

Teacher Research as a Way of Knowing

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In this article, Susan Lytle and Marilyn Cochran-Smith, two university-based teacher educators, argue for a different theory of knowledge for teaching — one that is drawn from the systematic inquiry of teachers themselves. In contrast to a knowledge base for teaching that privileges only the knowledge of the university researcher, the authors propose a knowledge base that includes the emic perspective of the teacher researcher, whose questions and processes are embedded in classroom practice. In their analysis, the authors draw on a wide range of texts written by teachers, including journals, essays, oral inquiries, and classroom studies. Lytle and Cochran-Smith conclude that teacher research, which historically has been marginalized in the field, challenges the assumption that knowledge for teaching is generated by outsiders only; they argue, rather, that school-based teacher researchers are themselves knowers and a primary source of generating knowledge about teaching and learning for themselves and others.

Over the past several decades, there have been a variety of efforts to codify a knowledge base for teaching. Implicit in these efforts is a theory that privileges one source of knowledge, that of university researchers, over others. In this article, we argue that educators need to develop a different theory of knowledge for teaching, a different epistemology that regards inquiry by teachers themselves as a distinctive and important way of knowing about teaching. From this perspective, fundamental questions about knowing, knowers, and what can be known have different answers. Teachers are among those who have the authority to know — that is, to construct “capital K” knowledge about teaching, learning,

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and schooling. And what is worth knowing about teaching includes what teachers, who are researchers in their own classrooms, can know through their own systematic inquiry.

As we have argued previously (Cochran-Smith & Lytle, 1990), teacher researchers are uniquely positioned to provide a truly emic perspective that makes visible the ways students and teachers together construct knowledge. When teachers do research, they draw on interpretive frameworks built from their own histories and intellectual interests. Because their research process is embedded in practice, the relationship between knower and known is significantly altered. This obviates the necessity of “translating findings” in the conventional sense, and moves teacher research toward praxis, or critical reflection on practice (Lather, 1986). Further, because teacher researchers often inquire with their students, students themselves are also empowered as knowers (Branscombe, Goswami, & Schwartz, 1992; Cone, 1990). With this different epistemology, teacher research, which is currently marginalized in the field, would contribute to a fundamental reconceptualization of the notion of knowledge for teaching. Through inquiry, teachers play a role in reinventing the conventions of interpretive social science, just as feminist researchers and critical ethnographers do by making problematic the relationships of researcher and researched, knowledge and authority, and subject and object (Crawford & Marecek, 1989; Noffke, 1990).

One way to illustrate the contrast we are suggesting between epistemologies of teaching is to examine a recent compilation of essays that represents the university-generated knowledge base. In 1989, the American Association of Colleges for Teacher Education (AACTE) released the charter edition of a volume intended to define the knowledge that beginning teachers should have and to close the gap between the “state of the art” and the “state of practice” in teaching. Entitled *Knowledge Base for the Beginning Teacher* (Reynolds, 1989), the volume begins with a statement of assumptions, each of which implicitly takes a position on ways of knowing about teaching:

1. What is known and worth knowing about teaching . . . should be related to the practical knowledge possessed by teachers of how and when to act in actual teaching situations.
2. Knowledge about teaching will never be absolute or complete. . . . Teachers should be prepared for a career in which they are continuously involved . . . in making adaptations in their work in accord with the changing knowledge base and their own teaching situations.
3. The knowledge base for teaching takes a variety of forms and is drawn from many disciplines and other sources, including research, inventions, tested practice (maxims), and value principles held by the community. . . . This knowledge base, when mastered, will provide teachers with a unique fund of knowledge. . . .
4. Teaching is a profession. Knowledgeable teachers are not technicians, but professionals, worthy and able to make reflective decisions or judgments and plans based on principled knowledge that is adapted to the particulars of their teaching situations, their students, their unique experiences, and their own special insights, self-knowledge, values, and commitments. They have a body of

understandings, knowledge, skills, and dispositions: a set of constructs that can be invoked for the explanation of cognitive phenomena. . . . Professional judgment is required. Knowledge . . . enlarges the range and quality of discretionary judgments made by professional teachers in the performance of their complex work.

5. There is no single taxonomy or correct way of structuring the knowledge base for teaching. . . . The particular structure [of this volume] probably will be revised in the future on the basis of added knowledge and improved professional insights. . . .
6. Although [this volume provides] a means for presenting a number of seemingly discrete areas of knowledge, the importance of the volume to teachers [is] the understanding of how professional knowledge is organized, validated, and used. (p. x)

By synthesizing and making accessible a wide range of important ideas about teaching, learning, and schooling, the volume provides a valuable resource for teacher education not only at the pre-service level, but across the developmental continuum. As Griffin (1989) underscores in the closing chapter, the contributors to the volume emphasize that knowledge for teaching is mutable and that theories, research, and practical wisdom all play influential roles in school programs.

While we do not wish to take issue with the ideas presented in the individual chapters of this volume — in fact, as teacher educators, we find them extremely valuable — we think it is important to question some of the assumptions about knowledge and teachers' roles in the creation and use of knowledge that frame the volume as a whole. Since Dewey's (1904) writings at the beginning of this century, scholars and researchers have devoted considerable attention to understanding the relationships of knowledge and teaching (Fenstermacher, 1986; Greene, 1973; Lortie, 1975; Shulman, 1986a,b, 1987). From various disciplinary perspectives and research paradigms, scholars have asked what it means to know about teaching — what can be known, how it can be known, who has the authority to know, and how knowledge can or should be used for theoretical and practical purposes. What the editors of the AACTE volume seem to be saying is that the knowledge that makes teaching a profession comes from authorities outside of the profession itself. What makes teachers professional is using this knowledge base in their daily practice. In the epistemology upon which this volume is based, then, teachers are knowledgeable in that they have "insights" as well as "knowledge, skills, and dispositions," which they call upon to explain phenomena and make judgments about practice. Teachers do not, however, participate in the *generation* of knowledge, or what the editors of the volume refer to as official, "principled," "discipline-based" knowledge.

Obviously we are *not* suggesting here that the knowledge contained in this volume or in other similar publications is of no use to teachers or teacher educators. To the contrary, we agree that there is a rich body of information generated by university researchers that ought to inform the practice of teaching, and that making that knowledge accessible for teachers' critical appraisal and adaptation is an essential endeavor. The epistemology embodied in these as-

sumptions, however, is exclusionary and disenfranchising. It stipulates that knowing the knowledge base for teaching — what university researchers have discovered — is *the* privileged way to know about teaching. Knowing the knowledge base is, as the preface to the volume suggests, what “distinguishes more productive teachers from less productive ones” (Reynolds, 1989, p. ix).

Our aim in this article is to explore the contribution of teacher inquiry to a new theory of knowledge for teaching. This article is not an analysis of the forms and domains of teachers’ knowledge, although this is an area that has yielded rich discussions in the field (e.g., Fenstermacher, 1986; Schön, 1983; Shulman, 1986b, 1987), nor is it merely a rhetorical argument in favor of teacher research as part of a growing popular movement. Furthermore, our question here is not, “Is teacher research research?” or even “What kind of research is teacher research?” Our intention is, rather, to contribute to the conversation about teaching and knowledge by arguing that research by teachers *is* a significant way of knowing about teaching. We argue that teacher research is a way of generating both *local knowledge* and *public knowledge* about teaching; that is, knowledge developed and used by teachers for themselves and their immediate communities, as well as knowledge useful to the larger school and university communities.

