LDOE: Acceleration in Mathematics
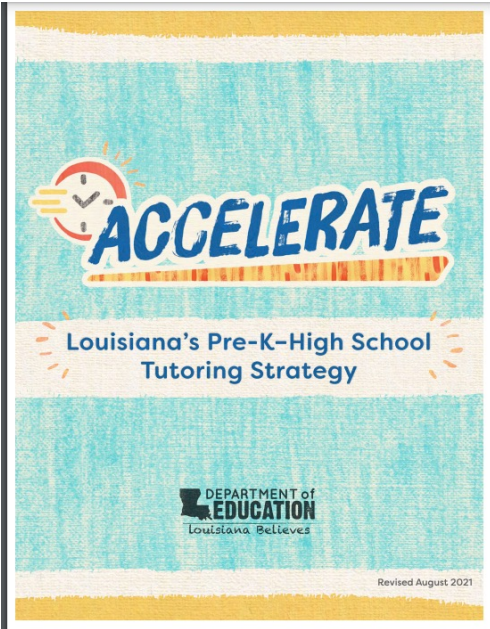
Utilizing Innovation Configuration Maps to Engage in Reflective Practice

Asynchronous Professional Learning Series

– Equity — Access — Excellence –

Accelerate Initiative: Vision

All students can achieve high expectations regardless of their background, family income, or zip code.

Community Agreements

Come as you are

Learning is iterative

Embrace the pause

Learning Outcomes

Through today's asynchronous learning, participants will:

- Explore tools that promote reflective practice by providing clear and actionable descriptions of mathematics teaching and learning aligned with engaging in the formative assessment process to support implementation of acceleration in the math classroom.

- Identify practical next steps that will lead to sustainable change and impact student achievement.
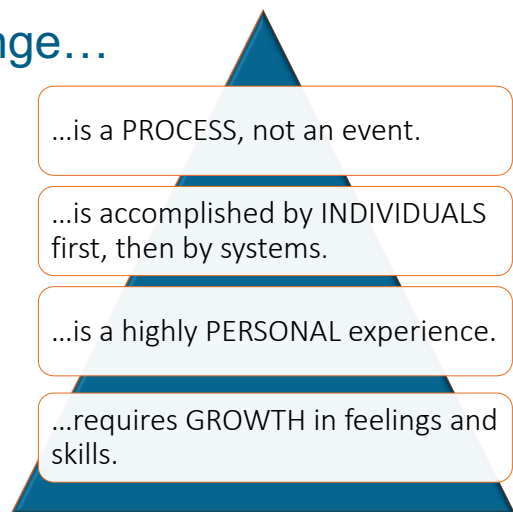
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Reflective practice

Underlying assumptions of reflective practice…

- Everyone needs professional growth opportunities.

- All professionals want to improve.

- All professionals want to learn.

- All professionals can assume responsibility for their own professional growth and development.

- People need and want information about their performance.

- Collaboration enriches professional development.

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Innovation Configuration

Change…

…is a PROCESS, not an event.

…is accomplished by INDIVIDUALS first, then by systems.

…is a highly PERSONAL experience.

…requires GROWTH in feelings and skills.

Individuals implement change in different configurations—or operational forms.

—Hall, G. E., & Hord, S. M. (2015). Implementing change: Patterns, principles, and potholes. Boston, MA: Pearson/Allyn & Bacon.

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Why formative assessment?

EFFECTIVE INSTRUCTION

Ongoing formative assessment should drive the instruction for individual students or small groups with common needs. Effective instructional practices delivered by effective educators will

**Intentional Structures**   **High-Quality Materials**   **Effective Instruction**

- Using lesson-embedded assessments (e.g., exit tickets) provides educators with timely feedback on student learning.
- Daily student work should be monitored for progress and analyzed for real-time student needs.
- Data should remain at the center of planning for instruction, are instrumental in driving and tracking student progress, and are excellent tools for improving instruction.

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Formative Assessment to Promote Acceleration

What would it look and sound like if students were engaged in the formative assessment process?

What teacher actions would you observe?

