Designing & Adapting Tools to Support Collaborative Learning of Equity Oriented Math Instruction

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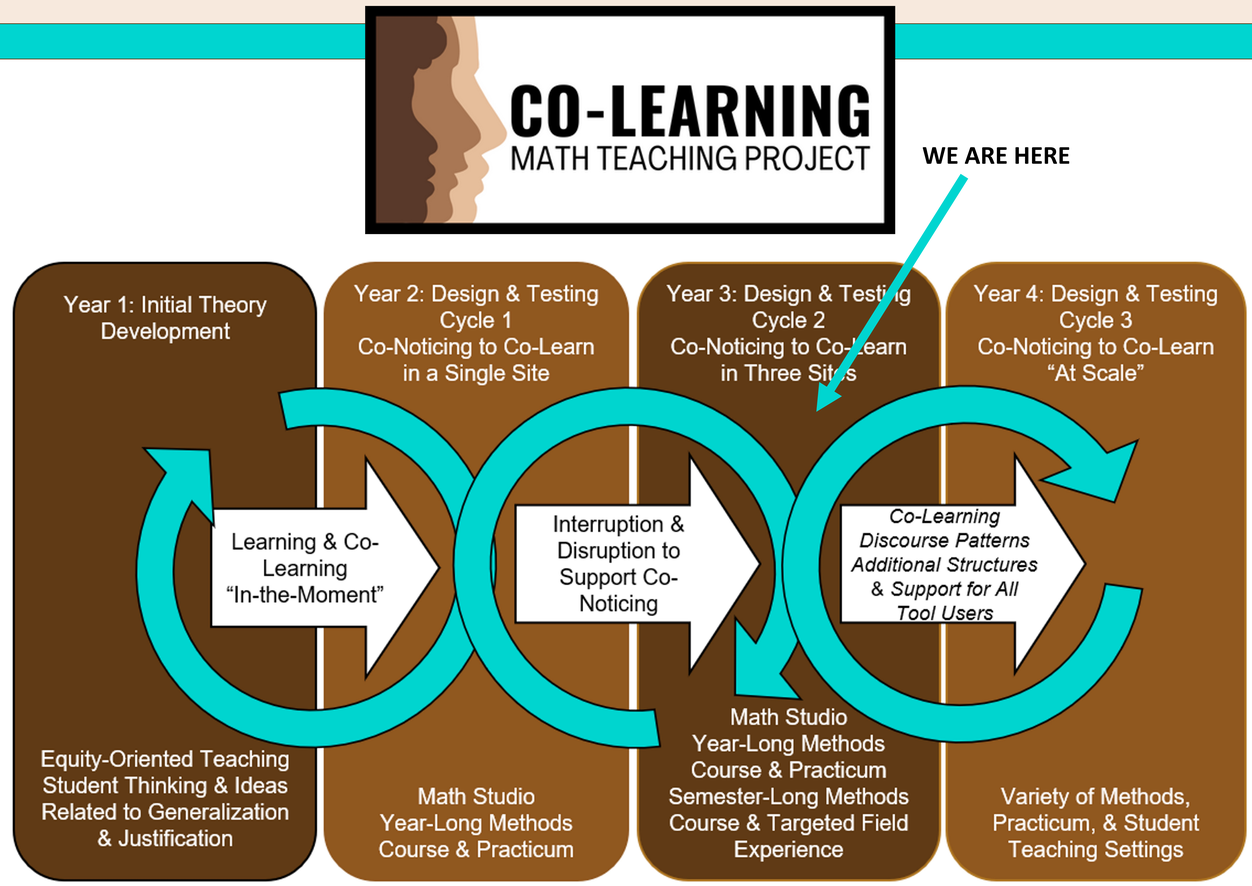
PROJECT RATIONALE & GOALS

- The teacher candidate (TC) - mentor teacher (MT) relationship is typically framed as a novice-expert relationship; the MT is expected to "apprentice" the TC into established ways of teaching.
- However, learning to enact more equitable mathematics instruction entails disrupting "business as usual." It entails ongoing, collective endeavor for all math teachers, novice and experienced.

→ Our project is developing and studying Collaborative Learning Structures to support mathematics teacher candidates (TCs) and mentor teachers (MTs) to collaboratively learn from and with one another *in the moment of teaching* as they co-notice, interpret, and make equity-oriented decisions.

RESEARCH QUESTIONS

1. **How do teacher candidates (TCs) and mentor teachers (MTs) co-learn equity-oriented math instruction (EOMT)?**
   a. What vision, stances, and understandings of equity, justification and generalization does each teacher develop during their time together?
   b. How does each teacher's vision, stance, and understandings of mathematics teaching shift during their time together?
2. **In what ways does the tool, and its specific design characteristic(s), support and/or inhibit TCs and MTs in co-learning?**



CURRENT QUESTIONS TO REFINE OUR THEORY

1. What's the work of equity-oriented teaching that we are trying to impact?
2. What is the same and/or different about the goals for learning about equity-oriented math instruction for mentor teacher and teacher candidate?
3. What consistencies and variation can there be within dyads' learning to still be considered co-learning of equity-oriented math instruction?
4. What is especially impactful about in-the-moment work? What's useful about not-in-the-moment work?

SELECTED LEARNINGS FROM PRELIMINARY ANALYSES

- Rather than asking teachers to confer in 'curious or uncertain' moments, it seems more beneficial for teachers to confer in 'decision-making' moments while teaching.
- Co-noticing with intention and across time can support dyads' co-learning about equity-oriented math instruction, specifically related to participation patterns and leveraging individual students' strengths.
- Structured opportunities embedded in the CLS support richer professional learning for teacher dyads by interrupting existing norms which narrowly position MTs as "experts" and TCs as "novices", while leveraging the perspectives, insights, and assets of both teachers.

Goals for Co-Learners:

- **Develop a stance in which co-learners are open to and pursuing new learning specific to EOMT**
- **Learn to recognize and leverage discretionary spaces (Ball, 2018), which provide teachers with agency and opportunities for enacting EOMT**

Sample Collaborative Learning Structure (2022 - 2023 version under revision)

Part 1: Planning to Co-Notice and Co-Decide for EOMT

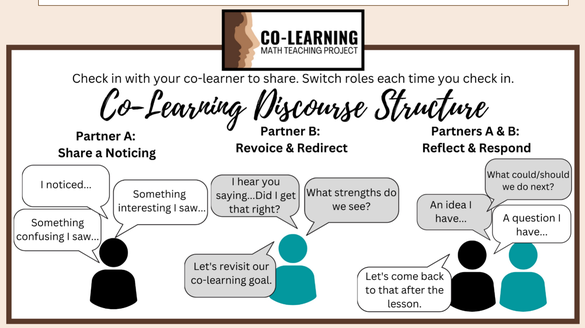
Co-learners identify a dilemma or question they have about EOMT. They identify a focus of co-noticing, and identify places in the lesson where they will check in with one another during the lesson to make a decision in relation to EOMT.

Example Co-Noticing Focal Topics
- Recognize, understand, and disrupt inequitable participation patterns
- Honor and make sense of students' diverse ideas
- Create opportunities for learning collectively

Part 2: Co-Noticing and Co-Deciding *During* the Lesson

Co-learners circulate and observe. They capture noticings related to their focal topic and questions.

Co-learners confer to think about how they will proceed, given what they have noticed.



Part 3: Co-Debriefing

Co-learners identify moment(s) when they used their noticings to make an instructional decision or respond to students in service of EOMT.

Co-learners inquire into the impact of their choices on students' experiences and learning.

Co-Learners summarize their learning and plan for future co-learning.

Key References

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