Questions that Inspired our Work

What are the characteristics of a powerful classroom?
- High Structure
- High Challenge
- Intensity
- Intentionality and Learning How to Learn
- Inquiry and Assessment to Make Learning Visible


What activities in a mathematics classroom lead to effective learning of mathematics?
- Connections: Making mathematical relationships among concepts, procedures, and ideas explicit in the lesson
- Struggle: Students spend at least some time in class struggling with important mathematical concepts and procedures


What are the actual struggles of students who place into pre-college math classes?
- Students experience persistent conceptual confusion
- Students to are not usually asked to share their thinking about mathematics
- Conceptual Thinking Atrophy Hypothesis


What experiences might shift students’ mindsets about themselves as math learners?
- Accessing, seeking out, and succeeding at challenging tasks (Mastery Tasks).
- Viewing failure as a temporary condition and as an opportunity for growth.
- Reflecting on current confidence around achieving a task and seeking out strategies to improve confidence and ability.


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