Coaching for Effective Teaching Practices & Equity!

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NCTM 2017

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Today’s Experience:

Effective Teaching Practices & Equity

• Reflect on and enhance
• What is Coaching? (Generally)
• Experience a Task
• Modeling and Engaging in a Coaching Cycle
• Discussion and Reflection
What is Coaching?
Coaching

- Coaching Cycle
- Collaborative
- Non-evaluative
- Reflective
- Content knowledge
- Instructional Strategies
- Relationships
# The 8 Effective Teaching Practices (NCTM, 2014)

<table>
<thead>
<tr>
<th>Mathematics Teaching Practices</th>
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<tr>
<td>Establish mathematics goals to focus learning. Effective teaching of mathematics establishes clear goals for the mathematics that students are learning, situates goals within learning progressions, and uses the goals to guide instructional decisions.</td>
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<td>Implement tasks that promote reasoning and problem solving. Effective teaching of mathematics engages students in solving and discussing tasks that promote mathematical reasoning and problem solving and allow multiple entry points and varied solution strategies.</td>
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<td>Use and connect mathematical representations. Effective teaching of mathematics engages students in making connections among mathematical representations to deepen understanding of mathematics concepts and procedures and as tools for problem solving.</td>
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<td>Facilitate meaningful mathematical discourse. Effective teaching of mathematics facilitates discourse among students to build shared understanding of mathematical ideas by analyzing and comparing student approaches and arguments.</td>
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<td>Pose purposeful questions. Effective teaching of mathematics uses purposeful questions to assess and advance students’ reasoning and sense making about important mathematical ideas and relationships.</td>
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<td>Build procedural fluency from conceptual understanding. Effective teaching of mathematics builds fluency with procedures on a foundation of conceptual understanding so that students, over time, become skillful in using procedures flexibly as they solve contextual and mathematical problems.</td>
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<td>Support productive struggle in learning mathematics. Effective teaching of mathematics consistently provides students, individually and collectively, with opportunities and supports to engage in productive struggle as they grapple with mathematical ideas and relationships.</td>
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<td>Elicit and use evidence of student thinking. Effective teaching of mathematics uses evidence of student thinking to assess progress toward mathematical understanding and to adjust instruction continually in ways that support and extend learning.</td>
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*Transforming Mathematics Education*
Growing Dots  

MVP, Math 1, Task 1.2

At the beginning

At one minute

At two minutes
Growing Dots

MVP, Math 1, Task 1.2

- Describe the pattern that you see in the sequence of figures above.
- Assuming the pattern continues in the same way, how many dots are there at 3 minutes?
- How many dots are there at 100 minutes?
- How many dots are there at $t$ minutes?
Secondary Math One: An Integrated Approach (May 2016)

If you need to access the 2013 version click here.

Please if you find errors, typos or have feedback please describe the issue on the feedback form for Math One.

Mathematics One Student Edition
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- Module 7: Congruence, Construction & Proof
- Module 8: Connecting Algebra & Geometry

Mathematics One Basic Teacher
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- Module 2: Linear & Exponential Functions
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- Module 4: Equations & Inequalities
- Module 5: Systems of Equations & Inequalities
- Module 6: Transformations & Symmetry
- Module 7: Congruence, Construction & Proof
- Module 8: Connecting Algebra & Geometry
Pre-conference

• What do we need to do before we go to observe the lesson?

• What are the mathematical goals for students?
• What strategies will be used by students? How will these strategies be addressed or used to promote student learning?
• Why have you chosen to approach this content in this way?
• What are you working on as a teacher? What would you like me to focus on while I’m observing?
Observation

• What should we be doing during the observation?

• Collecting data and evidence

• Directly observable, what did people say and do

• Eye to the teachers concerns and to other things
Observation

• Lets go to Travis’ classroom.
Post-conference

• What is our role as coaches in the debriefing of the lesson with the teacher?

• Be a mirror of practice
• Ask questions
• Noticing and wondering
• Don’t be evaluative
• Avoid telling
• Ask about next steps and future work
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