Explicit Teaching in Problem-based Mathematics
Instructional Moves - Overview

[MUSIC]

SPEAKER 1: Make it Explicit: Instructional Moves Overview.

SPEAKER 2: Context and timing are everything. Knowing our learners, knowing the curriculum, and knowing ourselves as learners all impact instructional decision making. Not an exclusive list these featured instructional moves highlight the seamless role of explicit instruction within problem-based mathematics.

SPEAKER 1: If deep learning involved student sense making and connections be strategic about educator moves and direction.

Surface big ideals and uncover curriculum.

SPEAKER 2: Determine your teaching focus. Select mathematical tasks that surface big ideas and uncover curriculum expectations. In this resource teachers focus on area and perimeter concepts, and spatial and algebraic reasoning. Arranging, composing, decomposing, and analyzing different shapes with the same area helps students uncover and generalize the foundational relationships between area and perimeter.

SPEAKER 1: Put the success in criteria and learning goals.

SPEAKER 2: Success: when individual students meaningfully understand the language and context of goals and supporting criteria in ways that enable them to move their learning forward, self-assess, and define next steps. The language, concepts, and skills described by the criteria are best understood when students can draw on knowledge from prior and/or new experiences. Criteria may surface in the consolidation of a problem-based task or be built and refined over a series of lessons as students construct and grow conceptual and procedural understandings.

SPEAKER 1: Do the math.

SPEAKER 2: Do the problem or task in advance of a lesson to help you better notice and name your own understandings about the mathematics. Anticipate possible student responses to develop instructional readiness and the ability to be more responsive to the thinking of a wider range of learners.

SPEAKER 1: Students are resources to one another.

SPEAKER 2: Foster a learning culture in which students view themselves as resources to one another, provide strategies and organize for learning in ways that promote an active exchange of ideas, create and recreate dynamic and flexible groupings in which all students have opportunity to meaningfully participate, contribute, and learn from each other.

SPEAKER 1: Be present to the learning.

SPEAKER 2: Follow the thinking of individual and/or groups of students as they problem solve. Listen, observe, touch base, probe. What impact is the learning having? For which students? And why?

SPEAKER 1: Questions are opportunities.

SPEAKER 2: Develop and ask open-ended questions and prompts that serve as a check for understanding and as a way to engage students in exploring their own thinking to uncover, build, and deepen concepts, skills, and ideas.

SPEAKER 1: Use student thinking to leverage student thinking.

SPEAKER 2: Sharing can be more focused, and math talk more purposeful when using approaches in which the ideas of students are expressed and tested against the ideas of others. Use student thinking, examples, and artifacts to propel discussions and to co-construct and model mathematical concepts and ideas. Support student thinking by strategically organizing, annotating, highlighting, and summarizing learning.

SPEAKER 1: Build connections from one learning experience to the other.

SPEAKER 2: Intentionally link the understandings students demonstrate today to the learning that will do tomorrow. Design connected learning experiences that make explicit the relationships between and among mathematical concepts and skills. Which needs to be introduced, revisited, or extended? When is strategic practice or a guided approach needed to consolidate learning? For which students? And in what ways?