

# The Power of Questions

## A Guide to Teacher and Student Research

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# Making the Case for Teacher Research



One of the great things about teaching is that it offers the possibility for a life of continual learning. Not the tedious kind of learning many of us have experienced in school, but the kind of authentic learning that happens along the way of living, what Eleanor Duckworth (1987) calls “the having of wonderful ideas.” This is the kind of learning that leads to genuine understanding or mastery of a new skill, that excites and energizes, that stays forever in our minds and our hearts, that leads to new questions and investigations, and is generative of other forms of learning.

Young children experience this kind of learning before they ever step foot in school. Not only have they solved the mystery of their language, they have learned countless things about themselves, their families, and the world around them through their continuous questioning, exploring, experimenting, and investigating. But something happens to this investigative nature as we get older and enter school. The wonder of the early years fades. By the time we enter the fourth or fifth grade, our natural inquisitiveness almost seems to disappear. Somewhere along the way we stop asking about the “how,” the “what,” and the “why”—questions that lead to deeper thinking—and we grow acculturated to the routine questions that currently dominate the work of schools: How do you spell \_\_\_\_\_? What is the formula for \_\_\_\_\_? What is the definition of \_\_\_\_\_? These kinds of questions generally are external to the learner. Usually presented in isolation from learners’ experiences or understandings, they focus on facts that easily fade with time. They so govern the way we learn that we have little opportunity or time to pursue more personally important or in-depth questions (Falk & Margolin, 2005).

In real life, however, the pursuit of personally important questions is what leads to new discoveries, creations, or realizations (Arnold, 1995;

Gardner, 1998). Many educators, over the years, have called for schools to offer better preparation for such experiences: John Dewey wrote of the need for education to begin with “learners’ passions and questions” (1963, p. 3); Jean Piaget of how education should nurture citizens to be “capable of doing new things, not simply repeating what others have done” (in Greene, 1978, p. 80); Paolo Freire (1970) of how education should be instrumental in widening horizons, opening perspectives, discovering possibilities, and overcoming obstacles.

In the midst of the complexities of our twenty-first century life, now more than ever we need schools to produce thoughtful questioners and life-long learners. We need to reconfigure teaching to help students tap into their own questions, generate new ideas, pursue their answers, and put their knowledge to use. To do this, we must find ways to reawaken and sustain the excitement of learning from our early years. If we as teachers want to be able to help our students rediscover this desire, we ourselves need to relearn how to investigate, inquire, experiment, and explore. Only by experiencing such learning personally can we come to know and appreciate the challenges, fears, risks, and joys that generating and pursuing meaningful questions can bring.

### *The research/teaching connection*

Good teaching is not merely a technical matter of delivering information from a recipe or text. Rather, it is about coming to know students well—their skills, learning styles, interests, strengths, as well as their areas in need of improvement—so that we can help them make connections between new information and what they already know; connections that make sense and that last. To do this we need to know what our students understand and how these understandings have been shaped by prior knowledge, experiences, and cultural perspectives. We can come to know these critical aspects of learners and learning by making research about our students, our classrooms, our schools, and our practice a regular and systematic part of our teaching lives.

The word *systematic* is used deliberately here because we want to distinguish between systematic research and just casually pursuing a question. A planned inquiry, conducted over time, with clear goals, purposes, and well-defined data sources has the potential to yield information that may not appear in more informal or sporadic examinations of a question. Systematic research about our students and teaching—through observation, documentation, and reflection—can help us to

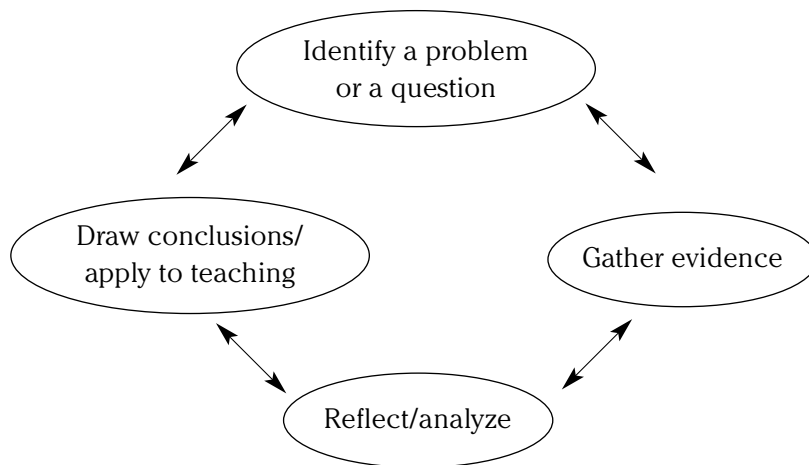
make informed decisions that support our students' development. It can help us to look at what we do in a fresh way. A systematic study also provides a process for us to become aware of any assumptions and biases we carry with us that may affect how we view and resolve our questions.