We have found it useful to define teacher research as systematic, intentional inquiry by teachers about their own school and classroom work (Cochran-Smith & Lytle, 1990). We base this definition in part on the work of Stenhouse (1985), who defines research in general as “systematic, self-critical enquiry,” and in part on an ongoing survey of the literature of teacher writing. By systematic we refer primarily to ordered 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 recollecting, rethinking, and analyzing classroom events for which there may be only partial or unwritten records. By intentional we signal that teacher research is an activity that is planned rather than spontaneous, although we do not mean to suggest that important insights about teaching are only generated when planned. Our emphasis on intention is in keeping with Boomer’s (1987) argument that “to learn deliberately is to research” and with Britton’s (1987, p. 13) notion that “every lesson should be for the teacher an inquiry, some further discovery, a quiet form of research.” By inquiry, we suggest that teacher research stems from or generates questions and reflects teachers’ desires to make sense of their experiences — to adapt a learning stance or openness toward classroom life.

Many teachers have written about their work in forms that can be appropriately regarded as research (Lytle & Cochran-Smith, 1990). We have proposed four categories as a tentative typology of teacher research that acknowledges a wider range of teachers’ writing as research. In the first, we include teachers’ journals, published and unpublished. In the second category, we place both brief and book-length essays in which teachers analyze their own classrooms or schools and consider issues related to learners, curricula, and school organization. The third category includes accounts of teachers’ oral inquiries and discussions, convened specifically for reflection and questioning. These are usually preserved in

the form of written transcriptions or notes. Our final category includes small and larger scale classroom studies based on documentation and analysis procedures similar to those of university-based classroom research. In many respects, the forms of documentation in teacher research resemble the forms used in academic research, particularly standard forms of interpretive research. Field notes about classroom interactions, interviews with students and teachers, and classroom documents (e.g., students' writing and drawing, test scores, teachers' plans and handouts) are commonly collected by teacher researchers. In addition, teacher researchers often keep extensive journals and audiotape or videotape small and large group discussions, peer and teacher-student conferences, students' debates, role plays and dramatic productions, as well as their own classroom presentations. A strength of teacher research, like university-based qualitative research, is that it often entails multiple data sources that can be used to confirm and/or illuminate one another. (We discuss various forms and methods of teacher research in more detail in Cochran-Smith & Lytle, in press).

In our analysis, we draw on a wide range of texts written by teachers — published and unpublished journals, essays, studies, and oral inquiries; accounts of teachers' groups that have appeared in national and local journals, newsletters, and booklets; and edited collections of teachers' work. We have selected examples from a range of K-12 grade levels and contexts, as well as from university settings. We quote at length from these texts because we think it is important to provide direct access to teachers' ways of explaining and representing relationships between inquiry and knowledge, rather than to filter teachers' perspectives and interpretations through our own. While we are drawing heavily on their texts, however, we do not presume to speak for teachers. Rather, this article represents our efforts to understand and present publicly what we are learning from teacher research from our own perspectives as university-based teacher educators and researchers.

Teacher Research and Local Knowledge

In his volume of essays on interpretive anthropology, Geertz (1983) talks about the difficulties involved in representing emic, or insider, knowledge and meaning perspectives. He suggests that ultimately, anthropologists cannot really represent "local knowledge" — what native inhabitants see — but only what they see through; that is, their interpretive perspectives on their own experiences. Borrowing Geertz's term, we use *local knowledge* to signal both what teachers come to know about their own knowledge through teacher research and what communities of teacher researchers come to know when they build knowledge collaboratively.

Knowing One's Own Knowledge

We begin with the premise that, through their interactions, teachers and students together construct classroom life and the learning opportunities that are available (Bloome & Green, 1984; Erickson, 1986). It has been our experience

as university-based teacher educators and researchers that teachers and students, regardless of stance or pedagogy, inevitably negotiate what counts as knowledge in the classroom, who can have knowledge, and how knowledge can be generated, challenged, and evaluated. We argue here that, through inquiry, teachers come to understand how this happens in their own classrooms and how their own interpretations of classroom events are shaped. To make the case that teacher inquiry is a way for teachers to know their own knowledge, we consider six examples that suggest some of the range and variation that occur in teacher researchers' topics, data collection strategies, interpretive perspectives, and modes of presentation.

— EXAMPLE ONE: BECOMING MEAN AND SENSITIVE

Prompted by the realization that there was a discrepancy between his intentions and what was going on in the classroom, Fecho (1989) began a study of teacher-student writing conferences. After viewing videotapes he had made in his classroom, Fecho was dissatisfied with what he saw:

While some students were able to advance their own agendas and seek answers to their own questions, far too many students sat and waited for me to question, to figure out, and to change their writing. Although conferencing was successful in altering my relationships with the students, what occurred between us was still much too close to a teacher-centered classroom. . . . Provoked by these stimuli and supported by my colleagues . . . I resolved to take a more systematic look at my conferencing. Aside from the generic ethnographic question of, "What happens?" specifically, I was interested in what occurred in the conferences over the course of one school year — did the structure and work change or remain static? Did similarities and differences exist across conferences? Did the passing of time allow students to develop as conference participants? (pp. 3–4)

Although Fecho was intrigued by the arguments of academic researchers (e.g., Florio-Ruane, 1986; Michaels, Ulichney, & Watson-Gegeo, 1986) about the need to interrupt the replication in writing conferences of teachers' classroom dominance, in his work he did not simply implement the conferencing strategies one might derive from the literature. Rather, he set out to understand how face-to-face talk about writing functions and varies over time when a White teacher works with approximately thirty African-American adolescents in an urban comprehensive high school. Fecho concluded the report of his research with these words:

In one of our interviews, Geeman [a student] mentioned that our conferencing experience had led him to take second looks at the writing he did for other classes. He liked the idea that he could be his own critic, that he could [in his words] be "mean and sensitive" to himself. I understood exactly what he meant. For myself, in the conference I had to be "mean" in order to resist my students' reliance on my expertise, but also "sensitive" to their needs and opinions. But looking at the phrase again, I realized that it also comments on my teacher research. As I find myself getting woozy watching tapes and reading transcripts, I know that I must continue looking for what the tapes may reveal, must

continue to separate the real from the imagined, must continue seeing my practice with mean and sensitive eyes. For if I don't, who will? (pp. 20–21)

Although Fecho initiated and conducted the research, his students' inquiries brought unexpected insights into his own work. As he wrestled with the implications of sharing power, both he and his students came to view knowledge differently. They came to the similar realization that while those outside the particular context or setting can support, inform, challenge, and provide a context for learning, only learners themselves (whether teachers or students) can come to know, or assume responsibility for making meaning of, their work in the classroom.

