Teacher Research: Changing the way we think about Teaching and Learning

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Introduction

Teacher research represents an important aspect of teaching which, when nurtured and supported by colleagues and administrators, can "radically alter" teaching and learning (Cochran-Smith & Lytle, 1993, p. 85) rather than simply adding to it. It presents a unique, interactive learning experience that holds powerful potential for informing the profession; however, it has not yet become a part of the professional routine and development of the typical classroom teacher.

I have been a middle school and high school teacher and am now a teacher educator. Drawing from my teaching experiences at both levels, it is my intent in this writing to explore the nature and unique characteristics of teacher research, discuss some the barriers associated with it, and to offer some suggestions for its implementation and use as a means of developing and improving instructional practice. In so doing, I hope to demonstrate the accessibility and value in developing simple and practical classroom studies to inform our teaching, increase our knowledge base, and strengthen our professional integrity.

The Nature of Teacher Research

It is important to realize that taking on the role of teacher researcher may mean changing the way we think about teaching and learning. For example, early in my teaching career, I was constantly searching for certain truths or absolutes to define my own pedagogical practices. However, years of classroom experience have convinced me there exist no absolutes to teaching and learning; instead, there are patterns and repetitive interactions which kaleidoscope within the uniqueness of every classroom setting.

Teacher research is all about discovering, describing, and applying what is learned from observing and documenting these interactive learning patterns within distinct and different kinds of learning communities. It is not a quest for generalizable absolutes; rather, it is an accessible opportunity for engaging in professional self-renewal (Siefert, 1999) with the purpose of informing instructional practice in very specific ways. For that reason, teacher research is sometimes misunderstood by other members of the educational community.

Teacher research is an organic, intuitive process that empowers us to observe, question, predict, and confirm learning outcomes. In effect, it validates that which we are continually learning and experiencing as teachers and opens the door to further questions. Choosing to value, question, share, and explore classroom data and findings–whether through our research notes and reflective journals, the exchange of anecdotal data during ordinary conversations, or through formal publication–collectively and collaboratively empowers us as teachers and as learners (Patterson, 1996). Teacher research is most satisfying and informative when researchers are willing to formulate and follow their pedagogical hunches, accept ambiguities of data, learn from

interaction with students, and most importantly, realize that "good research analyses raise more questions [about teaching and learning] than they answer" (Hubbard & Power, 1999).

Teacher research, like teaching, can be messy and often chaotic. It bears a strong resemblance to Foucault's interpretation of Nietzsche's chaos theory framed within Rosenblat's theory of learning (Rosenblat, 1978). Foucault interprets chaos theory with his proposal that knowledge is born of the struggle among the elements of "instincts, impulses, desires, fear, and the will to appropriate" (1977, p. 203). Rosenblat (1978) described learning as a transaction between the learner and the text, or the context of the learning event. Teacher research may indeed represent a struggle to take what we know as teachers and transact that knowledge with what we are observing in the classroom to suggest implications for our teaching and learning.

Teacher Research as a Unique Research Genre

Drawing from my personal experiences as well as from observations of other teachers, I have found teacher research to have three distinctly interwoven characteristics. First, teacher research "fuels teaching and learning" (Patterson, 1996, p. 4) providing firsthand, everyday data on how to initiate optimal learning environments within complex social settings characterized by a variety of learning differences and needs (Hubbard & Power, 1999). Second, teacher research within learning communities creates an "interdependence" (Patterson, 1996, p. 92), linking teachers, peers, and students to shared findings, inquiry, and learning. A supportive audience and nurturing environment is indeed imperative to the success of teacher research (Seifert, 1999; Hubbard & Power, 1999). And, third, teacher research strongly supports transactional learning theory (Rosenblat, 1978; Harste, Woodward, & Burke, 1984) whereby the new knowledge constructed from the teacher's interaction as a researcher with the setting and participants has the potential to inform and transform the learning community in unique, although not always generalizable, ways.

I began to explore the value of classroom research about 15 years ago by keeping a reflective research journal comprised of simple accounts of what was going well and what was not going well in my classroom. It was the year that I taught six, seventh, and eighth grade language arts classes and found that five years as a high school English teacher had not prepared me for the challenges presented by my newest assignment. In my daily writings, I examined the management problems, the curriculum, and the uniqueness of the age group I taught. It was a year fraught with professional conflict as I transitioned from teaching college bound seniors to working with middle school children whose goals and ambitions often did not reach beyond the latest school sports event or their newest romantic interest.

