A Decomposition of the Teaching Practice of Building

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Building on MOSTs: Investigating Productive Use of High-Leverage Student Mathematical Thinking

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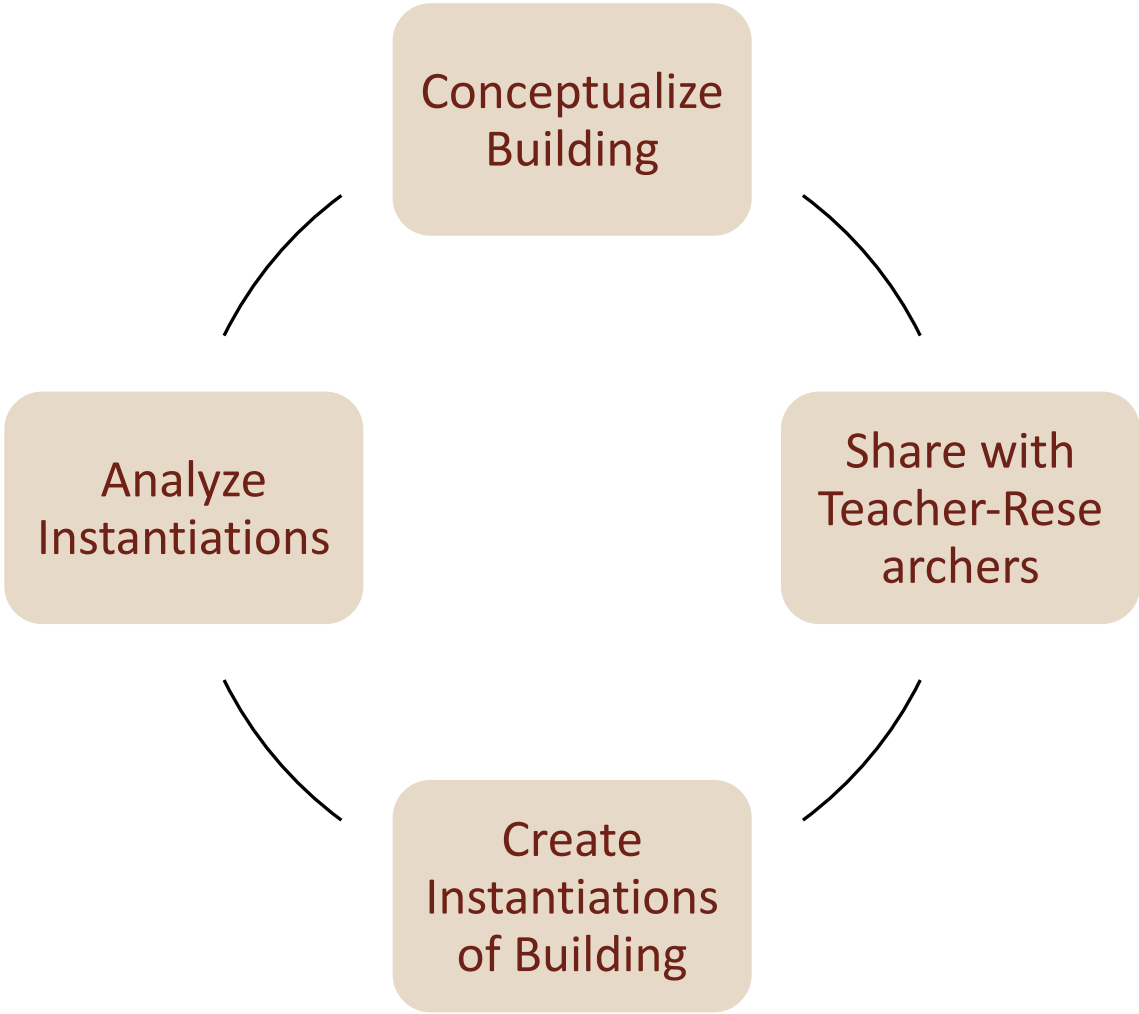
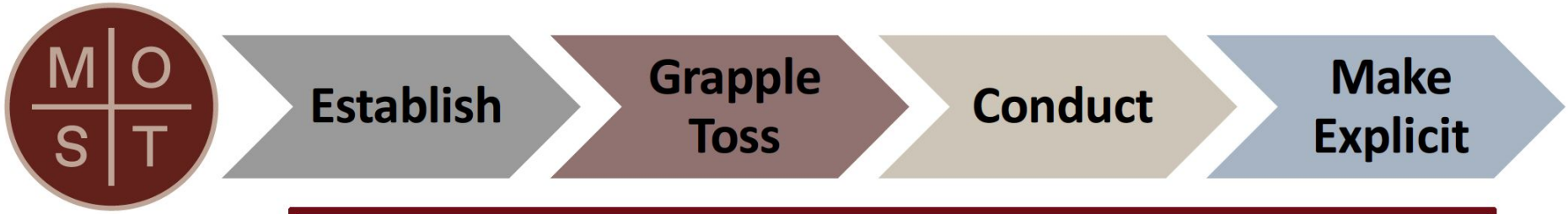

Conceptualize Building
Share with Teacher-Rese archers
Create Instantiations of Building
Analyze Instantiations

