ACTION RESEARCH

OBJECTIVES

After reading Chapter 9, you should be able to do the following:

1. Describe the purposes of action research.
2. Describe the benefits of action research.
3. Identify the four basic steps in conducting action research.
4. Identify common data collection sources and strategies used to carry out action research in schools.

Action research, also called teacher research and teacher-as-researcher, is an approach designed to develop and improve teaching and learning. The essence of action research is teachers' solving everyday problems in schools to improve both student learning and teacher effectiveness.

The linking of the terms *action* and *research* highlight the essential features of the method: (1) seeking out aspects in teaching as a means for increasing knowledge and (2) improving practice. Undertaken by teacher-practitioners, action research involves one or more teachers (or counselors or administrators) looking at their own practice or a situation involving students' development or behavior. Action research is a structured process in which teachers identify, examine, and improve aspects of their practice.

TASK 7

Develop a design for an action research study to answer a school-based research question. (See Performance Criteria, p. 273.)

SCHOOL-BASED ACTION RESEARCH

Interest in teacher action research is growing, partly because it provides teachers the opportunity to study and improve their own practice and because it provides them an opportunity to work together on common issues or everyday concerns in their classrooms. Good action research integrates theory, practice, and meaningful applications of research results. Action research encourages change in schools, empowers individuals through collaboration with one another, encourages teacher reflection, and examines new methods and ideas. Action research is typically focused on a particular issue or concern that is examined in a single school. The results tend to be localized to a given school, department, or classroom. Table 9.1 compares action research with traditional educational research.

Varied views of action research have over the years shown a common perspective. Kurt Lewin[1] describes action research as a three-step spiral process of (1) planning that involves reconnaissance; (2) taking action; and (3) fact-finding about the results of the action. Stephen Corey[2] states that action research is the process by which practitioners attempt to study their problems scientifically in order to guide, correct, and evaluate their decisions and actions. Carl Glickman[3] says that action research in education is study conducted by colleagues in a school setting of the results of their activities to improve instruction. Emily

[1]Lewin, K. (1947). Frontiers in group dynamics. II. Channels of group life: social planning and action research. *Human Relations, 1,* 143–153.

[2]Corey, S. M. (1953). *Action research to improve school practices.* New York: Bureau of Publications, Teachers College, Columbia University.

[3]Glickman, C. D. (1992). The essence of school renewal: the prose has begun. *Educational Leadership, 50*(1), 24–27.

TABLE 9.1   A Comparison of Traditional Research and Action Research

WHAT?	TRADITIONAL RESEARCH	ACTION RESEARCH
Who?	Conducted by university professors, scholars, and graduate students on experimental and control groups.	Conducted by teachers and principals on children in their care.
Where?	In environments where variables can be controlled.	In schools and classrooms.
How?	Using quantitative methods to show, to some predetermined degree of statistical significance, a cause-effect relationship between variables.	Using qualitative methods to describe what is happening and to understand the effects of some educational intervention.
Why?	To report and publish conclusions that can be generalized to larger populations.	To take action and effect positive educational change in the specific school environment that was studied.

Source: From Mills, G. (2003). *Action Research: A Guide for the Teacher Researcher*, 2nd ed., p. 5. Upper Saddle River, NJ: Merrill/Prentice Hall. Reprinted by permission.

Calhoun[4] describes action research as a fancy way of saying "let's study what's happening in our school and decide how to make it a better place." For practical purposes, we will summarize these findings with our own simple definition: action research involves teachers identifying a school-based topic or problem to study, collecting and analyzing information to solve or understand a teaching problem, or helping teachers understand aspects of their practice. Action research is educative, focuses on teachers and schools, focuses on problems of practice, and aims at improving practice.

