RAMP-A Agenda February 6 & 7, 2015

Theme for the day: Develop an inquiry approach to Lesson Study and consider the connections among instructional choices and student learning of worthwhile mathematics in order to maintain higher cognitive demand.

Goals:

1. PLCs work in their groups to develop inquiry strategies for three parts of their lesson studies: the mathematics, students’ prior knowledge, and planning to implement a task.
2. Teachers consider the DOK and how their instructional choices support their mathematical goals and maintain the cognitive complexity.
3. PLCs discuss how they can better use the STEM-PD technology.
4. Teachers consider how to involve all students in meaningful discourse.
5. Share information related to SBAC

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| Time & groupings | Facilitators | Friday, February 6: Activity & Purposes or Goals | Materials: Sign-in Sheets  News from External Evaluator |
| 7:30-8:15  CF | Jackie | **Brief Introduction and**  **Vignette 1: Discourse**  **Goals:** Consider the role of discourse and teachers’ roles in facilitating discourse to support mathematical goals. This includes understanding and developing productive prior knowledge, supporting struggling or unmotivated learners, and maintaining cognitive complexity. | Article by Chazan and Ball  Blue Reflection paper  Reflection 1: What is a take-away for you? |
| 8:15-9:15  PLCs | Scott, Brandon, Jackie,  Hyung Sook | **Lesson Study Part 1:** Discussing the mathematical goals of the lesson  **Goal:** Explore how to discuss the mathematical goals of a lesson through an inquiry approach.  **Activity:** Through an Interrupted Case Study, a PLC will model their discussion about the mathematics in their Lesson Study, leaving issues unresolved. How do the mathematical purposes of the lesson inform the pedagogical decisions?  PLCs will then discuss how they would resolve the issues.  Whole group discussion to describe expectations for this aspect of a lesson study.  PLCs will then have time to discuss the math issues in their own Lesson Studies. | Handout: Session 1  LS Reflection 1: What different ideas and opinions have arisen in your PLC about the key mathematical ideas of your lesson? How did you resolve them? |
| 9:15-9:30 | Break |  | Snacks |
| 9:30-10:30  CF | Kris and Brandon | **Vignette 2:** Coherence  **Goals:** Understand what is meant by ‘logical necessity’ and distinguish between seeing a pattern and justifying the pattern. Connect to cognitive complexity and SMP.  **Activity:** Why are the slopes of perpendicular lines opposite reciprocals? How would you adapt and use this task to support students’ development of the logical necessity? In what other ways does your plan support coherence? | Perpendicular Lines  Rotating Lines and Triangles |
| 10:30-11:30  PLCs | Scott, Brandon, Jackie, Hyung Sook  Erik and Deb for Principals | **Lesson Study Part 2:** Using students’ prior knowledge  **Goals**: Explore, through inquiry and discussion, several ways to build on students’ prior knowledge to support our mathematical goals.  **Activity**: Continuing the Interrupted Case Study, the PLC models their discussion, leaving issues unresolved. PLCs discuss these issues.  Whole group sharing: Expectations when considering students’ prior knowledge and how to use it when planning a lesson.  Principals join their groups here and through lunch?? | Teacher handouts  Administrator Handout  LS Reflection 2: How does the consideration of students’ prior knowledge inform your lesson study? |
| 11:30-12:10  PLCs | Lunch and PLC work on LS | PLCs work on their lesson studies using the inquiry approaches discussed in the morning sessions. They should start preparing to share their plans with another group. Sharing will be on Saturday. | Report out sheet:  Rough draft of LS so far, including:  What mathematical ideas did you discuss? How are you planning to use students’ prior knowledge?  What strategies are you planning to support coherence? |
| 12:10-1:10  CF | Kris and Scott | **Vignette 3:** Multiplying linear functions to see features of quadratic functions. Teachers discuss ways to use a task to help students develop meanings and conceptual understanding, maintaining CC and using SMP. | Graphs of two lines  Graphing software or calculators |
| 1:10-2:10 | Janet | **Discourse for All:** Motivating and supporting specific discourse practices for all learners. | Talking about Math  Getting all students to speak up |
| 2:10-2:50 | Scott, Brandon, Jackie, Hyung Sook | **Lesson Study, Part 3:** Planning to implement a task  **Goals:** Consider the pedagogical choices, formative assessment, and boardwork for the lesson study plan.  Activity: Continued Interrupted case study, with PLC discussion, whole group discussion of expectations, and work on their Lesson Studies. | Lesson Flow |
| 2:50-3:00 | Kris | Evaluation of the day. This is to make sure that we get evaluations from those who won’t be here on Saturday, and to get them to reflect on their day. | Evaluations |

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| Time & groupings | Facilitators | Saturday, February 7: Activity & Purposes or Goals | Materials |
| 8:00-8:45  CF (adapted) | Janet | **PLCs uses of the new Technology**  Goals: Teachers who have had, are new to having, and do not have the STEM-PD technology discuss in groups how to use the technology for their own professional learning. | Post-its |
| 8:45-9:45 | Deb and Becky | SBAC | Handouts? |
| 9:45-10:00 | Break |  |  |
| 10:00 – 11:45 | Kris and Jackie | Each group work on their lesson study, then share their Lesson Study Plans so far with one other group and a leader/peer teacher. We should have criteria ready. | Tuning Protocol |
| 11:45-12:00 | Jackie | Evaluations and Homework | Evaluation  Homework |