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## High Quality Coaching Using the LieCal Observation Instrument

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### DESCRIPTION

"High Quality Coaching Using the LieCal Observation Instrument," by John C. Moyer, Connie Laughlin, and Jinfa Cai, describes an observation instrument used to help specialists, in the role of coaching, focus their work with teachers on developing higher order thinking in students. The observation instrument developed through the *Longitudinal Investigation of the Effect of Curriculum on Algebra Learning Project*, or LieCal, uses a task analysis guide to describe the choice and implementation of tasks used in mathematics classrooms. In order to fulfill the goal of coaching and help teachers become more effective at helping students learn at higher level, specialists need to foster three core components of good coaching:

- Establishing trusting relationships
- Using influence skills to change behavior
- Using content knowledge as the focus of coaching

Trusting relationships are established as specialists use the LieCal Observation Instrument to focus collaboration with teachers on student work and student learning. Specialists work to influence teachers to reflect on the choices they make in their teaching practice. Focusing on students' thinking, understanding, and work-products guides the discussion of content knowledge with questions such as:

- What is the mathematics?
- What does this tell us about student understanding?
- What do we do next?

### STAGE 1 LEADERSHIP DEVELOPMENT

"High Quality Coaching Using the LieCal Observation Instrument," by John C. Moyer, Connie Laughlin, and Jinfa Cai supports Stage 1 development of leaders working to develop and model knowledge of coaching skills. Specialists use the LieCal Observation Instrument as a tool to develop the skills necessary to engage in coaching with teachers while focusing on student thinking as a way to:

- Maintain trusting relationships
- Use influence to change behavior
- Use content knowledge as the focus of coaching

The article describes a specialist working with a teacher to observe and analyze a lesson designed around the use of a cognitively demanding task. After reading the article, specialists might reflect on their own use of tasks in the classroom and use the Analysis of Mathematical Tasks to analyze the task and its implementation. Use the list of factors on page 20 to reflect on the decline or maintenance of high-cognitive demand.