Increasingly, teachers are understanding that knowledge can be found in their own experiences and meaning. Teachers' action research emerges from the areas they consider problematic and from the discrepancies between what is intended and what actually occurs in their teaching. The increase in site-based and shared decision making is growing, particularly in schools, providing and encouraging teachers to examine their own classroom problems and issues. With this newly acquired autonomy, however, comes new responsibilities. Teachers, local schools, and school districts are accountable to stakeholders for the policies, programs, and practices they implement. It is not enough for teachers merely to make decisions; they will be called on to make *informed* decisions—decisions that are data driven. Therefore, it is necessary for teachers to be much more deliberate in documenting and evaluating their efforts. Action research is one means to that end. Action research assists practitioners and other stakeholders in identifying needs, assessing development processes, and evaluating outcomes of the changes they define and implement. The self-evaluation aspect of teacher research by educators is congruent with the present focus on constructivism. Although both qualitative and quantitative research methods are used in action research, it is clear that in action research qualitative methods are used most frequently.

Several benefits ensue from the use of action research.[5]

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[4]Calhoun, E. F. (1994). *How to use action research in the self-renewing school.* Alexandria, VA: Association for Supervision and Curriculum Instruction.

[5]Adapted from Borgia, E. T., and Schuler, D. (1996). *Action research in early childhood education.* University of Illinois at Urbana-Champaign: ERIC Clearinghouse on Elementary and Early Childhood Education (p. 2). Adapted by permission.

1. Teachers investigate their own practice in new ways, looking deeper in what they and their students actually do and fail to do.
2. Teachers develop a deeper understanding of students, the teacher learning process, and their role in the education of both teachers and students.
3. Teachers are viewed as equal partners in deciding what works best and what needs improvement in their classroom or classrooms.
4. In most cases, solutions for identified problems are arrived at cooperatively among teachers.
5. Teachers are often more committed to action research because they identify the areas *they* view as problematical and in need of change.
6. Action research is an ongoing process and its strategies can be widely applied.
7. Professional development and school improvement are core aspects for any teacher who engages in action research.
8. Teacher reflection can be conducted individually or in a school-based team composed of students, teachers, and administrators.

LEVELS OF ACTION RESEARCH

Educational action research focuses on three levels of action research: individual teacher research, small teacher groups or teams in a single school or a single department, and school-wide research. In keeping with qualitative research, in which the focus is on a particular setting, most action research studies take place in a single school. Thus, teachers rarely carry out action research involving multiple schools because of the organizational complexity and the uniqueness of the many settings or schools.

It also is likely that in a single school, action research is carried out by groups of teachers, rather than an individual teacher, who all seek to understand and improve a common issue. For example, it is understandable that a group of high school math teachers might wish to work together to implement a promising "hands-on" math strategy for students who are lagging in math performance and determine its impact on student math performance. Similar, shared goals are surely voiced by teachers in other content areas as well. This does not imply that teachers never collaborate across subject areas, just that it is more common and interesting for teachers to focus their action research in their own disciplines. As another example, elementary teachers might form a small group and design a study to answer questions about such varied strategies as inclusion of special education students, inquiry-based learning, or literary clubs, which cross content area and grade lines. Or some teachers might work with university-based researchers in their classrooms doing collaborative or participatory research. For example, teachers may study their own research questions along with similar or related questions that the university has.

In schoolwide action research, the majority of the school community identifies a problem and conducts research together with a common, focused goal in mind. For example, a schoolwide emphasis on reading is a common goal of many elementary schools. Or counselors, teachers, and administrators may band together in a middle school and try strategies to integrate cliques or groups of students to create a more cooperative environment.

One way that action research is conducted is by individual teachers who seek to improve their understanding and practice in their classrooms. Quite often, individual teachers seek to study aspects of their classroom that are unique to them and their students. As an example of carrying out action research individually, a teacher may gather information by observing students to better understand their interests or behaviors in a particular subject area. Alternatively, the teacher may select or construct simple instruments or tests to collect student information pertaining to the issue or topic under study. Individual teacher action research can be a useful tool to solve educational problems in one's own setting.

