

Q What is modeling?

A To teachers, the term “to model” does not mean to strut along a runway wearing Victoria’s Secret fashions... To model is to provide a behavioral example.

Educators know that the most natural way children learn is by mimicking what others do. In their early years, children mostly imitate their parents. As children develop, their sphere of influence broadens to include their siblings, grandparents, caretakers, teachers, coaches, and even television characters. Children rely on this powerful “copycat” approach to learn speech patterns, behavior, attitudes—you name it. They pick up behaviors and attitudes that are both positive (good manners, compassion, hygiene) and negative (bigotry, road-rage, smoking).

Teachers, in order to capitalize on children’s innate tendency to imitate, must make sure to *model* the correct way of accomplishing a task. They demonstrate the actions that students should take. Teachers provide the living example of exemplary performance. They also model curiosity, persistence, thoroughness, and other traits that students need to become good problem solvers. Every time teachers complete a “Big Q” graphic organizer, they should model the steps, the thought processes, and the written responses that students should imitate.

Q What is a “think-aloud”?

A The technical term is “metacognition,” which means “thinking about thinking.” In order to understand a problem-solver’s logic, processing, and reasoning, students must have access to the chain of ideas occurring. This understanding is achieved through language.

Consider the contrast:

- Ineffective teachers will go through all the steps of the process silently, say “Taa-daa!” at the end, and then ask whether anyone has questions. Student response is likely to be blank stares.
- Good teachers will communicate the problem-solving task by talking about everything they’re writing and thinking as they demonstrate each portion of a “Big Q” problem. Just as television chefs talk the entire time they are measuring, adding ingredients, stirring, etc., a math teacher who is modeling the problem-solving process effectively should allow students to “hear their thinking” so that they can learn what kinds of things to think of when *they* follow the process.