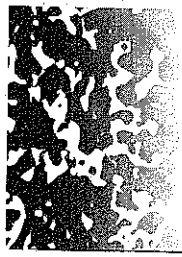


CHAPTER THREE

Developing a Research Plan and Identifying a Research Question

Developing a Research Plan

As this text moves from general information to an outline of the action research process, a caution from Noffke (1997) is appropriate:

> Defining action research in terms of a particular process or series of steps may help to identify it as a research technique, but in so doing one also clouds the issues of the purposes to which it is advanced: the political agendas, both overt and embedded in the constructions of the professional and personal. (333)

Readers are urged, as they begin exploring the *how* aspect of action research, to keep in mind that more important is the *why*. Although examples in the following material often focus on pedagogical issues, these were selected only for clarity and are not intended to endorse some models of action research over others. Readers will need to remember that the basic information on process offered here can be adjusted to a wide variety of goals, commitments and contexts.

A Perspective on Research Process

Despite significant variation in action research models, each involves the same core activities. Though often described as having three phases (Stringer, 2004; Hendricks, 2006; Schmuck, 2006), any action research project requires several practical steps:

- Developing a question
- Formulating a research plan
- Systematically collecting data
- Analyzing the data
- Developing and implementing an action plan
- Recording the project in writing

Many models additionally suggest sharing the study with others.

This neat step-by-step progression is not, however, as tidy as it looks on paper.

Linear
proceeding from one point to another in a straight line.

Recursive
involving repetition; in educational research, used to describe a process in which researchers move back and forth among various phases of the research—from data analysis to additional data collection, for example.

Although the components of the process appear **linear**, action research is actually often **recursive** in practice. That is, although it is often explained as a process consisting of chronological steps (first develop a question, then formulate a research plan, and so on), researchers commonly move back and forth among various activities, for the simple reason that later work often produces ideas for useful changes to original plans. For example, a teacher researcher might plan to analyze one marking period of a student's writing. However, after collecting that data and beginning analysis, the teacher might sense a pattern but want more data to substantiate it. At that point, he might interrupt analyzing to collect more data, modifying the original plan by adding work from a second marking period. Similarly, a group of parents and educators might begin a study to assess effectiveness of a charter school; after beginning data collection, they might realize that they had not planned to obtain information from students about their experiences. At that point, the researchers might add a new question about student perceptions, develop an additional strategy for data collection, and perhaps invite student representatives to join the initial group and participate in data analysis and action planning. As a study progresses and researchers develop deeper understanding, it is not unusual for them to change their original plans. Therefore, while it's important to become familiar with various steps of the process, it's equally important to understand that the process is a flexible tool for the researcher's purposes—not a rigid and restrictive regimen.

Basics of the Research Plan

Research plan/research brief
a plan detailing the several steps of an action research project; typically, it includes at a minimum the study's purpose, question/s, methods, and time line.

Any purposeful journey has a planned route to a specific destination. In action research, a **research plan** (or **research brief**) identifies a destination and maps the route the researcher will follow to arrive there. The research destination is the answer to a particular question (for example, What is causing this problem?), and the plan offers the researcher/driver directions on how to get there. Just as drivers may encounter unexpected detours, action researchers may be surprised by unexpected events as the process unfolds and find themselves adjusting their plans en route. Still, without a beginning plan, any study might easily become an aimless ramble. The act of planning helps minimize time spent backtracking—or facing dead ends.

Generally, developing a research plan involves thinking through the answers to a set of questions that then serve as a set of instructions for the researcher to follow. Research plans detail not only *what* needs to be done but also *when* and *how* each step will be accomplished. They also include a statement of purpose, or a summary of what the researcher hopes the work will accomplish. The purpose statement helps keep the project focused and provides a touchstone useful when the researcher must choose among questions and methods.

A list developed by Hubbard and Power (1999) offers an accessible and useful overview of elements common to research plans:

Research purpose:	Why do I want to study this?
Research question:	What do I want to study? What subquestions do I have?
Data collection:	How will I collect data?
Data analysis:	How will I analyze my data?
Time line:	When will I complete the different phases of my study?
Support:	Who will help me sustain this project?
Permissions:	What permissions do I need to collect? Are there ethical issues to consider? (pp. 47–48)

While this outline may suggest that a research plan document will resemble a sort of outline, in fact format is irrelevant. The purpose of the plan is to provide support for the researcher, and so any format the researcher finds useful is fine. A plan could very well consist of a list of answers to those questions—or it might look more like a memo, or an essay, with a paragraph on each topic and/or headings appearing here and there. Format will vary with researcher, which is fine. What is important is not how the final product looks, but how well it has been thought out.

