomly assign students to groups because they worked in an open classroom area and mixed the children regularly for instruction.

However, random assignment is more likely the exception rather than the norm in pedagogical experiments. When random assignment is not possible, the study enters the realm of the *quasi-experiment* (Cook & Campbell, 1979), in which researchers work with intact groups, usually entire classrooms. In quasi-experiments, it can be argued that results may have been due to pre-experimental group differences rather than differences in the kinds of instruction provided. That does not mean that quasi-experiments are inappropriate or unacceptable; it just means that they have certain limitations.

Returning to the think-aloud study, the TA group was our primary experimental group, for it allowed us to determine if thinking aloud could enhance comprehension monitoring; however, the DRTA and DRA comparison groups were chosen carefully. The DRTA was selected because the research literature suggested that intensive predicting and verifying might also promote comprehension monitoring. Therefore, the DRTA, a kind of second experimental group, enabled us to evaluate the efficiency of the TA strategy relative to another approach that might also promote comprehension monitoring. The DRA group was our basic control group, for it did not contain elements that the research literature suggested would promote comprehension monitoring.

We attempted to make the experience for students in all three groups the same except for the nature of the instruction we provided, that is, the independent variable. The process of trying to eliminate confounding factors that could result in rival hypotheses other than the independent variable involves a researcher's attempt to heighten *internal validity*. Specifically, to enhance internal validity, we provided all groups equivalent amounts of instructional time; we used authentic educational strategies for all groups; we used identical instructional materials in all groups (i.e., all children read and responded to the same stories); we had observers make certain that the three experimenters provided instruction consistent with each treatment group and that we did not favor one group over the other; and the like. In short, we did everything possible to eliminate counterarguments to explain any postexperimental group differences beyond group membership. The more experimenters can eliminate or mini-

mize threats to internal validity, the more researchers can argue that the independent variable was responsible for or influenced any measured group differences on the dependent variables. Thus, an acceptable level of internal validity is a necessary condition for any pedagogical experiment to be illuminating.

However, internal validity is not a sufficient condition for a pedagogical experiment to be practically useful. To be useful, experiments must also demonstrate acceptable levels of *external validity*, which "asks the question of *generalizability*: To what populations, settings, treatment variables, and measurement variables can this effect be generalized?" (Campbell & Stanley, 1963, p. 5). Reasonably high levels of external validity, which is sometimes referred to as *ecological validity* (Bronfenbrenner, 1976), allow a researcher to argue that the results of a study apply to other educational settings.

In our think-aloud study, we were interested in generalizing the results to reading instructional settings in elementary classrooms. Therefore, we conducted our experiment in regular classrooms with whole classes of students; we used the reading instructional materials commonly used in elementary classrooms; we provided the instruction during the regularly scheduled reading period; and so forth. As a result, our external validity was reasonably high, although there were some limits to it, which we noted in our research report (Baumann et al., 1992). For example, a significant limitation of our study was that the instruction was provided by us, the researchers, rather than the children's regular classroom teachers. Thus, we could not argue that classroom teachers would necessarily get the same results we did.

There is an inevitable trade-off between internal and external validity. For example, by having the three of us provide all instruction, we were perhaps able to be more consistent in the manner in which the lessons were taught, thus enhancing internal validity. However, this simultaneously limited our external validity, for consumers of our research could legitimately ask if the same results would have been attained had regular classroom teachers provided the instruction.

The tension between internal and external validity, although perhaps unavoidable, can be ameliorated by having researchers conduct a series of experiments. Early studies in a line of inquiry might be more of a "laboratory" nature in which procedures are highly controlled, enhancing internal validity but compromising external validity. After researchers are confident they are able to demonstrate a consistent finding in a more controlled setting (e.g., working individually or with small groups of children in a supervised university reading practicum), they could extend their studies to more naturalistic environments, thus enhancing the external validity of their findings.

