RAMP-A Agenda November 14-15

Theme for the workshop: Developing teaching practices that support our professional learning.

Goals for Day 1:

1. Further develop teachers’ practices of paying attention to meanings or structure.
2. Understand and consider ways to teach A.REI.5: Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.
3. Examine levels of the SMP in an exploration
4. Reconsider teaching procedures conceptually and use of procedures to understand concepts as ways of developing coherent understandings.
5. Discuss needs and support of students who struggle in math. (We are raising standards and must consider the supports we offer to help students achieve the standards.)

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| Time & groupings | Designers/ Facilitators | Activity & Purposes | Materials |
| 8:00-9:30 | Hyung Sook & Jackie | Sharing and next steps of Ten-minute Talks: how we use a Ten-minute Talk as a tool for professional learning and improved student learning | PPt |
| 9:30-11:30 | Janet & Jackie | Exploration leading to deeper understanding of the CCSS:  Given two lines in standard form (regarded as two equations), then the sum is again a linear equation. How could you graph this sum given the graph of the two lines? Geometrically represent the slope and relate it to the original two lines.  Through this we discuss how concepts and procedures can be mutually supporting, and we focus on noticing levels of SMP and how to help students develop SMP.  Break within this activity. | Exploration  Graph paper (lots)  Desmos  Snacks |
| 11:30 – 12:30 | Lunch | Teacher sharing of ideas, but we add to this, “How do you think students who have difficulties in math and are unmotivated would respond to your use of this resource? How would you change it or use it with these students and also maintain cognitive demand?”  This can run over into lunch, if more time is needed and the discussions are good. Do we want to show Digital Library? |  |
| 12:30-1:30 | Janet and Jackie | Finish exploration on **levels of SMP** | Posters |
| 1:30-1:45 | Break |  |  |
| 1:45-2:50 | Jackie | Chalk Talk: Concepts, procedures, SMP, and relationships between C, P, and SMP of each object. | Large print prompts  Big poster paper and tape, 6 colors of markers – 3 of each. |
| 2:50-3:00 | Janet | Closure and expectations for Saturday: They should come back to the Nov. 15 meeting with an idea of what they want to focus on for a lesson study | Reflection |

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| Saturday, November 15 | | | |
| **8:00-9:00** | Janet | Reflecting on our learning and planning for continued growth | Reflection sheets for the day |
| **9:00-9:30**  **CF groups** | Jackie | Why is change so difficult? | Heibert article  Scratch paper |
| **9:30-9:45** | break | Use this time to make sure everyone will have a lesson study group |  |
| **9:30-10:30**  **PLCs** | Jackie | Coherence from logical necessity | Task: Rotating triangles and lines  Scratch paper |
| **10:30- 11:15**  **LS groups** | Jackie | Launching Lesson Study | Lesson Plan from function notation, |
| **11:15-11:50**  **PLCs** | Janet | What plans do you have to use the STEM-PD |  |
| **11:50-12:00** | Jackie | Evaluations and homework | Homework, Reflections |