

Action Research

Step -by- Step:

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A Tool for
Educators
to Change
Their
Worlds

Mr. Hartman is an honors-level and Advanced Placement (AP) science teacher in a diverse, urban high school where he has been teaching for the last 20 years. In recent years, Mr. Hartman has become increasingly more concerned with the lack of ethnic/cultural diversity in his advanced science classes. At the end of the fall semester, he raised the concern with his colleagues in the science department and found them to be equally puzzled about the situation and more than willing to help him investigate the problem more fully. Mr. Hartman and his team agreed to spend the spring semester in an action research inquiry seeking answers to the question: Why do students from minority cultures

choose less advanced classes at Lake Hominy High School?

Mrs. Rodriguez is a principal in a diverse elementary school in the suburban Smileytown School District. Smileytown's superintendent mandated that by the fall semester, all elementary principals in the district would implement a formal reading program that would best meet the diverse needs of students in each school and raise the district's reading scores. What formal reading program is the best fit for the students of Smileytown Elementary? Like Mr. Hartman, Ms. Rodriguez must first gather information before she can answer the question, thus implementing the best reading program.

Among other things, she must assess her school's existing informal reading program(s), identify and analyze the patterns of student achievement related to these teacher-initiated approaches, examine the level and quality of teacher support and training in the area of reading, and determine stakeholders' perceptions about the current reading instruction at the school. In short, Ms. Rodriguez needs to undertake an action research project aimed at studying her school's reading instruction and reading achievement as a precursor to implementing a formal reading program that will best fit her school's needs.

Mr. Hartman and Ms. Rodriguez are typical of many educators who identify issues and challenges in the course of their professional lives and seek answers and insight about how to improve their professional practices, and the culture in which they teach and their students learn, and how to better take advantage of resources in their settings. This article will provide an overview of action research, a research design well-suited for practitioners to implement in their varied settings. Additionally, we will outline several key steps in the process of conducting practical inquiries and closely examine the process by which Mr. Hartman and Ms. Rodriguez conduct their respective action research studies.

What Is Action Research?

Action research is a systematic, disciplined inquiry focused on addressing a specific, identifiable research question using the appropriate methods—quantitative and/or qualitative—to answer that question. Action research differs from other forms of research methods in that it is conducted by the individual(s) in the middle of the context being studied

and is undertaken with the intention of taking action as a result of the findings of the study. Specifically, action research has the potential to:

- solve problems that are of immediate and pressing concern to teachers, counselors, administrators, and other educators without waiting for others to intervene on their behalf;
- place educators in an active role in the school reform process;
- shape a school culture that encourages data-driven change;
- empower individuals through collaboration with others;
- position educators as learners seeking to narrow the gap between practice and their visions of education;
- encourage educators to reflect on practice; and
- promote a process of testing new ideas (Mills, 2000; Tomlinson, 1995).

Sometimes called practical inquiry or practitioner research, the specific steps in this research design are purposely unspecific enough to encompass the variety of issues and questions that arise in complex educational settings. This seeming ambiguity also contributes to some misunderstandings about the approach. Action research critics suggest that the practitioner approach is less rigorous than those methods that offer objectivity from an outside researcher and the potential for greater generalizability to other settings. Although not without some potential drawbacks, action research is a legitimate form of inquiry for educators to study practical and pertinent issues of school and provides immediacy for their resulting actions. Further, this approach has great promise to narrow the gap between educational theory and improved educational practice.

Synthesizing the literature of action research, we suggest a seven-step process to conduct the investigation, recognizing that the process is iterative and may require a back and forth movement between several steps along the journey (see Figure 1). Each step is described below.

Step 1: Identify an Area of Focus

In the first step of the action research process, educators gather information to better understand the area/topic to be studied. This may include (a) finding and reviewing published literature on the topic to determine how a range of experts view the phenomena; (b) seeking input from other collaborators on the topic like Mr. Hartman, who raised his concerns and questions with his department colleagues; and eventually (c) refining the topic to a specific research question that will be answered through the action research process. In Mr. Hartman's scenario, he and his colleagues consulted with others in the building to determine whether this problem existed in other disciplines, consulted with the library and media staff to locate journals and other references that might shed light on their problem, and eventually refined their question to ask: Why do students from minority cultures, particularly African American males and Hispanic females, choose less advanced science classes at Lake Hominy High School?

