How We Do Action Research

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In the fall of 1998, we began our work together helping teachers learn how to do action research. Our intent then and now is to bring teachers' voices into the discussion of educational policy. We saw action research as a powerful vehicle for communicating to the larger public the complex, day-to-day realities of teachers and children in schools. Until then, teacher action research was something of a cottage industry in which teachers would focus on their own practice, sharing with close colleagues and making adjustments in their classrooms. Scholars like Marilyn Cochran-Smith and Susan Lytle (1993) wrote about teachers' research, but neither academicians nor teachers were engaging policymakers in teachers' work with the goal of bridging the gulf between classrooms and statehouses.

We began educating ourselves in the techniques of action research by reading Hubbard and Power's The Art of Classroom Inquiry (1993). Four years later, the teachers in our network have developed a set of guidelines for conducting action research studies and disseminating their policy findings. What follows is their step-by-step guide for teachers interested in doing action research in their classrooms. 🍎

The Question

Developing a good question is the essential first step in action research. Teachers are always asking questions about their work, but we found that it will take a month or two—if you have a support network where you can talk about your question and get challenging feedback—to hone in on the one question that you will follow over a year or more.

Typically, you start with "why" questions—"Why is there so much noise after lunch?"; yes-or-no questions—"Does attendance improve grades?"; "fix-it" questions—"What should I do when John refuses to read?"; or "how" questions that presume the efficacy of a particular intervention—"How does teaching students to use open-ended questions lead to higher order thinking?" These may not be the questions that you will ultimately explore; they may be too broad, too narrow, too superficial, or too presumptive. They may, however, give you some insight into what is of interest to you about your classroom and your teaching and help you get going.

We have found that good questions are free of educational jargon; they use simple, everyday words that make the point clear to all readers; and they do not prejudge the result. Examples of good questions include:

- What happens when students participate in the process of providing evidence of their understanding? (Wayne 2000)
- How much time is necessary for teachers to meet individual student needs and prepare students to achieve standards? (Peterson 2001)

Examples of good questions that need to be worded more clearly include:

- I began to wonder if my planning could be any better and if student achievement would increase if I planned my reading workshop with another colleague. Would our talk about all of our students help us to get a better handle on the strategies they needed to refine in order to meet these standards? (Picard 2001)

This question is very insightful, but it would be better stated in one clear sentence without jargon; for example, "Would planning with another colleague improve my students' reading skills?"

- To what extent would informal group and individual meetings with new teachers provide useful insights into their needs and concerns? (Fuller 2001)

This question deals with a key issue, but it presumes that the meetings will have an influence. A nonjudgmental question might ask, "What happens when an administrator meets with new teachers in informal group and individual meetings?"

Getting Started

One of the first activities that you can do is make a list of questions that you have about your classroom or your teaching or both. Try starting with "I wonder." You can always reframe your statements as questions. Choose one question on which you could spend some time. Ask yourself why this question is interesting to you, how you might go about answering it, and what might be the benefit to you of answering this question. If, after this conversation with yourself, you are still interested in the question, do a reality check by trying it out on a colleague.

Now it is time to shape your question as a research question. If framed properly, your question will help you determine what background reading you might need to do and which research tools to use. You will also need to describe the context of your study, discuss its importance, and refer to other research.

Permission

While you are probably asking questions about your practice daily, raising these questions as part of an action research project makes your thinking more public. If you are writing about your students and intend your study to go beyond you, you will need to change their names and to take steps to hide their identities. In most research, steps are taken to preserve the confidentiality of participants. However, as Zeni (2001) writes, "In the case of action research, the serious risks are generally those to privacy and reputation—risks that occur for the most part during the process of disseminating and publishing research." We have found it useful to begin by gaining permission. You should talk

with the school principal and your students and communicate in writing with their parents. In some cases, you may need to get permission from your superintendent and school board. Your principal can be your guide here. We have also found that it is appropriate and helpful to share and celebrate your finished work with the participants.

