

may take the form of programmed instruction, workbooks, computer drill and practice, or educational games. After the corrective lessons, students are given another test and are more likely to achieve mastery.

Models Based on Human Development

As discussed in Chapter 3, human development is a significant basis of the curriculum. Similarly, effective instructional methods are developmentally appropriate, meet students' diverse learning needs, and recognize the importance of learning that occurs in social contexts. For example, one way that students reach higher levels of development is to observe and then imitate their parents, teachers, and peers, who act as models. "Modeling provides students with specific demonstrations of working with the content. . . . The teacher explicitly demonstrates how the students can be successful in the lesson" (Dell'Olio & Donk, 2007, p. 79).

Effective teachers also use modeling by thinking out loud and following three basic steps of mental modeling: (1) demonstrating to students the thinking involved in a task, (2) making students aware of the thinking involved, and (3) focusing students on applying the thinking. In this way, teachers can help students become aware of their learning processes and enhance their ability to learn. "For example, as a teacher demonstrates cutting out a construction paper square to serve as a math manipulative during the next lesson, she might 'think out loud' in class, saying, 'I am cutting this square very carefully because we will be using it today to create fractional shapes. I need the sides of my square to be very neat. My smaller, fraction pieces should be accurate in size'" (Dell'Olio & Donk, 2007, p. 80).

Since the mid-1980s, several educational researchers have examined how learners construct understanding of new material. As pointed out in Chapter 4, constructivist views of learning focus on how learners make sense of new information—how they construct meaning based on what they already know. Teachers with this constructivist view of learning focus on students' thinking about the material being learned and, through carefully orchestrated cues, prompts, and questions, help students arrive at a deeper understanding of the material. The common elements of constructivist teaching include the following:

- The teacher elicits students' prior knowledge of the material and uses this as the starting point for instruction.
- The teacher not only presents material to students, but he or she also responds to students' efforts to learn the material. While teaching, the teacher must *learn about students' learning*.
- Students not only absorb information, but they also actively use that information to construct meaning.
- The teacher creates a social milieu within the classroom, a community of learners that allows students to reflect and talk with one another as they construct meaning and solve problems.

Constructivist teachers provide students with support, or "scaffolding," as they learn new material. By observing the child and listening carefully to what he or she says, the teacher provides scaffolding in the form of clues, encouragement, suggestions, or