

## **Explicit Teaching in Problem-based Mathematics**

### **Introduction**

[MUSIC]

SPEAKER 1: This online resource offers a reimagining of what it means to engage in direct instruction.

SPEAKER 2: Think: To make explicit.

SPEAKER 1: Explicit teaching involves developing learning conditions, opportunities and tasks that enable students to notice things that would not otherwise be seen.

SPEAKER 2: Think: Uncovering. Think: Making visible.

SPEAKER 1: Rather than a separate either-or pedagogical approach, explicit instruction is an integral and embedded part of problem-based approaches. It is not about showing and telling.

SPEAKER 2: Think: Mobilizing knowledge.

SPEAKER 1: Mathematicians require conceptual understanding and procedural fluency; both the why and the how of mathematics.

SPEAKER 2: Think...problem solvers, producers of knowledge, not unquestioning consumers.

SPEAKER 1: Whether considered separately or together, both explicit and problem-based approaches call on educators to be knowledgeable, intentional and responsive, using just-in-time, strategic instructional moves and processes.

SPEAKER 2: Think precision teaching. Knowing who, knowing what, knowing when and knowing how.

SPEAKER 1: How do we do this, you ask? Well, Allan Luke says, "Good teaching is like dancing. You need a repertoire of moves so that depending on who your partner is and what the music is, you can shift your repertoire from rumba to samba, or even to hip-hop.

SPEAKER 2: What skillset does this kind of instructional dancing call for?

SPEAKER 1: Assessment literacy, so you understand what your dance partners, a.k.a. students, know and have yet to know. A knowledge of big ideas, curriculum, and learning trajectories. These form the music that guide the steps you take. And you need a repertoire of instructional moves so that you can be agile, innovative and responsive in real time. Moves that help you scaffold, differentiate, build and deepen learning for all students.

SPEAKER 2: Finding your groove, so to speak.

SPEAKER 1: To help you get started, check out the animated video that follows. Make it explicit, an overview of instructional moves. Each instructional strategy is featured in its turn in the section, "Make It Explicit: Moves in the Classroom." Two educators show how explicit instruction is a seamless part of their problem-based approach in mathematics. Add your own moves. Put it together. Be innovative, and dance away.

[MUSIC]