For example, sometimes we develop images of children based only on memories of a few negative experiences. We may characterize Victor as a troublemaker because we have witnessed him fighting with other children. Or may see Cynthia as bossy because we have seen her telling other children what to do. Yet, if we were to study Victor and Cynthia systematically by regularly observing and documenting their behavior, interviewing them and their family members, or taking photos of them at various times during the school day, we might come to see them in a new light. We might come up with understandings about them that reveal important qualities we have missed. We might find that Victor acts out in ways that produce conflict, but he does this only when he has difficulty expressing his feelings and is so frustrated that he lashes out at anyone in his path. With this additional information we would likely treat him quite differently—not as a troublemaker who has to be continually constrained, but as a child who needs our help to verbalize and act appropriately on what he is thinking. As a result, we might be better able to help change his negative behavior.

Cynthia's bossiness we might also come to see differently. Although it may annoy us that she is always telling children what to do, through careful observation we may come to understand that she has a strong interest in helping others and is quick to catch on to things. Because she has little outlet for these strengths, she expresses them as bossiness. This additional information might help us to transform our characterization of her as bossy into someone with a potential for leadership. As a result we might start to provide opportunities for her to be helpful and to assume new responsibilities.

Systematic investigation can also be used to study a teaching problem or issue. Whether it be studying how to help your fourth graders ask more substantive questions during literature circles, figuring out what to do with the sixth graders who continually disrupt your class, or exploring how to engage the parents of your students who just never seem to participate in anything, careful study of a problem can help you find solutions that have the potential to improve your teaching. (See Figure 1–1.) The study of a problem can begin with a question or it may emerge from evidence you have been collecting about a child or your work. As

**Figure 1-1.** Using Research to Improve Your Teaching



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you reflect on what you do and apply new understandings to your teaching, new questions may emerge that require further study. The research process is not linear; it is iterative.

In this book we present a process for how to create a systematic plan of research about your practice. We will take you, reader, through all the steps involved: how to formulate your question, develop a design for your study, investigate what others have learned about the question you want to pursue, use different tools to gather evidence, analyze your findings, write about what you have learned, and share your understandings with others. We call this process *inquiry research* to emphasize its investigative, open-ended nature. Although we present it in a formal way (appropriate for the work of a teacher research course or preparation for a publishable article), you can adapt this process any way that you wish for the investigation you might want to undertake. At each step of the process we offer an analogous model for your work with children so that you can help them, in turn, to become investigators. We also offer related exercises and questions to help you think about your work. And in an accompanying, on-line resource guide for teacher educators, we provide rubrics designed to guide, support, and assess candidates' work. It is our hope that whatever you choose to use will help you to enliven your own teaching life as well as the learning that takes place in your classroom with your students.

### *Research purposes: Shifts in perspectives*

Traditionally, research has been defined as an enterprise outside of the realm of teaching. Conducted by “experts,” who historically have been seen as the developers of theories and knowledge, educational research has been used to create policies, curricula, and programs for teachers to pass on to their students. In this conception, teachers (and their students as well) are considered to be passive recipients of other peoples’ knowledge, confined to the roles of transmitters, implementers, receivers, or consumers of other peoples’ knowledge.

The type of research presented in this book conceptualizes the purpose and participants of research differently—as situated in the lived experience of teaching and learning, as part of the purview of both teachers and students (Chandler–Olcott, 2002; Darling–Hammond, 2001; Feiman–Nemser, 2001; Rock & Levin, 2002). In this conception, teachers and students are considered to be capable of generating their own knowledge by engaging in investigations about issues related to their interests, the curriculum, or their work (Bissex & Bullock, 1987; Cochran–Smith & Lytle, 1990; Erickson, 1986; Florio–Ruane & Walsh, 1980; Lytle & Cochran–Smith, 1989). They are encouraged to be active questioners, doers, and problem solvers who produce knowledge that is both theoretical and practical (Clandinin & Connelly, 1995; Grimmett, 1993). This shift in perspective characterizes research as a process of inquiry that has the potential to yield powerful learning (Wells, 1994; Zeichner, 1994) as well as challenges hierarchical conceptions that have traditionally determined who creates knowledge and what kinds of knowledge are privileged over others (Cochran–Smith & Lytle, 1993; Fine, 1992; McDonald, 1992).

### *Constructivism: The theory underpinning the process of inquiry*

The inquiry process of research is tied to constructivist learning theories that have emerged from advances in cognitive science during the last decades (Windschitl, 2002). Cognitive constructivism, which draws on the theories of Jean Piaget, describes learning as a process in which individuals “construct” new understandings about the world through active engagement with materials, ideas, and relationships. These new understandings are formed when prior knowledge and experience connect with new information (Chandler–Olcott, 2002; Piaget & Inhelder, 1969).

Social constructivism, which draws from the theories of Lev Vygotsky (1978), defines the process of learning construction similarly

but focuses especially on how people co-construct knowledge through social interaction. Social constructivism emphasizes the social nature of learning—the facilitative role that others play in the process and the diversity of perspectives on reality that exist.