CHARACTERISTICS OF ACTION RESEARCH

Many steps in action research are steps in other qualitative research approaches, as described in chapters 6, 7, and 8. Keep in mind, however, that action researchers can collect both quantitative and qualitative data to analyze and interpret and solve their problem. In this chapter, we focus particularly on individual or small-group action research as applied by teachers. Borgia and Schuler[6] describe the components of action research as the "Five C's": commitment, collaboration, concern, consideration, and change:

- *Commitment.* Action research takes time. The participants need time to get to know and trust each other and to observe practice, consider changes, try new approaches, and document, reflect, and interpret the results. Those who agree to participate should know that they will be involved with the project for some time and that the time commitment is a factor that all participants should consider carefully.
- *Collaboration.* In action research, the power relations among participants are equal; each person contributes, and each person has a stake. Collaboration is not the same as compromise, but it involves a cyclical process of sharing, of giving, and of taking. The ideas and suggestions of each person should be listened to, reflected on, and respected.
- *Concern.* The interpretive nature of action research (for example, relying on personal dialogue and a close working relationship) means that the participants will develop a support group of "critical friends." Trust in each other and in the value of the project is important.
- *Consideration.* Reflective practice is the mindful review of one's actions, specifically, one's professional actions. Reflection requires concentration and careful consideration as one seeks patterns and relationships that will generate meaning within the investigation. Reflection is a challenging, focused, and critical assessment of one's own behavior as a means of developing one's craftsmanship.
- *Change.* For humans, growing and changing are part of the developmental cycle of life. Change is ongoing and, at times, difficult, but it is an important element in remaining effective as a teacher.

Other characteristics and examples of action research can be found in Table 9.2. Some characteristics of action research are listed in the left column of this table. Examples of these characteristics are listed in the right column of the table. We can gain a deeper understanding of action research by analyzing what the teachers in the examples actually did. Read these examples carefully. What action does the teacher take in each of these situations? The first example is not very specific, but we can see that the teacher *investigated the impact of his intervention.* In the second example, the teacher learned about teaching strategies and *implemented* them. In the third, the teacher *monitored the impact* of a new curriculum, and in the last example, the teacher implemented a new policy and then *monitored its impact.* In action research, teachers take action *in* their studies, not only after their study has concluded. Each of these teachers identified a problem and subsequently studied an intervention or an implementation to better understand teaching and learning.

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[6]Adapted from Borgia, E. T., and Schuler, D. (1996). *Action research in early childhood education.* University of Illinois at Urbana-Champaign: ERIC Clearinghouse on Elementary and Early Childhood Education (p. 3). Adapted by permission.

TABLE 9.2   Some Characteristics of Action Research

KEY CONCEPT	EXAMPLE
Action research is participatory and democratic.	You have identified an area in your teaching that you believe can be improved (based on data from your students). You decide to investigate the impact of your intervention and to monitor if it makes a difference.
Action research is socially responsive and takes place in context.	You are concerned that minority children (for example, ESL [English as a Second Language] students) in your classroom are not being presented with curriculum and teaching strategies that are culturally sensitive. You decide to learn more about how best to teach ESL children and to implement some of these strategies.
Action research helps teacher researchers examine the everyday, taken-for-granted ways in which they carry out professional practice.	You have adopted a new mathematics problem-solving curriculum and decide to monitor its impact on student performance on open-ended problem-solving questions and students' attitudes toward mathematics in general.
Knowledge gained through action research can liberate students, teachers, and administrators and enhance learning, teaching, and policy making.	Your school has a high incidence of student absenteeism in spite of a newly adopted district-wide policy on absenteeism. You investigate the perceptions of colleagues, children, and parents toward absenteeism to more fully understand why the existing policy is not having the desired outcome. Based on what you learn, you implement a new policy and systematically monitor its impact on absenteeism levels and students' attitudes toward school.

Source: From Mills, G. (2003). *Action Research: A Guide for the Teacher Researcher,* 2nd ed., p. 8. Upper Saddle River, NJ: Merrill/Prentice Hall. Reprinted by permission.

RATIONALES FOR ACTION RESEARCH

Osterman and Kottkamp[7] provide a rationale for action research that focuses on the professional growth opportunity and responsibility for teachers. They suggest that everyone needs professional growth opportunities; all professionals want to improve; all professionals can learn; all professionals are capable of assuming responsibility for their own professional growth and development; people need and want information about their own performance; and that collaboration enriches professional development. These activities are closely related to teacher professionalism.