— EXAMPLE TWO: BALANCING STRUCTURE AND FREEDOM

Like Fecho, Crouse (1990), a student teacher, wanted to explore classroom structures that would provide a predictable format for discussion but also create opportunities for students to take responsibility for their own ideas. Unlike Fecho, however, who had been teaching for more than a decade, Crouse was for the first time wrestling with ways to engage her third-grade students in active construction of knowledge as part of her report of a small-scale classroom study. In her research on literature study groups, Crouse drew on her reflective journal, daily lesson plans, field notes, and transcriptions of the group's interactions. Reflecting on her assumptions before beginning a unit on Roald Dahl's book, *Fantastic Mr. Fox*, Crouse wrote:

In thinking about my literature study group before the unit began, I realized that a lot of my thoughts related to the issue of teacher-directed instruction versus child-centered education. I wanted the third graders in my group to discover and experience the wonderful world of *Fantastic Mr. Fox* on their own, but I wasn't sure how to do that without providing some sort of structure. I wanted to have a series of "grand conversations" à la Edelsky (1988), but I wasn't sure that I understood or agreed with this approach to literature in the classroom. I began to realize that I thought of teaching as the art of finding the right balance between providing a clear and cohesive structure that facilitates learning and giving children the freedom to construct knowledge themselves. Children need direction, as well as freedom of choice, and the teacher needs to be careful not to give too much of either. For me, this unit was going to be about, in part, playing with that balance. (p. 7)

It is clear that Crouse sees her classroom as a site of inquiry into children's learning, that she approaches the planning of a literature unit with central questions about the teacher's role. Within this larger agenda framed by issues around child-centeredness and teacher direction, Crouse also articulates a set of more specific questions about children's understanding of characterization, author's point of view, and how children's moral development is reflected in their responses to texts:

During my discussions with [my cooperating teacher] about our plans for the unit on *Fantastic Mr. Fox*, I became interested in the presence of good characters who do bad things in Roald Dahl's books. I became interested in knowing

what sense the children made of who was a good character and who was a bad character. More specifically, I wanted to know whether or not they could determine whose side Roald Dahl was on, and whether they viewed these good characters who did bad things as heroes. I was very curious to know, for example, how the children would feel about the fact that Mr. Fox stole from the farmers and did so in sneaky ways. Basically, I was interested developmentally in where children, age 8, are in terms of their moral development. (p. 9)

Crouse's questions do not take the form, "What works in my classroom?", but, rather, "What did the children understand? How can I learn with the children what is going on here?" Implicit in Crouse's account is a belief that children and teachers together construct the curriculum, and that the teacher can only come to know how to teach and how to learn from teaching by being attentive to their interactions. Like the more experienced teachers whose work we mention here, Crouse seems to regard knowledge generation as both the purpose of teaching and the subject of her own research.

— EXAMPLE THREE: THE MAKING OF HINDSIGHT

Like Crouse, Baum-Brunner (in press) also looked at literacy, but in this case, the focus was the writing workshops that occurred in her twelfth-grade classroom. When she analyzed the data — transcriptions of classroom interactions and multiple drafts of student writing — she had collected over the course of a semester, Baum-Brunner discovered that her assumptions about several of her students had been largely incorrect. Writing about the study in retrospect, Baum-Brunner reflected:

As teacher, I taught this class, and consciously shaped it through my beliefs, training, choice of teaching techniques, [and] understanding of the genre. I even believed I understood consciously or intuitively most of what was occurring as I taught. Yet, by audiotaping the class and taking field notes at the time, and analyzing the interactions that had taken place, I realized I had *not*, in fact, accurately interpreted the interactions that had occurred. With the researcher's view, I saw that I had originally viewed as counter-productive [one student's] imitation [of the language of others during workshop discussions]; later I saw that his imitative style [had] helped him rehearse a kind of talk he didn't know. Had I to do it over again, I would not have discouraged his imitative talk. Instead I would have accepted the imitation, perhaps even have encouraged him to imitate more. (p. 209)

Baum-Brunner not only observed stylistic differences among students' patterns of participation in the writer's workshop, she also expanded her interpretive framework — her notion of where to look and what to look at — in order to understand students' efforts to respond and revise their writing. As she points out, when teachers treat classroom occurrences as data, they see discrete and sometimes disparate events as parts of larger patterns of student behavior:

The making of this insight was born out of my hindsight — my misjudgments and erroneous assumptions placed beside my view of the facts from another point in time. An outside researcher would have gotten a different . . . view.

This hindsight was born out of my own experiences and . . . reflection about the feelings, assumptions, even myths that . . . shaped the teaching I did. Through analysis of disparities between [my original] feelings and [what I later realized] had occurred, I . . . created new pedagogy and theory about response and revision. (p. 209)

Rereading the texts of their classrooms allows teacher researchers to make visible their own characteristic ways of interpreting students' behavior and makes it possible for them to revisit and revise them.

— EXAMPLE FOUR: UNTRACKING ENGLISH

Cone (1990) and other high school English teachers had for several years experimented unsuccessfully with ways to make Advanced Placement English accessible to non-honors students and more minority students. In the spring of 1988, student teachers and master teachers were invited to the University of California at Berkeley for a private showing of *Stand and Deliver* and to meet Jaime Escalante, the Los Angeles calculus teacher whose phenomenal success teaching under-prepared students is dramatized in the film. After watching the film, teachers decided that what was wrong with their AP selection process was that they, rather than students, took full responsibility for selecting the class. In their words, they started that year to turn the AP selection process on its head. Later, in an essay reflecting on her year's experience with a program designed so that a wider range of students would qualify and succeed in the AP curriculum, Cone commented:

For a long time I have been concerned about the damage done by academic ability grouping. I worried that schools label students and never allow them to get unlabeled or relabeled. As early as second grade, students are tested for gifted. If they pass the test, they are tracked into gifted classes for the rest of their school years. Students who are not tested or who do not pass the test generally do not take honors classes. Ability grouping creates not only honors tracks: [it also creates] a two-tiered educational system of learners and non-learners, an elite academic class, and an underclass that mirrors the social, racial, and economic underclass of our society as a whole. What would happen if the labels — "honors," "college prep," "average," "remedial" — came unglued? What would happen if students got to label themselves? What would happen if students got to choose the most academic class in the school if they wanted to — even if they weren't "gifted"?

Opening up AP English to all students who were willing to commit to a rigorous summer and year-long regimen of writing and reading allowed me to study first hand what does happen when students are given choices in their schooling. I discovered [that students] with combined SAT scores of 690 and 740 can learn with students with scores of 1290 and 1350; that students with SAT verbal scores of 460 and 490 can earn a 4 and a 5 on the national Advanced Placement English Language and Composition test; that students with SAT verbal scores of 290 and 380 can pass the University of California Subject A Exam. I discovered that gifted and nongifted students can discuss sophisticated literature with each other and can respond to each other's writing in ways that lead to thought-

ful revision, and I discovered that giving them the chance to elect to work at the highest academic levels empowers them to see themselves as learners.