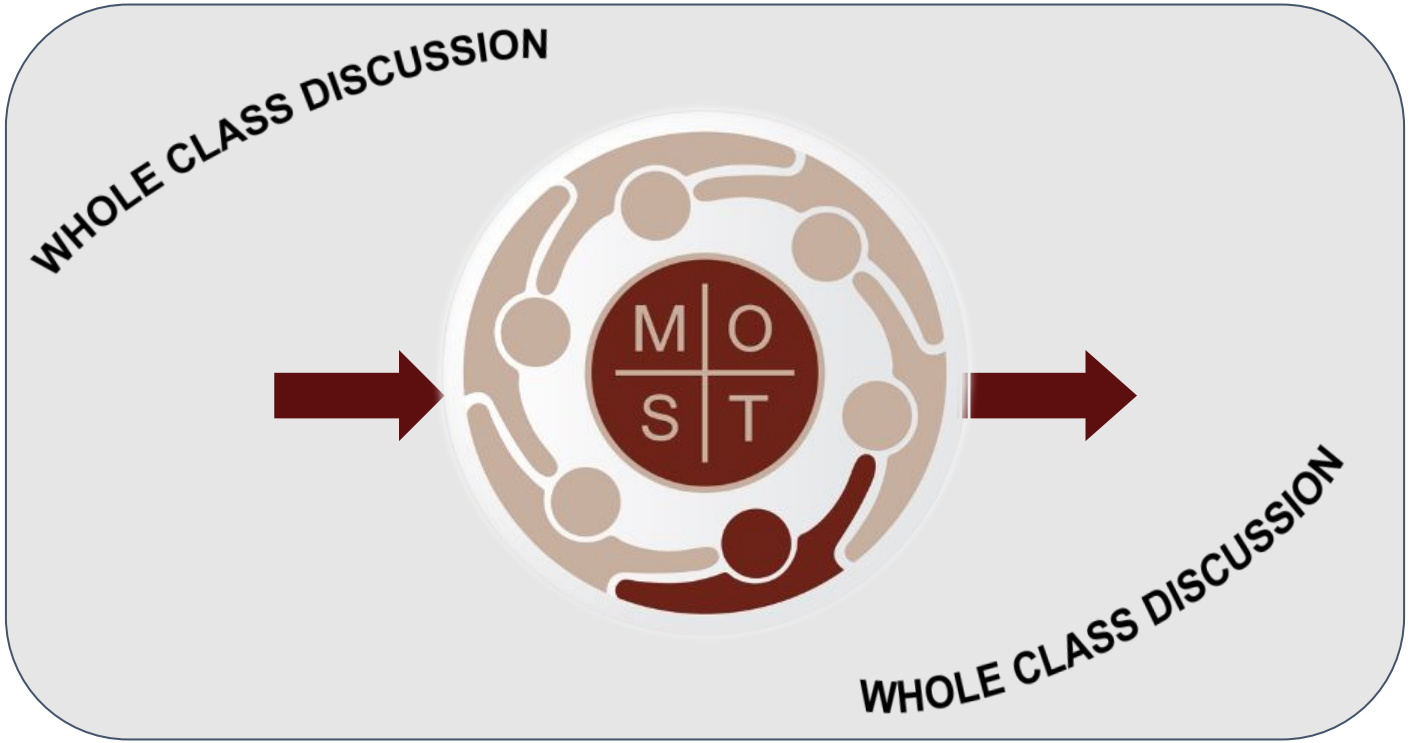
A MOST is a **M**athematical **O**pportunity in **S**tudent **T**hinking

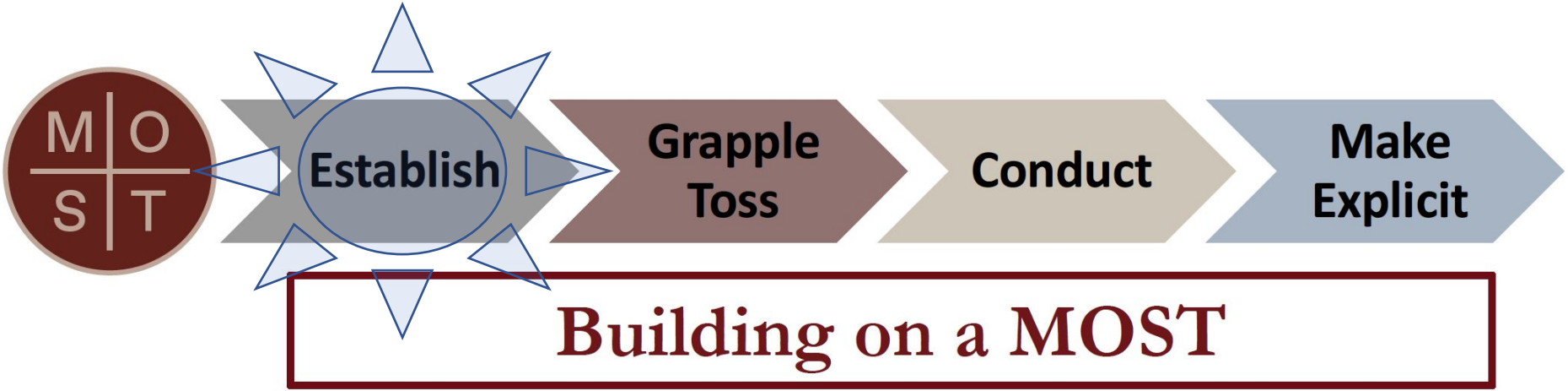


Building on a MOST

Building on a MOST is engaging the class in making sense of the MOST to better understand the mathematics of the MOST.