CONDUCTING ACTION RESEARCH

The basic steps in action research are (1) identify a topic or issue to study, (2) collect data related to the chosen topic or issue, (3) analyze and interpret the collected data, and (4) carry out action planning, which represents the application of the action research results.[8]

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[7]Osterman K. F., and Kottkamp, R. B. (1993). *Reflective practice for educators: improving schools through professional development.* Newbury Park, CA: Corwin (p. 46).

[8]The following discussion is based in large part on Padak, N., and Padak, G. (2001), Research to practice: Guidelines for planning action research projects. Kent, OH: Ohio Literacy Resource Center. Accessed online at LINCS—Literacy Information and Communication System (http://literacy.kent.edu/Oasis/Pubs/0200-08.htm).

IDENTIFY THE TOPIC OR ISSUE

What makes a good action research topic or issue? First, the topic or issue should be important to the teacher, the team of teachers, or the school or district team that is undertaking the study. It must be relevant to their professional lives. Typically, action research involves issues that are a pressing problem or a new teaching strategy or assessment instrument that researchers think or hypothesize will improve the problem. To identify topics, researchers can reflect on their daily professional lives and ask themselves, "What classroom problem or issue do I need to solve (or improve)?" Counselors and administrators can ask this same question to identify topics to study, to address issues they deal with on a day-to-day basis. If a problem does not readily come to mind (usually one does for many of us!), try brainstorming to arrive at a real-life issue to study. You should make sure the topic is truly substantive and if a solution is found, that it might improve your practice.

Researchers also must consider whether the type of information needed to solve the problem is available. For example, it would be very difficult to study a group of students who no longer attend the school because they've graduated or moved. Early in the process, researchers must be sure they can obtain the data needed to carry out the action research. Topics can also be evaluated and refined by discussing them with a colleague, mentor, or school principal.

Following are some examples of the type of topics studied in action research:

- How can we find ways to encourage slow readers to engage in more reading?
- Are we helping or hurting students by letting them invent their own spelling?
- What are the best strategies to settle students down quickly at the start of class?

Conducting a Literature Review

Once the topic or general problem is identified, you will need to narrow the topic to put it into a researchable form—a research question. Often, in order to do this, you may need to read literature to learn more about your topic. (Chapter 2 discusses the literature review in depth, and these strategies apply to action research studies.) The literature review can provide ideas for strategies in identifying promising practices. For example, if your problem is, "What are the best strategies to settle students down quickly at the start of class?" then a literature review can inform you about commonly used methods to get students quiet in order to begin instruction, how to handle transitions, and other classroom management strategies. Once you have sufficient information about your topic, you can narrow the topic and form a researchable question.

Some research problems or topics already are researchable, or involve an intervention or some action. These problems may not require a literature search. For example, if your problem is whether X curriculum is better than Y curriculum, you may not need to conduct a literature search because you know what your variables are—X and Y. You know that your study will involve comparing the effects of X and the effects of Y. Whereas if your topic was "What strategies are most helpful for helping fourth graders to turn in homework on time?" you might need to research these strategies. Therefore, the necessity of the literature search simply depends on the nature of the research topic.

Developing Research Questions

A well-written action research question relates directly to the identified topic. If multiple research questions are involved in the study, researchers should make sure that they are closely related to each other. The more broad and complex the research topic, the more difficult and time consuming the research process will be and the longer it will take to obtain helpful information. Keep in mind that action research usually focuses on posing and answering questions in a *particular* classroom or school. In an action research study, you want your questions to address *your* problems, not those of your colleague or your sister in another state. Generalization is not a major feature of action research, and general questions should not be asked.

When you write your questions, keep them narrow in scope. What, exactly, do you want to "fix," evaluate, compare, improve, or better understand? Researchable, answerable questions usually begin with "Why," "How," and "What." Rule out questions that can be answered by "yes" or "no." Include an intervention in your question. What action will you take—or what implementation will you make—to try to improve the situation? Following are some examples of narrowed, researchable research questions:

- What is the impact of math manipulatives on second-grade students' achievement of subtraction skills?
- How effective has the peer tutoring program in honors English been on improving student essays?
- What is the effect of self-selection of books on increasing students' interest in reading?