Time lines

A schedule for the research project is critical. It can be intensely frustrating to realize that an opportunity to collect data appeared...yesterday. It is equally futile to collect data and then let it sit in a file drawer untouched for months. Practitioners are all busy people who most often carve research time from an already overfull schedule; self-imposed deadlines help prevent the research project from slipping onto some eternally simmering back burner. Momentum matters, and a timeline can serve as a constant reminder of time passing and work waiting.

Many researchers find it helpful to plan backward—to start with a targeted end date and then allocate the amount of time available for the work. If, for example, summer would provide good time for the researcher to complete data analysis and formulate findings, then the deadline for data collection would logically be the end of the school year. Once the end date for collection is set, a starting date can be determined, depending upon the amount of data wanted and the difficulty of obtaining it. As will be discussed momentarily, collection of some data may require obtaining permissions first. Therefore, the starting day of data collection would also serve as the deadline for securing permissions. And so on.

While setting a time line appears such an obvious and easy task that novices might be tempted to skip it, time is a precious commodity that must be spent with great care. Otherwise, a project is likely to be weakened by some of its necessary components being too rushed. Planning—and meeting—deadlines for various phases of the work improves project quality *and* saves the researcher/s stress. If a question is too big for the time available, it can be

modified before the project starts rather than desperately hacked down to size as research progresses.

Support

While not all research plans consider sources of support, it can be worth the researcher's time to think through which colleagues, or others, might be able to provide insights on the work as it moves forward. This is especially true for individual researchers, who can benefit from discussing their thinking with others who understand their situations and purposes—a friend in another district, teachers in the same school, a mentor, another researcher, perhaps a research group. The question to ask is "Who can help me think critically about this project as it moves from phase to phase?" Discussions with such colleagues can help determine if a plan is feasible and complete, if interpretation of data seems reasonable or questionable, and if the action suggestions appear logical next steps.

Another way to think about the support question is to ask "Whose support will make it more likely that this project will be successful during and after implementation?" For example, some administrators might not initially be pleased to hear that someone in the school plans to analyze the tracking system to determine if its results may be discriminatory. Since no one wants to be associated with discriminatory practices—and because changing something as significant as tracking would require widespread support—the researcher might plan initial meetings with a variety of stakeholders to assure them that the intent is to identify *unintentional* bias. The point could be strengthened if the researcher did a preliminary **literature review** to identify other studies indicating that despite authorities' best intentions, tracking systems intended to be neutral can nevertheless produce discriminatory results. Sharing such reports from others' experiences can be very helpful in eliciting cooperation from local authorities. Especially when an issue may be a sensitive one for other stakeholders, such groundwork can be enormously helpful to the eventual success and impact of a project—but it takes advance planning and time.

Literature review
written summary of published material related to a research topic; researchers often conduct literature reviews for ideas on study design and/or to make connections between their new study and others that have come before.

In thinking through the research plan, then, researchers should consider who can be a good springboard for ideas and a constructive critic, and whose "buy-in" is necessary for the work to accomplish its intended objec-

tives. Depending on the objective of a particular study, how to secure that buy-in may be a significant strategic question.

Permissions and ethics

In some cases, support is not simply desirable and helpful, as noted above, but *essential*. Formal permission may be necessary to access particular kinds of data. For example, researchers interested in identifying unacknowledged health issues among students would need access to student health records, which are, by law, confidential. Before beginning the study, researchers would need to determine whether such access would be legal; if so, whether district authorities would be willing to grant it; and if they were, how the privacy of individual students would be protected. Legality, confidentiality, and sensitivity about negative information can all pose significant obstacles in accessing potential data, and researchers must be sure to confirm very early in their efforts that they will be able to get the data they need.

Even when the data seem readily accessible—as when a teacher plans to use student work—ethical concerns may dictate the need for formal permission. All research traditions have ethical guidelines to protect research participants; in action research specifically, two primary ethical concerns are participants' privacy/confidentiality and the researcher's potential abuse of power. For example, students' right to privacy can be violated when researchers share such information as student essays or comments publicly, especially if individual students can be easily identified. Abuse of power is also a concern when the researcher has power over the participants (as teachers do over students); participants should never be coerced into contributing data for a study. Thus, research projects often involve securing formal agreement from participants to provide information and/or allow information to be shared in some way.

However: because action research projects and purposes are so variable, guidelines for when such formal permission is necessary in AR projects are somewhat flexible (or, unclear may be a more accurate term, since there is significant disagreement on the issue). Generally, whether participants' permission is needed for a study depends upon how public the process and results will be. A teacher working alone, only in his classroom, studying only normal daily activities, and planning to use the results only to inform his own practice, would not need any special permission for a project. In this case, the action research process would simply be a formal version of the kind of analytical thinking all teachers do routinely; no student can be threatened by it because the teacher will not share any of the data or thinking with anyone else.

