

CHAPTER

1

INTRODUCTION TO ACTION RESEARCH

LEARNING OBJECTIVES

After reading Chapter One, you should be able to:

- Discuss several definitions applied to action research
- Identify the steps involved in the action research process
- Examine the rationale for selecting action research as an appropriate method
- Discuss the role and responsibilities of the ethical researcher

2 Introduction to Action Research

INTRODUCTION

We live in an information age driven by accountability issues that influence practice across many disciplines. The classroom teacher faced with designing effective instruction that meets the needs of a diverse population of students must also address the demand to prepare students for end-of-year standardized tests. Social workers—in order to give attention to multiple cases—must examine procedures and practices to develop effective strategies that reflect sound performance. Professionals in the field of nursing—faced with budget cuts and shortages—examine current practices as they address accountability concerns in order to support needs and improve conditions. Graduate students are encouraged to examine a variety of issues in their field of study—many of which involve some type of accountability related to practice—as they build skills needed to be effective researchers. These are just a few examples of practitioner-based environments where professionals—whether it be teachers, nurses, social workers, graduate students, or human resource coordinators—face the need to examine a variety of issues and concerns in order to gather information systematically and formulate a plan to improve practice. This chapter presents information that is covered in depth in later chapters. Examine the information presented here, and seek additional explanations in other chapters.

Although conditions for inquiry are present in a variety of practitioner-based settings, this text will specifically focus on teaching and learning environments such as classrooms and will present information to help graduate students build skills needed to identify problems, carry out research, and develop action plans to improve practice. Therefore, the expressions “work-based environment” and “practitioner-based environment,” although they may be applied to a variety of settings, should be understood as specifically referring to the classroom setting in the P-16 environment.

WHAT IS ACTION RESEARCH?

Within the realm of teaching and learning comes the blended challenge of addressing accountability issues while at the same time using available information and experience to improve practice. Once immersed in the classroom, teachers often find the role of teacher expanding to that of teacher-as-researcher. This is in part based on their experience as professionals as well as their knowledge base as experts in the field. Elliot Eisner (1998), in *The Enlightened Eye*, suggests that experience has its genesis in the transactions one has with the environment. There is no better catalyst to inform practice than the teacher who interacts in the classroom on a daily basis. Drawing on professional experience, classroom teachers often find themselves engaged in inquiry regarding the intricacies of teaching and learning. This is possible due to the expertise of the practicing teacher and the *data* available in the environment. Data are sets of information collected during inquiry. They may consist of sets of numerical information. Data may also take the form of interview responses, observations, or survey responses. When considering the type of data

What Is Action Research? 3

typically available in the classroom environment, one might think of classroom test scores, recorded observations of interactions, inventories, journal entries, interview responses, standardized test scores, projects, and writing samples, to name a few. The inquiry process involves identifying problems, gathering data, analyzing data, and designing a plan of action. The plan is implemented—based on the inquiry—in the practicing environment. Additional data are collected and analyzed, which leads to conclusions—all for the sake of improving practice. This type of research is known as *action research*.

Action research is a common methodology employed for improving conditions and practice in classrooms and in other practitioner-based environments such as administrative, leadership, social, and community settings. Kurt Lewin, who was instrumental in establishing a research center at the Massachusetts Institute of Technology, was perhaps one of the first researchers to use the term *action research*. Lewin (1951) suggested that in an effective community of practice, comparative research takes place. This comparative research consists of an examination of conditions and effects of different forms of social action. Unlike research that produces findings without action, the spiral and cyclical research process leads to action and improvement.

Through action research, teachers and others working in a practitioner-based environment use their expertise and knowledge to conduct systematic inquiry that helps improve conditions and solve problems. As practitioners interact in the environment, they gain experience. They use this experience to inform practice. However, experience must be matched with evaluative skills to improve the practicing environment. Effective evaluation of a program, situation, or condition—which is in essence based in systematic analysis—can be facilitated through action research. Action research encourages the researcher to consider the interconnectedness of the environment and everyone in it, the conditions present in the environment, and the interactions among the individuals in the environment. Action research is typically community-based. *Community-based research* is usually conducted in the practicing environment, individually or in teams. It involves the parties who naturally interact in that environment and is ordinarily conducted to improve the community as a whole. The community may be the individual classroom, a grade level of classrooms, the school, or the entire school system. Lewin (1951) uses the term *community of practice* to describe the community-based quality of action research.

In addition, action research is considered a *field-intensive process*. A *field-intensive process* is one that requires the researcher to take an active part in the environment being studied. The researcher is expected to be a *participant observer* as well as a *researcher-as-instrument* involved in the research process. A *participant observer* is a researcher who takes part in all activities in the environment being studied and interacts naturally with subjects in the environment. A *researcher-as-instrument* is able to rely on expertise, draw on experience, and use research skills in an unbiased manner in tasks such as conducting interviews and recording

4 Introduction to Action Research

notes during observations. The field-intensive process also requires the researcher to collect multiple forms of data, organize the data effectively, analyze the data, and use the findings to design an *action plan*. The researcher uses the findings—matched with knowledge of the environment, expertise, and experience—to develop a plan for improvement. The *action plan* is a framework or blueprint that is implemented to improve practice, conditions, or the environment in general. The design of the action plan is based on the inquiry and findings. All of these things make action research an ideal methodology for practitioners.

For example, one classroom teacher may observe certain interactions among students in the classroom environment, which leads the teacher to believe that the reading material currently being used is not challenging enough. The teacher overhears students admitting that they had read the book and done the same activities the year before. The teacher also notices that most of the students breeze through the comprehension tasks and related writing activities with ease. Consulting with grade-level teams, the teacher discovers that other teachers are seeing the same things in their classrooms. This prompts a grade-level survey of all students, observations over a period of time, and group interviews with students in order to gather information regarding previous reading experiences, interests, and preferences. Each teacher compares results with colleagues. The grade-level team decides to gather additional data consisting of student classroom reading scores, writing samples, standardized test scores, inventories of reading materials, compiled lists of library resources, and parent or guardian input based on a short survey. The data are organized and analyzed. This leads to a redesign of the reading program and a plan of action for implementation. The teachers involved in this action research example relied on their experience as experts in the field. They were participant observers in the environment as they interacted with students, observed, and collected data. They organized the classroom data and used them to design an action plan to improve their own practice and the community of practice as a whole.