Opening up AP English also allowed me to see the kinds of changes I had to make as a teacher when students had accepted the challenge of a mixed-ability AP English class. Almost immediately, I saw that I had to move away from the front of the room, I had to turn classroom talk over to my students, I had to use writing to beget talk and talk to beget writing in ways that I had never used before. I had to give my students real choices about their education. Who did they want in their writing response group? How were they going to organize literary discussions? Which books were they going to read? Were they going to take the AP test? More than anything I had to learn how to shift the control of the class to my students in a way that suited my need for structure and their need to take control of their education. (pp. 27–28)

Cone was studying a complex and recursive set of interventions that took place over a full year as she and her students and colleagues constructed and reconstructed the curriculum. As a researcher, she explored the dynamic relationships that evolved among talk, writing, choice, changing roles, and student achievement. Cone's inquiry involved working with her students to renegotiate the meaning of student ability, construct new routes to textual understanding, and alter views about knowers and knowing in English classrooms. Like other teacher researchers, Cone diminished traditional distinctions between researcher and researched by making her agenda for the class public and by involving students in ongoing analysis of the data.

— EXAMPLE FIVE: THE MIDDLE GROUND

In an essay on teaching and knowledge, Howard (1989), an elementary school teacher, used detailed descriptions of student and teacher interactions to analyze the role of the teacher in creating the circumstances that make it possible for children to generate knowledge. Using what she calls “the middle ground” as a metaphor for the teacher's role, Howard explains how teachers mediate between children's interests and the broader world around them:

I have to gauge the moment to set self-knowledge against other perspectives. I have to balance the child's need for privacy and time to put down roots against the broadening to be gained by a more public participation in the give-and-take of group activity. In a related way, I provide the lens between the “very now” and the “larger now” the “now” we're living in at this time in our classroom, and the “now” of the past and future that expands around us. As the middle ground, I have to bridge all these states of being. It's hard to do. I am always aware of the connections I have failed to make — with children individually, between a child and the ideas he or she is pursuing, among the children as a group and their mutual interests, between the knowledge the children are making and both cultural and disciplinary knowledge.

In Howard's reflective essay, she presents an articulated view of knowledge as something “that arises between the inner impulses, interests, and qualities of the child and the physical and cultural world of which he or she is a part” (p. 229):

My own limitations don't worry me the way they used to, because I have come to trust the vitality and thought of the children. I know I am doing a good job when some child says to me, equal to equal: "That's a good idea. . . ." Then I know the recognition I have given to the child's ideas has created a sense of equality; we are connected through our mutual pursuit of knowledge. We are, for the moment, colleagues in our respective pursuits. (p. 228)

With rich examples, Howard explores how knowledge arises in one classroom, how she works to give children room to make knowledge, and how she and the children construct knowledge together. In Howard's classroom, then, knowing one's own knowledge and the role one plays in generating knowledge with others is an explicit part of the curriculum.

— EXAMPLE SIX: RETHINKING RESISTANCE

Although worlds apart in one sense, Lewis (1989), a college teacher, is like Howard in that she analyzes the process of constructing knowledge with the students in her classroom — in this case an undergraduate sociology course for pre-service teachers, which was intended to raise questions about social relations from a critical perspective. In her essay, Lewis makes it clear that she is committed to feminist politics and pedagogy in the academy. In analyzing how students' responses to feminist theory emerged from conflicts between their own previous experiences and the discourse of the class, Lewis identified critical issues in a feminist pedagogy in part through analysis of her students' resistance. She both researched her own teaching and taught as a way of doing research — that is, her research informed her practice and her teaching functioned as an important site of inquiry for her larger project:

I want to examine the potential basis of feminist teaching that does more than address the concerns of the already initiated. For me, the urgency of this issue arises from my own teaching. On the one hand, the often chilling stories of experiences women students share with me and each other in the context of our relations within the classroom point to their clear understanding of the politics of gender subordination: experiences that have affected them profoundly and yet which have no outlet for expression (often even understanding) within the confines of traditional academic practices.

On the other hand, I hear that young woman who speaks to me in anger, who derides me for being the bearer of "bad news" and who wants to believe that our oppression/subordination is something we create in our own heads. It has been my experience that, for many women, working through and coming to a feminist perspective is not easy. This journey often generates anger and ultimately a politicization of every moment of our personal and public lives until we can come to grips with the positive political potential of our anger — an anger that is freed by the uncovering/unbinding of centuries of powerlessness and the denial of the conditions for speaking what we know, in terms circumscribed by our own desires and interests.

Women don't need to be taught what we already know. . . . Nor do we need to be taught the language through which to speak what we know. Rather, we

need to find ways of understanding what we are already saying and how we are saying it. (pp. 18–19)

Lewis's position is reminiscent of Berthoff's (1987) notion of teaching as "RE-searching." Berthoff suggests that we do not need new information, but new ways to think about the information we already have:

Educational research is nothing to our purpose, unless we formulate the questions; if the procedures by which answers are sought are not dialectic and dialogic, that is to say, if the questions and the answers are not continually REformulated by those who are working in the classroom, educational research is pointless. (pp. 29–30)

Classrooms with a feminist pedagogy, which explicitly make issues of knowledge, authority, and institutional hierarchies parts of the curriculum (Ellsworth, 1989; Lather, 1991; Miller, 1987), provide strategic sites for understanding what it means for teachers to know their own knowledge through inquiry.

Standing in a Different Relation to Knowledge

It is clear from their writings that these six teachers use inquiry as a way of knowing about teaching. Fecho (1989) examines what it means both to lead and to follow students. Crouse (1990) explores the delicate balance between structure and spontaneity in classroom talk. Baum-Brunner (in press) enlarges her understanding of the social nature of writing. Cone (1990) explores the consequences for achievement of empowering adolescents to make choices. Howard (1989) articulates a conceptual framework for students' and teachers' roles in constructing classroom knowledge. And Lewis (1989) demonstrates the inseparability of teaching and inquiry in the enactment of a critical pedagogy.

Teacher research is a powerful way for teachers to understand how they and their students construct and reconstruct the curriculum. By conducting inquiry on their own practices, teachers identify discrepancies between their theories of practice and their practices, between their own practices and those of others in their schools, and between their ongoing assumptions about what is going on in their classrooms and their more distanced and retrospective interpretations. Inquiry stimulates, intensifies, and illuminates changes in practice. Out of inquiry come analytic frameworks, as well as questions for further inquiry. Obviously one does not have to engage in teacher research in order to make decisions about or changes in classroom practice; teachers revise and reflect on their strategies regularly as part of the ongoing cycle of teaching (Paris, in press; Schön, 1983). Neither is teacher research, in the sense we mean it, necessarily instrumental: it may involve deliberate change, but it may just as likely entail a deliberate attempt to make more visible what is already going on.