If, on the other hand, the researcher were planning to share information in any way—by presenting results of the project to some group, or writing for publication, for example—the situation changes. In such cases, permission would need to be formally obtained from legal guardians for children under age 18, and from students themselves if they are 18 or older. To address confidentiality concerns, researchers often guarantee participants anonymity; they may promise to omit names, to use pseudonyms, or to employ such generic phrases as "Some students felt that...." Researchers must remember that sharing information involves publicly projecting some image of the participants, whose rights and sensitivities are as important as the researcher's goals.[1]

Ethical guidelines for educational research in general have been detailed by the American Educational Research Association (AERA) and many other professional organizations, and Zeni (1998) has published an article on practitioner research that outlines a useful "alternative guide with questions suited to action research" (abstract) (see Resources).

Informed consent form
used to secure and document the willingness of persons to participate in a research study. The form describes the purpose and methods of research and such other topics as how confidentiality will be ensured.

When formal permission is necessary, it is documented with **informed consent forms**. These are documents that participants or their legal guardians sign to indicate that they agree to participate in the project. Typically, such forms outline why the study is being conducted, what methods will be used, how confidentiality will be assured, and how a participant who changes her mind may withdraw. Consent forms summarize such information so that when the appropriate person signs, there is a formal record of the agreement and its terms. Samples and guidelines for informed consent forms are readily available online from university websites and in many textbooks on action research (for example, Hubbard & Power, 1999; Stringer, 2004; Hendricks, 2006). Figure 3, however, provides a generic sample.

FIGURE 3: SAMPLE INFORMED CONSENT FORM

Study of Student Writing: Permission Request

Dear Parent/Guardian,

I am planning to study sentence structure typical of our ninth grade students. I plan to base this study on that writing students do during our regular class work. My purpose is to identify which sentence structures students typically use correctly, which incorrectly, and which don't appear at all. The information gained from the study will be used by the ninth grade English team to adjust our curriculum for next year. While I may report on this study in a conference presentation or an article, I will protect student anonymity in any public reports of this work. Should I share specific examples of student writing, I will be sure there is no way to link any one example to a specific student or class.

By signing this form, you indicate that you have given permission for me to use the written work of your child in this study and perhaps to quote from it, protecting your child's anonymity, in public reports of the work. Should you change your mind, you need only provide me with written instructions to exclude your child's work.

Signature: _____

Date: _____

A word on literature review

As indicated above, the literature review is a summary of what has already been written on the topic under study. Interpretivists use literature reviews as a practical means of saving time and/or advancing thinking by learning what others have already said and done in an area. While not all AR models call for a literature review, many do. Some incorporate it as an early component of the research plan, for an obvious and sensible reason: time a practitioner might spend "reinventing the wheel" would likely be better spent trying out a wheel someone else already designed. If a teacher is struggling with a particular pedagogical issue, it's likely others have already dealt with the same issue and developed useful strategies. It can make good sense to save time by looking through published material for ideas, and listing a few key documents in the research plan can provide a good start for the process. The reference section of particularly relevant documents can point the way to still other useful materials.

Other models suggest completing a literature review during or after data analysis to help make sense of new

information the study provided. Have others reported seeing the same thing? Have they interpreted similar data the same way? For example, a teacher whose study had documented test-related stress and illness among students might wonder whether other teachers had reported the same. If she explored the existing literature, she would find that they had, and that what at first seemed a local issue is actually part of a national problem needing attention on multiple levels—local, state and national. In addition, the literature review might offer information on strategies others had used successfully, or even suggestions for state and national groups that she might consider joining.

Moreover, if practitioners are to build a new knowledge base, it is important for them to help tie numerous individual studies together into a coherent whole. From this perspective, it is extremely valuable for researchers to read what others have reported and to place their own findings into a larger context when they report on them. A significant knowledge base can grow only through such connections.

In short, even though not all models explicitly suggest one, a literature review is informative and useful. In formulating a research plan, researchers should consider the possibility of including one. Many resources are available electronically, and sophisticated search engines and databases have made identifying and locating them much easier. Libraries, especially university libraries, offer extensive access to multiple databases which provide full text copies of many documents, including journal articles that at one time were available only in print. Help with a literature review is often available from someone facilitating an action research process and from university or other librarians.

While these components are staples of research plans, they are neither exhaustive nor prescriptive. Researchers can add any other information that might seem useful: anticipated difficulties, the target audience for an eventual report, warning reminders to themselves ("Be careful not to get sidetracked while doing the library research!")... anything likely to keep the project focused and moving forward. The more detailed a research plan is, the more useful it can be to the researcher.

Figure 4 provides an illustration of what a typical research plan might look like based on the suggestions in this chapter.

FIGURE 4: SAMPLE RESEARCH PLAN

Plan for Sentence Structure Study

Purpose: To identify instructional opportunities for improving the correctness and maturity of ninth graders' typical sentence structure. (Tenth grade teachers have complained that overall, students rely heavily on simple and coordinate constructions. Students complain they have a hard time getting sentences to say what they mean/intend.)