Similarly, replication can move experimental studies to higher levels of generalizability. For example, I had conducted a study in which I evaluated the effectiveness of main idea comprehension instruction with sixth-grade students (Baumann, 1984), and this study had some definite limits to its external validity. Later Reutzel, Hollingsworth, and Daines (1988) conducted a modified replication of my study with a group of first-grade children, altering the procedures and content of instruction to enhance generalizability, but finding instructional effects similar to those I had reported. This replication suggested not only that my original findings were plausible but also that my instructional procedures were generalizable to a different grade level and demographic environment.

## A Context for Quantitative Analysis

Quantitative methods, such as the pedagogical experiment, provide researchers just *one* means to address specific types of research questions. Questions that call for comparisons among instructional techniques, such as our think-aloud study, are well suited for a quantitative, experimental framework (Porter, 1988). However, there might be other viable ways to explore the same research question. For example, the formative experiment (Newman, 1990) provides an alternate means to investigate the efficacy of instructional innovations in classrooms (see Reinking's following discussion of formative experiments). Further, some research questions are simply incompatible with quantitative methods. For example, questions that seek to understand and describe the social or cultural aspects of classroom life cannot be answered through quantitative methods and instead typically require interpretive or qualitative methods (see Dillon's earlier section of this chapter).

However, I would argue that even when quantitative methods are appropriate for a given research question, they need not be employed as an *exclusive* research methodology; rather, they might be used in conjunction with other methods. For example, in the think-aloud study, in addition to the various quantitative measures we administered to all children to evaluate their comprehension monitoring ability (e.g., students responded to an error-detection task, a comprehension-monitoring questionnaire, and a measure of global text coherence), we also conducted in-depth student interviews, a form of qualitative measure. In the interviews, students demonstrated their ability to think aloud while reading a story, and we asked them to describe the strategies they were using to puzzle out the text. The interview data were powerful in reinforcing and extending the information we obtained from the quantitative measures, providing us new insights into the effect of the think-aloud instruction and comparison strategies. Thus, I believe that adding qualitative dimensions to a fundamentally quantitative study can provide illuminating information.

Finally, quantitative methods can lead to or from other research methods. For example, I collaborated with two fifth-grade teachers, Patricia White and Helene Hooten, to extend this line of comprehension instruction research (Baumann, White, & Hooten, 1994). Our question in this study was not to evaluate whether teacher-led comprehension instruction works: We felt fairly confident that it does. Rather, our question involved identifying effective ways to integrate comprehension strategy instruction into teachers' existing language arts curricula. Given this question, we conducted a formative experiment situated in Pat's and Helene's classrooms. Likewise, I can envision qualitative studies that could lead to quantitative studies and vice versa. The point is that quantitative research methods present just one, albeit imperfect, approach to deal with the complex world of educational research. As Shulman (1988) stated, "The best research programs will reflect intelligent deployment of a diversity of research methods applied to their appropriate research questions" (p. 16). That is simple but challenging advice indeed.

## FORMATIVE EXPERIMENTS
*David Reinking*

In this section I discuss a new approach to educational research referred to as a *formative experiment*. A formative experiment is designed (a) to evaluate what factors in classrooms enhance or inhibit an instructional intervention's effectiveness in achieving a valued pedagogical goal, and (b) to determine how the intervention might be adapted in light of these factors to achieve that goal more effectively.

It is important to note that a section on formative experiments cannot yet be found in textbooks on educational research. The concept of a formative experiment was first proposed by Newman (1990) in an article published in the *Educational Researcher*, in which he provided a rationale for his approach to studying a computer-based intervention in several classrooms. In a project funded through the NRRC, my colleagues and I (Reinking & Pickle, 1993) have followed Newman's approach to study how computer-based multimedia book reviews created by middle grade students might increase their independent reading. These two examples may comprise the literature on formative experiments for the time being.

Our NRRC study has led us to see how formative experiments facilitate understandings and insights not readily provided by more conventional approaches to research. Based on our experience, we believe that the concept of a formative experiment merits consideration among those interested in studying the acquisition of literacy in schools. Our thinking about formative experiments is evolving. Thus, what I present here is a

personal reflection drawn from our experience rather than a definitive exposition based on a well-established literature.

