Explaining and modeling content, practices, and strategies

Explaining and modeling are practices for making a wide variety of content, academic practices, and strategies explicit to students. Depending on the topic and the instructional purpose, teachers might rely on simple verbal explanations, sometimes with accompanying examples or representations. In teaching more complex academic practices and strategies, such as an algorithm for carrying out a mathematical operation or the use of metacognition to improve reading comprehension, teachers might choose a more elaborate kind of explanation that we are calling "modeling." Modeling includes verbal explanation, but also thinking aloud and demonstrating.

Decomposition of Modeling
The decomposition for modeling is shown below. The teaching practice of modeling content, practices, and strategies contains the work of demonstrating and explaining, so the decompositions of these practices are not shown explicitly. All three practices involve the work of planning, launching, doing the content area work, using language and representations carefully, and closing. Explaining and modeling also include the work of highlighting core ideas. Modeling layers on the work of making thinking visible by emphasizing thinking and key elements.

Area of work	Techniques and strategies
Planning to model	***Evaluating*** whether modeling is an appropriate strategy. ***Selecting*** content, practice, or strategy to be modeled. ***Choosing strategic examples*** and appropriate representations.
Framing	***Connecting*** ideas that are about to be shared to other topics or experiences e.g. to previous learning, work, or trends. ***Locating the work in the trajectory*** Explaining the purpose of the content about to be modeled which may include stating what is already known and what needs to be determined and/or stating the ways content being modeled is typically used in the content area. ***Closing*** Reinforcing the purpose of the modeling OR recapping the key points of the modeling, and emphasizing the result of the modeling.
Doing the content area work	***Demonstrating*** Working through the content, practice or strategy in real time in front of students.
Highlighting core ideas	***Backgrounding*** Avoiding highlighting aspects of the content or task that are distracting or may lead to misconceptions. ***Foregrounding*** Using explicit verbal markers to draw students' attention to important aspects of the content or the work; e.g., "Watch as…" "First … then…" and elaborating and emphasizing the part of the explanation that is most complex or confusing. ***Marking*** Highlighting or drawing attention to important ideas by naming key elements while progressing in a logical fashion and being careful not to skip any elements.
Making thinking visible by emphasizing thinking and key elements	***Annotating*** Adding or filling in ideas necessary to support students' understanding including clearly articulating what you are doing and why you are doing it. ***Marking Metacognition*** Using markers (verbal, tone, or visual) to indicate when thinking is being made visible. ***Thinking aloud*** Making appropriate thinking visible through narration.

Using language and representations carefully	**Connecting Representations** Making explicit correspondences between the problem, text or task, the verbal/written explanation, and any representations. **Consistency (Consistent Verbal and Visual Representations)** Using content-specific terms and representations clearly, concisely, and consistently throughout the modeling and using language and representations that are developmentally appropriate and accessible to learners. **Defining Content Terminology** Using and defining terms related to the content being modeled. **Recording and Representing** Translating verbal ideas into a visual form in the public space in ways that are likely to support student understanding, are clearly labeled, and are accurate. Using and explaining (if necessary) representations that illustrate your thinking and record the process used.

Visual representation of the decomposition

Planning to model	Active modeling		
- Determining whether modeling is an appropriate strategy - Selecting content to be modeled - Choosing strategic examples and appropriate representations	Launching (Framing)	Doing the content area work Highlighting core ideas Making thinking visible by emphasizing thinking and key elements Using language and representations carefully	Closing (Framing)