In contrast to the implication of the AACTE volume, then, what we argue here is that what "distinguishes more productive teachers" (Reynolds, 1989, p. ix) may *not* be mastery of a knowledge base; it may be, rather, standing in a different relationship not only to knowledge generated by university-based researchers in the field, but also to one's own knowledge and to one's students as

knowers. Freire (1971) has argued that educators and their students are “knowing subjects,” constantly learning from the process of teaching. For him, “education is a pedagogy of knowing” (p. 217). Knoblauch and Brannon (1988) have built on Freire’s notion that teaching itself is a knowledge-generating process, suggesting that the defining characteristic of teacher researchers is their “knowledge of the making of knowledge” (p. 27). When we regard teaching as a process of generating knowledge with students, then we need to understand teacher research as a significant process of coming to know one’s own knowledge and understanding how knowledge is constructed. There is a dynamic interaction among teachers’ stances toward themselves as knowers, their students as knowers and learners, and their knowledge of disciplinary/subject matter (Lyons, 1990). From the texts of teacher research, we see that teachers have the legitimate authority to know about teaching. When teachers redefine their own relationships to knowledge about teaching and learning, they often begin to reconstruct their classrooms and to offer different invitations to their students to learn and know (Cochran-Smith & Lytle, 1990). When they change their relationships to knowledge, they may also realign their relationships to the brokers of knowledge and power in schools and universities.

Building Knowledge in the Community

We have defined intellectual communities of teacher researchers as networks of individuals who enter with other teachers into “a common search for meaning” in their work lives (Westerhoff, 1987) and who regard their research as part of larger efforts to transform teaching, learning, and schooling (Cochran-Smith & Lytle, in press). In teacher-research communities, groups of teachers engage in joint construction of knowledge through reading, writing, and oral inquiry. For example, through conversation they make their tacit knowledge more visible (Polanyi, 1967), call into question assumptions about common practice (Giroux, 1984), and generate data that makes possible the consideration of alternatives. Some teacher-research groups regularly conduct oral inquiries, such as reflections on practice or descriptive reviews of students (Carini, 1986); literature studies (Edelsky, 1988); and doubting/believing discussions (Elbow, 1973). Other communities do not use oral inquiry formats, but they do talk in distinctive ways about their teaching. In addition, teacher-research communities use a wide range of texts, not all of which are published or disseminated, but which are essential to teachers’ individual and collective gathering, recording, and analyzing data. Texts include teacher-researcher reports in the form of journals, essays, and studies, as well as selections from the extensive theoretical and research literatures in the fields related to teaching and learning. Texts used by teachers in their communities also include the written records of teachers’ deliberations, informal writing used to facilitate the talk of these groups, transcripts of classroom interactions and interviews, notes made of classroom observations, as well as drafts of teachers’ plans and work in progress.

Through inquiry, groups of teachers conjoin their understandings to create local knowledge in and for their own communities. Because teachers in different settings have diverse goals, activities, and ways of doing research, there is con-

siderable variation in the knowledge constructed in different groups. We argue here that, just as the knowledge generated by individual teachers ought to count in an epistemology of teaching, so should the knowledge generated by particular communities of teachers.

To understand how teacher research is a way of knowing for the local community, we look in the next section at groups of teachers working together within a single institution, as well as at groups of teachers coming together from several institutions to form a community. Groups of teachers from one institution often use inquiry as a way to build curriculum. Phelps, the director of the Syracuse Writing Program, for example, describes the work of the community of university teachers involved in the freshman composition program:

Teaching depends for its richness on a community of shared practice constituted through exchanges of talk and writing about curriculum. We are working actively to create such a sense of community among a mixed group (numbering close to 150) including full-time research faculty, part-time professional writing teachers, and graduate teaching assistants — largely young, inexperienced, and from disciplines other than composition. Our modes of interaction include “teacher talk” in weekly meetings of small groups, coteaching and mentoring arrangements, varied professional development activities, task forces and working groups on curriculum, and a remarkable amount of writing, including an in-house journal.

The business of such a community is curriculum development as a form of knowledge-making. . . . Part of the work of the community is to make visible to itself (and to colleagues at the university) the ecology of curricular contexts in which any teaching decision is embedded, not merely abstractly, but as vivid, particular realities. This requires . . . practical investigations that go beyond classroom observations of one’s own teaching to specify how actions fit together on the programmatic or institutional scale. . . . Through its talk, writing, inquiry, and action, members of the Writing Program are imagining and shaping its writing courses as a developmentally related sequence; translating the university curricula into a particularized range of writing, reading, thinking and learning tasks set for students; profiling the students themselves as unpredictably diverse and heterogeneous despite their apparent typicalities. . . . The Syracuse Writing Program, with its particular history of teaching practices and the heterogeneous composition of its thinkers and practitioners, presents both an extraordinarily difficult [and] complex context and a richly rewarding matrix for experiments and reflection on teachers’ (and students’) ways of knowing. (Phelps, 1991, pp. 866–867)

Explicit in Phelps’s description is a definition of curriculum construction as community knowledge-building, accomplished through linking the specifics of classroom decisionmaking with the larger purposes of the institution. Thus the Syracuse teacher community uses inquiry into teachers’ and students’ ways of knowing to arrive at conjoined understandings that reflect the diversity of participants and contexts in university writing programs. Similarly, a group of faculty members at Michigan State University is involved in a process of reconstructing their teacher education curriculum by drawing on data collected by all those

teaching different sections of an introductory course on teaching (Feiman-Nemser & Featherstone, 1992). Like the community at Syracuse, the Michigan group members share knowledge of particular classroom events in order to articulate a vision of the teacher education curriculum as a whole.

Moving back and forth between collaborative curriculum-building and data-gathering in individual classrooms occurs in teacher-researcher groups at all levels of the educational continuum. Colgan-Davis (in press), for example, describes a curriculum development project at Friends Select Lower School in Philadelphia, where a group of teachers met regularly over a year to build a curriculum that would meet the needs of diverse groups of learners:

The unifying factor was that we all saw diversity in how our students learned and found this diversity a challenge. Some teachers who were originally attracted to Friends Select School because of its economic, cultural, and racial diversity found the differences in how children learn exciting, and came to the group to expand their skills in responding to children's needs. Others felt the school had lost sight of its mission, had accepted children who should not be in a private, academic school, and wanted the school to narrow its focus, clarify its standards, and begin to sift out those children whom they felt did not belong. Other teachers were mystified by how children learn, saw it as a "hidden act" and did not know how to respond when the student did not succeed. . . . (pp. 161-162)

Through a series of descriptions of students' work, reflections on key concepts, descriptive reviews, and analyses of other classroom data, the group explored its own values and assumptions about learners' appropriate behaviors and made specific recommendations for working with individual children in classrooms.

Using collaborative inquiry to design a curriculum that is responsive to diversity is also the goal of a group of Philadelphia Writing Project teachers who plan a yearly summer institute for adolescents participating in the school district's desegregation program. Their process, like the process of other groups involved in curriculum construction, allows for comparative interpretations of texts, students' work, and styles of teaching. Teachers jointly compose a set of readings that reflect their own diversities and those of their students, meet daily to write about their observations of students' oral and written interactions with multicultural literature, and analyze the variations that occur across classrooms in response to a common curriculum.

