



Math Coaching: The Brilliance of Mathematics Learning 4 All

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Math Instruction

Children who failed to acquire a basic math skill in first grade scored far behind their peers by seventh grade on a test of the mathematical abilities needed to function in adult life, according to researchers supported by the National Institutes of Health. 2013



Specialized Mathematics Teaching and Learning

The teaching of mathematics is complex. It requires teachers to have a deep understanding of the mathematical knowledge that they are expected to teach (Ball, Thames, and Phelps 2008) and a clear view of how student learning of that mathematics develops and progresses across grades (Daro, Mosher, and Corcoran 2011; Sztajn et al. 2012).

-NCTM: Principles to Action



Guiding Principles



BUILD
RELATIONSHIPS



LEARN WITH
TEACHERS



STUDENT LEARNING



RECEPTIVE
TEACHERS



COLLABORATION



DO MATH



COMMUNICATE
WITH
ADMINISTRATORS



MATHEMATICALLY
RICH
ENVIRONMENT



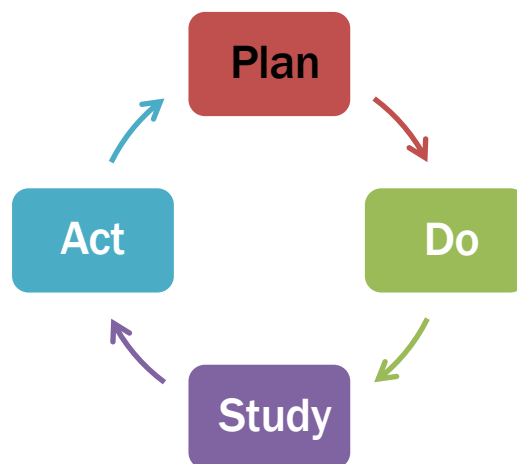
Coaching Works

They found that instructional coaching improves both instructional practice and student achievement—more so than other professional development and school-based interventions. In fact, the quality of teachers' instruction improves by as much as—or even more than—the difference in effectiveness between a new teacher and one with five to 10 years of experience, the research shows.

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Phases of the Coaching Cycle



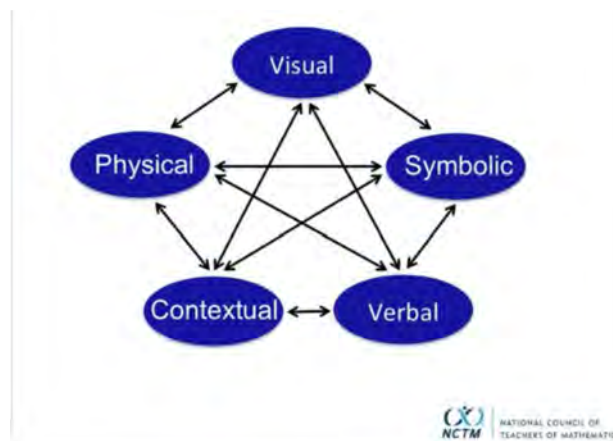
Mind frames for Teachers

I am a change agent.
 I am an evaluator.
 I develop positive relationships.
 I cooperative with other teachers.
 I use dialogue, not monologue.
 I set the challenge.
 I talk about learning, not teaching.
 I inform all about the language of learning.
 I see learning as hard work.
 Assessment is feedback to me about me.

Visible Learning for Mathematics, Grades K-12: What works Best to Optimize Student Learning add text



Use and Connect Mathematical Representations



 NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