Students   *Teachers*

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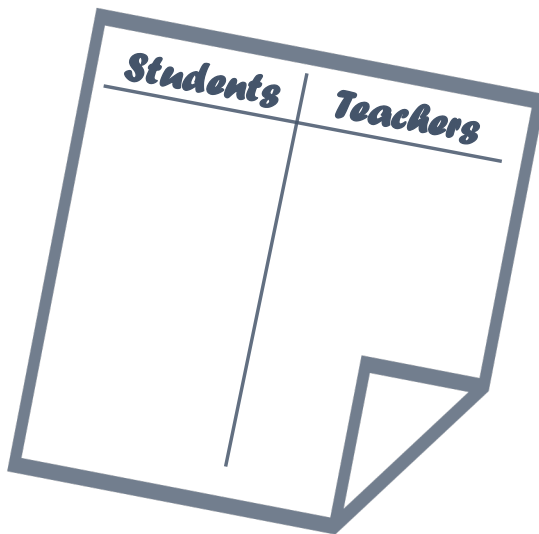
Innovation Configuration (IC) Maps

An IC map presents carefully developed word-pictures of selected components of an innovation, or change, and the different operational forms that may exist.

IC maps are for shared learning.

— Hall, G. E., & Hord, S. M. (2015). *Implementing change: Patterns, principles, and potholes.* Boston, MA: Pearson/Allyn & Bacon.

Image credits: Microsoft Office icons

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IC Map Preview

What do you notice?

What do you wonder?

Innovation Configuration Map: Engaging in the Formative Assessment Process to Accelerate Learning in the Mathematics Classroom

Clarifying LEARNING: Engaging in the Formative Assessment Process (Explicitly communicate their own mathematical reasoning and methods related to learning goals; adjust methods and reasoning; explicitly respond to mathematical reasoning and methods of others; monitor progress towards learning goals)

Ideal State

Innovation Configuration Map: Engaging in the Formative Assessment Process to Accelerate Learning in the Mathematics Classroom

Clarifying TEACHING: Engaging in the Formative Assessment Process (Clarify learning; elicit evidence of student thinking; interpret evidence of student thinking; respond to evidence of student thinking)

Ideal State

Teachers:	Teachers:	Teachers:	Teachers:	Teachers:
• Communicate learning goals; establish how goals connect to prior and future learning.	• Communicate learning goals to students and refer to goals throughout the lesson.	• Communicate learning goals to students at the start of the lesson and reflect on goals at the end of the lesson.	• Post learning goals aligned to the standards.	• Post learning goals.
• Facilitate ongoing discourse around how learning experiences contribute to the attainment of learning goals so students understand the purpose of the work and provide opportunities to reflect on progress towards goals.	• Provide students with opportunities to reflect on their progress towards learning goals.	• Facilitate experiences aligned to the learning goals.	• Facilitate experiences partially aligned to the learning goals.	• Elicit evidence unrelated to criteria for success.
• Strategically elicit evidence of student thinking and reasoning focused on goals.	• Elicit evidence of student thinking and reasoning focused on goals.	• Elicit evidence of student misconceptions.	• Elicit evidence of student misconceptions.	
• Attend to and interpret evidence of student thinking to assess methods, understanding, and reasoning.	• Attend to and interpret evidence of student thinking to assesses methods, understanding, and reasoning.	• Attend to, filter, and interpret evidence of student misconceptions.	• Correct student errors.	
• Respond in the moment appropriately to support student or extend student thinking, and/or deepen conceptual understanding while moving students toward procedural fluency and advanced mathematical reasoning.	• Address the range of student understanding and misconceptions with appropriate prompts, questions, or strategies, using some opportunities to extend and deepen student thinking and reasoning in support of goal attainment.	• Address misconceptions with appropriate prompts, questions, or strategies.		
• Use misconceptions to maximize deep conceptual learning and reasoning.				

Students:
• Identify learning goals.
• Represent solutions verbally, in written work, or in concrete models.

