

by quantitative researchers differ substantially from those held by qualitative researchers. It is my conviction that an understanding of these beliefs is not requisite to understanding or being able to successfully conduct an action research study. This is largely due to the fact that action research, as we will view it throughout this text, typifies a grassroots effort to find answers to important questions or to foster change. It is entirely practical—and not necessarily philosophical—in its application. Mills (2011) refers to this as “practical action research” (p. 7), which he contrasts with the more philosophically based critical action research. The focus of this particular textbook is on the former; in-depth discussions of more philosophically based forms of action research are beyond the scope of this book. If the reader is interested in learning more about these various underlying philosophical assumptions and their connection to action research, several excellent resources include Johnson (2008), McMillan (2004), and Mills (2011).

Recall that the goal of quantitative research is to describe or otherwise understand educational phenomena. To accomplish this, researchers collect data by measuring **variables** (factors that may affect the outcome of a study or characteristics that are central to the topic about which the researcher wishes to draw conclusions) and then analyze those data in order to test **hypotheses** (predicted outcomes of the study) or to answer **research questions**. For example, a quantitative research study might involve collecting data on elementary school discipline referrals and absenteeism (numerical variables) in order to answer the question: Are there differences in the rates of disciplinary problems and absenteeism in schools with a K–8 grade span versus those with other grade span configurations (e.g., K–5, K–6)?

The type of **research design** employed by the researcher refers to the plan that will be used to carry out the study. Research designs may be either nonexperimental or experimental. In **nonexperimental research**, the researcher has no direct control over any variable in the study, either because it has already occurred or because it is not possible for it to be influenced. In other words, in nonexperimental research, variables cannot be controlled or manipulated by the researcher. The previous illustration of a study of school discipline and absenteeism problems is an example of a nonexperimental study, as the type of grade configuration, the number of discipline referrals, and the number of absences cannot be controlled or influenced by the researcher. The fact that variables cannot be controlled in nonexperimental studies is an important distinction between nonexperimental research and experimental research, especially when it comes to drawing conclusions at the end of a study. This usually means that conclusions to nonexperimental studies can describe only variables or relationships between variables. Some examples of nonexperimental research designs include *descriptive*, *comparative*, *correlational*, and *causal-comparative* research (McMillan, 2004). *Descriptive* studies simply report information about the frequency or amount of something (e.g., What percentage of the time do teachers use performance-based assessments in their classrooms?). *Comparative* studies characteristically build on descriptive studies by comparing two or more groups to that which is measured (e.g., Is there a significant difference between elementary and secondary teachers’ use of performance-based assessments?).