In this view, learning cannot be separated from action: perception and action work together in a dialogical manner. And there is no representation of reality that is privileged, or “correct.” There are, instead, a variety of interpretations that are used for different purposes in different contexts. (Richardson, 1997, p. 8)

Other understandings about learning that complement and enhance constructivist theories include the notions that people are motivated to learn what is of interest to them (Carini, 1987; Dewey, 1963; Eisner, 1991b; Kilpatrick, 1925), skill and fact learning are best acquired in meaningful contexts (Bruner, 1960), learners have different strengths and “intelligences” that call on teachers to make available different pathways to knowledge (Gardner, 1983), and each individual’s potential for growth is limited only by the expectations of her teachers and the opportunities for learning provided to her (Resnick, 1987).

### *Inquiry as a framework for teaching and learning*

These ideas about how people learn have influenced recent conceptions of teaching and learning. Inquiry is becoming valued not as a skill to be learned, but as a framework for education (Short et al., 1996). The teacher’s role within this framework is not to transmit knowledge from expert to novice in a uniform way (Burke & Crafton, 1994; Freire, 1970), but rather to help learners actively explore their own questions and cultivate the critical thinking skills on which they will need to draw throughout their lives (Weber, 1991). Teaching within such a framework is more than merely instructing learners how to search for answers to predetermined questions. It is different too from engaging students in interdisciplinary studies predesigned by teachers or curriculum developers (Eisner, 1994; Gardner, 1983; Harste, 1994; Whitin & Whitin, 1996). Rather, a distinguishing and valued feature of teaching within an inquiry framework is to awaken learners’ own questions and use these as the driving force for learning (Falk & Margolin, 2005). The goal is to support learners to explore their world through a variety of lenses, adjust or transform their thinking, experiment with tools in their environment, and invent new problems and ideas (Pataray-Ching & Roberson, 2002).

Inquiry as a stance has special significance in the context of the culturally, socioeconomically, and linguistically diverse communities that characterize schools in the world today. These conditions call on teachers to come to the job armed not only with deep knowledge of content, skills, and how children learn, but also to understand how to apply these strategies to the diverse learners and ever-changing situations that are the hallmark of contemporary life. Central to the work of teachers, then, is learning how to put theory into practice and how to problematize and problem solve the complex issues common in schools today.

Teacher inquiry research can help to address these challenges. The process of solving problems with evidence collected through research can help teachers think critically, reflect on their work, connect theory with practice, take charge of their own learning, and take action to make change. Engaging in inquiries can thus help teachers get a feel for what it means to be a questioner, a knower, and a doer. By experiencing themselves as learners in this way, teacher researchers gain an understanding of how to facilitate better their students' learning.

### *Research for children*

Throughout this book, as we discuss how to develop and implement teacher research, we encourage you to reflect on the experience of conducting your own inquiry and consider developing such kinds of projects in your classrooms for your students. We hope that as you experience what it is like to generate your own question, think autonomously about a subject that interests you, construct arguments based on evidence rather than someone else's view of the right answer, and make your own thinking processes explicit, you will be inspired to provide opportunities for your students to do the same.

At this time of high-stakes testing and increased curriculum control at the local, state, and federal levels, developing research projects for children might seem to be moving children away from the "nuts and bolts" of learning at school. However, when one considers the potential for learning that an inquiry project presents, it becomes clear why making the necessary adjustments to fit this type of work into the school day is a worthwhile endeavor. Research projects for children can help them work out ideas, develop theories, solve problems, and articulate their beliefs. Through inquiry they can learn about the importance of using evidence to guide their thinking. As children collect "data" in a variety of ways, they get the opportunity to develop skills in the context of

real-life learning experiences. They can develop literacy skills by researching their project in books or on the Internet, by taking “field notes,” interviewing, or developing questionnaires. They can use math skills as they find patterns in the data they collect, graph results, or score questionnaires. As they learn to analyze their data, synthesize their findings with the research they have read, and draw conclusions about their projects, they gain first-hand experience with diversity—how there are multiple ways to interpret the world and not always only one right answer. If you want children to become autonomous thinkers who are skilled at both posing and solving problems, building curricula that utilize inquiry research is a useful, appropriate, and rewarding activity.

To help you think about how to incorporate inquiry research into the work of your classroom, here are a few questions on which to reflect:

- How can you orchestrate projects in which your students can explore their own working theories about their lives or the world around them, gather evidence to understand further the issues surrounding these topics, and then reevaluate their initial theories?
- How can you maintain a balance between making sure your students acquire the necessary skills and knowledge to meet district and state standards, and finding time to support your students to follow their own intellectual puzzlements and interests?
- In what ways can you expand on experiences you are currently offering your students to develop their own inquiry work?

### *Exercise 1: Reflecting on a powerful learning experience*

Take a moment to reflect on your life as a learner and try to locate or recollect a powerful learning experience that you have had, one in which you genuinely learned something or had one of those “Aha!” moments that has stayed with you forever. This experience might be recent or may go back to your childhood. It might have taken place either inside or outside of school.

Jot down a few notes about it on a piece of paper. Now try to identify:

- What about this learning experience made it powerful?
- What role did interest play in your learning?
- What kind of support did you have for your learning?
- What are the implications of this experience for teaching children?