Note that these questions are all ones that would be of interest to teachers, counselors, and administrators. The topics are narrow and defined so as to be solved in a relatively short time span. Also, these questions all include a common characteristic—some sort of intervention, some variable being evaluated in the study. "What is the impact of X on Y?" "How effective has X been on Y?" and "What is the effect of X on Y?" are typical scripts you can follow to frame your research question. For practice, write three of your own action research questions.

COLLECT THE DATA

As Padak and Padak observe, "Any information that can help you answer your questions is data." The best data are directly related to the topic or issue; they provide answers pertinent to the intended research. If possible, you should try to use a variety of data collection tools—quantitative, qualitative, or both, as appropriate—for *each* topic or issue, helping to ensure the validity of your results. The concept of triangulation introduced in Chapter 7 is useful in action research. Triangulation seeks regularities in data by comparing different participants, settings, and activities to identify recurring results. This corroboration strengthens a study's results. For example, suppose you were interested in studying the effect of literary clubs in your reading program on student attitudes toward reading. After initiating literary clubs, you could ask members questions about their participation in the club, but you would probably also want to observe their interactions during their club meetings. You could also give the students an attitude survey. If the data match from your interviews, observations, and surveys, you can be more confident that your research results are valid.

Data Sources

The number of potential data sources in an action research study is very broad. We can group them into four general types of data: observations, interviews, questionnaires/surveys, and readily available data. In the qualitative chapters, we had fairly strict definitions for data sources that constituted observations and interviews. For our purposes in describing action research data sources, these categories expand to include other, similar data sources.

Observation.   Observing participants in action and recording your observations is a common way to collect data in action research. For example, you may observe students or teachers as they work with a new curriculum. Your observation record may then help you determine the curriculum's effectiveness. As noted in Chapter 7, remembering your observations is the hardest part. Consequently, you will need to either keep a daily journal or take field notes. Your handwritten field notes (narrative, qualitative data) or tallies or checkmarks on an observation record (numerical, quantitative data) become your data sources. Observation also includes videotaped samples of teacher performance, student interactions, student-teacher interactions, and so forth. The videotaped recordings and, if a transcript is produced from the recording,

the transcript are both data sources. *External* or *peer observation* involves having a peer or colleague observe (and later assess and provide suggestions about) an aspect of the teacher's practice such as questioning behavior, lesson organization, or feedback to students. Some student performance data—watching students do something, such as play a musical instrument, play basketball, or give a speech—that is observable can be used to help teachers assess their own instructional effectiveness.

Interviews or Recorded Conversations.   Interviews or conversations can be either planned (formal) or spontaneous (informal); you may develop questions beforehand or simply invite an open-ended exchange. In any event, you must either transcribe or record the conversation. If you take written notes, make them as complete as possible. Reread them while your memory is fresh so that you can fill in any missing information and add your own insights. You can also tape record (audio or video) interviews or conversations and then transcribe them (see Chapter 7). One helpful source of action research data that falls under the informal interview umbrella is that of *collegial dialogue, experience sharing,* and *joint problem solving.* In other words, conversations among teachers to discuss common problems or issues, share procedures and promising practices, and compare perceptions encourage collaboration and the confidence to improve practice. These conversations may be recorded by hand or tape recorded and serve as data in your study.

Questionnaires and Attitude Scales.   Another common data source is teacher-administered questionnaires and attitude scales completed by students or, sometimes, parents of students. Questionnaires can be used when there is not time to individually question students or small groups of students. Also, they are advantageous when a large number of responses are needed, such as a questionnaire mailed home for completion by a parent of every student in the school. Questionnaires may include closed-end items, in which respondents are given a limited number of responses, and open-ended items, in which a question is asked and respondents must create their own response. Both can supply information about a program's perceived effectiveness, for example, including specific responses that may be counted, and narrative comments from the open-ended questions. Writing questionnaires is a skill, and is something that should be done with thought and care. (See a full discussion of questionnaires in Chapter 10.) Attitude scales, as discussed in Chapter 5, determine "what an individual believes, perceives, or feels about self, others, and a variety of activities, institutions, and situations." Scales that are typically used in action research include Likert scales, semantic differential scales, and rating scales. Data from attitude scales are numeric, and are accompanied by narrative comments.