Research Question: What sentence structures are typical of ninth grade students' writing? To what extent are they using those structures correctly?

Sub-Questions: For each sentence type: (simple, compound, complex, compound-complex), do students:

- Use the structure in their writing?
- If so, how often?
- If so, how often correctly, how often not?
- If so, how often does structure seem to match emphasis (simple sentences for maximum emphasis, less important ideas in subordinate clauses, etc.)

Data Collection: I will copy: 1) my ninth grade students' responses to the first marking period's two essay assignments, and 2) two samples of in-class writing assignments.

Data Analysis: I will color code each sentence to indicate its structure and assign a minus sign (–) to any sentence containing a structural error. I will use these codings to determine how often and how correctly students use various structures. Matching intended emphasis to structure will be more complicated; I will need to design some form that will allow a few independent raters to identify cases of obviously appropriate and inappropriate match-ups of form with emphasis.

Time Line: Data collection: end of first marking period

Data analysis: initial analysis to be completed during fall break; independent ratings of correlation between structure and meaning by January 5

Written report: to be shared with ninth grade team one week before March in-service day to allow for discussion there.

Support: Members of the team, or English teachers from other grade levels, will be needed to do independent analyses of structure/intent. I should also ask them to help me design the form.

Permissions: needed from parents and/or guardians

Identifying a Research Question

To return to a metaphor invoked above: research can be conceptualized as a way to reach some destination—

that destination being the answer to a research question. Everything in the research process flows from the research question, just as every set of driving directions depends upon the destination. Before deciding to take a north/south or east/west interstate highway, the driver has to consider where he intends to arrive.

Obviously, choosing the wrong question, or wording a question inappropriately, can derail a project before it's even begun. Therefore, this section focuses on the critical issues of identifying and wording useful research questions.

Identifying a Research Interest

Experience

Educators are people in the habit of thinking and wondering. They fret about something that went wrong, or they consider how something might be better, or they try to puzzle out an explanation for a phenomenon they don't understand, or they wonder what would happen if they tried that new technique they read about the other day. Because they tend to be naturally curious people genuinely interested in their students, practitioners rarely have difficulty identifying a general interest area for a research project. Poor student grades or behavior or standardized test scores, inadequate classroom supplies or student support services, pervasive student health problems, discriminatory language and practices in the school, a tracking system that reflects socioeconomic status more than ability: many schools have not only such problems but also stakeholders interested in addressing them. Or, rather than focusing a problem, a researcher can take a closer look at elements of school routine that have long gone unquestioned: "This has always been our hiring process—but how does it compare to other districts' practices?" "We've assumed we can't afford not to comply with No Child Left Behind—but what exactly would the costs of non-compliance be?" Or, a researcher might simply seek a better understanding of some relevant topic, asking such questions as: "What elements of the curriculum do students find most and least useful?" "How might incorporating a community service requirement affect students and the community?"

All of which is to say that a researcher's questions come from a researcher's experience: from what happened

yesterday or today, from what might or could happen tomorrow, from the nagging worry that pops up every morning in the shower, or the unexpected tears of a distraught student, or the surprised grin of the tough guy who earned an A on a paper. Hubbard and Power (1999) suggest that questions come from "tensions" and "gaps" in the researcher's experience; Dana & Yendol Silva (2003) cite Sherman's term (1997) "felt difficulties." In short, any concern or interest that grows out of practice can provide the seed of an action research project.

It's far more common for a researcher to have difficulty choosing among possibilities than to have difficulty identifying *an* interest. Still: newcomers to the process sometimes feel lost when they begin considering a research topic. Most often, that is because they are haunted by images of positivist research and tend to feel that their interests aren't big enough or important enough: "Why is Chris so angelic some days, so disruptive others?" "Why do those three students seem to hate what all other students seem to love?" While these may seem small and routine questions to some teachers, either could prompt a useful action research study, since each seeks information that could help the researcher improve teaching and learning. Because better understanding leads to better practice, few of a practitioner's real questions aren't worth the time and trouble necessary to study them—and those few are fairly easily identified and avoided. Generally, they are questions that the researcher can already answer, and questions that have yes/no answers (Hubbard and Power, 1999).

Since action research is intended to provide the researcher with useful information, there's no point in conducting a study to demonstrate what she already knows. Yes/no questions are similarly unhelpful because they yield minimal information. Often, for example, they hide the fact that a study is intended to support an opinion a researcher already holds—another version of asking a question when the answer is already known. A teacher secretly proud of giving difficult reading quizzes might ask "Are my reading quizzes challenging for students?" simply to confirm his reputation. While such a study might give the teacher some satisfaction in seeing that opinion confirmed, it offers no information useful in improving anything. Of course, there's always the chance that the researcher would be surprised to get information contrary to his beliefs, in which case the study might be valuable—but not if the question asked required only a yes/no answer.