An analysis of my journal entries reveals that I began this modest attempt at teacher research by writing a daily "defense" of my teaching actions which, while therapeutic, was not helping me understand why my students seemed bored and disinterested with the language arts curriculum as I was presenting it. After almost two months, and a near decision to find another profession, I sought needed support and audience. I cautiously shared what I had been writing with another colleague who pointed out what I had overlooked: my entries clearly revealed that I was consistently hiding behind the security of what I knew best–direct, teacher-centered instruction. I could count on one hand the times I mentioned acknowledging the background, interests, and experiences of the students!

I searched for some direction from the data that could help me at least initiate a more successful approach to teaching. Voile! It was right there. My journal entries strongly indicated that reading aloud (which I had only done occasionally and without considering it to be a teaching strategy) was one of the few learning events the middle school students responded to favorably. So I chose a novel, the characters of which reminded me of the students, introduced it to my class, and asked if they would like for me to read it aloud to them. They were pleasantly surprised and in total agreement.

My first simple attempt at teacher research was professionally and personally meaningful: it informed, and forever altered, my instructional practice. Admittedly, I did not design the study according to any specific guidelines for research rigor, but with the help of my colleague, I extrapolated from my entries a clear and valuable overview of what was actually happening in my classroom. From that day forward, I began to change my teaching strategies to better meet the needs of my students as well as to help me survive that first year as a seventh and eighth grade language arts teacher. Reading aloud and talking about the book gave my students and me the common ground we needed to learn from one another. I continued to write in my journal, but instead of focusing on what was wrong in my classroom, I began to document what was going well and why. I developed a coding system for extracting ideas from my data and categorizing them to better focus the data. In addition, I formulated "hunches" (Hubbard & Power, 1999) for choosing strategies and materials to support what I was learning from my research. My journal entries now examined the selection and implementation of developmentally appropriate practices for teaching language arts in the middle school while I was actively involved in the process. Teacher research is like that: it affords the opportunity to teach, to learn, and to study learning within the daily routine of the classroom.

Barriers to Teacher Research

Teacher research is a relatively new field of inquiry, especially in regard to designing the research procedures, analyzing what is often descriptive data, and sharing the findings. It is an anecdotal process which has been described as "a unique genre of research" in which "teacher researchers seek to understand the particular individual, actions, policies, and events that make up their work and work environment in order to make professional decisions" (Patterson & Shannon, 1993, p. 7). If research is valued and respected in other professional fields, one might expect the same to be true for teaching. Without question, there is growing support for teacher research becoming one of the routine responsibilities of a classroom teacher (Cochran-Smith & Lytle, 1992), but, unfortunately, "it is not always respected within the educational community because it does not appear to offer the certainty claimed by experimental research or the lengthy teasing out of rules of behavior and intention that comes with ethnographic studies" (Patterson & Shannon, 1993, p. 9).

The fact that teacher research may be dismissed by other professionals because the design and process of a teacher's classroom inquiry is much more "organic" than that of experimental or ethnographic research (Patterson & Shannon, 1993, p. 9) does indeed represent an obvious barrier to this methodology. However, a more subtle barrier that I have noticed among teachers with whom I have worked, both in the capacity of colleague and teacher educator, is that many teachers have never experienced the value of teacher research in guiding and informing instruction. Why, then, would they seek to make it a part of their already busy routine?

I am reminded of a recent example of such a situation: The National Council of Teachers of English (NCTE) conference theme in 1998 focused on teacher research and the teacher as learner. As I stood in line for lunch, I overheard a group of elementary school teachers nearby saying they were not going to attend "one more session on classroom research." I eavesdropped a little more and learned that they found the three sessions they had attended that morning "boring" and not in the least bit connected to the reality of the classroom. They saw no personal or professional value in either the process or the product of teacher research, especially in light of what they said appeared to be an overwhelming task of research design and data management. Methods of data collection, data analysis, and discerning the implications of the findings remained an enigma to them. It occurred to me that their reaction was a greater barrier to classroom research than professional criticism and, in general, posed a more difficult one to which to respond.

The conversation at NCTE was not new to me. I have often heard seasoned teachers confess that they have never conducted a classroom inquiry. Not only that, but they do not understand the kinds of situation-specific information that teacher research can produce—information that one does not have to extrapolate from one setting to another. For example, when I have asked graduate students, practicing teachers enrolled in my literacy education classes, how teacher research informs their instruction, my question has often been met with confusion over what the term "teacher research" actually means. After the initial moment of silence, some students typically say they read professional journals and keep up with what is on the internet. I have documented the recurrence of this scenario over the past three years, in two very different university settings. With few exceptions, I have not seen or heard evidence to indicate that these teachers either conduct, understand, or value teacher research for the sake of informing and guiding instructional practice. I would like to think otherwise, but as a teacher educator who regularly introduces teacher research as a part of the course requirement, I know this passive resistance to the unknown, uncharted territory of this unique, but highly accessible, form of research exists. Perhaps it is time for teacher educators to demand that teacher research become a routine part of teacher preparation programs where preservice teachers begin to acquire strategies for classroom research within authentic field settings so that, eventually, developing a simple plan of design, process, and implementation for teacher research is well within the grasp of every classroom teacher.