Readily Available Data.   To be efficient, and to add validity to your analysis, seek readily available information, or *naturally occuring data,* that can serve as data. For example, although you could study changes in students' math skills using a series of standardized tests, a more focused, efficient alternative might be to analyze homework samples or quiz results from students in your program. No extra time or cost is involved, and the samples are likely to match your interests exactly. Other examples of data that could be collected include tallies (e.g., lists of books read or projects completed), demographic information, test results, student grades, report cards, attendance records, contents of journals (teacher's self-reflections or students'), writing samples, contents of teacher or student portfolios, illness records, medical records, lists of out-of-class activities, and parent information. Note from this list that although action research focuses on use of qualitative data, researchers also use quantitative data.

Characteristics of Data Collection in Action Research

Because action research is often focused on a single classroom in which students and teachers are continually interacting, data collection should have four important characteristics.

First, when students are asked to complete checklists, rating scales, or questionnaires as part of the action research process, they should be allowed to respond anonymously to protect students and to improve the validity of the data gathered. Second, because the teacher is the interpreter of the data collected, it is a good idea for the teacher researcher to build a comparison into data collection. For example, if a teacher is planning to ask students to complete a checklist about the teacher's fairness in grading, *before administering the checklist* the teacher should write a prediction of how he or she thinks the students will respond in their replies. After the anonymous student responses are collected, the teacher can compare the student results to his or her prechecklist projection. Large discrepancies between the teacher's prediction and student responses should be a red flag for the teacher to reexamine current practice.

Third, when data collection is carried out using techniques such as video- or audio-taping or peer observations, teachers should identify the specific aspects of performance that will be examined. A set of criteria that focuses observations and interpretations on a limited number of specific performances provides more relevant information than general, unstructured data collection. For example, if a teacher were videotaping a cooperative learning lesson, or if a peer were observing the teacher teach the lesson, focusing criteria such as "appropriateness of the topic for students," "desired activities explained clearly to students," "all teams visited at least once," and "lesson summarized at end of lesson" will provide more specific feedback to the teacher than unfocused, general feedback. Also, stating criteria helps teachers gather information about their specific concerns and makes it easier to carry out changes in practice.

Fourth, no single data collection approach can provide appropriate data for all of a teacher's questions or topics. Different approaches inform different types of questions. For example, questionnaires are useful for providing information about respondents' attitudes and points of view, while observation or videotaping is useful for providing direct information about teachers' actual teaching activities. The data collection method should fit the type of information needed to examine the problem or topic.

The Spiraling Nature of Data Collection.   To understand the spiraling nature of data collection in action research, try this exercise: Review the action research topics listed on page 267 and identify data sources for at least two. If you were to actually carry out one of these studies, your next step would be to collect and review the data from your identified sources. For this exercise, briefly review the sources you have chosen. Note that as you continue to review, key underlying concepts begin to emerge. In an actual study, identifying key concepts typically takes a few iterations. Figure 9.1 graphically portrays the spiraling iterations in action research. The researcher observes the setting and the participants (looking), interprets the observations (thinking), and identifies a solution (acting). The researcher typically proceeds through a number of iterations before arriving at a core solution.

Ethical Considerations in Action Research Data Collection

Research ethics must be fully implemented throughout any study. You must ask your principal whether you need to obtain permission and informed consent from every participant. In most cases, especially if the study is being conducted in your classroom, you will need only to explain that you are doing a research project, describe the information you want to use, emphasize that any participation is voluntary, and promise participants full confidentiality. However, complex issues arise. For example, what is the school's requirement about using a video camera in the classroom and capturing the faces of minors on tape? What is the district's rule? Investigate questions such as these fully before beginning data collection so that it is ethical. See the sections that discuss research ethics in chapters 3 and 7.