Suppose, for example, that this researcher believed the quizzes were easy but students said no, they aren't. What would that "no" mean? There are multiple possibilities, each having drastically different implications for practice. It might mean that students believe the instructor consciously makes quizzes impossible by basing them on unimportant details or by using tricky questions in order to keep grades low, stroking his own ego with a reputation for toughness. In stark contrast, it might mean that students believe that the quizzes are easy only when they take time to do assigned reading carefully and thoughtfully; in this case, students saying the quizzes are not easy would be a good thing since it reflects a positive impact on both student motivation and student-teacher relationships. Of course, different students in a single class could conceivably hold each of these views—and perhaps others as well. The most important information in a study like this one would not be *that* students held a particular opinion, but *why*. In this case, for example, rather than asking the yes/no question "Are my quizzes challenging?" the researcher might more usefully ask "How do my students perceive my reading quizzes? Why?" A great deal more useful information is likely to come out of such open-ended questions.

Typical Areas of Educational Action Research

While any area of experience can prompt a good action research study, analyses of completed studies indicate that educators typically probe several specific areas (Dana & Yendol-Silva, 2003; Holly et al., 2005, for example). There is a growing body of work in each area that can provide researchers with ideas for research topics and designs and that allows them to compare their findings with others.

An individual child or group of children. Because educators have an intrinsic interest in children, action researchers often focus on a particular child or group of children. All teachers have struggled with how to better meet the needs of a particular student: one who is failing, or painfully shy, or dangerously bored, or openly hostile, or consistently sorrowful. Each child is unique and has unique needs, so that the educator's attention often focuses on this child or that, whichever seems most in need of attention at a particular time. Sometimes that attention turns to groups of stu-

dents who share similar characteristics (being in the same socioeconomic group, clique or track) or who face similar challenges (mastering English as a second language, dealing with physical limitations). These studies essentially ask "How can I/we make the school experience more productive and enjoyable for this child/these children?"

The curriculum. Although many people perceive curriculum as something simple and obvious (history: Columbus), it involves much more than presenting information on given topics. The teacher instructed to cover the "discovery" of America would, of course, include in the unit the information that U.S. textbooks generally credit Columbus with the discovery in 1492.[2] However, other large choices loom. Possible related topics include such widely varied areas as: the economic motives that drove exploration; the hardships endured in the long journey across the Atlantic; that several tribes and cultures were on the continent for centuries before Columbus arrived—and that they were, perhaps, descendants of earlier Asian explorers; that, in any case, many historians believe that Chinese and Viking explorers predated Columbus; or, the devastating impact of European diseases, guns and "civilization" on the native peoples. Possible objectives are equally varied, including such alternatives as students learning that: Columbus was a great explorer worthy of admiration; great accomplishments often involve great personal risk and sacrifice; the same events look different to different people; some of today's social problems can be traced through centuries of historical events; readers should seek out various sources of information on a topic and reach their own conclusions.

Few curriculum guides explore such alternatives, and an action research project can provide practitioners with the focus and structure to think them through. Alternatively stated, action research projects can help educators translate general curricular imperatives to coherent classroom units. Similarly, administrators and policymakers might use action research to learn how educators translate the exhortation to "Use more technology in teaching and learning" into practice, or to explore whether a particular sex education curriculum is having the intended effect—or if stakeholders are even familiar with the intended effect. Questions in this category often take the general form of "What should this curriculum include and accomplish in the classroom?" and "What effects does this curriculum have on teaching and learning?"

Teaching strategies. Deciding what to teach is one thing; deciding how to teach it is another. Because every teacher daily confronts the question of how best to teach something, education action research projects frequently focus on pedagogy. For example, an elementary teacher might be using weekly word lists and tests to teach vocabulary but be dissatisfied with the results: students pass the tests but don't use the new words when speaking or writing. The teacher might study the effects of an additional activity ("What happens when I make a habit of using vocabulary words in my everyday speech and encourage students to do the same?"), or of an alternative strategy ("What happens when I allow students to create individual vocabulary lists based on their reading and experience?").

Generally, teachers might study what happens when they try a new method, or which methods seem best suited to which topics and/or students, or what conditions are necessary for a method to be effective. A study of pedagogy can uncover both intended and unintended consequences—as when an emphasis on test scores raises grades but increases cheating as well. Or, it can help teachers understand how best to vary assessment methods so that the students who excel on essays and those who do best on objective, multiple choice exams will both have an opportunity to shine. Or, it can help teachers probe what conditions are necessary for certain teaching strategies to be effective ("How much and what kind of structure do my students need to complete assignments successfully in small groups?"). Pedagogical questions often ask "What happens when I _____?" or "What is the most effective way to help students learn _____?" or "What might be the preconditions for this teaching method to be effective in my class?"