ACTION RESEARCH: SOME DEFINITIONS

Although there are many definitions of action research, most have common threads that illustrate the key theoretical points of the method. Several of these points have already been mentioned. First, action research is typically conducted by teachers for teachers. It may also be conducted by practitioners for practitioners. The process focuses on practice in order to improve practice. Action research may result in positive change in the form of action. It is participatory in nature and involves the community of learners, the community of the environment, and the community of practice. The focus of action research inquiry is related to all of these. It is systematic and structured. Last, action research focuses on problems, issues, or concerns present in the practicing environment.

Action Research: Some Definitions 5

Many definitions imply that action research consists of research for the sake of taking action. The process requires the researcher to become actively involved in the study of the environment and the parties who interact naturally with each other and with the environment. The process is practical in that data and the analysis of data lead to improvement and change. The process is also participative because it encourages collaboration among colleagues. The collaborative quality of action research is empowering due to the fact that participant researchers are able to effect change and make improvements. The collaboration is imperative because social reality is determined and improved as part of the overall common goals and visions of an entire school. The process is also tentative in that the inquiries may result in change in particular situations and may then be reexamined as needed. Finally, the process is critical for practitioners because they are able to search together for practical solutions and improvements.

Action research is both proactive and reactive. A *proactive research process* is prompted when a practitioner researcher—operating naturally in the environment—uses expertise to identify potential problems and then conducts systematic inquiry in order to improve conditions. A *reactive research process* is prompted when a practitioner researcher—interacting naturally in the environment—identifies an existing problem and then conducts systematic inquiry to correct the problem and improve conditions.

For example, a proactive study may require the teacher researcher to try a new practice, collect data, and reflect on alternative behaviors and results, which may lead to yet another new practice—all for the sake of positive change. A reactive study may involve collecting data to diagnose a problem, using results to implement a plan, and then distributing data and findings to others in order to effect change and improve practice. Whether proactive or reactive, the characteristics and components of action research and the process itself are continuous inquiry, reflection, and continuous improvement.

According to Sohng (1995), action research is premised on the principle that the parties in an environment carry out the investigation themselves; it therefore excludes techniques that require a separation of the researcher from the people being researched—as when experimental subjects are kept ignorant of the purpose of the study. The participatory nature of action research enables the researcher to study the natural practicing environment, engage in a methodical examination from inside a particular environment, examine the environment and all it entails, collect data, analyze the data, design an action plan for positive change, and draw conclusions and present findings to inform practice. It should be noted that the results of action research may not always require a formal presentation of findings. In many cases, action research conducted by individual teachers is not shared formally. The results may, however, be shared in an informal manner with colleagues and administrators. Although the action research process is aimed at improving practice and effecting

6 Introduction to Action Research

change, the process is also a journey that tells a story. The journey of action research conducted by individuals tells a story of thought processes, solutions, and strategies. The story may be personal in a specific classroom and environment or public across several grades or even the entire school or institution.

Various researchers examine the definitions of action research further and suggest that multiple definitions are necessitated by the nature and uniqueness of the process (Noffke & Stevenson, 1995). Perhaps the most distinctive aspect of action research is that researchers can evaluate the situation and conditions from inside the environment, thereby obtaining authentic data and firsthand information. For example, practicing teachers who engage in action research as a means for bringing about the essential aspects of a more genuine profession are true researchers in that they are able to share a base of knowledge and expertise common to their profession. As practitioners, they are able to use their knowledge to drive systematic inquiry because they are aware of the standards of their practice. Practicing teachers—and practitioners in general—understand the differentiated roles in the profession and are fully competent to make professional decisions with regard to improving a specific situation. And they are able to engage in continuous reflection in order to improve the working environment (Meyers & Rust, 2003).

Action research has also been defined as the process of studying a “real” environment to understand and improve the quality of actions or instruction (Henson, 1996). It is a systematic and orderly way for classroom teachers to observe their practice or to explore a problem and a possible course of action. It is preplanned inquiry that is systematic and organized and can be shared with others in order to improve practice (Johnson, 2002). Sagor (2000) sums up action research as a disciplined process of inquiry conducted by practitioners who want to improve their own situation. The primary reason for engaging in action research is to assist the “researcher” in improving or refining situations, environments, and practice.

WHY ENGAGE IN ACTION RESEARCH?

Action research enables the researcher to study a particular situation and then to design and implement a plan to improve practices, conditions, and environments. Although there are numerous reasons to employ action research as a method for conducting research, there are basically three main purposes for selecting the approach.

1. Action research is selected as a method for conducting research by those who want to solve problems, address issues, and improve situations and conditions because the process promotes professional growth, improvement, and change. The process enables teachers and practitioners to become “experts in the field” because findings are based on true inquiry and therefore inform practice.
2. The method is ideal for addressing specific targeted goals and objectives that are within the realm of possibility for the practitioner to achieve. By actually

Why Engage in Action Research? 7

conducting an action research study, teachers are able to experience success firsthand.

3. Action research promotes collaboration and encourages “community” among all parties involved in a specific learning situation, leading to results that have the potential to improve conditions and situations for all members of the learning community.

These three basic reasons for selecting the method are also the reasons that make the process effective.

In its truest form, action research enables the researcher to provide valuable information—supported by facts and data—to individuals in decision-making positions. The process provides information that may assist in providing measures of accountability and support for specific practices. The information resulting from an action research study is used to inform practice and assist decision making. Action research is selected as a method because it provides a means for collaborative reflection, which encourages researchers to examine practice in order to make positive changes.

Osterman and Kottkamp (1993) provide a rationale for action research as a professional growth process in their “credo for reflective practice,” which holds that everyone needs professional growth opportunities, all professionals want to improve, all professionals are capable of assuming responsibility for improving practice, and the process enriches the professional environment. Action research is characterized by the following components:

1. The study takes place in the “natural setting.”
2. Before the study begins, the researcher examines his or her own biases in order to remove them and to use professional judgment and background in developing into a researcher-as-instrument.
3. Throughout the study, multiple forms of quantitative or qualitative data (or both) are collected—including primary data, secondary data, cued data, and artifacts.
4. Findings are typically rich in description.
5. Process, not product, is stressed.
6. Inductive analysis is ongoing.
7. Meaning is derived from data analysis, findings, and conclusions.
8. Findings inform practice.

It should also be noted that as a study progresses, the role of the researcher changes as the study evolves and the situation becomes clearer. Researchers must trust their instincts and rely on themselves as instruments in carrying out the study, collecting the data, analyzing and coding the data set, and reporting findings. Data

8 Introduction to Action Research

consist of information collected as a result of any particular study. Data are used to inform the study. In qualitative studies, data may be grouped into sets; therefore, qualitative studies may use the term *data sets*.

