Preparing Pre-Service Teachers for Common Core Teaching

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Want a Job? Learn to do what a robot can’t.

“Today, work that consists of following clearly specified directions is increasingly being carried out by computers and workers in lower-wage countries. The jobs that pay enough to support families require a deeper level of knowledge and the skills to apply it.”
The shift in job growth requires a shift in learning, which can be accomplished only if we make a corresponding shift in instruction.
Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.
HOW CAN WE COMMUNICATE THE STANDARDS FOR MATHEMATICAL PRACTICE AND SET EXPECTATIONS?
Understanding the Mathematical Practices

1. Create a Visual Representation

2. Identify Your Action Plan for Implementing and Evaluating the Standards
I can make sense of problems and work hard at solving them.

I can look for patterns and connections to things I already know.

I can make up rules and shortcuts based on generalizations I find.

I can work carefully and explain my thinking clearly and precisely.

I can think about the meanings of numbers as I solve problems.

I can justify my answers and ask others to explain their work.

I can relate math ideas to things that happen in everyday life.

I can find and use math tools to help me solve problems.
The Eight Commandments of Problem Solving!

1. I look for patterns and use things that I know.
2. I will use math words and labels.
3. I will go even when problems get tough! Grit!
4. I make models to represent my problems.
5. I work and listen to others to understand different ways to do the work.
6. I will relate math to things that happen in real life.
7. I will pick the best math tool to help me solve the problems.
How will my students learn how to simplify fractions?

How will my students learn how to justify their thinking?

Teachers’ Action Plan for CCSS

Teachers’ Action Plan for SMP
TEACHERS’ VERSION of the Standards for Mathematical Practice

Discuss how you might complete the sentence for each of the eight Standards for Mathematical Practice. For example:

1. Make sense of problems and persevere in solving them.
   
   Teachers will....
The Standards for Mathematical Practice affect
--the appearance of a classroom
--classroom climate.

How does this look when embedded in a lesson?
Parts of the Lesson

• Open/Warm Up
• Goal-Setting Introduction
• Body
  • New learning
  • Guided practice
  • Independent practice with autonomous differentiation
• Close
Simulation
Stay in Touch!

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