## How Formative Experiments Differ From Conventional Research Studies

Formative experiments address different questions from those addressed by traditional experimental (quantitative) and qualitative studies. For example, given our research team's interest, the question guiding an experimental study might have been, "How does the use of multimedia book reviews compare to some other classroom activity aimed at increasing independent reading?" The scientific method guiding this approach dictates that it is necessary to isolate a small set of variables for study while attempting to control other variables that may confound results (see Baumann's section in this chapter). However, such control is difficult given the many interacting variables in classrooms, any one of which may profoundly affect the results of instruction.

A qualitative study, on the other hand, might address the question, "What is the nature of students' reading in a classroom using multimedia book reviews?" Qualitative studies do not set out to control particular variables but instead allow them to vary freely (see Dillon's section in this chapter). The researcher's task is to determine what factors are most relevant in explaining some aspect of classroom life, and qualitative studies are aimed more at determining what is rather than what might be (Salomon, 1991).

In contrast to these two established approaches to research, a formative experiment addresses a different type of question, which in our study, was: "Given a pedagogical rationale for believing that multimedia book reviews have potential to meet the goal of increasing independent reading, how must this activity be implemented in a particular classroom in order to achieve its stated goal?" According to Newman (1990), "in a formative experiment, the researcher sets a pedagogical goal and finds out what it takes in terms of materials, organization, or changes in . . . technology to reach the goal" (p. 10). Unlike a traditional experimental study, the intervention and the way it is implemented may be *adapted* during a formative experiment as deemed necessary to increase its effectiveness in achieving the goal.

## A Framework for Designing and Conducting Formative Experiments

Drawing on Newman's (1990) article and my NRRC study, I believe that six questions can serve as a framework for designing and conducting formative experiments. The first two are designed to connect an instruc-

tional intervention with a pedagogical theory. The remaining four questions guide the collection, analysis, and interpretation of data. To elaborate on these questions, I continue to use our multimedia book review project as an example.

*What Is the Pedagogical Goal, and What Theory Establishes Its Value?* The focal point for a formative experiment is a clearly stated pedagogical goal toward which a classroom intervention is aimed. It is not enough to claim that the goal is generally accepted as worthwhile. Instead, the researcher must connect the goal to a pedagogical theory and to relevant research. For example, a researcher might justify the goal of increasing independent reading by connecting it to the research literature indicating gains in reading ability through increased personal reading. In one sense, a formative experiment tests the viability of a pedagogical theory by carrying out classroom interventions hypothesized to achieve goals assumed by the theory. Making explicit connections between theory and research is one way that a formative experiment is distinguished from what instructional designers refer to as *formative evaluation* (see Flagg, 1990).

*What Classroom Intervention Has Potential to Achieve the Pedagogical Goal?* The intervention to be studied will be selected based on the researcher's orientation and interests. The classroom intervention might be one that is acknowledged in the literature and perhaps widely used in practice, or it might be an original intervention that the researcher can justify as having the potential to address the pedagogical goal. Our work on the NRRC project illustrates the latter instance: It is a novel use of computer technology that has the potential to increase independent reading, but it has not yet been supported by published research.

Data collection in a formative experiment is designed to determine whether the intervention is succeeding, why the intervention is or is not being successful, how its implementation can be improved, what unanticipated effects it may be having, and how the instructional environment is changed as a result of the intervention.

*What Factors Enhance or Inhibit the Effectiveness of the Intervention in Achieving the Pedagogical Goal?* At least three areas of data collection are necessary to address this question. First, data must be gathered to establish a baseline from which progress toward the pedagogical goal can be determined. For example, in our NRRC study we collected data about students' level of independent reading prior to introducing the computer-based activities. A second area of data collection involves monitoring the success of the intervention (e.g., whether the amount of students' reading was increased or decreased in our study). A third area

of data collection involves examining the instructional context to determine what factors are clearly affecting the intervention's success or failure in moving toward the pedagogical goal. The data collected in each of these three areas can be quantitative or qualitative. However, given that in formative experiments the total environment in which the intervention takes place is the unit of analysis—what Salomon (1991) termed *systemic* as opposed to *analytic* research—formative experiments are likely to require the collection and analysis of qualitative data.