Baskerville (1999) suggests that action researchers are among those who assume that complex social systems cannot be reduced for meaningful study. They believe that human organizations—as an interactive context—can only be understood as whole entities. The key assumptions of the action researcher are that social settings cannot be reduced for study by outside investigators and that action brings understanding leading to insight. One must keep in mind that it is these key assumptions that make action research uniquely different in form and structure from lengthy, more traditional research conducted for the sake of research alone, which in many instances is not possible within the confines and time limits of teaching and learning environments.

For further clarification, a comparison between the action process and the more traditional approach must be explored. To begin this exploration, the term *research* is defined as an organized and systematic means of finding answers to questions. *Theoretical* or *traditional research* is concerned with knowledge for the sake of theory as well as adding to the existing body of knowledge. Its design may be quantitative or qualitative. *Quantitative research* typically consists of a systematic examination of specific factors and includes numerical information as data. Quantitative studies usually involve a large number of subjects as the researcher attempts to quantify attitudes or behaviors in order to correlate or compare. Large quantitative research studies are not controlled by the practical usefulness of the findings. Other designs may take a qualitative approach. *Qualitative research* studies are broad and extensive, and typically require a much longer timeline. A qualitative study involves small groups of subjects and may even consist of an examination of one person operating and interacting in a particular environment. Qualitative studies attempt to provide insight into behaviors that occur among a specific number of subjects, at one given time, in one very specific setting.

Some theoretical research may be further divided into two broad categories of quantitative research—experimental research and descriptive research. Although action research may be based on theory derived from a previously done theoretical study, it may adopt a *qualitative research approach*, a *quantitative research approach*, or a mix of the two, depending on the nature of the inquiry (Henrichsen, Smith, & Baker, 1997). Table 1.1 provides a brief exploration of studies that follow a quantitative or qualitative approach and compares these approaches to the characteristics of action research.

A lengthy research study that takes a quantitative approach requires the researcher to identify a problem, collect data, and run a statistical test in order to draw conclusions. In many cases, the researcher is not present at the actual research site. Longitudinal qualitative studies do enable the researcher to interact regularly with participants; however, studies of this nature take place over a period of months or even years. Action research requires that practitioner researchers look at what they

Why Engage in Action Research? 9

TABLE 1.1. Quantitative Approach, Qualitative Approach, and Action Research Characteristics

Quantitative Approach	Qualitative Approach	Action Research
Specific focus or variable	Focus on broader problems	Focus on the "big picture" in examining a multitude of variables at work in a real-world environment
Operates on the basis of hypotheses	Uses overarching questions and themes	May operate on the basis of overarching questions that serve as a framework for examining themes or may require a hypothesis
May reveal degree of causality	May provide insight in the form of themes and patterns	May reveal degree of causality or may provide insight with the purpose of improving practice
May involve large groups of subjects Subjects may be divided into groups (control group and experimental group) May involve multiple research sites	May involve a very small group of participants or a limited number of subjects Subjects may be divided into smaller groups and may even consist of one subject as a case study Focus of inquiry typically involves one particular situation	Involves a limited number of subjects of one particular group within one specific environment May involve a larger number of subjects if the goal is systemic improvement May involve multiple research sites (classrooms)
May involve multiple instruments and analysis procedures Research may be removed from the actual research setting (Example: Phone or e-mail surveys)	Multiple forms of data are necessary in order to ensure triangulation Triangulation occurs when multiple forms of data yield similar results Involves fieldwork (researcher on research site)	Multiple forms of data selected to specifically inform practice Requires fieldwork (researcher on research site)

Continued

10 Introduction to Action Research

(Table 1.1 continued)

Quantitative Approach	Qualitative Approach	Action Research
Analysis uses statistical tests	Analysis involves coding, categorizing, and examining emerging patterns	Analysis may involve statistical tests or may involve coding, categorizing, and examining patterns
Findings may be applied to many different situations	Findings are rich in description and usually cannot be applied to different situations	Findings are used to design a plan of action Conclusions help inform and improve practice

themselves are doing, reflect on what they are thinking, and seek creative ways to improve their situation. Drawing on both quantitative and qualitative methods, action research reflects a practical blend of traditional (theoretical) research and integrates qualities and characteristics of both into a research process.

STEPS IN THE PROCESS

In essence, action research mirrors the teaching and learning process in that both are recursive. For example, it is sound educational practice to identify goals and objectives prior to presenting a lesson. The goals and objectives are aligned with content, skills, standards, student learning tasks, assessment tools or methods, and materials. The lesson is presented, and learning is analyzed. Assessment is both formative and summative, which helps inform subsequent lessons. Reflection takes place, and results are analyzed in order to make adjustments and revisions. The recursive process then begins again. Key factors and components of the process are thus an organized plan, onsite data collection, analysis, reflection, and use of findings to improve practice.

The process of teaching and learning and the action research process follow somewhat similar steps. First, both begin with identification of information. Next, both processes move to determining what is needed for success. In the case of teaching and learning, this step includes determining skills, content, and prior knowledge. In action research, the step involves designing the overarching questions based on the problem, issue, or concern. The processes move smoothly to an alignment step. Content, skills, tasks, assessment, and resources are aligned in the teaching and learning process. Overarching questions are matched with data sets—*all the collected data*—in action research. Next, implementation takes place. During this

Steps in the Process 11

step, both processes involve collecting information, analysis, and reflection. Then adjustments are made—in teaching and learning and in action research—based on findings. Finally, the process begins again. The combined steps may be viewed in Table 1.2.

Action research is a *recursive* or *cyclical method*. A research method is recursive or cyclical when it moves through a series of steps over and over again. It does not end when findings are determined and conclusions are arrived at; instead, the process begins anew. Action research does not start from an initial question to the formulation of data collection, analysis, and conclusions. Rather the process begins with problem identification, which leads to research questions. The process progresses in

TABLE 1.2. Similarities Between the Teaching and Learning Process and Action Research

Overview of the Combined Process	Teaching and Learning Process	Action Research
Information identification	Identify targeted goals and objectives.	Identify problem, issue, or concern related to the work-based environment.
Determine what's needed	Determine content, skills, and prior knowledge.	Design questions based on problem, issue, or concern.
Alignment	Align content, skills, tasks, assessment tools, techniques, and resources.	Align questions with data sets.
Implementation	Implement lesson, conduct ongoing assessment, and engage in reflection.	Implement study, collect data, conduct ongoing analysis, and engage in reflection.
Adjustments	Make adjustments in teaching based on information from prior lesson.	Design action plan based on findings.
Success and change	Make informed decisions based on the previous steps. Begin process again.	Make informed decisions based on previous findings. Begin process again.