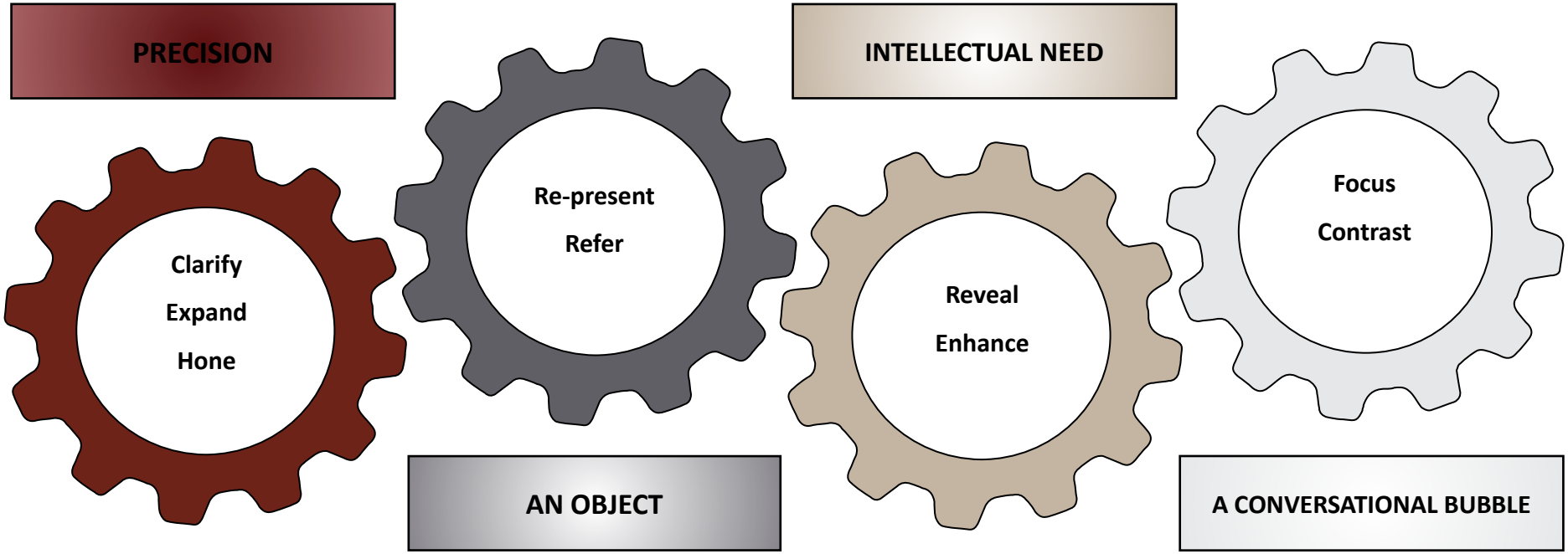
CONVERSATIONAL BUBBLE

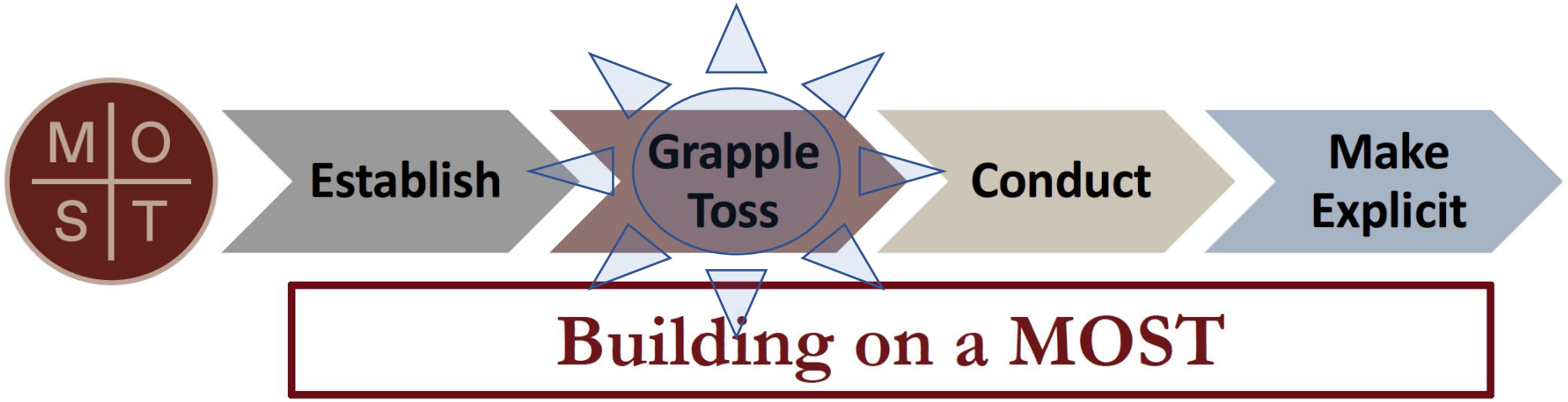




Building on a MOST

ESTABLISH


PRECISION
Clarify
Expand
Hone
AN OBJECT
Re-present
Refer
INTELLECTUAL NEED
Reveal
Enhance
A CONVERSATIONAL BUBBLE
Focus
Contrast


M O
S T
Establish
Grapple Toss
Conduct
Make Explicit
Building on a MOST

GRAPPLE TOSS

Toss the established object with a specific sense-making action determined by the nature of the MOST.

Question

What do you think, [established object]?
e.g., What do you think, can a linear equation have two y-intercepts?

Claim / Solution

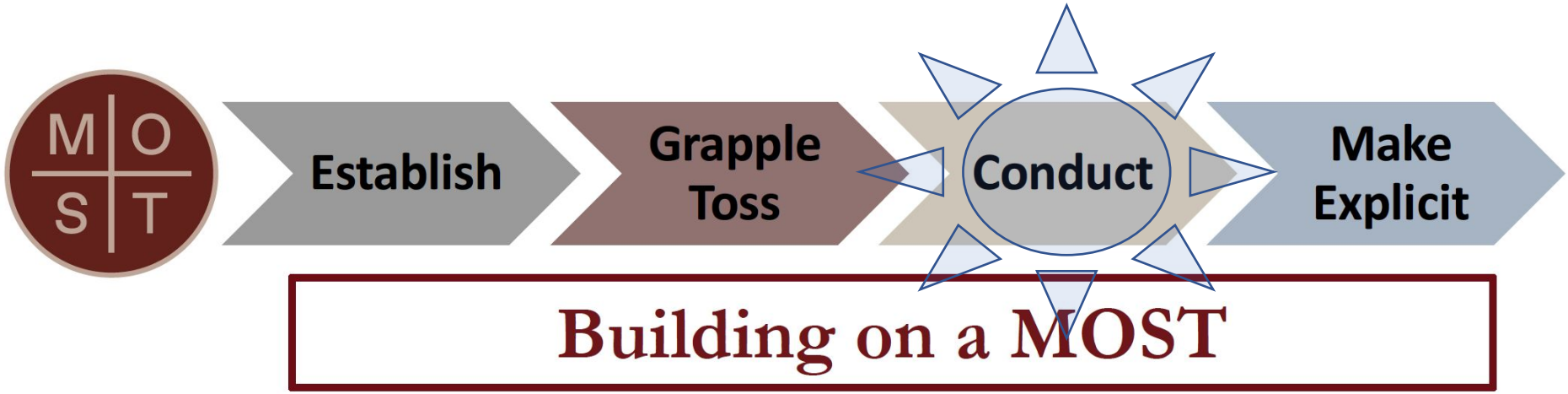
What about [established object] holds up mathematically?