FIGURE 9.1
Action research
interacting spiral.
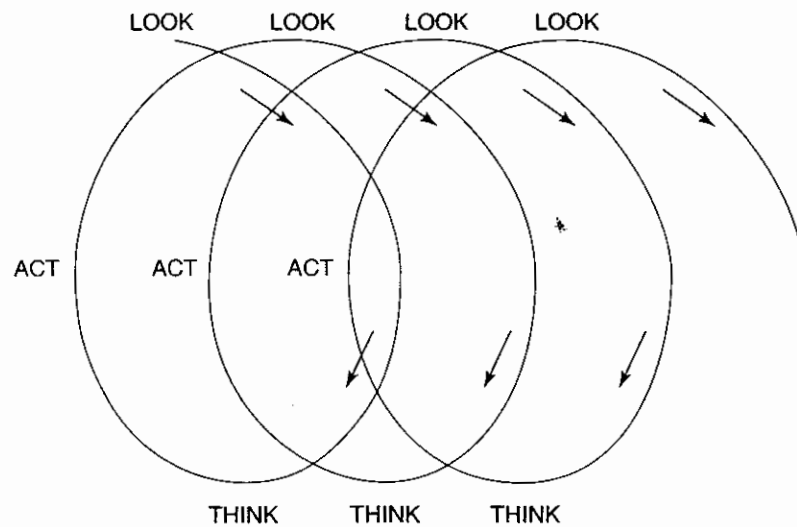
Source: From Stringer, E. (1996). *Action Research: A Handbook for Practitioners,* p. 17. Copyright ©1996 by Sage Publications.
Reprinted by Permission of Sage Publications, Inc.

ANALYZE THE DATA

You will know when you have gathered enough information. In practical terms, you will have reached what researchers call *redundancy* or *data saturation* when you no longer learn anything new or identify new themes or patterns. It is then time to stop collecting and start analyzing. (See Chapter 8 for more about redundancy and data saturation.)

First, make sure all your data are organized and legible. If you have asked more than one question, sort the data according to question. Reread everything at least once. Keep in mind that you probably will have been analyzing all along, if the data is qualitative. If one type of data is numerical or quantitative, such as from an attitude survey, analysis cannot be done until that data is complete. Set aside data that do not directly relate to your research questions.

Most analysis involves creating categories (see Chapter 8). One way to create categories is to sort data according to shared characteristics. You can then summarize the essence of these characteristics. These summaries should answer the research questions.

The collected data must be summarized and interpreted in order to help teachers, counselors, and administrators make decisions about their practices. This activity is the same as, though often less complex than, qualitative and quantitative data interpretation procedures (see chapters 8 and 16). The goal of analysis is to interpret the data and make decisions for teacher understanding or improvement.

CARRY OUT ACTION PLANNING AND SHARE THE FINDINGS

Research results can suggest program refinements or may lead to more questions. In any event, one of your final tasks as researcher is to share your findings with others, in both formal and informal settings. Results can be shared with other teachers, both in a given school or in other schools. You may share information verbally, in presentations and conversations, and also may write about your results. Writing can lead to further analysis, interpretation, and deeper understanding of the problem—and how to act on your findings. Writing also creates

a permanent record of the research that others may use. Fellow teachers, administrators, other researchers, and current or potential funders for your program may be in a position to benefit from your results. Refer to the section, "Step 6: Writing the Report," in Chapter 8 for more information on writing up your action research.

TAKING ACTION

As the name suggests, *action research* is action oriented. The purpose of action research is to affect teachers' actions, activities, beliefs, and effects; action research is directed toward both understanding and improving practice. Thus, the last step is deciding what steps, if any, need to be taken to alter or improve practice.

Action research is typically carried out with the intent of using the data collected to help educators understand or try out new or needed methods or paradigms for teaching or administrating. Much action research is focused on evaluating new strategies or promising practices for their potential use in instruction. There are many ways to implement action research results in schools. For example, study results can be used in the classroom, school, or district to improve instruction, procedures, and outcomes of education, and aid teacher understanding of instruction, deportment, and applications. Often, action research leads to new questions to examine, thus forging new forms of understanding and deeper insights in practice. It is the practical nature of action research that fosters much of the teacher-based improvement in schools.

SUMMARY

1. Good action research integrates theory, practice, and application.

School-Based Action Research

2. Key aspects of action research are conducted by educators, in schools and classrooms, applying mainly qualitative research, and seek to focus on understanding and improvement of teaching.

3. Action research is typically focused on a particular issue within a single school.

Levels of Action Research

4. There are three levels of action research: individual researcher level, small groups of researchers, and schoolwide research. The first two levels are the most commonly used.