12 Introduction to Action Research

a manner that recognizes the need for ongoing, continuous inquiry. Regardless of the structure of the study, the researcher identifies types of data collected. These sets of data may be quantitative (numerical), qualitative (descriptive), or both. *Quantitative data* consist of numerical information. *Qualitative data* consist of writing, diagrams, pictures, and other products. Then the researcher engages in analysis leading toward an informed plan for improving practice. The plan of action and implementation of the plan assist the researcher in drawing conclusions, offering suggestions, and making changes to improve practice.

Steps in the action research process are similar to those typically followed with any type of research. The exception is the addition of an action plan integrated into the study. In the recursive or cyclical process of action research, also described as spiral or dynamic, the researcher begins by identifying a problem; develops a research statement, questions, and sometimes a hypothesis; collects data; analyzes the data; interprets the data; takes action; engages in reflection; and uses the findings to effect change (Creswell, 2002). Being part of the teaching and learning environment helps teacher researchers identify problems, issues, or concerns. After identifying a problem, the design of any action research study demands that the researcher develop research questions. Depending on the focus of the inquiry, the questions may be specific or broad and overarching. The questions become the blueprint or framework for the inquiry. The research questions of any action research study determine if the study will take a qualitative or a quantitative research approach because the questions guide the data identification. A qualitative research approach would require a set of broad research questions that are matched with multiple data sets consisting of a variety of information such as recorded notes, journals, and student writing samples. A quantitative research approach would require a hypothesis and numerical data. For example, depending on the type of questions and the focus of the inquiry, the study may require a *hypothesis statement*—typically part of a quantitative study. A *hypothesis statement* enables the researcher to make a prediction regarding the outcomes of the inquiry. Studies that take a quantitative approach include a hypothesis statement. The questions may require the researcher to use a qualitative approach and to collect data sets that match each overarching research question. This information is covered in depth in a later chapter.

In summary, action research typically includes research questions that provide a focus as to what will be examined and who will be involved. The questions encourage the researcher to focus on problems specific to a particular environment and to examine what takes place, how subjects interact and behave, and what is needed to improve conditions. The questions focus the study and lead the researcher in selecting the approach needed—either quantitative or qualitative—to best inform the inquiry. These steps are summarized in Figure 1.1.

In many cases, practitioner action research is conducted by individuals; however, it may be conducted by teams of teachers or collaborative groups including parents, teachers, students, and administrators. It may also be conducted by graduate

Steps in the Process 13

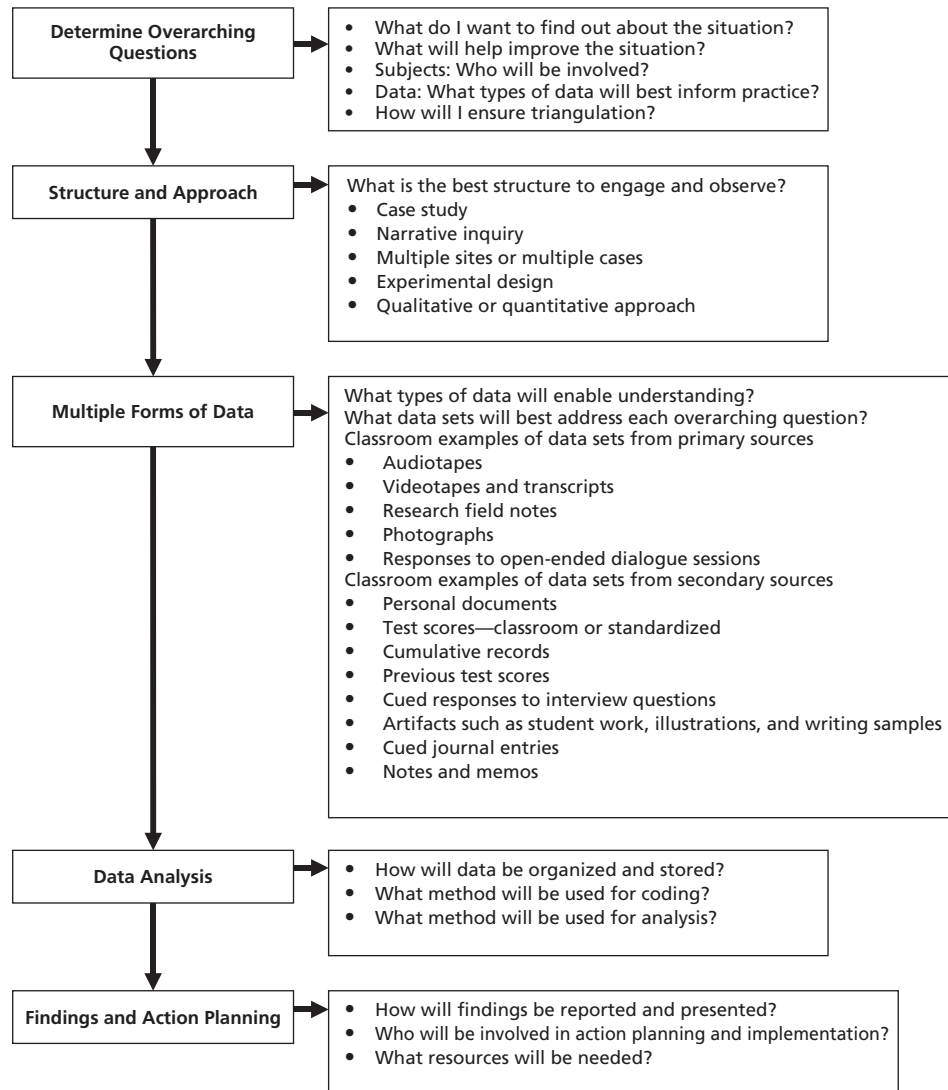


FIGURE 1.1. *The Action Research Process*

students working together or individually. Depending on the group, action researchers typically follow these steps in conducting a study:

- Selecting a focus
- Reviewing helpful theories that apply to the problem, issue, concern, or situation
- Identifying research questions

14 Introduction to Action Research

- Narrowing the questions
- Identifying subjects and participants such as colleagues, graduate students, administrators, parents, or community members
- Selecting the method to best inform the inquiry
- Identifying data sets
- Collecting relevant data
- Analyzing the data
- Designing the action plan and taking informed action
- Reporting results to all parties involved in order to improve conditions and situations related to teaching and learning

This multistep process may seem daunting to the beginning researcher. However, by working in the teaching and learning environment on a daily basis, the process becomes a natural part of the classroom. Beginning researchers may find the accompanying examples helpful as they embark on the action research journey. Exhibit 1.1 illustrates a teacher's planning log. Exhibit 1.2 illustrates the process from a graduate student's perspective.