*How Can the Intervention Be Modified to Achieve the Pedagogical Goal More Effectively?* This question represents the most distinctive feature of a formative experiment. It also suggests that formative experiments are suited best for long-term interventions that can accommodate ongoing revision. The initial form of the intervention is considered a first draft that is continually refined in response to continued data collection. For example, observations and interviews in our NRRC study indicated that several poor readers were reluctant to create multimedia book reviews because the books they were reading were well below grade level, a fact they wished to avoid publicizing to their better-reading peers. This discovery led to a relatively minor, but effective, adjustment: The teacher expressed her hope that some students would read and enter books for younger readers who were eventually going to use the computer to find book reviews they might like to read. This example also points to the fact that successful revisions of the intervention depend on teachers' input and cooperation.

*What Unanticipated Positive or Negative Effects Does the Intervention Produce?* The open-endedness of data collection in formative experiments invites a search for effects not directly related to the pedagogical goal. For example, in the multimedia book review project, we discovered that the intervention had a positive influence on students' writing, even though the pedagogical goal focused on encouraging independent reading. Also, parent volunteers were recruited to help when it was clear that the teacher could not adequately assist all of the students in the computer lab. Parental involvement had notable effects that had not been anticipated, and this finding would likely be useful to others who wished to implement this intervention in their schools.

*Has the Instructional Environment Changed as a Result of the Intervention?* The purpose of this question is to consider whether students, teachers, administrators, and others have changed as a result of the formative experiment. In other words, as a result of the intervention, do students view reading differently? Does the teacher conceptualize

literacy instruction differently? Will the teacher continue to use the intervention after the end of the experiment? Have activities related to the intervention influenced other areas of the curriculum? All of these questions relate to changes that might be connected to the intervention. Evidence for such changes is sought in a formative experiment. For example, one teacher in the multimedia book review project used her newly acquired knowledge of computing to design other computer-based activities for her students.

## What Could Formative Experiments Add to Literacy Research?

Formative experiments complement more conventional approaches to literacy research by providing insights and understandings about the practical dimensions of implementing instructional interventions. Conventional experimental designs answer questions about the relative effectiveness of an instructional intervention when all but a few specific variables are presumed to be equal. However, the findings from such studies may be only marginally useful when applied to a particular classroom. Formative experiments, on the other hand, investigate how an instructional intervention operates given the inherent complexity of educational environments. Further, unlike qualitative studies, formative experiments involve studying the effects of a change or intervention in a complex educational environment as well as how the intervention can be adapted to achieve a valued pedagogical goal.

Formative experiments provide one response to the soul searching that has been evident among literacy researchers (e.g., Alvermann, 1993; Baumann, 1993; Reinking & Pickle, 1993) and within the entire educational research community. For example, more than a decade ago Robert Ebel (1982), as president of the American Educational Research Association, argued that, "Education is not in need of research to find out how it works. It is in need of creative invention to make it work better" (p. 18). Likewise, formative experiments respond to calls for more naturalistic inquiry into how literacy is cultivated in classrooms and for research that can directly effect improvements in instruction (Barr, 1986). Also, they respond to calls for close collaborative ties between university professors and classroom teachers (see Allen et al., 1992; Anders, chap. 12, this volume).

In the end, perhaps the major advantage of formative experiments is that they are simply a matter of applying rigorous data collection and analysis techniques to the process of successful teaching, what Schon (1987) called *reflection in action*. That is, a researcher conducting a formative experiment is investigating what seems to work in a classroom, why it works, what might make it work better, and what general principles

might enable it to work again in a different classroom. Newman, Griffin, and Cole (1989) stated that "the study of how educational interventions work can never be far removed from the task of engineering them to work better" (p. 147). Formative experiments seem to operationalize in a single mode of research this connection between studying instructional interventions and making them work. Thus, they merit serious consideration as a new approach to literacy research.