Revealed

What is going on here, [action on established object]?
e.g., What is going on here? Why is 9 wrong?

Multiple Claims / Solutions

How do you decide which of [established object] are correct?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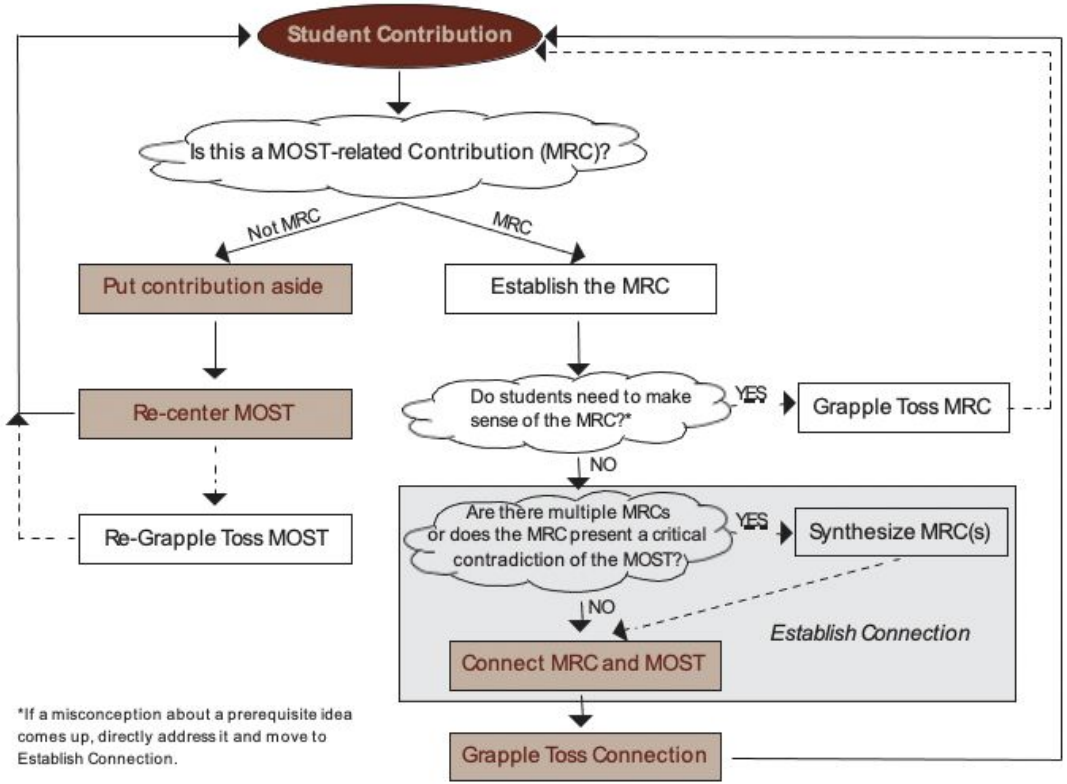
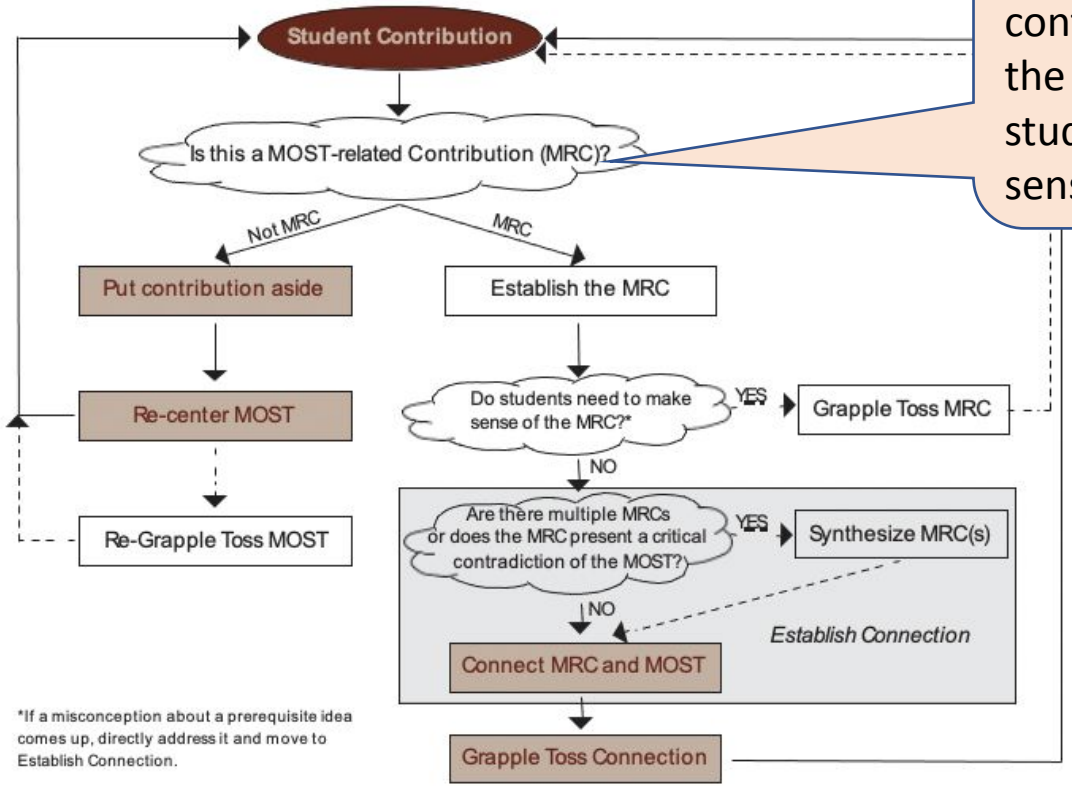
BUILDING CONDUCT