Design, Process, and Implementation

Integral to conducting successful teacher research is designing a study that is both manageable and flexible. Design and process must be kept as simple as possible, especially for the novice researcher. The typical questions I have heard from teachers who wish to conduct classroom research include: how do you start; what do you study; how do you collect the data; how do you "objectively" analyze naturalistic data to validate the implications to your teaching that arise from your research?

I believe that some of the best advice for launching a study is to "start watching and record your observations" (Isakson & Boody, 1993, p. 34). After that there are no absolute guidelines for how to conduct classroom research with one exception: critical to the success of your study is the need to formulate simple questions based on something that is puzzling or interesting to you as a teacher (Watson, 1995). These questions define your research focus or problem. Begin by writing down what you see and how you feel about your observations, but try not to draw immediate conclusions from your observations (Isakson & Boody, 1993). Then, from your notes, isolate your research focus and formulate two or three questions about the focus that are of special interest to you (Watson, 1995). These questions should be simple and direct. Two sample questions might be:

1) what reading strategies do fifth grade students use most often to identify and interpret elements of story, and   2) what do students report about using these strategies?

Realize that at some point during the study you may need to rewrite your questions to better focus your data. You may think you understand the problem, but chances are, until you start examining the data, you really haven't a clue. Revise the questions, preferably with the help of a colleague, and continue. The research questions function to give you information upon which to reflect and, later, from which to draw conclusions (Hubbard & Power, 1993). If your questions are not serving these functions, then change them. For example, I thought behavior management was going to be the focus of my first attempt at teacher research and my questions were about finding ways to change student behaviors. Close examination of my data and the help of a colleague demonstrated that my teaching strategies were developmentally inappropriate for middle school students. They were not learning the parts of speech by viewing overhead transparencies. I rapidly shifted to questions which focused on what and how I was teaching.

Sometimes data different from the intent of your questions surfaces and you may want to revise your questions to include it. For example, in a recent study, I wrote questions aimed at identifying teaching strategies that cooperating teachers expected preservice teachers in field practicum to be able to successfully implement. Early data response indicated that cooperating classroom teachers were equally concerned with two other related areas: the preservice teachers' plan for assessing the effectiveness of a teaching strategy on student learning, and the preservice teachers' willingness to consistently reflect on how they might improve their use of the strategy in the fixture. I revised the questions to include their concerns about assessment and reflexivity.

After research questions are formulated, the next step is to design a simple process for gathering and regularly analyzing the data. Start by designating your richest data sources. Identify at least two data sources and, as your experience in teacher research grows, increase the number of data sources to three. It is important to have more than one way of gathering information so that the data can be triangulated or verified by more than one source. Your sources might include written observations (notes in your diary or journal written at the end of the day), informal assessment data from student assignments, and what the students self-reported during an interview or survey. In this genre of research, flexibility is key to maintaining an ample supply of data. Understand that you are not locked into using your initial data sources; if you see that one data source is insufficient, you may choose to add or substitute another. For example, if more data addressing your research questions seems to be coming from student learning logs rather than the weekly survey you had planned to use, then switch to, or add, the learning logs as a data source. Just be sure to record your reasons for doing so as it might impact the results and implications of your study, especially in regard to student learning response.

Regularly monitoring the results of your study may suggest implications for your teaching sooner than you ever imagined. Since teacher research is supposed to inform instruction, you can act on what you are learning immediately without having to revise the study. Your study simply takes on a richer context. For example, I recently studied my fledgling attempts at teaching a preservice teachers' methods course from a whole language perspective. I focused on my teaching actions and the learning responses of a particular group of students in order to find out if my teaching beliefs were reflected in my teaching actions. I found that student perceptions of my teaching did not mesh with my perceptions so I quickly made some curricular changes and continued my study. I found the changes to be effective, and I also discovered some reliable strategies for studying the same problem with different groups of students.

Finding a way to sift through naturalistic data looking for patterns may initially seem overwhelming, but do not underestimate the value of your own prior knowledge in formulating hypotheses about emergent patterns. "One of the most powerful aspects of teacher research is that it brings those hunches, the teaching lore we carry quietly with us, to the surface of our thinking" (Hubbard & Power, 1999, p. 19). Employing those hunches means bringing to bear all the prior knowledge and experiences you deem appropriate to the study. In addition, it is important to remember that just because something is not recorded in the data does not mean you cannot use it. Reflect on what you have observed and what you already know, remember what you forgot to write down, record it, and then re-read your data. As you read, jot down the most interesting information and then look for patterns of student response or learning. Objective analysis is achieved by carefully looking for these patterns which are triangulated, or replicated, within all or some of your data sources (Lincoln & Guba, 1985).