Step 2: Write an Action Plan to Guide the Inquiry Process

The purpose of the second stage, writing an action plan to guide the inquiry process, is to give structure to a fluid process. In this portion of the inquiry, educators move past the initial wondering and begin to set forth a plan for actually carrying out the

investigation. In some cases, this plan may include a specific timeline for gathering data, sharing findings, and enacting action; in other instances, the plan may be an informal document to help outline the steps in the process. Ms. Rodriguez had a mandate from her superintendent that a formal reading program be implemented by the fall of the new school year, leaving her only a small window of time to gather and organize her data, analyze the findings, and make an action plan for choosing and implementing the new reading program. In Ms. Rodriguez's scenario, it was critical that she develop an action plan to ensure adequate time for each important step that follows. Mr. Hartman and his colleagues set the spring semester aside for this process; however, they were open to extending their work into the summer as necessary in order to get answers to their question and determine a course of action to increase targeted students' enrollment in the fall.

Step 3: Collect Data to Address Identified Question

The third step, collecting data, provides the action researcher with the raw information that will be used to better understand the identified area/topic. The scope and quality of the data that are collected will necessarily inform the action that occurs as a result of the inquiry. In most instances, it is important to collect multiple types of data (e.g., data from student records, survey responses, observations, interviews). This process of looking from multiple lenses (also known as triangulating the data) will increase the likelihood of getting a balanced view of the phenomenon, and thereby increase the validity of the findings. The kinds of data collected—quantitative and/or qualita-

