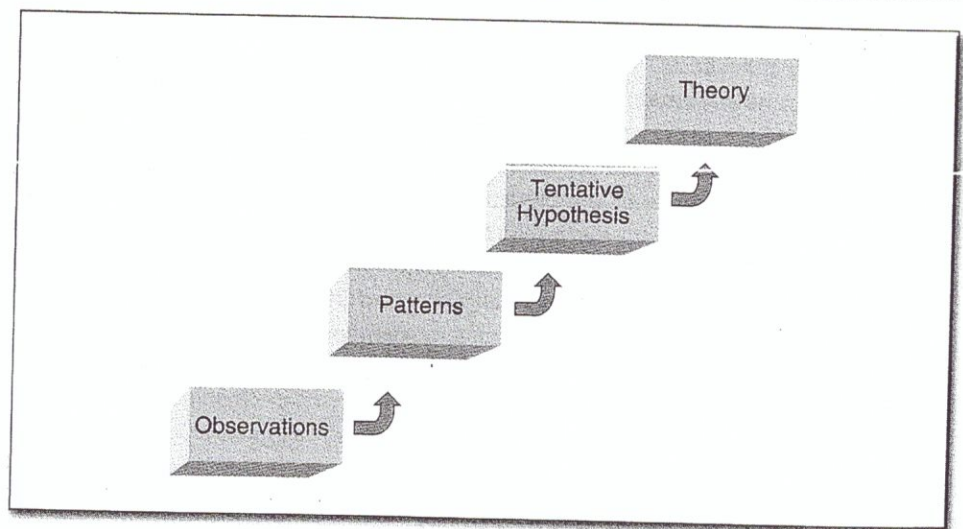


That topic would then be narrowed down to more specific hypotheses that could be tested. This process of narrowing down goes even further when data are collected in order to address the hypotheses. Finally, the data are analyzed, and conclusions about the hypotheses are drawn—this allows for a confirmation (or not) of the original theory.

On the other hand, qualitative research methods typically use an inductive approach to reasoning. **Inductive reasoning** works in the exact opposite direction when compared to deductive reasoning. Using a “bottom-up” approach (see Figure 1.2), inductive reasoning begins with specific observations and concludes with broader generalizations and theories (Trochim, 2002a). One begins with specific observations (data), notes any patterns in those data, formulates one or more tentative hypotheses, and finally develops general conclusions and theories. It is important to note that, in some cases, the purpose of qualitative research is not to analyze data in order to form hypotheses or theories. Rather, in these cases, the purpose may simply be to provide a “thick description” of what is going on in the particular setting being studied. You will read more about deductive and inductive reasoning, as they relate to data analysis, in Chapter 6.

It is important to note that both quantitative and qualitative approaches to conducting educational research are guided by several sets of philosophical assumptions. These philosophical assumptions are composed primarily of several basic underlying beliefs about the world itself and how best to discover or uncover its true reality. The underlying beliefs held

Figure 1.2 Process of Inductive Reasoning as Applied to Research



Source: Adapted from Trochim, 2002a.