PHASES OF AN ACTION RESEARCH STUDY

It is always a good idea for anyone who is new to the action research process to think in terms of three phases in completing an action research study: prestudy planning, implementation and analysis, and poststudy action planning. Several research-based tasks take place during each phase. By systematically moving through the phases, the process becomes easier and more fluid. Although the components and steps in the action research process are fully covered in subsequent chapters, the following are several suggestions illustrating activities that might take place during each phase in the process.

Prestudy Phase: Observations

Occasionally, when working in the classroom environment, observations of the subjects reveal problems, issues, and concerns. Before selecting a focus, it is sometimes beneficial to identify the subjects. This works well when a suspected problem involves several students or a particular group of students. Since action research revolves around practice, it is typical to select students that interact with the researcher in a routine fashion. The subjects may be part of the teacher researcher's own classroom or may be enrolled in another teacher's class. Researchers may begin by conducting at least three very focused participant observations of the subjects for approximately forty-five minutes to one hour. In participant observation, the researcher interacts with the subjects while observing. The interaction may be combine observation, interacting, and conversing. In many instances, the teacher researcher will be

EXHIBIT 1.1. Getting Started with Action Research: A Teacher Researcher's Planning Log

Problems, Concerns, and Questions	Subjects Involved	Possible Data Sources	Collection Timeline	Reflections, Ideas, and Emerging Patterns
<p><i>Problems and Concerns</i></p> <p>Students are breezing through reading. Comprehension tasks seem relatively easy.</p> <p>Overheard conversation that students read this particular book last year. Activities they spoke about are very similar.</p> <p>Spoke with grade-level team to see if others are observing a similar situation. All expressed the same concern.</p> <p>Consulted with the principal regarding a possible study to determine what we can do as a team to challenge students.</p>	<p>HMS sixth-grade students</p> <p>HMS sixth-grade teachers</p>	<p>Reading comprehension tests (classroom)</p> <p>Standardized test scores (reading subtests)</p> <p>Small group interviews with students</p> <p>Parent/guardian survey (home reading habits and interests)</p> <p>Student surveys</p> <p>Classroom inventory</p> <p>Library inventory</p>	<p>Design timeline at next grade-level meeting.</p> <p><i>Bring</i></p> <p>Reading comprehension test scores (September and October)</p> <p>State assessment scores for reading subtests</p> <p>Classroom inventory of books</p>	
<p><i>Questions</i></p> <p>What interests do students have that may assist teachers in identifying appropriate reading materials?</p> <p>What types of reading materials will appropriately challenge our students and help encourage students to read for a variety of purposes?</p> <p>What materials are readily available and which of these may be integrated effectively into the sixth-grade curriculum?</p>				
<p><i>Needs</i></p> <p>Interview instrument</p> <p>Parent survey</p> <p>Student survey</p> <p>Library inventory</p>				

EXHIBIT 1.2. Getting Started with Action Research: A Graduate Researcher's Planning Log

16

Problems, Concerns, and Questions	Subjects Involved	Possible Data Sources	Collection Timeline	Reflections, Ideas, and Emerging Patterns
<p><i>Problems and Concerns</i></p> <p>As a graduate teaching assistant in the Foreign Language Department, I noticed that many undergraduate students majoring in Spanish do not fluently engage in conversations. Typically, they can be overheard integrating a few words in Spanish into primarily English conversations. In an informal conversation with other GTAs, they noticed the same thing. Out of curiosity, I examined student fluency test results. The test—taken after the students complete 12 credit hours of Spanish—indicate that almost half of the undergraduate students fail the fluency test on the first attempt.</p> <p><i>Questions</i></p> <p>What existing factors are preventing students from moving to a conversational level of fluency? What strategies may be integrated into Spanish coursework that will promote and encourage fluency? What information from this study may help improve practice?</p> <p><i>Needs</i></p> <p>Undergraduate student survey Student fluency exam results Interview department chair</p>	<p>Undergraduate students enrolled in SPAN 1101, SPAN 1102, SPAN 1103, and SPAN 1104 Instructors and graduate teaching assistants</p>	<p>Fluency tests In-class assignments Class participation grades Observations of class sessions Interviews with undergraduate students Interviews with instructors Examination of current textbooks and syllabi</p>	<p>Design timeline at next faculty meeting. Meet in library in order to examine current textbooks. Bring syllabi and other related materials such as assignments.</p>	

Phases of an Action Research Study 17

able to identify emerging problems that surface during the interactive observations. In addition, the focused observations usually reveal problems in the environment that point to concerns that may develop into the focus of the study. Graduate students also benefit from this preplanning process.

Prestudy Phase: Finding a Focus

Whether working alone or collaboratively, teachers as well as graduate students may reflect on certain key questions:

1. What do I want to find out about these specific students or situation?
2. What is important, and what do I want to improve in terms of meeting the needs of this special group of students?
3. What are the problems, issues, and concerns in this specific environment?
4. What issues and concerns emerge that need to be addressed in order to improve the situation?

Two simple strategies that usually help beginning researchers are keeping a reflective journal and conducting informal reflective interviews.

Reflective Journal Practitioner action researchers commonly keep reflective journals documenting their ongoing research. These may be in the form of spiral notebooks, three-ring binders, decorative journals, or electronic files. Begin by recording thoughts in a reflective journal. Jot down initial responses to the questions. After a day or two, return to the responses to record any additional thoughts or reflections that come to mind.

Informal Reflective Interview and Analytical Dialogue It is always a good idea to talk to colleagues, administrators, parents, and community members when appropriate. Engage in informal dialogue. Discuss the problems surrounding teaching and learning that have been identified. Ask questions regarding the problems, and record the informal responses for later reflection. In many cases, the informal dialogue helps focus the study more tightly and provide additional insight.

Prestudy Phase: Reviewing Helpful Theories

Considering the nature of action research, the teacher researcher must be able to explore existing theories in order to gather information to make informed decisions and to design the action plan. Calling on personal expertise and experience as a practicing professional, explore underlying feelings, beliefs, and insights regarding teaching and learning. Revisit entries recorded in the reflective journal. Conduct a personal brainstorming session to further explore the problems, issues, and concerns. Record the responses. Conduct an intuitive assessment by prioritizing the responses. Next, organize the responses in a list, chart, or some other graphic form. Some researchers find it helpful to reorganize responses and ideas into a concept map, as

18 Introduction to Action Research

the process helps in expanding ideas and revealing additional details regarding the issue, concern, or problem.