Administrators and policy makers might also look at pedagogy, especially in a time when particular methodologies are being widely promoted. A typical contemporary action research project at this level might, for example, ask something like "What impact is our mandated reading program having on test scores, student perceptions of reading, and teacher satisfaction?" Or, "How well do our teaching strategies as a school community align with our

goal of educating students to become independent thinkers and creative problem solvers?"

Previously unexamined beliefs. Although we are often unaware of our assumptions, they guide many of our actions. Teachers may assume, for example, either that parents care very much about their children's education—and so communicate with them frequently—or that parents don't care at all—and so ignore them, or deplore them. Unfortunately, it's all too easy to adopt an unfounded, or only partially valid, assumption. Perhaps some parents don't care—but many do; perhaps all of them care—but don't have the background to help their children with schoolwork, or are working two jobs to keep food on the table, or have had miserable school experiences themselves that make them reluctant to approach a school or teacher. Or: perhaps a child isn't living with parents at all.

The only way to be sure any given assumption is valid is to test it, as action researchers often do. In this case, for example, a study might explore the question "How do the caregivers in our students' lives perceive education? What are the sources of those perceptions?" As in every other area, studies might also ask more ambitious questions. For example, it is widely assumed that business should have a voice in shaping schools, especially in terms of curriculum. A representative school community group might choose to ask "What role—if any—do we believe the business community should have in influencing our policy and curriculum? What are the justifications for that stance, and are they credible?"

Such studies open up the possibility that responses will make the rationale for good policies explicit while confirming assumptions—or that they will produce an entirely new range of ideas. Questions about assumptions generally ask "How do others see this?" or "Why is this the case?"

Alignment of personal and professional identity. Asked what they believe in as people, few educators would have trouble answering: integrity, or democracy, or independence, or kindness, or respect, or any of an endless list of values. Professing a value is easy, but living a value, especially by incorporating it into professional practice, can be difficult indeed. For example, teachers often insist that it's important for students to learn responsibility by meeting deadlines—but fail repeatedly to return graded papers on

a promised date; they insist that students be respectful in their speech—but are often sarcastic themselves; they praise democracy—but run autocratic classrooms; they encourage creativity—but accept work only within a narrow range of possibilities. Everyone, including students, is quick to note, and typically resent, the hypocrisy of such discrepancies between word and deed.

Many practitioners use action research to more consciously align their professed personal values with their professional identity. Examples might include studies that ask "Which practices in my classroom are democratic and which are not?" or "How do I model—or undermine—the value of honesty in my classroom?" or "How do I model for my students the importance of standing up for an unpopular idea?" Similarly, administrators might ask "In what ways do our policies promote a sense of professionalism among teachers? In what ways do they undermine it and signal that teachers can't be trusted?" or "In what ways do we signal to students that we believe each of them can learn and be successful? In what ways do we suggest otherwise?" Studies in this area generally ask "What do we do that models this professed value, and what do we do that undermines it?"

Social justice. Many educators have adopted the critical perspective that assigns everyone, and especially educators, responsibility for working toward a more just and equitable world. Action research studies in this case often seek either to uncover possible inequities or to work toward strategies to address demonstrably inequitable situations. It is not uncommon, for example, to hear educators speak disrespectfully of particular students—of those who may come to school in unclean clothes, or those whose dress might be considered provocative or outrageous. It is also not uncommon for such students to be tracked into the lowest classes, where they may receive disrespectful treatment. Studies in such cases might ask questions like: "What is the correlation between students' socioeconomic status and the tracks they are placed in?" "Which students have experienced disrespectful treatment by school personnel? What characteristics do they share?" "How can we develop a school climate in which everyone receives equally respectful treatment?"

Administrators and policymakers might similarly ask "How has this policy affected various groups of students?"

to determine whether a particular policy has had inequitable impact. For example, a research group in one district might ask "How has No Child Left Behind affected our students as compared to its impact on students in our neighboring, more affluent district?" Or, it might ask "How have our disciplinary policies been applied to students from different socioeconomic backgrounds?" Questions in this area generally ask "What are the experiences of [this particular group of students]? If and where inequities appear, how might they be remedied?"

Because critical theory stresses giving voice to those whose voices are rarely heard (students on the lowest level of the school's hierarchy; parents who do not speak English, for example), studies in this area are often ambitious and conducted by research groups that include a wide variety of community representatives—educators, parents/caregivers, local government officials, social workers, and so on. Studies pursuing social justice often fit within the participatory action research (PAR) paradigm. In general, they ask "What do various stakeholders in this community see as a problem? What are their suggestions for making improvements?" or "What are the causes of this problematic situation? How can we work together to improve it?"

Context. Every school is affected by surrounding circles of community, state, federal and other national influences. Schools reflect their community members—who may look and think very differently than the teachers in them. (While some half of all students are neither White nor middle class, teachers are overwhelmingly both.) States may change educational policies every few years; federal initiatives like the Civil Rights laws and No Child Left Behind can cause tremendous upheaval; conflicts between such forces as religion and government can produce national movements like that seeking to prevent science teachers from discussing evolution.