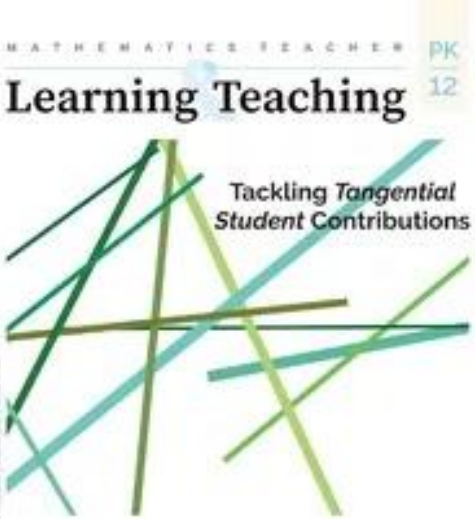


*If a misconception about a prerequisite idea comes up, directly address it and move to Establish Connection.

BUILDING MOST CONDUCT

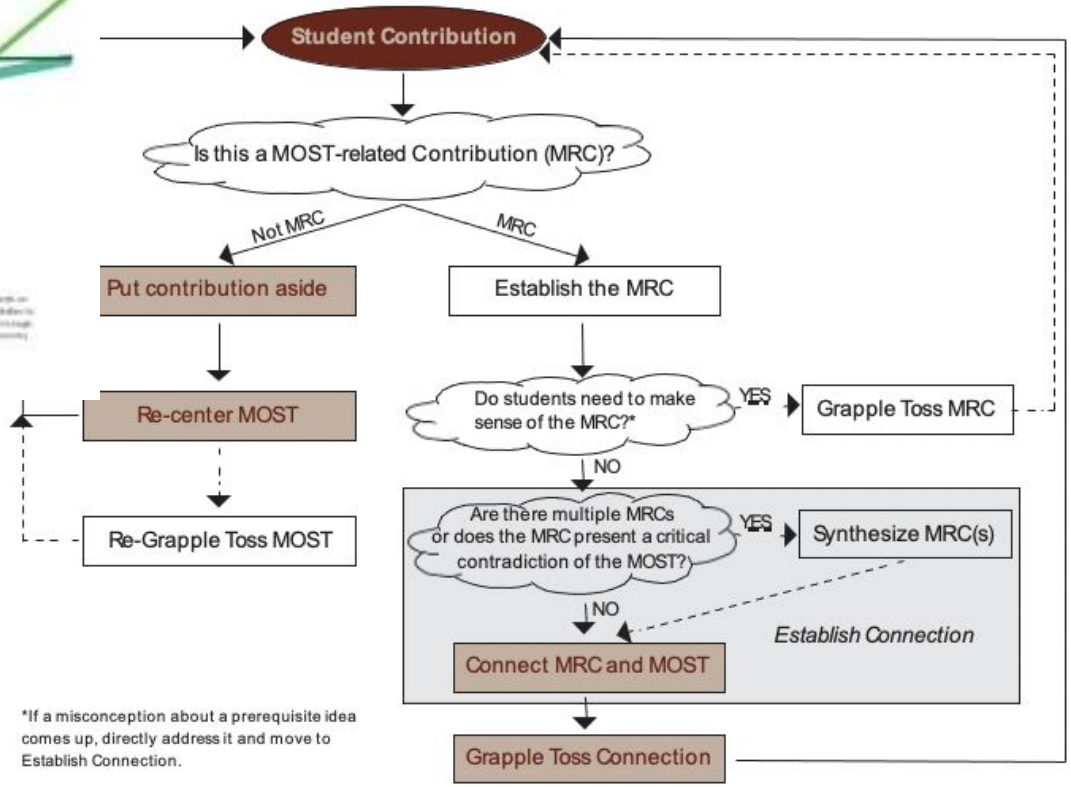


MRC: A student contribution that has the potential to help students to make sense of the MOST