Rationale

Your rationale describes the compelling reasons for conducting your study, and how the study is part of a bigger picture. Whether you are concerned about something as global as "community" in the school or new-teacher induction or something as personal and idiosyncratic as the design of your classroom, you want your reader to understand why this topic is important on a broader scale. Here are some examples from our teachers' studies:

It will come as no surprise that attending high school can be a pretty devastating experience. Instead of being in a place that promotes self-discovery and personal growth, it can be a place that fosters loneliness, humiliation, and failure. It can be a place that, in spite of the best intentions of its staff, fails to deal with the student as a whole person. Heavily focused on academic success, the staff never gets to know the young adult as an individual. They never get to know the myriad of personal problems or needs that their students bring to school. They are never really in a position to develop the full potential of their students because they simply do not know them well enough and to do more is beyond their present capabilities. As my research will show, there is a huge disconnect between students and staff. The consequences of this disconnect are enormous and the implications are far-reaching (Grashow 2001).

Over the next few years the New York City Board of Education predicts that thousands of teachers will be retiring. The result will almost certainly be that inexperienced, new teachers will staff many schools. This coincides with a movement toward

higher standards and increased "high-stakes" standardized testing. Moreover, the shortage of qualified, experienced teachers is a nationwide problem. With large numbers of new teachers entering the system, we will need to compile a fund of knowledge about their needs and concerns in order to accommodate them better. The more we learn about integrating new teachers into the system, the better chance our children will have for a quality education (Fuller 2001).

My thoughts for this study were inspired by comparing the behavior and engagement of students within my classroom with the way those same children creatively used an open park for play. The comparison led me to wonder: Is there a connection between the environments of schools and student engagement? Do the learning spaces and their uses impact on student learning? If students feel more comfortable in a particular space, are they more engaged? Do they achieve more? (Kihn 2001)

Context

The comprehensiveness of your description is directly related to the focus of your question. If your study is part of a much larger study of an initiative in your school district, then it is important that you describe the district, even providing statistical information about it. However, if your study is essentially a self-study, an in-depth look at some aspect of your work with your students in your classroom, you do not need to do more than provide a general overview of the school and a good description of your class. This might include the number of students in your class, grade level, gender, and, if pertinent, such descriptors as languages spoken, socioeconomic level, and location—urban, suburban, or rural.

Relevant Research

This is also known as the "literature review." Reviewing current research on your topic is important because it situates your

inquiry in the rich body of work that educators throughout the world have developed. It will also give you some fresh insights into the topic. We have found the Educational Research Information Center (ERIC) to be the most valuable tool for beginning the search: *www.askeric.org*. You can gain access to most educational journals in university libraries. Increasingly, these can also be found online.

You can refer to the studies in this book for ways in which classroom teachers have incorporated their library research into their studies. We cannot stress enough how crucial it is to do background work. Not only will it serve you well in your growth as a teacher researcher, it will also give you the authority to talk about your study and its relationship to educational policy.

Tools

Implicit in your question are the tools that you will use to answer that question. If you are just beginning to do action research, you will need to take some time to familiarize yourself with the various tools that are available to you. Some will be ones that you may already be using in your everyday work as a teacher, such as anecdotal records, notes from weekly reading conference, observations, or samples of student work. Developing new ways of looking at the classroom (collecting data) is fun and enlightening.

Here is a small sample of tools that our teachers have used:

• *Student, teacher, and parent surveys/questionnaires.* This is the first tool that everyone tries, but developing good questions is more difficult than you would think. You may want to start with a small trial survey that you test on a few students, colleagues, and/or parents. This will help you refine your questions and figure out what you really want to know. For examples of surveys and questionnaires, see Chapter 5, Figures 5–3 and 5–4.

• *Interviews.* Interviewing takes practice. Interviews are personal, conducted one-on-one, and can take from a few minutes to an hour. Often, they are conducted with the aid of a tape

recorder, and transcribing them takes time. Interviews can help you get beneath the surface of an issue, but doing an interview requires preparation and an awareness of certain pitfalls. You must learn not to ask leading questions, not to signal what it is that you want to hear, and how to control the interview so that it is productive. Because interviews are so time-consuming and can take an emotional toll, you will want to use them judiciously. You can read about interviews in Chapter 6 and see examples in the chapter Appendix B.

• *Notes from parent-teacher conferences.* To help parents feel comfortable, many teachers make notes immediately after conferences—while the experience is still fresh. These can be valuable data for your research, as you will see in Lara Goldstone's research in Chapter 4.