Developing curriculum through analysis of data is radically different from the process of curriculum development typically used by many schools and school districts. Often there are pre-established calendars and formal procedures for reviewing the curriculum in each subject area. These generally involve discussion of objectives and goals, as well as close examination and comparison of published materials. When curriculum construction is conceptualized as a process of inquiry and systematic consideration of data, however, it is qualitatively different from consideration of topics, books, or sequences of activities. When groups of teachers develop curriculum through inquiry, they use data from their

own classrooms (e.g., students' work, actual lesson and unit plans, descriptions of individual learners, syllabi, texts, and teacher-made materials and assignments) to pose problems, sort out commonalities and differences in perspectives and values, and build instructional frameworks. Teacher groups involved in Charter Schools, such as Crossroads (Fecho, Pincus, & Hiller, 1990; Hiller, 1991), a school within Gratz High School in Philadelphia, intend to make curriculum construction based on observation, interviews, and collection of student work an ongoing dimension of their work.

Any time groups of teachers from the same institution come together to consider issues of curriculum and instruction, there is the potential for building knowledge for the local community. Self-studies for accreditation purposes, pupil support teams, supervisory sessions, and even department, faculty, and committee meetings could be reconceptualized as sites of inquiry, and their practices could be transformed to emphasize formulation of questions, data collection, analysis, and interpretation. This is similar to earlier propositions that schools and school systems have the potential to be centers for inquiry (Myers, 1985; Schaefer, 1967), and to recent calls for school-university partnerships wherein experienced and beginning teachers work together with university faculty in professional development schools (Holmes Group, 1990). And, of course, the notion that curriculum construction is a form of knowledge-making is an essential part of the history of teacher research. Stenhouse (1985) reminds us:

Curriculum is the medium through which the teacher can learn his art. Curriculum is the medium through which the teacher can learn knowledge. Curriculum is the medium through which the teacher can learn about the nature of education. Curriculum is the medium through which the teacher can learn about the nature of knowledge. (p. 98)

In a certain sense, the typical curriculum committee and the teacher-research group seem worlds apart — it is difficult to imagine the shift from problem-solving to problem-posing, from quick closure to deeper exploration, and from making judgments to discovering relationships based on data. On the other hand, some of the contexts in which inquiry would be powerful already exist — particularly the new structural arrangements created as schools divide into teams, houses, and other smaller organizational units.

Rather than having a shared physical and institutional context, other teacher groups cross institutional boundaries and share a broad intellectual agenda. Teachers who have been associated with Patricia Carini, the Prospect School, and the North Dakota Study Group, for example, have organized a number of local communities, such as the Philadelphia Teachers Learning Cooperative, committed to the perspectives of progressive education in public schools. In *Speaking Out* (1986), a collection of Prospect Institute teachers' essays, Kanevsky and Traugh comment on the ways communities of teachers from different schools and school systems know about teaching:

Our classrooms are complicated. . . . They generate lives of their own but they also include and respond to the lives people lead outside their walls. They are

the setting for the exploration and implementation of ideas. They support the *having* of new ideas. . . . As teachers, we are temporarily immersed in this busy life, a part of what occurs. The question is: How do we lift our heads up out of the stream, which in its movement, carries us along, to see where we are going and look back at where we have been? And, if we are able to see, how do we keep track of what we see? How do we make sense of it and see the patterns in it?

Taking advantage of the classroom's potential as a source of knowledge which will nurture and feed the quality of work done in that classroom requires special efforts and energy. However, the means we can use to pull what is important out of the vague, undifferentiated background of experience are readily available to us and indeed, they have long histories in the ordinary human effort to keep track and make sense of our work lives: conversations, journals, interviews, and stories are among the most useful of these modes.
(p. 6)

The work of the Prospect community is based on a phenomenological view of knowledge and learning wherein teachers grapple with children's meanings as expressed in their projects and with the varied meanings that their colleagues find in children's work. To inform these investigations of children's learning over time, Carini and her colleagues at the Prospect School and the North Dakota Study Group have created a unique and extensive archive of drawing, writing, and other artifacts that functions as a resource for the wider community.

While the Teachers Learning Cooperative explores issues in urban education, teachers and administrators in the Biographic Literacy Profiles Project (Taylor, 1990) explore multiple literacies and alternative ways of assessing students' literacy development. They document children's literacy behaviors by writing descriptive biographic literacy profiles. In describing the work of the group, which grew out of her case studies on alternative modes for assessing literacy, Taylor shows how the group's process became a way of knowing about teaching:

At the second institute that took place, . . . teachers and administrators who had been participating in the project for one year met to share their experiences, advance their own training, and begin the training of a new group of teachers. . . . Much of our time was spent in observing ourselves in complex problem-solving situations — observing the ways in which we, as learners, generate and reconstitute problems through the use of the social, symbolic, technical, and material resources at our disposal, and then go on to invent new procedures and arrive at instrumental solutions. Some teachers and administrators participated in the collaborative problem-solving situations, while others observed and took notes which were later shared and analyzed by all those who participated in the institute. In this way, we advanced our own understanding of the social construction of cognitive tasks, while at the same time the teachers new to the project had the opportunity to think about the possibilities of establishing classroom environments in which they could observe children engaged in *solving the problem of problem-solving literacy*. (p. 10)

Cross-institutional communities of teachers pose distinctive problems for themselves, and hence build knowledge in different domains. Often this is a

reflection of their origins and their affiliations with various programs, universities, and institutes, or with particular ideologies. In each case, the community of teachers constructs knowledge for its own consideration and use. By investigating the function of talk in classrooms across the grades and curriculum, for example, participants in the Brookline (Massachusetts) Teacher Researcher Seminar, affiliated with the Literacies Institute in Boston, build their own distinctive knowledge base about classroom discourse.

Teacher-researcher groups at the Breadloaf School of English (Goswami & Stillman, 1987) and other graduate programs in writing and language (Bissex & Bullock, 1987; Calkins, 1991), as well as groups associated with sites of the National Writing Project — in the San Francisco Bay Area, Philadelphia, Detroit, Northern Virginia, Baltimore — focus on the interrelationships of language, literacy, and learning. Finally, inquiry-centered pre-service programs, such as Project START (Cochran-Smith, 1991) and the University of Wisconsin elementary education program (Zeichner & Liston, 1987), and in-service teacher communities (Evans, 1989; Lytle & Fecho, 1991; Yonemura, 1982) explore the processes of learning to teach across the developmental continuum and thus build knowledge for the local community about teacher knowledge, teacher thinking, and professional socialization. When teachers build knowledge in these domains, they begin to develop local criteria for evaluating questions, evidence, and interpretive frameworks.

Teacher Research and Public Knowledge

In addition to its function as a way of knowing for teacher researchers in their local communities, teacher research has the potential to be a significant way of knowing for the larger communities of both school-based teachers and university-based researchers and teacher educators, as well as policymakers and school administrators. There have been relatively few forums for the presentation and publication of teacher research and an even smaller subset of these where school- and university-based teachers and researchers join together. Further, there have been limited opportunities to explore empirically the ways teachers' texts are being read and interpreted by university-based researchers and teacher educators, or whether and how teacher research is beginning to alter understandings of classroom practice.