## CONCLUSION

As colleagues at the NRRC, we are united in our quest to understand, learn about, and learn from the participants and contexts of engaged literacy teaching and learning in schools, homes, and communities. However, in reflecting on our writing, we are struck by the diversity that exists among us with respect to the multiple disciplines, methods, and perspectives we possess and espouse toward literacy research. Our research orientations and experiences are indeed different.

Further, we find ourselves growing in our research perspectives. Some of us have challenged long-held beliefs, tried on new perspectives for size and comfort, discarded some, and affirmed others. Although we all do not fully embrace one another's research orientations, and in fact have had some spirited debates about the merits and demerits of the research paradigms we have employed and written about here, we respect and value the diversity that exists among us. For it is through our multiple viewpoints and beliefs that we hope to come to a better collective understanding of the complexities of children's and adolescents' acquisition of reading and writing. We hope that readers of this chapter will appreciate if not share our valuing of diversity, tolerance, and growth in perspectives for literacy research.

## REFERENCES[1]

Allen, JoBeth, Buchanan, Judy, Edelsky, Carol, & Norton, Gloria. (1992). Teachers as "they" at NRC: An invitation to enter the dialogue on the ethics of collaborative and non-collaborative classroom research. In Charles K. Kinzer & Donald J. Leu (Eds.), *Literacy research, theory, and practice: Views from many perspectives* (pp. 357–365). Chicago: National Reading Conference.

[1]When preparing her portion of this chapter, Alvermann asked that full first names be included in references for her section because "it is standard feminist practice to use the full names of female and male authors in order to avoid the vague and impersonal use of initials, which masks the identity of both sexes." To honor this request and to have consistency in reference format, all references for this chapter include full first names of authors and coauthors.

Allen, JoBeth, Michalove, Barbara, & Shockley, Betty. (1993). *Engaging children: Community and chaos in the lives of young literacy learners*. Portsmouth, NH: Heinemann.

Allen, JoBeth, Shockley, Betty, & Baumann, James F. (1995). Gathering 'round the kitchen table: Teacher inquiry in the NRRC School Research Consortium. *The Reading Teacher, 48*, 526–529.

Alvermann, Donna E. (1993). Researching the literal: Of muted voices, second texts, and cultural representations. In Donald J. Leu & Charles K. Kinzer (Eds.), *Examining central issues in literacy research, theory, and practice* (pp. 1–10). Chicago: National Reading Conference.

Alvermann, Donna E., & Commeyras, Michelle. (1994). Gender, text, and discussion: Expanding the possibilities. In Ruth Garner & Patricia Alexander (Eds.), *Beliefs about text and about instruction with text* (pp. 183–199). Hillsdale, NJ: Lawrence Erlbaum Associates.

Alvermann, Donna E., & Dillon, Deborah R. (1991). Ways of knowing are ways of seeing: A response to Roller. *Reading Research Quarterly, 26*, 329–333.

American Association of University Women. (1992). *How schools shortchange girls: The AAUW report*. Washington, DC: Author.

Aptheker, Bettina. (1989). Tapestries of life. In Alison M. Jaggar & Paula S. Rothenberg (Eds.), *Feminist frameworks: Alternative theoretical accounts of the relations between women and men* (3rd ed., pp. 85–93). New York: McGraw-Hill.

Atwell, Nancie. (1991). *Side by side*. Portsmouth, NH: Heinemann.

Barr, Rebecca. (1986). Studying classroom reading instruction. *Reading Research Quarterly, 21*, 231–236.

Baumann, James F. (1984). The effectiveness of a direct instruction paradigm for teaching main idea comprehension. *Reading Research Quarterly, 20*, 95–115.