• *Student reading logs.* Reading logs are examples of student work. If truly authentic (the contents not prescribed), then you will find that logs are full of useful information about your students' writing and their thoughts about their reading

• *Field notes.* Field notes are your written observations of your students. You can take field notes in a variety of ways depending on what you are looking for. Matt Wayne, for example, used field notes at the beginning of his study just to find out about the reading habits of his students, which he discusses in Chapter 2. Others, like Natasha Warikoo, make notes after class by reflecting on lesson plans and interactions with students, which she discusses in Chapter 6.

• *Photographs.* Photographs are a great way to document work over time; for example, block building, classroom layout, or student art. You may not end up putting these into your final paper, but they can provide useful data.

• *Audio- and/or videotapes.* Audiotapes focus exclusively on talk and sound. As such, they can be useful if you are attending to teacher talk—your questioning, your interactions in small groups, and the amount of your talk relative to your students. Audiotapes are also useful for interviews. Video provides a wider perspective. You can get the benefits of an audiotape, plus a

visual record of you and your students in action. In either case, you will need to think about why you are using this tool and how you will analyze the data that you gather. Ask a colleague to help you with this. Matt Wayne shows us a transcript of student conversation in Chapter 2, which you can find in his "Book Talk" appendix. Natasha Warikoo used videotaping in her math class and in a colleague's for her research. You can find a description of this in Chapter 6.

- *Email exchanges.* While none of the teachers whose work we have included in this book used email, email is likely to become part of your tool kit as computer use becomes more ubiquitous in schools. It could be used for documenting student-teacher and parent-teacher communication.

- *Anecdotal records.* Anecdotal records are used in case studies to document a particular set of behaviors of a child or a class. These are notes that provide a record of the time and the context of the behavior being studied as well as a full account of what happened. These are essential pieces of information for referrals, but can also be useful to help a teacher develop a better understanding of a particular child. See Lara Goldstone's case studies in Chapter 4 for a good use of anecdotal records.

- *Grades/report cards.* Your research can help you make the connection between your teaching and student achievement. If it is reflected in grades and on report cards, you will have made an accessible case for the instructional practice(s) that you are focusing on.

- *Attendance records.* Attendance records can provide interesting patterns, which, when correlated with other data such as student participation and handing in homework, may lead you to pay closer attention to certain students and design appropriate interventions.

- *Classroom maps.* Classroom maps are actual drawings of the classroom. These are essential for keeping track of how students are using the room, interacting with one another, and responding during class discussions. If classroom maps are used at the same time(s) over a period of days or weeks, they can be made

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into charts that reveal interesting patterns of the movement and/or verbal flow in a classroom.

- *Peer observations.* To facilitate data collection using many of the tools we have described, you may want to turn to a colleague. You may also choose to observe your peers as part of your research. You can refer to Chapter 6 to learn how Natasha Warikoo used peer observations in her research.

- *Running records.* There is a specific protocol for running records that should be familiar to any teacher who is engaged in teaching reading. Running records help you to determine a student's reading skill and in what areas the reader is experiencing difficulty. Both Lara Goldstone and Matt Wayne make extensive use of running records in tracking student progress.

If you are new to action research, you should take some time to try various tools and become familiar with what information they can yield and how to make them part and parcel of your teaching. Working collaboratively with other teachers in a support network will help you to expand your repertoire and deepen your understanding of the power of a particular tool. You may also decide to expand your study beyond your own classroom by involving colleagues in designing, selecting, and implementing tools that will be used in their classrooms as well as yours. For example, teachers who have done research on lesson study have worked in this way.

Data

Data is the information generated by your research tools and takes many forms. Here are some examples:

- samples of student work collected over time, such as students' drawings, reading logs, writing samples, homework
- audio and video transcripts
- responses to questionnaires and surveys
- classroom maps that show movement and/or verbal flow
- notations from running records

- interview transcripts
- field notes taken over time
- photographs taken at various points during your study
- newspaper articles, newsletters, information bulletins, communiqués that relate to your study

If you use a tool such as student attendance records, you will have numerical data like the following: Student attendance for seminar during the spring shows that the average number of students absent from seminar over an eight-week period, by section, was 4.5 students in Section 1; 2.5 students in Section 2; 2.2 students in Section 3 (Tureski 2000).