Increasingly, communities of teacher researchers from different parts of the country are disseminating their work to one another and developing a classroom-grounded knowledge base from the collective inquiries of teachers across contexts. Growing networks of teacher researchers have thus begun to provide access to their teaching colleagues through conferences and publications. When teachers are the audience for teacher research, the task, as Fecho (1990) has suggested, is to read like a teacher; that is, to bring teachers' analytic frameworks to bear on the questions, issues, and interpretations presented by other teachers. As teacher research becomes public knowledge, teachers — and not university-based researchers or teacher educators — will determine its value for the broader community of school-based teachers.

From our perspectives as researchers, however, we would argue that teacher research has particular potential for transforming the university-generated knowledge base. In a recent address to the American Educational Research Association, Jackson (1990) discussed the changing venue of educational research and its current emphasis on particular contexts. He points out:

In recent years we have witnessed a growing interest within our research community in the use of techniques and scholarly traditions that provide a close look at the everyday affairs of educational practitioners and those they serve. . . . [There has also been] a decline of interest on the part of many of us in what used to be looked upon as our main business, which was the discovery of rules and principles of teaching and of running schools that would prove to be universal or nearly so in application and invariant or nearly so over time. That dream of finding out once and for all how teaching works or how schools ought to be administered no longer animates nearly as many of us as it once did. In its place we have substituted the much more modest goal of trying to figure out what's happening *here and now* or what went on *there and then*. This does not mean that we have given up trying to say things that are true from situation to situation or that we are no longer interested in making generalizations. But the kind of truth in which more and more of us seem interested these days takes a very different form than it once did. (p. 7)

Jackson's discussion suggests to us that there are several ways teacher research might be a way of knowing for the larger community of both school-based and university-based teachers and researchers. Just as critical scholarship has challenged many of the norms of interpretive social science (Lather, 1991), teacher research may make problematic in a different way the relationships of researcher and researched, theory and practice, knower and knowledge, process and product. When teachers do research, the gap between researcher and researched is narrowed. Notions of research subjectivity and objectivity are redefined: subjective and local knowing, rather than objectified and distanced "truth," is the goal. The teacher researcher is a native inhabitant of the research site — not a participant observer over a bounded period of time, but a permanent and "observant participant" (Florio-Ruane & Walsh, 1980) who knows the research context in its richest sense of what Geertz (1973) calls shared webs of significance.

Because it often investigates from an emic perspective topics that are already widely researched by university-based researchers, teacher research is a source of new knowledge in many of the domains of teaching and learning, and also has the potential to open up new areas of study. Further, because teaching requires simultaneous attention to many agendas and because it provides the opportunity for constant observation of particular phenomena, such as children's drawing or writing, teacher researchers' analytic frameworks are extraordinarily rich and complex. What we mean here is that when teacher researchers turn their attention to children's drawing, for example, they bring a historical framework based on a thousand other drawings and what these drawings meant for particular children at particular times and places. Hence, they ask questions that other researchers may not ask, and they see patterns that others may not be able to see.

Teacher research is concerned with the questions that arise from the lived experiences of teachers and the everyday life of teaching expressed in a language that emanates from practice. Teachers are concerned about the consequences of their actions, and teacher research is often prompted by teachers' desires to know more about the dynamic interplay of classroom events. Hence, teacher research is well positioned to produce precisely the kind of knowledge currently needed in the field.

Almost by definition, teacher research is case study — the unit of analysis is typically the individual child, the classroom, or the school. Whether and how case studies function in knowledge generation is part of a larger set of questions about the relationships between qualitative research and practice, which have long been topics of considerable debate. As Eisner (1991) points out, this debate hinges on what is meant by the accumulation of knowledge in a field — on whether we mean that knowledge accumulates in the sense that dollars and garbage do, a view that presumes that knowledge is an “inert material” that can be collected, stored, and stockpiled. Eisner argues, to the contrary, that knowledge growth in the social sciences is “more horizontal than vertical,” not at all like building with blocks, but, rather, yielding multiple conceptual frameworks that others use to understand their own situations:

My point . . . is not to claim that the products of research have no bearing on each other, or that they do not connect in any way. It is, rather, to challenge the notion that all researchers must use a common intellectual currency whose profits are additive in the same way in which money accumulates in the bank. Research studies, even in related areas in the same field, create their own interpretive universe. Connections have to be built by readers, who must also make generalizations by analogy and extrapolation, not by a water-tight logic applied to a common language. Problems in the social sciences are more complex than putting the pieces of the puzzle together to create a single, unified picture. (p. 210)

We think that with teacher research, knowledge will accumulate as communities of school-based and university-based teachers and researchers read and critique each other's work, document and perhaps disseminate their responses, create a network of citations and allusions, and, hence, begin to build a different kind of “interpretive universe.”

One domain in which K-12 teacher researchers have been especially active is the area of language and literacy, where teachers have studied their own and their students' experiences reconstructing the traditional language/literacy curriculum. For example, Wiggington (1985) explores writing and oral history, while Stumbo (1989) relates oral history and cultural identity. Atwell (1987) focuses on self-initiated writing; Five (1986) on dialogue writing; Ashton-Warner (1963) on a culturally responsive reading curriculum; Lumley (1987) on social interaction and peer group dialogue journals; Holmstein (1987) on students' interpretations of writing with word processing; Branscombe (1987) on students as language researchers; Buchanan (1989) on the language of whole language; Johnston (1989) on social scenes of reading; Ray (1986) on talk and writing

conferences; Starr (in press) on deaf children's composing processes; Headman (in press) on parents' and teachers' perspectives on literacy; Morizawa (1990) on writing, dramatization, and children's social worlds; Wilson (1990) on students' and teachers' talk and writing; Buchanan (1989) on learning from one child's writing; and Farmbry (in press) on dialect and standardization. In addition, a number of National Writing Projects publish collections on various aspects of teaching and learning writing. What we know from each domain of teacher research is not simply a series of discrete findings, but a sense of the multiple perspectives teachers bring to their work, which together generate unique interpretive universes.*

None of the examples of teacher research we have mentioned is what Calkins (1985) has referred to as "field-testing" research, in which practitioners test out new ideas that they are already convinced are exemplary. The goal of teacher research is not product testing, but "the development, assessment, and revision of theories that inform practice" (p. 143). As Calkins reminds us, teacher researchers, like Freud, Erikson, and Bettelheim, are practitioners as well as theory-builders:

Through working with patients and through related study they developed theories that informed their practices. They also acted as researchers, observing their own work and the results of it and letting these observations guide them as they studied. This constant interaction between practice, reflection, and study led them to flesh out and refine their theories. . . . Each case report provides a forum for integrating theory and practice. (p. 143)

Teacher research, then, is a way of knowing for the larger communities of teachers and researchers because it contributes both conceptual frameworks and important information about some of the central domains of the knowledge base.