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Image credits: Microsoft Office icons

Innovation Configuration Maps

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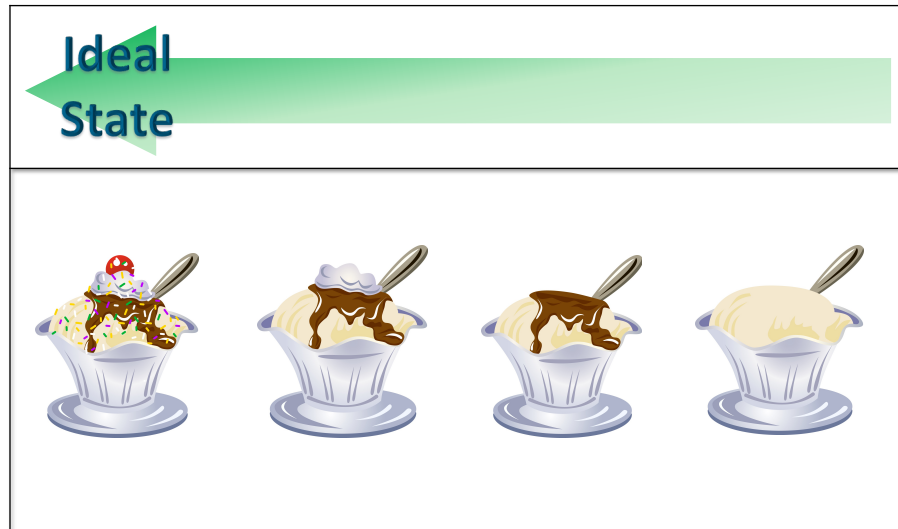The University of Texas at Austin
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Innovation Configuration Maps

A Deeper Dive

"Acceleration is accomplished when teachers focus on looking forward through the provision of just-in-time supports that ensure readiness to engage with grade-level content by building knowledge and connecting it to skills in current lessons. When teachers accelerate learning, they diagnose where students are on their path to mastery and put students on a fast track to accessing on-grade-level content instead of delaying it through remediation…

…mitigating barriers to learning serves students and their diverse needs best when driven by an asset-based mindset, which celebrates the value of all learners. This requires viewing student supports as opportunities to build upon and leverage the unique strengths, or assets, that learners bring to the classroom. "

- What connections are there between this description of acceleration and the "ideal state" on the IC maps?
- What do you notice about the variations across levels?

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Ideal State

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Ideal State

Students:
- Explain current goals and how they link to prior knowledge while building more sophisticated understandings and anticipate future connections.
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Slide 1

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Slide 2

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Innovation Configuration Maps

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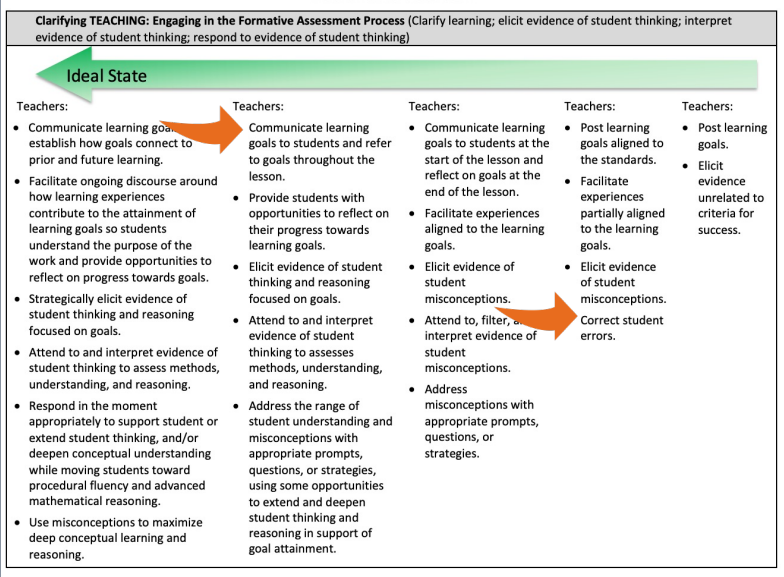- Use misconceptions to maximize deep conceptual learning and reasoning.

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- Communicate learning goals to students and refer to goals throughout the lesson.
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- Address the range of student understanding and misconceptions with appropriate prompts, questions, or strategies, using some opportunities to extend and deepen student thinking and reasoning in support of goal attainment.

Teachers:
- Communicate learning goals to students at the start of the lesson and reflect on goals at the end of the lesson.
- Facilitate experiences aligned to the learning goals.
- Elicit evidence of student misconceptions.
- Attend to, filter, and interpret evidence of student misconceptions.
- Address misconceptions with appropriate prompts, questions, or strategies.

Teachers:
- Post learning goals aligned to the standards.
- Facilitate experiences partially aligned to the learning goals.
- Elicit evidence of student misconceptions.
- Correct student errors.

Teachers:
- Post learning goals.
- Elicit evidence unrelated to criteria for success.