If you use an open-ended questionnaire, you will have text that you will eventually need to code. Drawings can be data, as Diana Takenaga-Taga (2001) showed in her study of preservice teachers' perceptions of scientists. Try using charts, tables, and other graphic organizers to make your data clear. Think about describing your data in terms that make it easy to comprehend; for example, see Lisa Peterson's (2001) chart of the time she spent outside of school hours on school-related activities (Figure 1–1).

Always make sure to include a summary of your data in your paper. We have found that teachers new to action research often skip this step in their writing and go directly to analysis. Remember, your reader needs to know how you got there! You can even include samples of your data in appendixes.

Figure 1–1 Time Spent Outside of School Hours on School-Related Activities

| WEEK OF FEBRUARY 19 (five days)		WEEK OF JUNE 4 (seven days)	
Planning/assessing	8 hours	Planning/assessing	14.5 hrs
Tutoring individuals	7 hours	Organizing 3-day class trip to Boston	7 - 8 hours
Extended day literacy program (I am paid for work in this program.)	4 hours	Preparing video for NY State permanent certification	6 hours
Organizing, preparing room	4 hours	Organizing, preparing room	4 hours

Analysis

Analysis is fun and messy. It always begins with your data. Try spreading out your data on your living room floor. Look at all you have collected. Begin simply by sorting according to the tools you used. Ask yourself what each tool is telling you about your question. For example, you may have samples of student work collected over time because you are focusing on some aspect of literacy skill development. Begin with the earliest samples. Describe them, focusing on the key attributes you are looking for. Move on to later samples. Again, focus on the key attributes. What has changed? Once you have done this, you need to think about how you can describe the changes. That becomes your analysis of that piece of data. But student work may be only one of the tools you used to pursue your question. If test scores are another, then you will need to look at early and late scores and compare them. Again, you will focus on the key attributes you are using to guide your inquiry and then determine change. As you continue in this way with your various data sources, you should ask yourself about the best ways to describe the changes you notice.

Here are some techniques for beginning to organize your data:

- Code your transcripts.
- Sort your annotated field notes around various topics.
- Collate the data from your questionnaires and surveys.
- Make a time line with your photographs.

Your choice about how to organize your data and what technique(s) to employ will depend on your data and what you are looking for. If this process is new to you, you will need to find a reference on qualitative research or seek out a colleague who has expertise in this arena. In the Teachers Network Policy Institute, we spend time each month helping one another examine data and learn techniques for organizing and analyzing it.

Once you have combed through your various data sources and analyzed them, you are ready to make your case. Think of your

Figure 1–2 Analysis of Study Group Conversation (Arnold 2002)

- 79% Instructional Issues
- 17% Mentoring Issues
- 4% Professional Issues
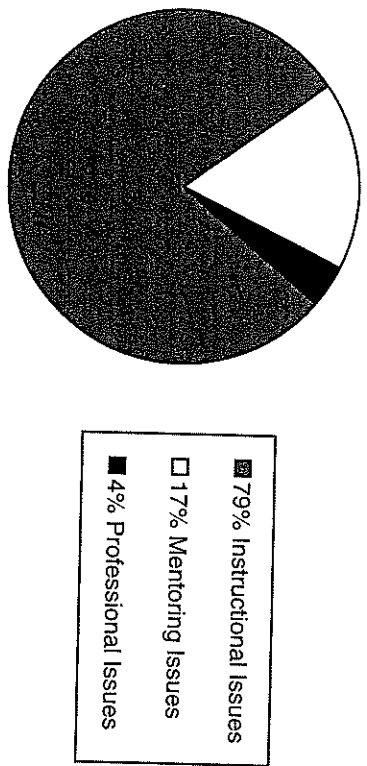
analysis as akin to a legal brief you are gathering the data and organizing it in ways that support the argument you will make in your conclusion.

Here are a couple of techniques for presenting your analysis:

- Case study of a student, small group, or classroom. The case study format enables you to bring your various data sources together. Penny Arnold (2002) did this in her study of teachers working as mentors with student teachers. She used a pie chart to focus on what they talked about (see Figure 1–2).