BUILDING MOST

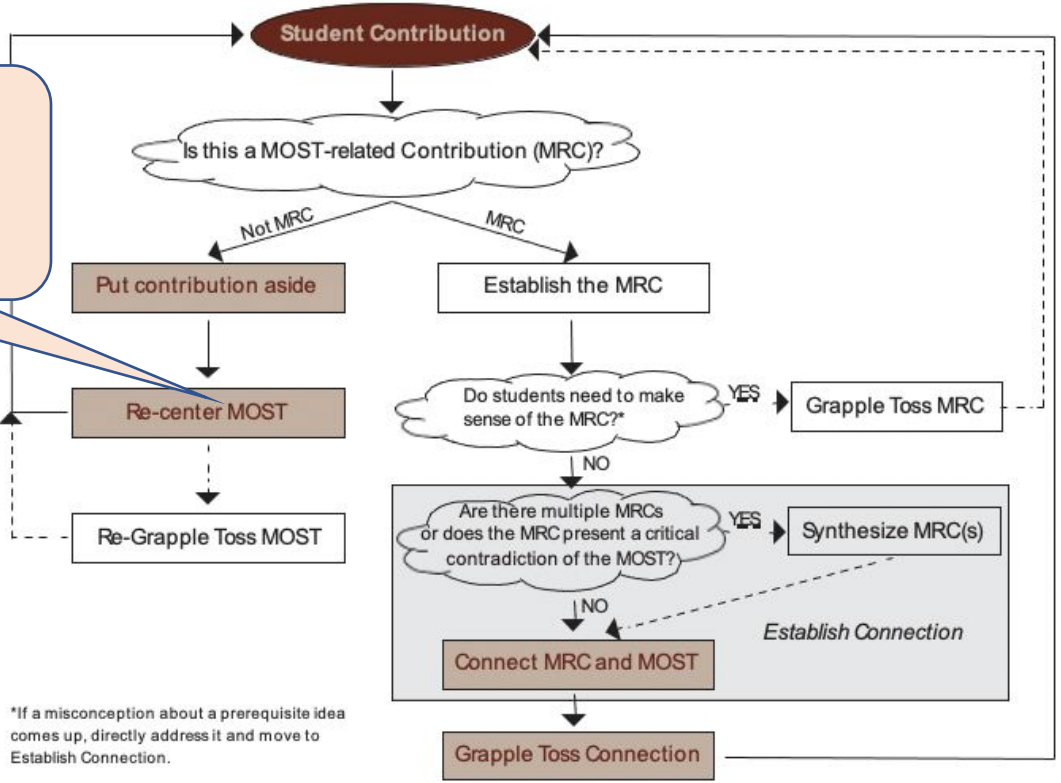
CONDUCT



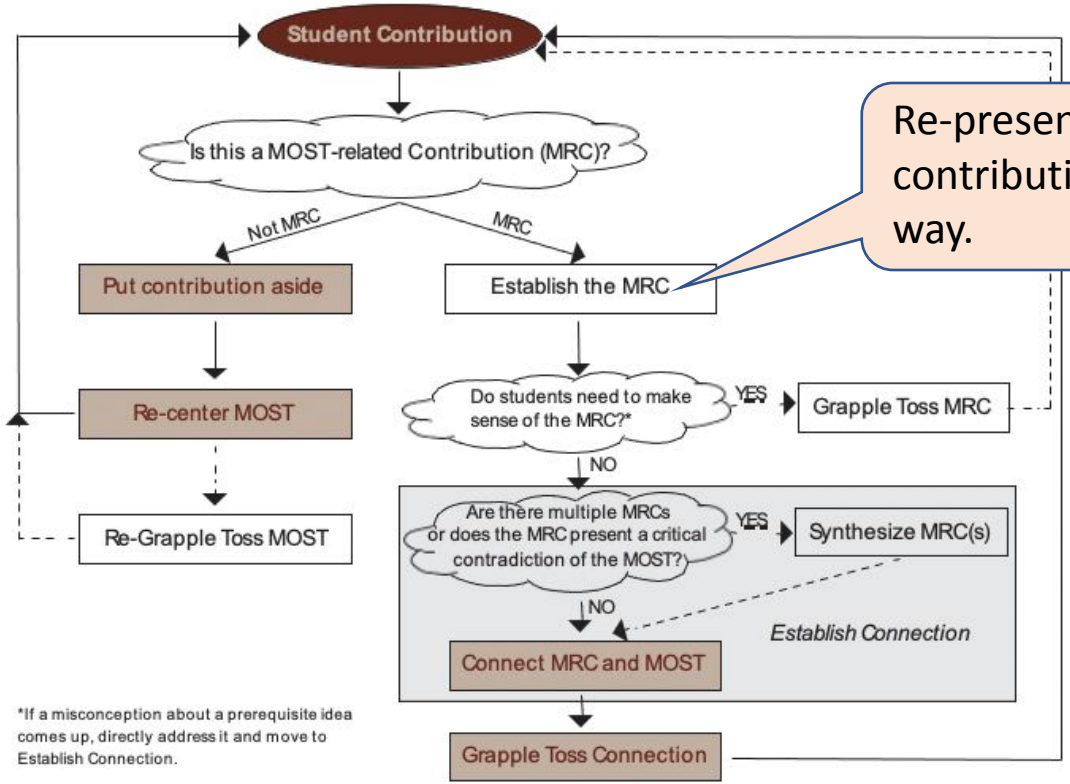
*If a misconception about a prerequisite idea comes up, directly address it and move to Establish Connection.

BUILDING CONDUCT

Remember that we are trying to make sense of the original claim.