Therefore, it is not unusual for understanding of a local issue to require an understanding of the larger context influencing events. On a modest, practical level, teachers might ask something like "Given that I know most of my students have working parents and limited resources, what are reasonable requirements for independent projects that involve buying materials and adult supervision?" Or, many types of larger questions are possible: "What values are typical among residents of this community? How can our school community reflect and honor those values?" "How can we adapt our practice to this new state requirement without undermining already successful elements of our practice?" "What strategies can we use to minimize the potential negative impact of No Child Left Behind?" "How can we best address parental concerns about the teaching of evolution?"

In essence, studies of context ask "What elements of our environment need to be accommodated in our practice? What are the best strategies for that accommodation?"

Content? Some texts include the possibility of action research projects focusing on subject matter content—not to make curricular choices, as discussed above, but to remedy a gap in a teacher's preparation or to help a teacher prepare for an new, emergency assignment. While it is certainly the case that such preparation involves research, and the teacher will act as a result of it, it is questionable whether this type of research truly constitutes action research as most commonly conceptualized, as work unique in being centered in specific local conditions. Anyone anywhere might choose to read about any topic—work that seems much more like traditional library research than action research.

Still, when action research is conceptualized primarily as professional development in the interest of improving practice, then the argument can be made for action research projects that focus on expanding the practitioner's knowledge of academic content. A question in this area would ask "What do I need to know about this topic in order to competently (or better) teach it?"

Limiting Questions

Once committed to a general area of study, the researcher has to wrestle with the task of appropriately clarifying and limiting a specific question. Wording matters, because the exact wording of a question drives every other element of a study. Two questions arising from the same concern (too many students failing exams, for example) can produce two very different studies. For example, "How can I encourage students to study harder for exams?" leads in a very different direction than "Why do students fail so many of my exams?" In addition, questions can be more or less focused, more or less manageable. The question "What do parents/caregivers think of our school and teachers?" is too broad to be useful. Does the researcher want to

know if they are happy with the food in the cafeteria, the hours of classes, the amount of homework, the curriculum, the bus drivers and routes, the credentials of the teachers, the amount of respect staff show students, the quality of the athletic program, the cleanliness of the bathrooms, the availability of teachers, the academic preparation of teachers, school-to-home communications, the safety of the building...*what*? Overly broad questions produce a hodge-podge of information, so that making sense of the data can be difficult or impossible. Well-focused questions are essential to good projects.

Generally, it takes researchers considerable time and thought to clearly identify what they actually want to know. For example, after reflection, a researcher who started with a general question about what parents/caregivers think might decide that her real interest is whether they are satisfied with student learning—a much narrower territory. Or, perhaps a school research group became interested in how the school is perceived because group members consider parents/caregivers difficult to work with. Wondering whether some negative perceptions were circulating in the community, the research group might usefully limit the overly broad question above to something like "What positive and negative impressions do parents/caregivers generally seem to have of their child/children's experience in our school? What are the sources of these impressions?" This version limits the research to determining how a particular group perceives students' experiences and uncovering links between those perceptions and what generated them.

Heuristic
a strategy to advance learning or problem-solving.

Stringer (2004) offers a useful **heuristic** for moving from a general interest or concern to a specific research question. His advice is to:

- Define the issue/event/curiosity that prompts the study (often a description of the problem)
- Explain what problem/concern the issue presents
- Reword the problem/concern into the form of a question
- Describe what the researcher hopes will happen as a result of the study

Applied to one of the examples from the above, the process might produce work like the following:

- The issue: Given what I know about Pat's experience, I am worried that some of our students might be disciplined more harshly than others for the same offenses.
- The problem: Such treatment would be inequitable, and since students are quick to recognize unfairness, those treated more harshly are likely to become resentful toward school authorities and hostile toward the school.
- The question: How have our disciplinary policies been applied to different groups of students? If and where inequities appear, how might they be remedied and avoided in the future?
- The objective: To monitor and promote equitable treatment of different groups of students.

While this linear presentation looks fairly simple and straightforward, researchers can expect to spend some time working through the thinking process to clarify exactly what they want to accomplish and why. Stringer's method offers a useful path through that frequently muddy terrain.

Two more useful bits of advice come from Hubbard and Power (1999), who additionally suggest making an effort to edit jargon and value-laden words out of research questions. Jargon is not helpful because it can obscure meaning. For example, the question "What is the effect of our scripted reading program on teaching and learning?" will make no sense to anyone unfamiliar with the term "scripted," or may be interpreted differently by different readers/researchers. This question might be more clearly worded as "What effect do materials that tell teachers what to say and do in every lesson have on teaching and learning?" Eliminating jargon promotes clarity and avoids value-laden bias. The specific wording of a question can shift its focus and slant what the research will find. For example, the question "How does the new reading program constrict teachers' classroom performance?" has already made a negative value judgment about the program, evident in the verb *constrict;* by focusing on negative limitations, the question excludes the possibility of getting evidence of other possible effects. A better question for genuine understanding of the issue would be the more neutral "How do teachers say the new reading program has affected their classroom performance?"