Prestudy Phase: Brief Review of Literature

With the focus of the study now well defined, a brief, preliminary literature review can help support the rationale for research. The *literature review* is a process that enables the researcher to identify and evaluate studies conducted by other scholars and practitioners. The review is a systematic examination of existing research related to the focus of the study. The literature review may also serve as a fact-finding process to help the researcher narrow the research focus.

Prestudy Phase: Designing Research Questions

The refined and narrowed focus calls for a strong set of overarching questions. Three or four well-written questions will get the study moving.

Prestudy Phase: Identifying Data Sets

Reexamine the overarching questions. Ask yourself, what type of data will best inform? Carefully select data that will provide insight. Remember that as the study progresses, additional data sets may be added.

Implementation and Analysis Phase

It is strongly suggested that a data collection schedule be prepared. The collection schedule should be followed throughout the study. Ongoing analysis is conducted as the study progresses. A timeline illustrating activities from beginning to end will keep the study on track.

Poststudy Phase: The Action Plan and Reporting Findings

The ongoing analysis aids the recursive process and helps the researcher draw conclusions. The findings are used to design the action plan, which is implemented in a timely manner. The findings should be formally reported to all parties involved. The dissemination of information based on research is the key to improving practice because positive change is the basis of systematic inquiry. To succeed in the role of researcher, one must be able to substantiate the process. Action research is the perfect tool to answer the question “So what?” In other words, if a study is conducted and the findings yield little relevant information to effect change and to improve practice, people may ask, “So what?” The action researcher is in a professional position to provide the answer to this basic question because the results from the action plan can be directly linked to improving practice.

WHAT ARE DATA?

To offer further clarification regarding the data, teacher researchers need to revisit the need for multiple data sets. The classroom and work-based environments are rich with naturally occurring data. For example, teachers come in contact with multiple

What Are Data? 19

data sets on a daily basis. Data in the form of observations, classroom test scores, student artifacts, standardized test scores, discussion responses, and informal conversations are abundant, and all may inform practice. It is the systematic matching of overarching questions with data sets that is the key to a successful study. No amount of data will inform practice if it is not considered or used. Therefore, it is critical for the teacher researcher to be able to match data carefully with inquiry, know which data will best inform, identify effective analysis methods, and consider all data as sources of information.

For example, a study that focuses on a new math program that is being implemented to improve test scores would require the action researcher to collect information—possibly pre- and poststudy implementation—regarding student progress. The data may consist of test scores before and after program implementation. In addition, the action researcher may want to find out how the students liked working with the math manipulatives that are part of the program; in that case, a student survey may be administered. The data collected would then be statistically analyzed using a test. Even though several forms of data were collected, the methodological approach of the study would be considered quantitative. However, if the researcher just wanted to find out how the students liked the manipulatives that were part of the math program, the research design would require different types of data. For example, the researcher might collect test scores, interview students, conduct open-ended discussions, and videotape classroom sessions. This study would be taking a qualitative approach. Both studies described have similar research goals, which require a certain type of data. In addition, both studies require the researcher to collect several types of data. This is often the case. This is due in part to the research environment, which is also the practicing environment, where multiple forms of data are readily available.

One reason for collecting multiple data sets when the action research takes a qualitative approach is to ensure triangulation. *Triangulation* occurs when multiple forms of data, when analyzed, show similar results, thus confirming the researcher's findings. Typically, a qualitative action research study includes two or three overarching questions. Data sets are identified based on their ability to assist the researcher in answering each question. It is recommended that at least three data sets be identified and collected for each question in order to establish triangulation.

Triangulation of the data provides validity to what was studied. Sagor (2000) suggests that action researchers use a graphic organizer or triangulation matrix to show the various data sets that will be used to answer each overarching question. The triangulation matrix helps the researcher formulate thoughts and visualize the process. The matrix is also helpful in determining what data sets will best address the overarching questions as the study progresses. Exhibit 1.3 illustrates a simple triangulation matrix. (For further discussion regarding developing questions, identifying data sets, and matching data for triangulation purposes, see Chapter Five.)

Although not always required, a triangulation matrix is also beneficial when the action research takes a quantitative approach. The matrix helps the researcher think systematically about what types of data will best inform the study, even if the data are quantitative.

20 Introduction to Action Research

EXHIBIT 1.3. A Completed Triangulation Matrix

Focus of the Study

Preservice teachers' perceptions and views of diversity as related to today's classrooms and what is needed to prepare for ever-changing populations in public schools

Overarching

Questions	Data Set 1	Data Set 2	Data Set 3
<i>Question 1</i> What views and perceptions regarding diversity are held by predominantly white preservice students?	Student responses to a diversity survey	Discussion responses to a Socratic seminar based on <i>Educating Esme</i>	Response papers based on diversity issues presented in <i>Educating Esme</i>
<i>Question 2</i> Would an examination of historical issues and current issues within the context of a beginning education course alter these views and perceptions?	Student-created concept maps focusing on concerns about the first year of teaching	Student responses to open-ended questions	Instructor field notes
<i>Question 3</i> How do students of the "digital generation" view the role of the teacher in meeting the needs of diverse populations?	Revised concept maps (after viewing two popular movies depicting teachers)	Online discussion forum response to <i>Freedom Writer's Diary</i>	Student-designed "plan for a successful first year"

When Is Action Research the Appropriate Choice? 21

Considering the fact that data are the heart of any action research project, the researcher must select data sets that assist in making decisions, narrow the study, and determine the path that must be taken with regard to the methodological approach. In addition, the action research process calls for both ongoing data analysis and summative data analysis. *Ongoing data analysis* helps the researcher formulate hypotheses. The continuous analysis of data also helps the researcher develop and revise analytical questions, if needed. Ongoing analysis also helps identify any additional data that may be needed. When planning the research timeline, ongoing analysis should be integrated into the schedule in all phases of the study. Ongoing analysis promotes continuous data collection based on the data previously collected. It encourages the researcher to record observer notes, which help direct the study. For qualitative action research, ongoing analysis prompts the researcher to explore metaphors, analogies, and concepts in order to identify any patterns that emerge in the environment. In quantitative action research, ongoing analysis carries the study forward and provides a continuum on which to plot the research. And in all action research, regardless of whether a qualitative or a quantitative approach is used, ongoing analysis helps the researcher design the action plan based on the inquiry because the history of the analysis provides a clear picture of what took place and what is needed to improve practice.

WHEN IS ACTION RESEARCH THE APPROPRIATE CHOICE?