Virtual Classroom Visit

While "visiting the classroom", make notes on the teaching and learning that you observe.

Virtual Classroom Visit

Take an asset-based approach as you consider the following:

- What variations on the IC map are observable?
- What evidence from the classroom visit and language from the variations on the map supports your thinking?
- What might this teacher set as goals or next steps in working towards that "ideal state"?
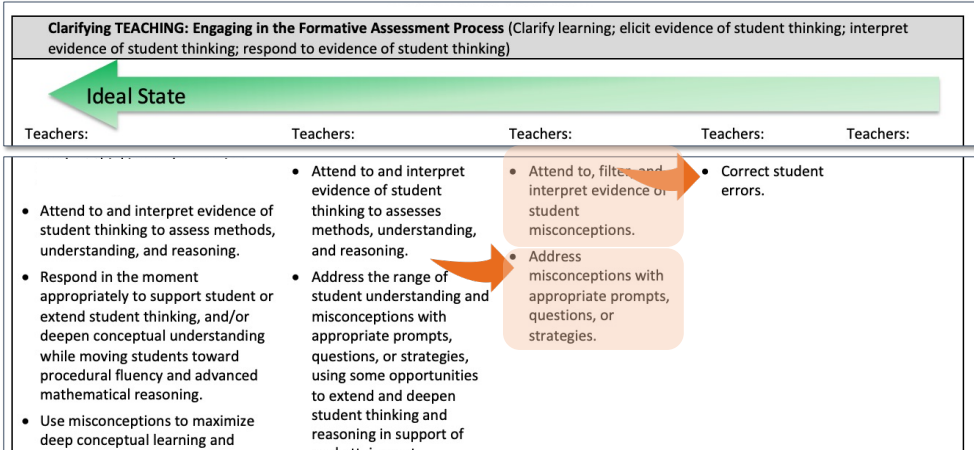
Debrief on Clarifying Teaching

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Debriefing on Clarifying Teaching

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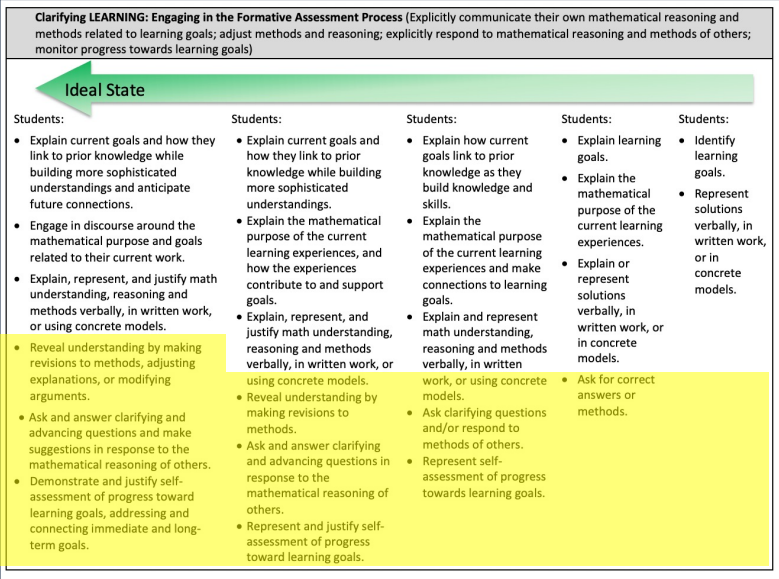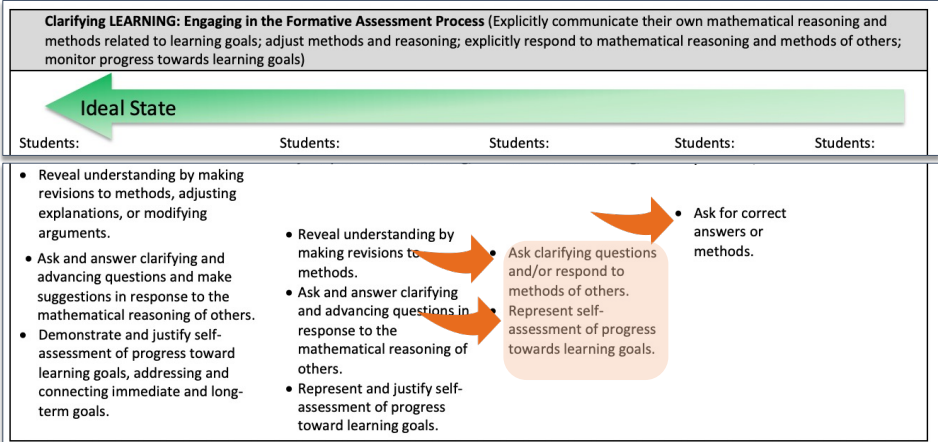
Teachers:

- Correct student errors.