Baumann, James F. (1993, February). *The trend toward school-based, teacher-initiated, and qualitative research: Where does experimental research (and an experimental researcher) fit in?* Presentation at the "Developing Engaged Readers in Home and School Communities" Conference, National Reading Research Center, Athens, GA.

Baumann, James F., Jones, Leah A., & Seifert-Kessell, Nancy. (1993). Using think alouds to enhance children's comprehension monitoring abilities. *The Reading Teacher, 47*, 184–193.

Baumann, James F., Seifert-Kessell, Nancy, & Jones, Leah A. (1992). Effect of think-aloud instruction on elementary students' comprehension monitoring abilities. *Journal of Reading Behavior, 24*, 143–172.

Baumann, James F., White, Patricia, & Hooten, Helene. (1994, May). *Teaching comprehension strategies with trade books: A collaborative study in two fifth-grade classrooms*. Paper presented at Reading Research '94: Implications for Policy and Practice—the Work of the Major Literacy Research Centers, Toronto, Canada.

Benedict, Ruth (1934). *Patterns of culture*. Boston, MA: Houghton Mifflin.

Bronfenbrenner, Urie. (1976). The experimental ecology of education. *Educational Researcher, 5*, 5–15.

Campbell, Donald T., & Stanley, Julian C. (1963). *Experimental and quasi-experimental designs for research*. Chicago: Rand McNally.

Cohen, Jody C. (1993, April). *Trashfires and the text: Readings in urban classrooms*. Paper presented at the annual meeting of the American Educational Research Association, Atlanta, GA.

Collins, Patricia Hill. (1991). *Black feminist thought*. New York: Routledge.

Cook, Thomas D., & Campbell, Donald T. (1979). *Quasi-experimentation: Design and analysis issues for field settings*. Chicago: Rand McNally.

Delamont, Sara. (1983). *Interaction in the classroom* (2nd ed.). London: Methuen.

Dillon, Deborah R. (1989). Showing them that I want them to learn and that I care about who they are: A microethnography of the social organization of a secondary low-track English-reading classroom. *American Educational Research Journal, 26*, 227–259.

Dillon, Deborah R., O'Brien, David G., Moje, Elizabeth B., & Stewart, Roger A. (1994). Literacy learning in secondary school science classrooms: A cross-case analysis of three qualitative studies. *Journal of Science Teaching, 31*(4), 345–362.

Ebel, Robert. (1982). The future of educational research. *Educational Researcher, 22*(7), 5–11.

Eisenhart, Margaret, & Borko, Hilda. (1993). *Designing classroom research: Themes, issues, and struggles.* Boston: Allyn & Bacon.

Erickson, Fredrick. (1986). Qualitative methods in research on teaching. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 119–161). New York: Macmillan.

Fetterley, Judith. (1978). *The resisting reader: A feminist approach to American fiction.* Bloomington: Indiana University Press.

Fine, Michelle. (1985). Dropping out of high school: An inside look. *Social Policy, 16,* 43–50.

Fine, Michelle. (1992). *Disruptive voices: The possibilities of feminist research.* Ann Arbor: University of Michigan Press.

Flagg, Barbara N. (1990). *Formative evaluation for educational technologies.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Fletcher, Ralph. (1993). *What a writer needs.* Portsmouth, NH: Heinemann.

Gadsden, Vivian. (1993, April). *Literacy and the intergenerational culture of women.* Paper presented at the annual meeting of the American Educational Research Association, Atlanta, GA.

Guba, Egon G. (1978). *Toward a methodology of naturalistic inquiry in educational evaluation* (CSE Monograph Series in Evaluation, No. 8). Los Angeles: University of California, Los Angeles, Center for the Study of Evaluation.

Haraway, Donna. (1988). Situated knowledges: The science question in feminism and the privilege of partial perspective. *Feminist Studies, 14,* 575–599.

Harding, Sandra. (1987). Introduction: Is there a feminist method? In Sandra Harding (Ed.), *Feminism & methodology* (pp. 1–14). Bloomington: Indiana University Press.