To say that the action research process is appropriate in every research situation would be untrue. However, there are factors present in specific situations that demand an action research approach. In addition, perhaps the critical factor in selecting action research is that the researcher is also the practitioner operating in the work-based environment in which the study will take place; a specific problem, issue, or concern has been identified; and the results from the study will improve the environment, situation, or conditions. Keep in mind that action research is an approach as well as a process method. A researcher in any given situation must identify a focus, determine subjects and participants, identify data sets to inform, and select a methodology. Sound research is driven by the problem at hand. Researchers may review a number of methods before selecting the one that is well matched to the problem or focus of the study, will best inform the situation, and will enable the inquiry to yield the results in order to make valid contributions to the related field.

Two Scenarios

Consider the following two scenarios. Which of the two is the better match for an action research approach?

Scenario 1 An eighth-grade English teacher notices that several female students are arriving at school three days each week dressed in scrubs, which are normally

22 Introduction to Action Research

worn by people in the medical profession. He begins to take note that on the two remaining days, the same female students wear outfits that are typically worn by any other middle school female student. Upon further examination, he notices that on days when scrubs are worn, the female students take part in discussion at a higher rate, offer to assist others with writing tasks, and are generally more involved in classroom tasks.

Focus

Clothing choice and interactions among eighth-grade female students enrolled in an English/Language Arts class

Overarching Research Questions

1. Does choice of clothing have an effect on the rate of interactions among female students, and if so, what is the connection?

Data set 1: Recordings (on calendar) of daily outfits

Data set 2: Audiotaped recordings of interactions among students during focused discussion

Data set 3: Teacher observations of voluntary help sessions

2. Would the absence of choice in this particular situation hinder the high rate of interactions?

Data set 1: Field notes recording interactions on days when scrubs are not worn

Data set 2: Informal interviews with students regarding “free choice” of clothing

Data set 3: Survey administered to students regarding choice of clothing

3. Do the interactions carry over to other subject areas and does this behavior affect academic success, and if so, what suggestions can be made to help content area teachers be more tolerant of student choice of attire?

Data set 1: Interview responses from non-English/Language Arts content area teachers

Data set 2: Classroom grades for one marking period (gathered from all content area teachers)

Data set 3: Observations of interactions in non-English/Language Arts content area classes

The nature of the inquiry in this scenario demands a qualitative approach. There are a small number of subjects involved. The researcher must collect multiple forms of qualitative data. The data must be coded and compared in order to make meaning of the situation. The researcher looks for emerging patterns and gleans key points

When Is Action Research the Appropriate Choice? 23

from the patterns. Findings are shared with non-English/Language Arts teachers in order to provide insight and make changes in classroom instruction.

Scenario 2 As part of her responsibilities, a graduate teaching assistant (GTA) is assigned to teach a freshman-level Introduction to Biology class. Her office happens to be located next to that of an adjunct professor in the same department. In conversation, the GTA learns that the adjunct is teaching another section of the same Intro to Bio class. As the semester progresses, the GTA notices that students are disrespectful and condescending to her. She discusses this with the adjunct, and he expresses a similar concern regarding his own class.

Focus

Views of graduate teaching assistants and adjunct professors held among freshmen at a large state university in the northeastern United States

Overarching Research Questions

1. What views regarding the expertise of GTAs and adjunct professors are held among freshmen at a state university, and do these views differ with regard to tenure-track faculty?

Data set 1: Online survey administered to freshmen enrolled in the Intro to Bio classes that focuses on perceived levels of expertise among instructors

Data set 2: Student enrollment numbers at the start, midpoint, and end of the semester

Data set 3: Drop and add records across all sections

2. Do these views—whether positive or negative—hinder or enhance success at the university level?

Data set 1: Student test scores

Data set 2: Student lab scores

Data set 3: Final grades

3. What can be gleaned from this study that would assist future GTAs and adjuncts in preparing for the teaching and learning experience at the university level?

Data set 1: Satisfaction surveys administered at the end of the semester (classes taught by GTAs, adjuncts, and tenure-track professors)

Data set 2: Faculty evaluation data

Data set 3: Surveys administered to GTAs, adjuncts, and tenure-track professors

The nature of the inquiry in the second scenario demands a quantitative approach. The number of participants is large. Data consist of multiple survey results, test

24 Introduction to Action Research

scores, grades, evaluation results, and related numerical information. A statistical analysis is required in order to make sense of the information. Findings are shared with department chairs, GTAs, adjuncts, and tenure-track professors in order to provide insight and improve practice.

Analysis

Every study is unique. Methodological approaches—qualitative and quantitative—differ. Scenario 1 focuses on a small, specific population, while scenario 2 targets a large population. The similarities, however, are what make action research appropriate in both situations. First, both scenarios describe situations where the researcher is also the practitioner. Second, the practitioners—one a teacher and the other a GTA—are immersed in the environment. Third, change and improvement are within the realm of possibility for both the practitioner researchers described. Finally, each study has the potential to yield information that may be used to improve practice. It is these factors, present in both situations, that lead the researchers to action research.

HOW CAN THE PROCESS EFFECT CHANGE?

The essence of all inquiry is to gain knowledge or to inform in some way. The inquiry is driven by a set of questions, which guide the researcher. Typically, the research concludes with information gleaned from data, thus leading to new knowledge. The application of such knowledge beyond the study is one reason action research is effective in promoting change. Consider the amount of research that is conducted in all walks of life on a daily basis. Think about the potential findings of medical research and market research. In the medical field, research conducted usually leads to new procedures, techniques, and medicines. Market research results in new products. Even though the researchers may not be involved in the actual “practitioner-based” environments that the findings relate to, the results are beneficial and serve as a catalyst for change and improvement. Classroom research—conducted using the action research approach—has the same potential to improve teaching techniques, classroom environments, and student learning. However, action research—conducted by researchers who are also operating in the practicing environment on a daily basis—has even greater potential because practitioners are able to use their own experience and expertise. The process prompts overt ownership because the researchers are also the practitioners and teachers. The degree of relevancy is highest when the researcher is also the practitioner who is able to make sense of the findings and use the results to take action for improvement and change.

Consider a common occurrence that takes place in most public schools across the United States every year: the process of administering standardized tests. The students are prepared, tests are given, and compiled results are sent to the schools. Teachers review the scores and share the results with parents. Copies of the score reports are filed in student cumulative folders and kept in a designated place. Are the results of the tests useful? If the reports are never used as diagnostic tools to

improve instruction, the answer is no. However, if teachers and administrators review the score reports and use the findings to inform instruction, the tests have value in improving practice.

The same is true for research. Action research encourages the systematic study of a particular problem but carries the research to the point of using findings for the specific purpose of taking action and improving practice. The action plan is informed by research results, thereby assisting in effecting change through the experience and expertise of the teacher or practitioner researchers, new knowledge, “inside information” gleaned from the researchers, and the researchers’ ability to connect the research process with the actual practice of the field.