Teachers:

What might this teacher set as goals or next steps in working towards that "ideal state"?

Debrief on Clarifying Learning

- What variations on the IC map are observable?

- What evidence from the classroom visit and language from the variations on the map supports your thinking?

Clarifying LEARNING: Engaging in the Formative Assessment Process (Explicitly communicate their own mathematical reasoning and methods related to learning goals; adjust methods and reasoning; explicitly respond to mathematical reasoning and methods of others; monitor progress towards learning goals)

Ideal State

Students:

- Explain current goals and how they link to prior knowledge while building more sophisticated understandings and anticipate future connections.
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- Explain, represent, and justify math understanding, reasoning and methods verbally, in written work, or using concrete models.
- Reveal understanding by making revisions to methods, adjusting explanations, or modifying arguments.
- Ask and answer clarifying and advancing questions and make suggestions in response to the mathematical reasoning of others.
- Demonstrate and justify self-assessment of progress toward learning goals, addressing and connecting immediate and long-term goals.

Students:

- Explain current goals and how they link to prior knowledge while building more sophisticated understandings.
- Explain the mathematical purpose of the current learning experiences, and how the experiences contribute to and support goals.
- Explain, represent, and justify math understanding, reasoning and methods verbally, in written work, or using concrete models.
- Reveal understanding by making revisions to methods.
- Ask and answer clarifying and advancing questions in response to the mathematical reasoning of others.
- Represent and justify self-assessment of progress toward learning goals.

Students:

- Explain how current goals link to prior knowledge as they build knowledge and skills.
- Explain the mathematical purpose of the current learning experiences and make connections to learning goals.
- Explain and represent math understanding, reasoning and methods verbally, in written work, or using concrete models.
- Ask clarifying questions and/or respond to methods of others.
- Represent self-assessment of progress towards learning goals.

Students:

- Explain learning goals.
- Explain the mathematical purpose of the current learning experiences.
- Explain or represent solutions verbally, in written work, or in concrete models.
- Ask for correct answers or methods.

Students:

- Identify learning goals.
- Represent solutions verbally, in written work, or in concrete models.

Debriefing on Clarifying Learning

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Ask clarifying questions and/or respond to methods of others.
Represent self-assessment of progress towards learning goals.

- Ask for correct answers or methods.

What might this teacher set as goals or next steps in working towards that "ideal state"?

IC Map Implications

How can IC maps be used to promote reflective practice?

- Goal setting
- Identifying next steps
- Peer observations
- Professional learning needs
- Focusing coaching support
- Providing feedback
- Clarifying classroom observations

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Personal Reflection and Identifying Next Steps

Reflect on a recent lesson.

- Which variations do you think were exhibited?
- What are some focused goals you can set?
- What actions will you take to reach those goals?

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Additional Support/Resources

Louisiana Believes

- Accelerate
  https://www.louisianabelieves.com/academics/accelerate
- Accelerate Math
  https://www.louisianabelieves.com/docs/default-source/accelerate/accelerate-math.pdf?sfvrsn=433c6618_14
- K-12 Math Planning Resources
  https://www.louisianabelieves.com/resources/library/k-12-math-year-long-planning

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Slides 2, 7, 14, 15: Screenshots and quotes from Louisiana Department of Education. (2021). Accelerate: Louisiana's Pre-K-High School Tutoring Strategy. Available via https://www.louisianabelieves.com/docs/default-source/accelerate/accelerate---louisiana's-pre-k-12-tutoring-strategy.pdf?sfvrsn=d7366618_18

Slides 6, 9: Hall, G. E., & Hord, S. M. (2015). *Implementing change: Patterns, principles, and potholes.* Boston, MA: Pearson/Allyn & Bacon.

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Questions? Comments? Want to know more?

Contact
STEM@la.gov