- Telling a story. You might begin your write-up with a story that emerges from your classroom and that illustrates or contains the various elements of the study you have just completed. While the story is your lead, the shape of your study may follow the conventional outline we are following in this chapter. Diana Takenaga-Taga began her study of preservice teachers' views of scientists at work with the following story:

In the fall of 1999, I asked my science preservice students, "How many of you had science instruction in elementary school?" Very few hands went up leading me to believe that the majority of my undergraduate students had poor science education back-

grounds. After some discussion, I learned that my students had science phobias and were apprehensive about the class they were sitting in. Science was viewed as a negative, "difficult" subject only to be understood by few individuals. If science had a portrait, it would look like a Caucasian man who wore a white coat and worked in a laboratory surrounded by test tubes, bottles, and books (Takenaga-Taga 2001).

Conclusions and Policy Implications

Your conclusion emerges from your analysis. It tells the reader what you learned. It may also point to further areas for study. Chris Mullin's and Jerry Swanitz' (1999) study of professional development around computer use provides a good example. They asked two questions:

1. Will training teachers in the use of problem- and project-based learning, including student use of Internet resources, increase the degree to which teachers use technology as an instructional tool?

2. Over time, will teacher implementation of problem-based, technology-rich lesson plans lead to improved student learning?

At the end of their study, they concluded, "Our study indicates that teacher use of technology increases with proficiency but, more importantly, with knowledge of how to actually construct powerful learning activities in which students have hands-on use of technology."

Their conclusion makes sense in light of the analysis that precedes it and leads well into their policy recommendations:

- Technology implementation plans should allot at least 15 percent of the budget to provide staff development. Clearly, spending the entire budget on hardware and software will yield little in the way of sound educational results.

- Technology grants should not only require that a percentage of the budget be set aside for staff development, but there

should be a stipulation that staff development include instruction and practice on how to incorporate student use of technology into learning activities.

As this example demonstrates, policy implications should connect with your data presentation, analysis, and conclusions. When you write your policy recommendations, it is important to be specific. Include concrete actions that policymakers can take. Be specific about which policymakers can implement your recommendations. Sarah Picard's (2001) policy recommendations are a good example. In response to her question, "Would planning with another colleague improve my students' reading skills?" and based on her data, analysis, and conclusions, she presents the following policy recommendations:

1. At the district level, structures should be developed that provide for collaborative teaching during the school day.
2. At the contractual level, teachers should have the option to work an extended day to allow for collaborative planning.
3. At the school level, principals and teachers should work together to create conditions that encourage collaborative relationships around instruction.

Last Words and Next Steps

Action research is hard work. We have learned that doing good research, like learning to teach well, takes time. Your first study may be tough going, but we promise you that if you stick with it and network with other teacher researchers, you will get better at it. Action research is most successful when teachers have figured out how to bring it into their everyday teaching—no small task, but well worth the effort. Examining what you do every day in a systematic way makes you a better teacher.

A great way to get a sense of the power of inquiring in this way about your teaching is to read the studies that we have included in this book. We also encourage you to go to our website *www.teachersnetwork.org/tnpi* and watch our action research

Action Research Paper Review Criteria

Name:

Section	Comments
Question • Clear and simple • No prejudgment	
Rationale for Study • Clear and simple • Broad scale reasons • Bigger picture?	
Background/Context • Basic facts • Statistics	
Research • Relevance • New insights/trends • No editorializing	
Tools • Research methods • Clarity • Appropriateness	
Data • Different forms • Numerical or factual • Summary • Clear and thoughtful presentation • Relevance	
Analysis • Connection to data • Explanations • Make a case • Clear	
Policy Recommendations • Reflects learning • Clear and targeted • Connection with study	

video, which features Matt Wayne and his students conducting research in their classroom.

When you have completed your study, we suggest that you use the Action Research Paper Review Criteria form that we have included here (Figure 1–3) to make sure that you have all the essential elements of a study. This will help you to know that it is ready for dissemination and publication. Email it to us at *info@teachersnetwork.org* and we'll put it on our website!