

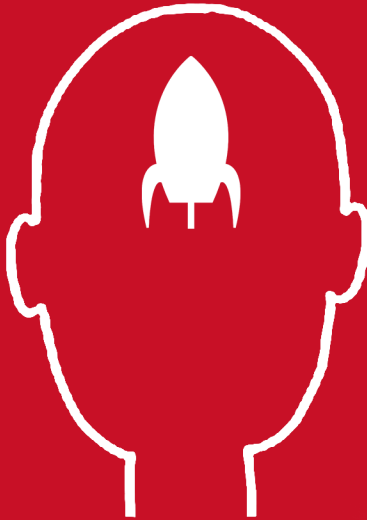
# The **5** Insights into the Mind of the Math Student

**MidSchoolMath**  
Fixing middle school's greatest problem

# Insight

# 1

**The conceptual occurs *prior* to calculation.**



Calculation and computation can hinder the logic of conceptual learning. Questions like “What do we need to know to solve the problem?” aid conceptualization and may occur *before* calculation.

Credit: Dan Meyer

Insight

2

## The question is the anchor.



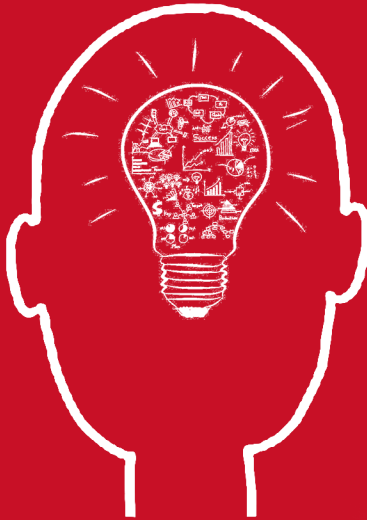
Understanding what the problem is asking is the all-important anchor in the learning process. Problem interpretation is a skill to be developed with practice over time.

Credit: Scott Laidlaw

Insight

3

## Visuals light up the brain.



From counting fingers to complex graphs, our brains are wired to think visually in mathematics, and mathematical visuals 'light-up' thinking in the mind.

Credit: Jo Boaler

## Insight

# 4

**Story is the 'unit' of human comprehension.**



Rich narrative, or story, is one of the oldest, most powerful mechanisms of human learning, and is the 'unit' in which meaning and comprehension occurs in mathematics.

Credit: Scott Laidlaw

## Insight

# 5

### Productive Failure is essential to success.



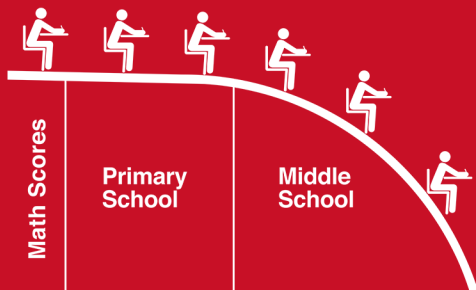
Students learn faster, and have better recall, when they experience safe, productive failure *prior* to being taught a concept.

Credit: Manu Kapur

# STOP THE DROP

## “Inside the New Paradigm”

### 2018 MidSchoolMath National Conference



The Mid School Math Cliff

For 20 years, US students have shown the greatest decline from 4th to 10th grade of any OECD country world-wide on international tests in math.

“Inside the New Paradigm” is a deep dive into the mind of the student and what is needed to STOP THE DROP.