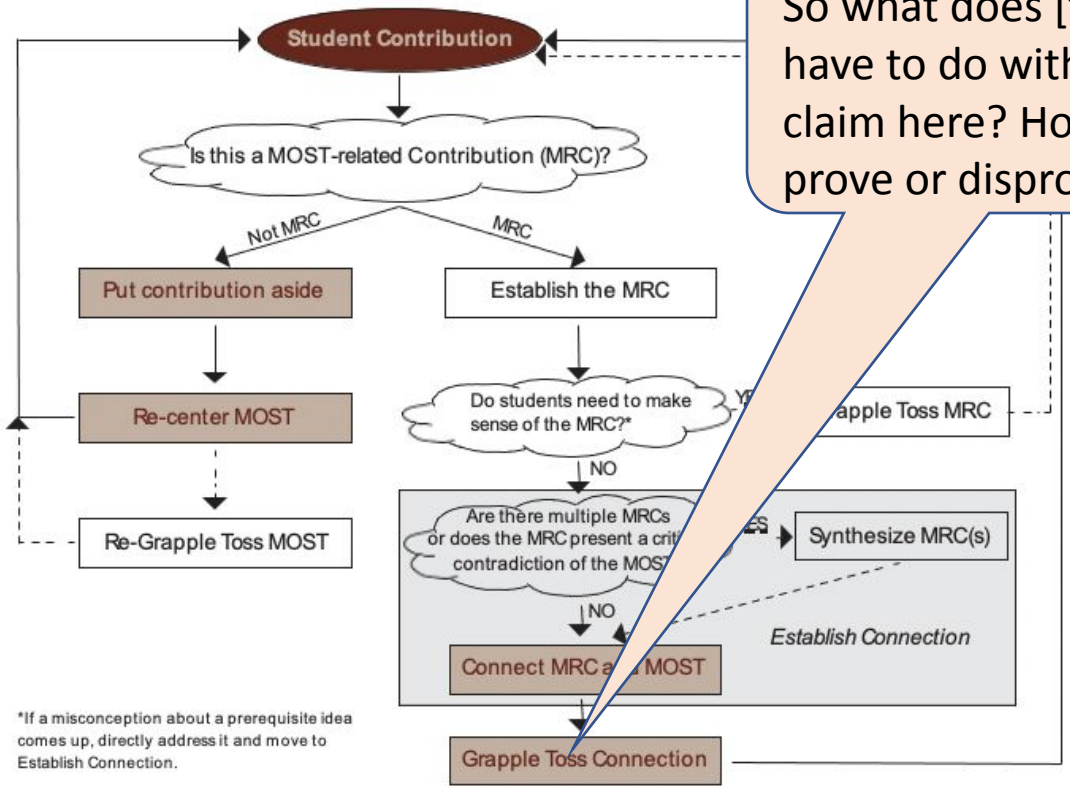


BUILDING CONDUCT



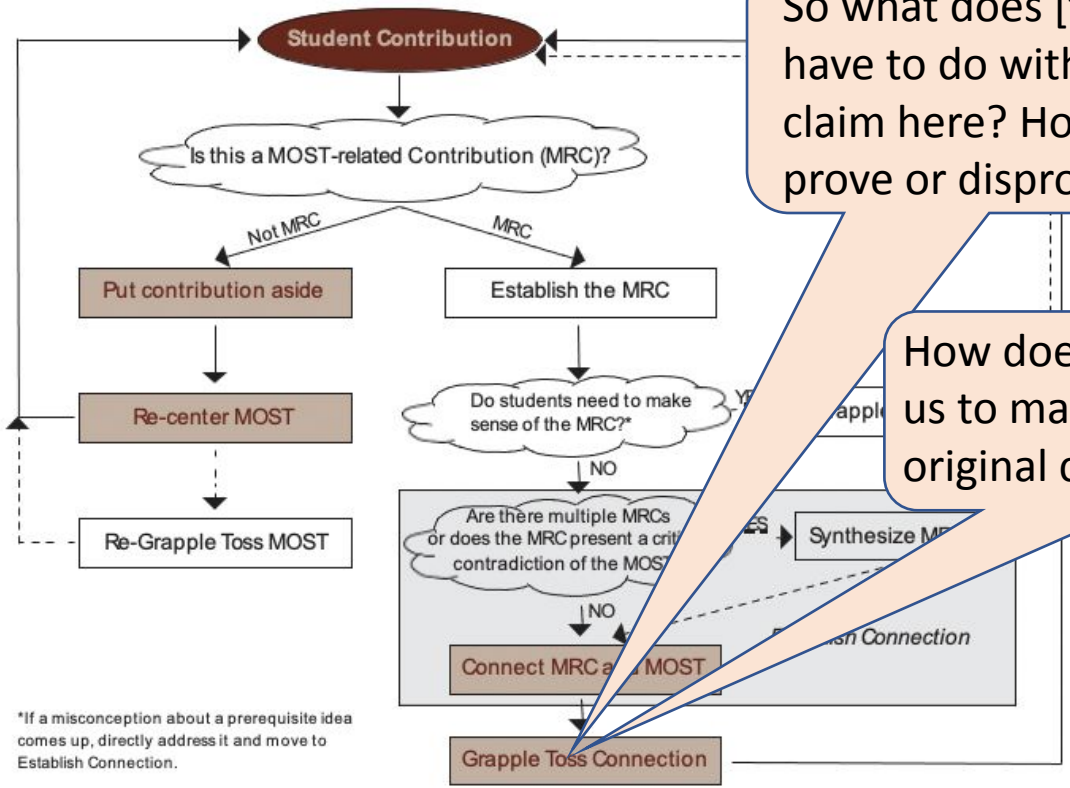
Re-present the contribution in some way.

BUILDING MOST CONDUCT



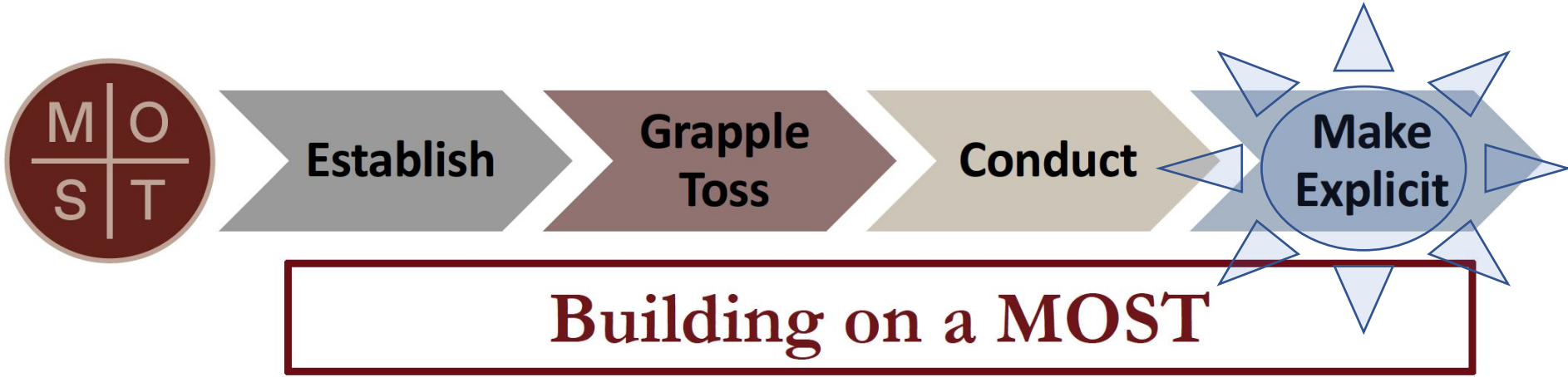
So what does [the MRC] have to do with the original claim here? How does that prove or disprove it?