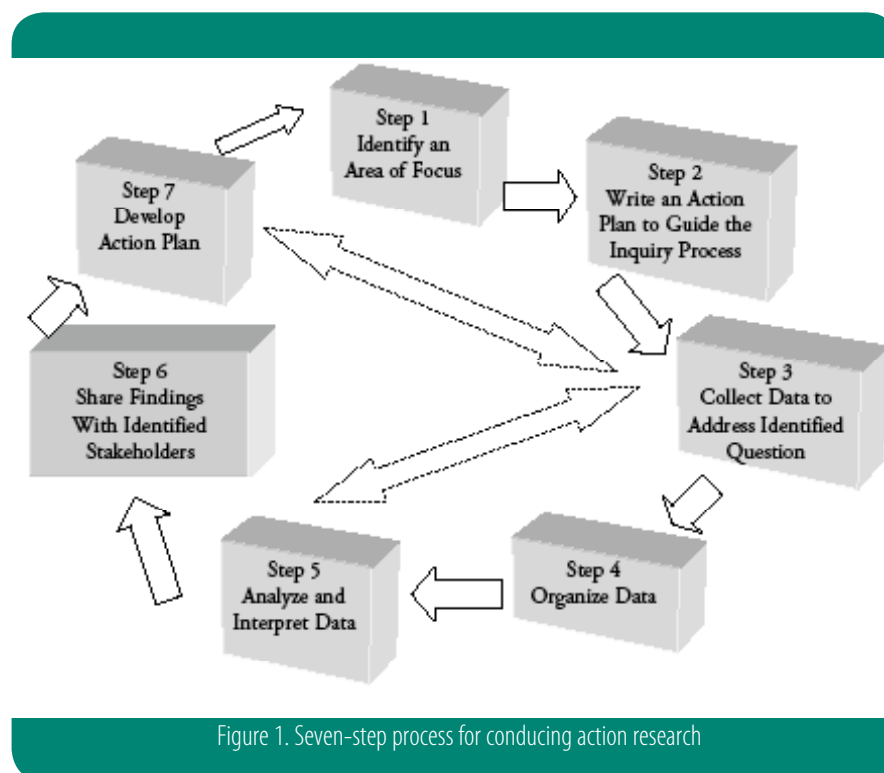


Figure 1. Seven-step process for conducting action research

tive—will be determined from the research question(s) asked. For example, in Mr. Hartman's scenario, he and his colleagues were trying to understand why certain students make the choices that they do. It is likely that the science department would want to talk to students to try to better understand their perceptions and beliefs about the science courses offered at Lake Hominy High School. In Ms. Rodriguez's scenario, she would look at students' patterns of achievement in reading; would conduct interviews and observations with the teachers who currently teach reading using a wide variety of informal methods; and try to determine the relationship, if any, between certain methods for teaching reading and students' patterns of achievement in reading. In both instances, it is critical that the action researcher follow appropriate procedures for conducting research in the educational setting. As the principal, it is expected that Ms. Rodriguez analyze her teachers' methods and

the students' achievement and thus it is not necessary to seek additional consent in order to proceed. In Mr. Hartman's scenario, however, it is critical that the researchers/teachers seek permission from the students' parents/guardians before asking them to participate in formal interviews or focus groups.

Step 4: Organize Data

It is at this stage of the process that organization becomes critical. If the action researcher gathers more data than he or she can effectively manage, then it has the potential to affect the quality of the findings and actions that occur as a result. Organizing and managing data may require transcribing or culling through taped interview transcripts, sequencing chart paper notes from focus groups, transferring survey/questionnaire responses into some workable format (e.g., Excel database), and/or identifying missing data that are crucial for answering the



research question. In the busy world of practicing educators, it may seem tempting to skip this critical step and jump right into analysis, however, the quality of the research findings depend on organized data. Mr. Hartman and his colleagues conducted several focus groups: two with students (one with students from the targeted minority groups who are currently enrolled in the advanced-level courses; one with students from the targeted minority groups, identified by the guidance counselors as high achieving, but who selected less-advanced science courses), two focus groups with parents of the students who participated in the student focus groups, and one focus group with other teachers at the school who teach advanced-level courses in other disciplines.

Step 5: Analyze and Interpret Data

After the data are collected and organized, the action researcher is charged with the task of making sense out of this information. Some data analysis may require statistics. In these instances, if the educator lacks the skills, it may be efficient to seek

a collaborator from within the school district or at a local college or university. Ms. Rodriguez, for example, may need to consult with others in her district or community to assist her with the statistics needed to answer her question about the relationship between the varied reading methods and achievement in her school. This productive collaboration has the potential to increase Ms. Rodriguez's knowledge and understanding about analyzing student achievement data and provides her with another individual with whom she can brainstorm possible explanations from the data. In Mr. Hartman's scenario, he and his colleagues likely have the skills needed to analyze their data. First, they culled through the chart paper notes from the focus groups in an attempt to identify patterns and themes that emerge from the various groups. The science team was surprised to discover that some of the students' responses concerned nonacademic issues such as peers' responses to their decisions to select the more rigorous science courses. Also surprising was that some parents seemed to be influential in students' decision to elect for

the less-challenging courses. The team decided that more information was needed and they elected to circulate a questionnaire to all students in the school to elicit a more comprehensive view of the problem.

In addition to seeking patterns and themes, the researcher may choose to create a concept map to determine the relationship among many ideas that emerge from the data. Other data analysis strategies include seeking antecedent actions (what happens before the phenomenon) and consequential actions (what happens after the phenomenon). This strategy is particularly helpful when attempting to view a sequence of events such as determining the process by which teachers implement ideas learned in professional development.

Step 6: Share Findings With Identified Stakeholders (Optional)

After analyzing and making sense out of the data, a helpful next step may include sharing the study's findings with others. Depending on the context of the inquiry, however, this may or may not be possible. Action researchers have found helpful insights from others outside the study, or "critical friends." These individuals' fresh perspectives on the study's design, analysis, and findings can offer a valuable service before determining the final course of action. In Ms. Rodriguez's scenario, she took the findings of the study to her school's leadership team to help her decide which reading program seemed to be the best fit given the results of her data analysis. In Mr. Hartman's scenario, the science team shared their findings with the principal before determining and finalizing their response to the data. When possible, sharing findings with identified stakeholders provides the action

