

ON YOUR OWN 8.1 Reflections on Teacher Practice

Read and reflect on the viewpoints expressed in Thinking Games. Log on to the Web-based student study site at <http://www.sagepub.com/eis2study> and react to the related activities.

Categories of Thinking

Your first task in teaching thinking skills is to determine which skills are appropriate for your class. In doing so, you should consider the maturity level of your students, along with the special needs of your subject. It is commonly believed that it is better to teach a few skills well and thoroughly rather than many skills superficially.

**APPLY AND
REFLECT 8.1**

You should show students that they can be successful thinkers. How could you do this at the grade level you expect to teach? Share your ideas with your class.

All teachers teaching thinking skills should refer to Bloom's Taxonomy of thinking levels for assistance in the formation and understanding of various thinking levels. As noted earlier, Bloom's Taxonomy is generally viewed as a multitiered model of classifying thinking according to six cognitive levels of complexity. The levels have often been depicted as a ladder (see Figure 3.3) that students are encouraged to "climb to reach higher levels of thought." The lowest three levels are knowledge, comprehension, and application. The highest three levels are analysis, synthesis, and evaluation. The taxonomy is hierarchical; each level is subsumed by the higher levels. In other words, a student functioning at the "analysis" level has also mastered the material at the "knowledge," "comprehension," and "application" levels. Almost all content areas can provide instruction at six levels of thinking: knowledge, comprehension, application, analysis, synthesis, and evaluation.

- At the knowledge level, most thinking tasks require students to recognize or remember key facts. The knowledge level calls on students to be attentive to information, or repeat information verbatim, and to recite facts, such as math facts and formulas. Activities that ask students to recall, define, recognize, practice drills, or identify concepts are a few knowledge-level thinking skills.
- Students translate, interpret, and explain given information at the comprehension level. Comprehension thinking tasks involve interpreting the meaning of a graph or diagram or decoding a word. Knowledge and comprehension levels are not representative of the higher order thinking skill levels because students are not required to come up with new information but are called on to translate the information that has been given.
- Students at the application level can transfer known information to applicable situations. In effect, they must think and decide how information can be applied to situations other than those presented. Students are given generalizations and are required to make applications and explain relationships. For example, students could be asked to solve equations by applying a correct formula or transfer known skills to another area in solving a problem.
- At the analysis level, students must think about how to divide a whole into component elements. Generally, this level includes finding comparisons and relationships between the parts to the whole concept. Students are required to break down complex information or ideas into simpler parts.