

deviation, correlations, and standardized scores. **Inferential statistics** are more complex and permit researchers to test the statistical significance of the difference between two or more groups or to test the degree of correlation between two variables. **Statistical significance** refers to a decision made from the results of statistical procedures that enable researchers to conclude that the findings of a given study (e.g., the size of the difference between two groups or the strength of the relationship between two variables) are large enough in the sample studied in order to represent a meaningful difference or relationship in the **population** from which the sample was drawn.

Whereas quantitative research studies focus on a relatively small number of variables, qualitative research studies utilize a much broader, more holistic approach to data collection. Qualitative research designs use systematic observation in order to gain knowledge, reach understanding, and answer research questions. There is no attempt to control or manipulate any variable in a qualitative study; researchers simply take the world as it exists and as they find it (Johnson, 2008). Qualitative research tends to emphasize the importance of multiple measures and observations (Trochim, 2002b). Therefore, guiding research questions tend to be more broad and open-ended. This allows the researcher to collect a wide variety of data for the purpose of getting a more holistic picture of the phenomenon under investigation. This also permits the researcher to engage in triangulation. **Triangulation** is a process of relating multiple sources of data in order to establish their trustworthiness or verification of the consistency of the facts while trying to account for their inherent biases (Bogdan & Biklen, 2007; Glesne, 2006). It is important to note that "triangulation" does not necessarily mean that the researcher is using three (as in "tri-") sources of data; it simply means that there is more than one source of data—perhaps, a more appropriate term would be "*polyangulation*" (since the prefix "*poly-*" is defined as "more than one or many"). Ultimately, this enables the researcher to try to get a better handle on what is happening in reality and to have greater confidence in research findings (Glesne, 2006). For example, in a qualitative study, one might collect data through firsthand observations, videotaped observations, and interviews. Triangulating these sources of data would involve examination in order to determine, for example, if the behaviors exhibited and comments made by participants are consistent regardless of the type of data representing them. In other words, did a specific person act the same way he said he acted, or did he verbally portray his behavior differently from his actual behavior?

Similar to quantitative research, there are a variety of qualitative research designs. These include phenomenology, ethnography, grounded theory, and case studies (McMillan, 2004). **Phenomenological studies** engage the researcher in a long process of individual interviews in an attempt to fully understand a phenomenon (e.g., What characteristics of teachers are needed in order for them to be viewed as compassionate by their students?). **Ethnographic research** attempts to describe social interactions between people in group settings (e.g., What meaning does the teachers' lounge have for the staff at Main Street Elementary School?). **Grounded theory** research studies attempt to discover a theory that