Sub-Questions

Sub-questions
smaller questions that must be answered in the course of answering a larger question.

Any substantive research question has **sub-questions** that must be articulated and answered as part of the study. Before comparing treatment of student groups, for example, it would be necessary to first identify *which* groups to compare. There are, after all, various ways to describe students, each highlighting different characteristics. School staff might casually refer to students by socio-economic status ("His parents have more money than they can spend."); by academic track ("He's college prep."); by appearance ("Soon he'll be sitting on that pony tail."); by academic performance ("He's an A student."). Thus, for the question "How have our disciplinary problems been applied to different groups of students?" a necessary sub-question would be "Which categories/groups do school personnel seem to reference most often when referring to students?" The answer to that question would allow researchers to make an informed decision about which groups might be most productively compared for their larger purposes.

Or, for the more ambitious question "What would non-compliance with NCLB cost our district?" an inherent sub-question would be "What are the various cost areas associated with NCLB?" Of course, money is involved, but an answer to the sub-question about all relevant areas would include in addition stress for students and teachers, impact on curriculum and school morale, increases in the dropout rate, and so on. An answer to the first sub-question ("What *are* the various kinds of costs?") would provide direction for the multiple areas to be examined.

Scope
in research literature, the limits of the work; what will be included or excluded.

Thinking through sub-questions can also help researchers limit the general **scope** of a study. Researchers working to tease out sub-questions may realize that they lack critical resources—time or access to information—to answer a particular sub-question, indicating a need to rework the major question. In the above, for example, researchers might realize that determining the financial cost of administering NCLB's high-stakes testing is beyond their expertise and capacity, since experts argue strenuously about how such cost should be calculated and, in any event, the district has no recordkeeping system that would allow for disaggregating NCLB costs. Thus, they might reframe their original question as "What non-financial costs is the district experiencing in its efforts to comply with NCLB?"

On the whole, identifying the question/s for a study is a complex process that may well require more time and thought than novices may anticipate. However: the process should never be rushed since the success and usefulness of the study depend on the researcher accurately identifying the research destination.

GLOSSARY

Heuristic: a strategy to advance learning or problem-solving.

Informed consent form: used to secure and document the willingness of persons to participate in a research study. The form describes the purpose and methods of research and such other topics as how confidentiality will be ensured.

Linear: proceeding from one point to another in a straight line.

Literature review: written summary of published material related to a research topic; researchers often conduct literature reviews for ideas on study design and/or to make connections between their new study and others that have come before.

Recursive: involving repetition; in educational research, used to describe a process in which researchers move back and forth among various phases of the research—from data analysis to additional data collection, for example.

Research plan/research brief: a plan detailing the several steps of an action research project; typically, it includes at a minimum the study's purpose, question/s, methods, and time line.

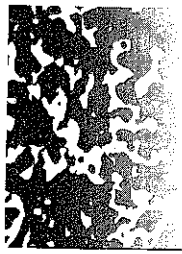
Scope: in research literature, the limits of the work; what will be included or excluded.

Sub-questions: smaller questions that must be answered in the course of answering a larger question.

NOTE

1. An interesting and readable article that makes obvious how quickly ethical issues can surface in and complicate action research is Sharon K. Miller's 2001 article, "Lessons from Tony: Betrayal and Trust in Teacher Research." Available from http://www.nwp.org/cs/public/print/resource/149.

2. For an interesting example of how some classroom teachers worked through a curriculum on this particular topic, see Dana & Yendol-Silva (2003), p. 24–26.



CHAPTER FOUR

Collecting and Analyzing Data

Collecting Data

Quality and Quantity

To determine reliable answers to research questions, researchers must make careful decisions about what kind, and how much, data to collect. Like other elements of research design, the task may appear deceptively easy. For example, researchers are often inclined to collect grades as evidence of almost anything: ability, interest, work ethic, respect for education... among many others. Grades do indicate something—but *what* they indicate is often debatable so that they are useful in far fewer instances than one might think.

Suppose, for example, that researchers wanted to know "To what extent are students engaged in these classes?" An initial impulse might be to collect grades as indicators, on the assumption that high engagement produces good grades, weak engagement, poor grades. However, as anyone who has ever been a student knows, the assumed relationship between grades and engagement is hardly reliable. Students might experience a class as irrelevant and boring but earn an A simply because the work is both minimal

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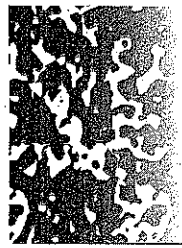

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