



Figure 1.1. Qualities of Prior Knowledge That Help or Hinder Learning

Methods to Gauge the Extent and Nature of Students' Prior Knowledge

Assign a Concept Map Activity To gain insights into what your students know about a given subject, ask them to construct a concept map representing everything that they know about the topic. You can ask students to create a concept map (see Appendix B), representing what they know about an entire disciplinary domain (for example, social psychology), a particular concept (for instance, Newton's third law), or a question (for example, "What are the ethical issues with stem cell research?"). Some students may be familiar with concept maps, but others may not be, so be sure to explain what they are and how to create them (circles for concepts, lines between concepts to show how they relate). There are a number of ways to construct concept maps, so you should give some thought to what you are trying to ascertain. For instance, if you are interested in gauging students' knowledge of concepts as well as their ability to articulate the connections among them, you can ask students to generate both concepts and links. But if you are primarily interested in students' ability to articulate the connections, you can provide the list of concepts and ask students to arrange and connect them, labeling the links. If there are particular kinds of information you are looking for (for example, causal relationships, examples, theoretical orientations) be sure to specify what you want. Review the concept maps your students create to try to determine gaps in their knowledge, inappropriate links, and the intrusion of lay terms and ideas that may indicate the presence of naïve theories or preconceptions.