Key to discovering data patterns is finding a sorting system that works for you within the context of the research you are conducting. For example, from writing in my first reflective research journal I learned to analyze the entire context of the situation within the framework of my action, the students' response, and an evaluation of both. After coding the data to these three categories, I created a rubric within each category. This eventually resulted in a series of highlighted events and responses, the patterns of which separated effective and appropriate teaching strategies from those that were not. It is not surprising that reading aloud, author studies, character analysis, letters to characters, a gossip column in our school newspaper about the characters, and notes to fellow classmates about the readings were easily identified as strategies resulting in greater student interest and learning success.

Flexibility is critical to the design, method, and process of your classroom research, but so is convenience and adaptability. You will need a research plan that is easily embedded into your daily curriculum and time frame and one in which procedures can be comfortably altered when necessary. The classroom teachers I overheard at NCTE did not understand that teacher research can and should be a way of validating our teaching and learning. Like many teachers I have known, they thought it was just another task to fit into an already impossible schedule.

There are no guarantees that the time and effort that goes into conducting teacher research will pay off; however, there are some conditions I have discovered that may lend value to your study and, ultimately, to the validation of your findings. They are: 1) acknowledge that you are the person in charge of your classroom inquiry; you have set up the classroom and know your sample; 2) realize that you are empowered to make choices during the research process to insure that, both during and after the study, you are provided with a guide toward more sound pedagogical decision making; 3) understand that, when analyzing your data, your task is to look for patterns and repetitions to address your questions; 4) as the study progresses, expect to draw some conclusions and make some changes in the study and in your teaching along the way—those changes simply become a part of what you report when you decide that it's time to pause, reflect, and share your findings; 5) respect your dual role of researcher and teacher, letting your knowledge guide your research decisions; and 6) designate certain findings from each study to serve as benchmarks for your professional development. As you seek to provide for these six conditions, it is also a good idea to regularly reflect on the peaks and valleys encountered along the way, noting the changes you make in your study and the rationale behind them.

Some Final Thoughts

We must begin to recognize teacher research as a process not only for exploring, but for valuing our teaching actions and beliefs (Cochran-Smith & Lytle, 1992), and perhaps then academia in general will more readily recognize the "unique perspectives on teaching and learning" that teacher research provides (Cochran-Smith & Lytle, 1993, p. 5). Professional support for the manner in which we choose to design our studies and share our findings lends credibility not only to our inquiries but to our unique choices around professional development that define us as teachers. Acting as change agents (Goswami & Stillman, 1987), it is up to us as teachers and classroom researchers to convince all members of the educational community to re-examine their perceptions of the value and purpose of classroom research. In addition, I believe it incumbent on teacher educators to introduce teacher research as a normal part of the teaching routine and to emphasize the need for audience and support of this unique research genre.

Sharing our ambivalence about teacher research as well as our findings is critical to our success as teacher researchers. When we know we are not alone in this struggle, we are continually reminded of the value of our research and its implications to teaching and learning. This informal networking process lifts the curtain of isolation we, as classroom researchers, might otherwise feel when confronted with the criticism of those who question or devalue the research design and findings associated with classroom inquiry.

As a teacher researcher, I think it is important to examine the true nature of our research as reflexive: we reflect on our teaching and make changes as we think they are needed (Schon, 1983). This studied change is a part of the research inquiry and the reflexive process (Schon, 1987). Those new to classroom research will find that this kind of research protocol invites a demonstration of the immediate value of classroom research. It also has great potential as a new methodology for strengthening the professional development of classroom teachers and in lending greater credibility to our image as a profession. I am convinced that the important implications of teacher research lie in valuing the process of the research as well as the changes in our teaching that result from it. If we, as teachers and teacher educators, can somehow convey that message to preservice, beginning, and seasoned teachers who see classroom research as "boring" or more time-consuming than valuable, then perhaps research will become a routine responsibility for all classroom teachers (Cochran & Lytle-Smith, 1992) because "learning from teaching" will be seen not only as "an integral part of the activity of teaching," but, also, "as a critical basis for decisions about practices" (Cochran & Lytle-Smith, 1993, p. 63). We can only defend the value and utility of teacher research if we are able to articulate a rationale which affirms that reflecting on our teaching actions through student learning brings a new and powerful interdependence, professional integrity, and a transaction of knowledge that ultimately serves as our greatest resource for supporting the learning communities in which we work and live.

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