Finally, the texts of teacher research provide data about teacher knowledge itself — a burgeoning area of study since 1975, when university-based researchers began to study teaching as a cognitive activity. Research conducted by pre-service and in-service teachers provides a window into the nature of their perspectives on teaching, learning, and schooling. Using teacher research itself as data contrasts with some of the more common methods for exploring teachers' thinking and knowledge, including stimulated recall, policy capturing, and repertory grid techniques, which are often supplemented by interviewing, observation, and narrative descriptions (see Clark & Peterson, 1986). Of necessity, these methods typically focus on simplified and researcher-created tasks, constructs, or *a priori*

* Other domains of active teacher research include: progressive education (Howard, 1989; Kanevsky, in press; Kanevsky & Traugh, 1986; Philadelphia Teachers Learning Cooperative, 1984; Strieb, 1985); critical pedagogy (Brown, 1992; Ellsworth, 1989; Lather, 1991; Lewis, 1989; Miller, 1987); teaching and learning to teach (Brody et al., in press; Cochran-Smith, Garfield, & Greenberger, 1992; Colgan-Davis, in press; Dicker, 1990; Dunstan, A., Kirscht, J., Reiffer, J., Roemer, M., & Tingle, N., 1989; Fecho, 1989; Guerin, 1985; Harris, in press; Kean, 1989; Pincus, 1991; Reither, 1990; Rotchford, 1989; Wunner, in press; Yagelsky, 1990); and theories of teacher research itself (Burton, 1991; Hahn, 1991; Queenan, 1988; Schwartz, 1990).

categories. Consequently, these techniques do not account for the ways in which teacher inquiry is mediated by, and essentially embedded in, the cultures of classrooms, schools, school districts, and teacher-research communities. Because teacher research emerges from praxis and because it preserves teachers' own words and analyses, it has the potential to be a particularly robust method for understanding whether and how pre-service and in-service teachers construct their knowledge and theories of practice, how these may change and develop over time, and the impact of these on teaching and learning.

For example, there is considerable discussion in the field about the content and form of teacher knowledge (Shulman, 1986b, 1987; Sockett, 1987), especially about the nature of teachers' practical knowledge (Fenstermacher, 1986; Saunders & McCutcheon, 1986). Teacher research often reveals teachers' explorations of the discrepancies they perceive between their theories of practice and their actual practices. If university-based researchers use as data the texts written by teachers themselves, it is likely that the domain of teacher knowledge will be refined and eventually redefined as a field of study.

Although we see clear advantages to understanding teachers' knowledge through teachers' own representations, we also have reservations about what might happen if teacher research were the object of others' interpretations without serious attention to the ethical and epistemological issues entailed in this form of inquiry. Although university-based researchers routinely locate their own work in relation to others in the field, with rare exception they do not use their colleagues' research as data for their own analyses. Hence, when university-based researchers use teacher research as data, this raises sensitive and provocative issues of power, status, and representation. When university-based and school-based researchers collaboratively use teacher research as data, however, they may more closely attend to these ethical and epistemological concerns. In these instances, the tension between collaboration and critique is often heightened considerably, while the potential for breaking new ground is also dramatically increased. What seems to us most important is that each case be regarded on its own terms, with members of both school- and university-based communities participating in identifying the issues, making arguments, and deciding how teachers' texts are to be used for different purposes.

Redefining the Knowledge Base

In conclusion, we want to come full circle by returning to the traditional notion of knowledge for teaching with which we began this article. As we have argued, in the epistemology implied in the AACTE volume and in other similar compilations of university-based research, knowledge is something received by teachers, who are expected to adapt it to their particular situations. Underlying this perspective is the assumption that knowledge for teaching is predominantly "outside-in" — generated at the university and then used in schools, a position that focuses on the linear transmission of knowledge from a source to a destination. Those who hold this view often regard the central problem in improving teach-

ing as one of translation from theory to practice, of making university-based research findings more accessible, more relevant, and more utilized by school-based teachers. In this epistemology, school-based teachers themselves are not a primary source of knowledge generation for the field.

In this article, we have sketched a different theory of knowledge for teaching — one in which teachers play a critical role as knowers. As we have shown, inquiry conducted by teachers is one way to build knowledge both locally and publicly — for the individual teacher, for communities of teachers, and for the larger field of university-based researchers and teacher educators, policymakers, and school administrators. Through examining cases of individual teachers in a variety of contexts, we have shown how inquiry provides teachers with a way to know their own knowledge — how they and their students negotiate what counts as knowledge in the classroom and how interpretations of classroom events are shaped. Along these same lines, we have explored how teacher-research communities conjoin their understandings to construct curriculum, to compare interpretive frameworks, and to analyze data gathered in settings across classrooms, schools, and communities. And, finally, we have argued that teacher research also contributes to more public knowledge, primarily through qualitative case studies that build new bodies of information about language and literacy, critical pedagogy, and teacher inquiry itself. Together these reveal the multiple perspectives teachers bring to their work and generate unique interpretive universes.

The notion of knowledge for teaching that we propose is “inside/outside” rather than “outside-in” (Cochran-Smith & Lytle, *in press*), a juxtaposition that calls attention to teachers as knowers and to the complex and distinctly non-linear relationships of knowledge and teaching, as they are embedded in the contexts and the relations of power that structure the daily work of teachers and learners in both schools and universities. As teacher research of various kinds accumulates and is more widely disseminated, we believe it will present a radical challenge to current assumptions about the relationships of theory and practice, schools and universities, and inquiry and reform. Research by teachers represents a distinctive way of knowing about teaching and learning that will alter, not just add to, what we know in the field. Because we see teacher research as both interpretive and critical, however, its contribution will not be in the form of generalizations about teaching (this time from the “inside” perspective), nor will teacher research be benign and evolutionary, a process of accumulating new knowledge and gradually admitting new knowers to the fold. Rather, this different theory of knowledge fundamentally redefines the notion of knowledge for teaching, alters the locus of the knowledge base, and realigns the practitioner’s stance in relationship to knowledge generation in the field.

Legitimizing the knowledge that comes from practitioners’ research on their own practice is a critical dimension of change in both school and university cultures. In challenging the university’s hegemony in the generation of expert knowledge for the field, teacher research also challenges the dominant views of staff development and pre-service training as transmission and implementation of knowledge from outside to inside schools. Thus it has the potential to recon-

struct conceptions of the ways teachers learn across the professional lifespan, so that inquiry is regarded as an integral part of the activity of teaching and a critical basis for decisions about practice. Classrooms and schools are treated as research sites and sources of knowledge that are most effectively accessed when teachers collaboratively interrogate and enrich their theories of practice.

When teacher development is reconfigured as inquiry and teacher research as challenge and critique, they become forms of social change wherein individuals and groups labor to understand and alter classrooms, schools, and school communities. These transformations will inevitably cause conflict as those traditionally disenfranchised begin to play increasingly important roles in generating knowledge and in deciding how it ought to be interpreted and used. Teacher research, furthermore, makes visible the ways teachers and students negotiate power, authority, and knowledge in classrooms and schools. As a way of knowing, then, teacher research has the potential to alter profoundly the cultures of teaching — how teachers work with their students toward a more critical and democratic pedagogy, how they build intellectual communities of colleagues who are both educators and activists, and how they position themselves in relationship to school administrators, policymakers, and university-based experts as agents of systemic change.

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