Harding, Sandra. (1991). *Whose science, whose knowledge: Thinking from women's lives.* Ithaca, NY: Cornell University Press.

Harste, Jerome C. (1992). Foreword. In Richard Beach, Judith L. Green, Michael L. Kamil, & Timothy Shanahan (Eds.), *Multidisciplinary perspectives on literacy research* (pp. ix–xiii). Urbana, IL: National Conference on Research in English and the National Council of Teachers of English.

Hitchcock, Graham, & Hughes, David (1989). *Research and the teacher: A qualitative introduction to school-based research.* New York: Routledge.

Hollingsworth, Sandra. (1992). Learning to teach through collaborative conversation: A feminist approach. *American Educational Research Journal, 29,* 373–404.

Jaeger, Richard M. (Ed.). (1988). *Complementary methods for research in education.* Washington, DC: American Educational Research Association.

Lather, Patti. (1988). Feminist perspectives on empowering research methodologies. *Women's Studies International Forum, 11,* 569–581.

LeCompte, Margaret D., & Preissle, Judith P. (with Tesh, Renata). (1993). *Ethnography and qualitative design in educational research* (2nd ed.). San Diego, CA: Academic Press.

Lincoln, Yvonna S., & Guba, Egon G. (1985). *Naturalistic inquiry.* Newbury Park, CA: Sage.

Linn, Robert L. (1986). Quantitative methods in research. In Merlin C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 92–118). New York: Macmillan.

Neilsen, Lorri. (1993). Women, literacy, and agency: Beyond the master narratives. *Atlantis, 18,* 177–189.

Newman, Denis. (1990). Opportunities for research on the organizational impact of school computers. *Educational Researcher, 19*(3), 8–13.

Newman, Denis, Griffin, Peg, & Cole, Michael. (1989). *The construction zone: Working for cognitive change in school.* Cambridge, England: Cambridge University Press.

Patton, Michael Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: Sage.

Peshkin, Alan. (1993). The goodness of qualitative research. *Educational Researcher, 22*(2), 23–29.

Porter, Andrew C. (1988). Comparative experiments in education. In Richard M. Jaeger (Ed.), *Complementary methods for research in education* (pp. 391–411). Washington, DC: American Educational Research Association.

Reinharz, Shulamit. (1992). *Feminist methods in social research.* New York: Oxford University Press.

Reinking, David, & Pickle, Michael. (1993). Using a formative experiment to study how computers affect reading and writing in classrooms. In Donald J. Leu & Charles K. Kinzer (Eds.), *Examining central issues in literacy research, theory, and practice* (pp. 263–270). Chicago: National Reading Conference.

Reutzel, Ray D., Hollingsworth, Paul M., & Daines, Delva. (1988). The effect of a direct instruction paradigm using dictated texts on beginning readers' main idea comprehension. *Reading Research and Instruction, 27*(4), 25–46.

Salomon, Gavriel. (1991). Transcending the qualitative-quantitative debate: The analytic and systemic approaches to educational research. *Educational Researcher, 20*(6), 10–18.

Schon, Donald A. (1987). *Educating the reflective practitioner.* San Francisco: Jossey-Bass.

Shockley, Betty. (1993). Extending the literate community: Reading and writing with families. *The New Advocate, 6,* 11–24.

Shulman, Lee S. (1988). Disciplines of inquiry in education: An overview. In Richard M. Jaeger (Ed.), *Complementary methods for research in education* (pp. 3–20). Washington, DC: American Educational Research Association.

Smith, Dorothy E. (1987). Women's perspective as a radical critique of sociology. In Sandra Harding (Ed.), *Feminism & methodology* (pp. 84–96). Bloomington: Indiana University Press.

Stanley, Liz. (Ed.). (1990). *Feminist praxis.* London: Routledge & Kegan Paul.

Walker, Alice. (1983). *In search of our mother's gardens.* New York: Harcourt Brace Jovanovich.

Wittrock, Merlin C. (Ed.). (1986). *Handbook of research on teaching* (3rd ed.). New York: Macmillan.