THE ETHICAL RESEARCHER

Important to the ethics of research is the *institutional review board (IRB)*, a team of peers that works as part of a university or school with the goal of protecting the rights and welfare of human research subjects. Many school systems, even those without IRBs, have guidelines for conducting research. Most universities that require students to conduct research do have an IRB, which issues guidelines for conducting research that involves human subjects. Whenever research involves human subjects—which action research almost always does—the researcher must consider the ethics involved in maintaining the confidentiality of participants in the study. For example, an action research study may involve photos of students as one form of data in order to explore group dynamics. At the least, the researcher must obtain parent or guardian consent to use the photos if the findings are to be shared outside the research site. Despite good intentions, a well-meaning teacher researcher may design an action research study that violates ethical rules. When in doubt, there are many online resources that may be consulted.

The *Code of Ethics for Institutional Research* published by the Association for Institutional Research (2001) is available on the organization’s Web site (<http://airweb.org>). The code outlines critical items that must be considered when conducting research that involves human subjects. It covers the following topics:

1. *Competence.* The code discusses the auspices under which a researcher accepts an assignment for conducting research and states that the researcher must not—under any circumstances—assume a role for which he or she cannot claim a specific degree of competence. This discussion also addresses the assumption of duties that would require a researcher to train subordinates or educate subordinates regarding research practices and procedures.
2. *Practice.* Objectivity, use of accepted technical standards, initial discussions regarding special techniques and procedures, responsibilities, data collection and storage, reporting, and documentation are addressed. The ethical researcher must follow guidelines for data storage as well as accurately reporting what took place.

26 Introduction to Action Research

3. *Confidentiality.* One critical factor in conducting research with human subjects is to make sure that their anonymity is protected. Other guidelines govern treatment, exclusion, and inclusion based on specific criteria that must be considered.
4. *Relationship to the community.* Equal treatment, local codes, archiving and custody of information, assessment, integrity and accuracy of reports, and external reporting are discussed. Although action research is conducted for improving practice, the relationship to the community at large is important in that findings may be used by others in a school or school system.
5. *Relationship to the craft.* The ethical researcher must address research responsibilities such as acknowledging co-researchers and maintaining integrity throughout the study. In addition, the research must report any unethical conduct of colleagues even if it means that an uncomfortable situation may develop.

SUMMARY

The action research process encourages participatory change. The process promotes using teacher or practitioner expertise in identifying a problem, designing inquiry-based questions, designing a study, implementing the study, and using findings to design an action plan for the sake of improving practice. The process employs elements of traditional research approaches but is unique in that the study restarts itself after information gleaned from the initial inquiry is used to design the action plan. Steps in the process include selecting a focus, identifying research questions, selecting data and analysis procedures, drawing conclusions, and designing and implementing the action plan. In addition, there are specific research-oriented tasks that teacher researchers may engage in at the prestudy phase that help refine a study and focus the inquiry more tightly. Multiple forms of data—carefully matched with the overarching research questions—ensure triangulation, thereby providing additional reliability. The method is ideal for addressing specific problems, goals, and objectives that are within the realm of possibility for the practitioner to solve and achieve. The field-intensive process of action research is practical, empowering, and critical in searching for solutions and ways to improve conditions and practice.

The action research process is an appropriate method for those who operate in the practicing environment on a daily basis. It is an effective process that promotes improvement and change because it enables practitioners to use their experience and expertise while taking ownership of the research process. Last, all researchers must follow guidelines provided by individual institutional review boards at their particular institutions or research sites or else other authoritative professional research ethics and codes of conduct. The following chapters provide in-depth discussion of all these steps, along with strategies for conducting action research studies.

KEY TERMS

Action plan	Qualitative research
Action research	Qualitative research approach
Community-based research	Quantitative data
Cyclical method	Quantitative research
Data	Quantitative research approach
Data set	Reactive research process
Field-intensive process	Recursive method
Hypothesis statement	Research
Institutional review board (IRB)	Researcher-as-instrument
Literature review	Theoretical research
Participant observer	Traditional research
Proactive research process	Triangulation
Qualitative data	

DISCUSSION QUESTIONS

1. Compare the teaching and learning process with the action research process. How are the two related, and why is the relationship important?
2. Compare the characteristics of action research and qualities and elements of quantitative and qualitative research approaches. How does the action research process use key elements of both quantitative and qualitative methods and in doing so make the process a sound educational choice?
3. What is the value in completing the prestudy research tasks? How do the tasks assist the researcher in refining and focusing the study?
4. Discuss the conditions under which action research is appropriate. How does the action research process help the practitioner?

SUGGESTED TOPICS

1. Compare action research as a method and an approach to the quantitative and qualitative approaches. Identify key elements drawn from quantitative and qualitative research. Provide an explanation as to why the elements make action research a sound educational choice for research.
2. Brainstorm possible problems, issues, and concerns that may become the focus for an action research study. Use a planning log like the ones in Exhibit 1.1 and Exhibit 1.2 to record thoughts and ideas.
3. Study the following scenarios to determine which would work best with action research.

28 Introduction to Action Research

- a. A university department is planning to add a diversity strand to all undergraduate courses. However, after several preliminary discussions, the faculty members are not sure if integrating a diversity strand would be as effective as developing a new course devoted entirely to diversity and cultural issues.
- b. A team of first-grade teachers would like to implement a new vocabulary strategy but are concerned that it might not work. Their school administrator agrees to purchase the necessary materials if the teachers would study the effect of the new strategy and report findings to the PTA.
- c. High school dance team leaders decide to implement a peer-coaching system to help team members learn dance routines. Team members respond well after just two sessions. The team leaders decide to continue the peer-coaching system, study progress, and report findings to other athletic teams.
- d. A middle school English as a Second Language teacher would like to examine the progress of non-English-speaking students as he implements a multisensory approach to teaching.

ONLINE ACTIVITIES

1. Select one or two of the discussion questions provided to set up an online forum. Have students support their ideas with outside sources. Use a rubric for evaluating the postings. (Note: This may be completed in small groups or with the entire class.)
2. Brainstorm and complete the pre-planning log. Exchange the completed log with group members. Pose at least two questions to assist the researcher who completed the log in refining and focusing the study.
3. Using the scenarios provided, set up a dedicated discussion forum for each. In small groups, have students discuss the possibilities of action research. Would it work? Is action research best suited for the inquiry? What methodological approach would be required for the inquiry? Why?
4. Set up an open discussion forum. Encourage students to post questions regarding action research along with ideas they have for action research projects.