BUILDING MOST CONDUCT



So what does [the MRC] have to do with the original claim here? How does that prove or disprove it?

How does [the MRC] help us to make sense of the original claim?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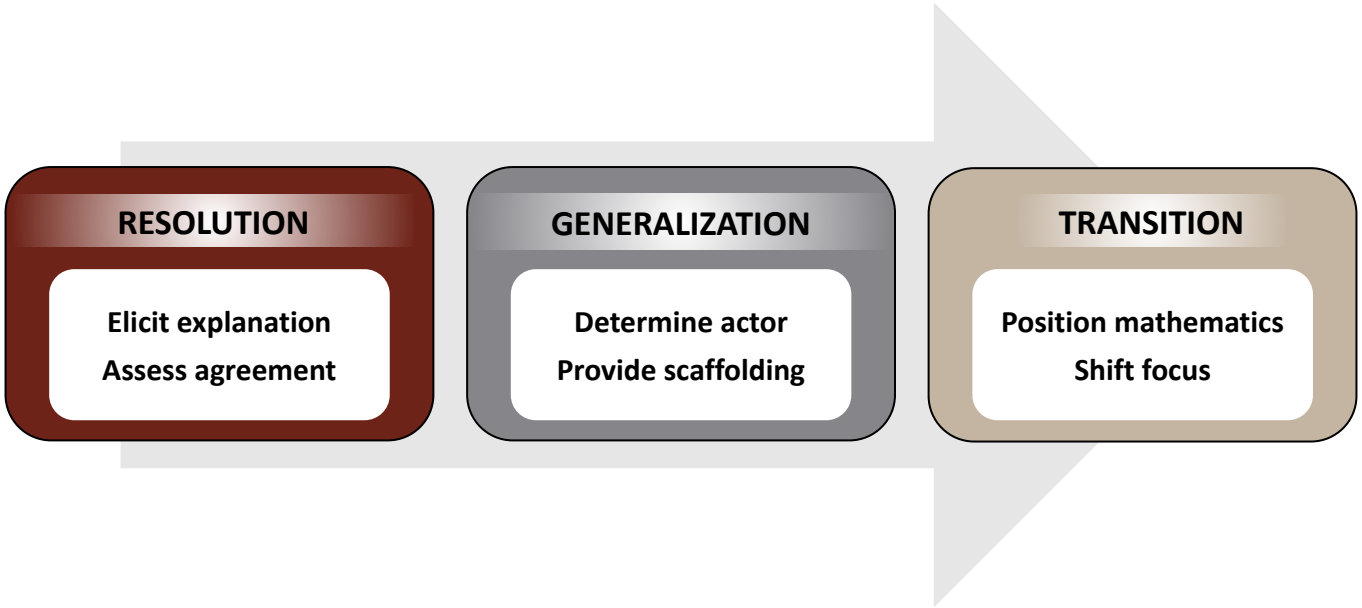
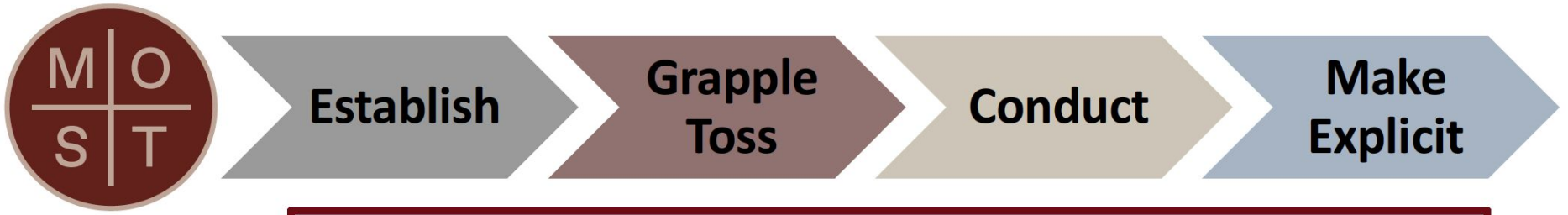
MAKE EXPLICIT



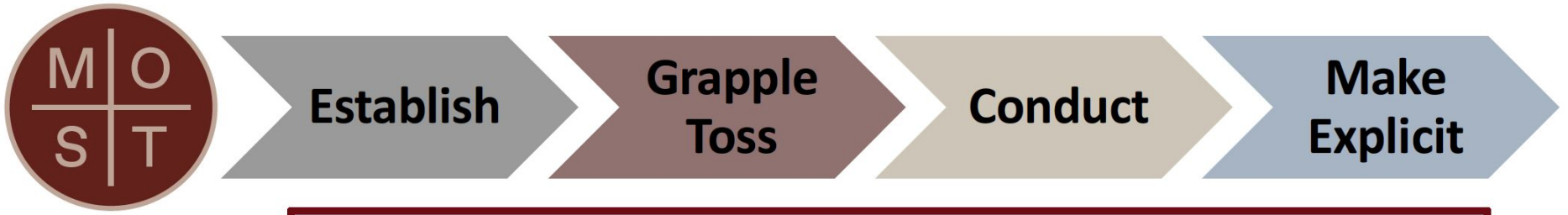


Building on a MOST

Some Take-Aways

- Although building is a teaching practice (defined by teachers' actions), it is not a teacher-centered practice

- The purpose of building is to make student thinking the center of instruction



Building on a MOST

Effective student-centered instruction requires substantial and intentional teacher work—mathematical work for teaching that positions the students to do mathematical work for learning.

Thank you!

BuildingOnMosts.org

The MOST Analytic Framework