

Principal Investigators

Keith Leatham
Brigham Young University
Shari Stockero
Michigan Tech University

Blake Peterson
Brigham Young University
Laura Van Zoest
Western Michigan University

Building on MOSTs

This work was funded in part by the National Science Foundation (NSF) under Grant Nos. 1720613, 1720566, & 1720410. Any opinions, findings, and conclusions or recommendations expressed here are those of the authors and do not necessarily reflect the views of the NSF.



Mathematical
Opportunities
in Student
Thinking



Establish

**Grapple
Toss**

Orchestrate

**Make
Explicit**

(MOSTs are high-leverage instances of student thinking (“teachable moments”).)

(The teaching practice of building on a MOST is engaging the class in making sense of the MOST in order to better understand the mathematics of the MOST.)

Establish

Make the MOST clear

- Establish Precision
 - Clarify for clarity
 - Expand for completeness
 - Hone for conciseness
- Establish the Object
 - Re-present the object (e.g., create a public record)
 - Refer to the object (e.g., naming)
- Establish the Intellectual Need

Grapple Toss

Offer the MOST to the class with parameters that put them in a sense making situation

- Student questions: What do you think, can a linear equation have more than one y-intercept?
- Student “errors and sensemaking”: What do you find mathematically compelling or conflicting about...
- Multiple student solutions: How can you decide which of these options are correct?

Orchestrate

Orchestrate a whole-class discussion in which students collaboratively make sense of the MOST

- Discern whether contributions are MOST-related
- Put aside tangential thinking
- Establish MOST-related contributions
- Connect MOST-related contributions to the MOST
- Toss connection back to the class to make sense of

Make Explicit

Facilitate the extraction and articulation of the mathematics of the MOST

- Resolve the MOST
- Weave together MOST-related contributions
- Provide language
- Transition back/onward

MOST Analytic Framework