Conducting Action Research

5. The four steps in action research are (1) select a topic or issue to study, (2) collect pertinent data related to the topic, (3) analyze and interpret the data, and (4) apply the research results.

Identify the Topic or Issue

6. A good action research topic involves either a pressing problem or learning about a promising practice. Good topics and research questions relate directly to the identified problem or issue.

7. Brainstorming is a good way to develop answerable questions. Answerable questions usually begin with "Why," "How," or "What." Include an intervention or implementation in a research question.

Collect the Data

8. Many data sources, both qualitative and quantitative, are pertinent to action research, including tallies, demographic information, test results, student work samples, observation notes, interview transcripts, surveys, questionnaires, and many others.

9. Observations and interviews are two of the most common data sources.

10. When possible, use readily available data to increase a study's efficiency and overall validity.

11. Research ethics must be fully implemented throughout any study. Researchers generally must still obtain

permission and informed consent from all research participants. Consult the building principal or district office to be sure.

Analyze the Data

12. Analyzing action research is similar to that for other forms of qualitative research. It is a cyclical process, ultimately narrowing the findings to a few key categories or features.
13. Most analysis involves creating categories. Use quantitative data analysis procedures when quantitative data is collected.

Carry Out Action Plan and Share the Findings

14. The final step in action research is to write up the results of the study so that other researchers can examine and critique the research process and its results.
15. The purpose of action research is to affect understanding and behavior. Although research results often lead to new questions to examine, the primary intent of action research is to use collected data to alter or improve teaching practice.

PERFORMANCE CRITERIA   TASK 7

Develop a design for an action research study to answer a school-based question. Use the following headings in your written plan:

Topic
Research Questions
Intervention
Participants
Data Collection

To get started selecting your topic, use the beginning words or phrases in the list of questions in the chapter ("How can I . . . " "What is the best way . . . " or "Why . . . "). Brainstorming is a good way to choose a topic: "What classroom problem or issue do you need to improve or resolve?" Eventually narrow your topic to "The purpose of this study is . . . " (see Task 7 Example).

Research questions should be narrow enough to be answerable. Your question or questions should contain language that indicates what action or change you are implementing in the study to improve teaching or learning. For example, "What is the impact of X on Y?" is more action-oriented and specific than "How can I improve Y?"

The intervention should describe what you or your group of researchers will implement in the classroom to study. For example, if you are implementing a new teaching strategy, explain what it is and why you want to implement and evaluate it.

The participants section should describe the participants and the context of the study.

The description of data collection should include multiple data sources, collection methods, the timeframe of the study, and duration of data collection.

See the *Student Study Guide* that accompanies this text for more examples of action research.

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Action Research Plan:

Do Graphic Displays Aid Understanding in Expository Text?

Dick Kendrick

Topic

The purpose of this study is to learn whether students gain a better understanding of expository text when they are given strategies to understand accompanying graphic displays (maps, charts, tables, diagrams, illustrations, etc.).

Research Questions

Do students make sense out of graphic displays in textbooks or other reading material? Will teaching students strategies to decipher meaning from graphic displays lead to a better understanding of the text that the displays illustrate?

Participants

Twenty-seven students in a fifth-grade classroom will participate in this study. Twelve of these students are reading below grade level, eight are reading at grade level, and seven are reading above grade level. Included in this group are two ESL students, two TAG students, four students with an IEP, and one student with a 504.

Intervention

I will teach strategies to enhance students' abilities to gain understanding from graphic displays during expository reading over a three-week period.

Data Collection

At the beginning of the study, I will give students a one-page article with graphic displays and text from *Scholastic News* to read, followed by a simple quiz over the contents and a survey about how they approached the graphic displays and text. After the three-week period of teaching strategies to the students, I will give them an additional *Scholastic News* one-page article with graphic displays and text to read, followed by another quiz over the contents and a post survey. The surveys will focus on questions such as whether they look at or use the visuals, whether they think it is important to understand the visuals, whether they feel confident in their ability to derive information from the visuals, and so forth. Quiz scores will be recorded and survey data tallied for analysis.