Activity: Closing Curriculum Gaps by Focusing on the Important Mathematics in the Common Core Learning Standards (90 minutes)

Overview

The 2013-14 citywide instructional expectations ask schools to ensure curricula are aligned to standards, ask students to experience rigorous instruction, and ask teachers to shift classroom practice. This activity is designed to deepen participants' understanding of the mathematical content expectations of students described in the Common Core Learning Standards for Mathematics (CCLSM)—in particular, around the topic of Ratio and Proportionality in 6th and 7th grades. This focus provides a good example of the significant change in expectations for students and is accessible to teachers of middle school, elementary school (through a connection with multiplicative relationships), and high school (through a connection with algebraic thinking and functions).

(***Note:*** While this activity is focused around ratio and proportional relationships in 6th and 7th grade, schools may choose to examine other topics and grade bands, such as place value or fractions in elementary grades, and linear equations and inequalities in high school. Such an adaptation would require additional resources: comparable topic-appropriate mathematical tasks would need to be identified. Such tasks are not included here. However, as written, this activity is relevant to all teachers of mathematics.)

Guiding Questions

- How do the CCLSM describe the mathematics differently from the NYS 2005 standards?
- What are the implications for my work with students and colleagues?

Outcome

Participants will be able explain how the CCLSM describe mathematical content (ratio and proportional relationships) differently from the New York State Mathematics Core Curriculum 2005 Standards.

Materials

- Participant Handout
- New York State Mathematics Core Curriculum 2005 Content Standards **(6th and 7th grades)**
- Common Core Learning Standards for Mathematics **(6th and 7th grades)**
- Handout: "Ratio and Proportion Word Problems"
- Handout: "A Sense of Scale" from Developing a Sense of Scale, available at http://map.mathshell.org/materials/lessons.php?taskid=456&subpage=problem

For exploring other topics and grade bands:

- New York State Mathematics Core Curriculum 2005 Content Standards (relevant grades)
- Common Core Learning Standards for Mathematics (relevant grades)
- Two math tasks – one example of CCLSM expectations, one example of 2005 expectations

FACILITATION NOTES

1. **Introduction. (5 minutes).** Facilitator reviews goals, essential questions, and outline of the activities:
    - Close read of quote from educator guide
    - Compare how the CCLSM and the 2005 standards describe ratio and proportional relationships in 6th and 7th grade
    - Work through two mathematical tasks
    - Compare how the tasks align to the mathematics described in the CCLSM
    - Reflect on our learning and implications for our work as individuals and as group

2. **Close reading and discussion. (10 minutes).** Facilitators ask participants to closely read an excerpt from the NYS Testing Program Educator Guide (***on Participant Handout***). Participants take a moment to read the quote to themselves and consider the following question:
    - What does this quote mean to you and how does this inform your planning?

    "The Common Core Learning Standards (CCLS) call for changes in what is expected from a teacher's instructional approach. In mathematics courses, the CCLS demand that teachers ***focus their instruction*** *on fewer, more central standards, thereby providing room to* ***build core understandings*** *and* ***connections*** *between mathematical concepts and skills."*

    From NYS Testing Program Educator Guide to the 2013 Common Core Mathematics Test, page 1

3. **Identify how the CCLSM describes ratio and proportional relationships differently. (20 minutes).** Participants dig into standards to identify how the CCLSM describe ratio and proportional relationships at grades 6 and 7 differently from the 2005 NYS standards.
    - Teachers should highlight language in the standards as evidence.
    - Each table creates a poster/chart like the one below:

What were students expected to know in NYS 2005 standards?	What are students expected to know in the Common Core Learning Standards for Mathematics?

    (***Note:*** participants will have copies of 2005 NYS standards and CCLSM available.)

4. **Share/gallery walk. (10 minutes).** Participants share their findings from the previous step, considering the following questions:
    - What common themes do you see?
    - What is one new insight that was surfaced by a colleague?

    (***Note:*** For a small group of participants this could be a share, for larger groups of participants, take a few minutes to walk around the room and look at the charts of other tables before discussing)

5. **Work through two mathematical tasks. (10 minutes).** Participants take time to work through the two mathematical tasks, keeping in mind how a student might experience and approach them.

    (*Note:* participants should experience both tasks—not spending all their time on one—even if they have completed neither.)

6. **Compare the task in light of the CCLSM. (15 minutes).** Participants discuss the following question, using evidence from the tasks and the CCLSM:
    - Which task is closer to what the CCLSM describes? Why?

7. **Individual reflection. (5 minutes).** Participants take time to reflect on the activity and record their thinking (***on Participant Handout***). Possible refection questions include:
    - What did I learn about the CCLSM?
    - What are the positive and challenging implications for:
        - myself?
        - my students?
        - my school community?
    - What supports and resources do I need?

8. **Whole room discussion. (15 minutes).** Participants consider and share implications for their own classroom and their school community of teaching the mathematics that the CCLSM describe, following questions in the previous step.

    (***Note:*** It would be helpful to record challenges/concerns and resources/support needs in order to inform professional development plans and next steps.)