

# ABE Math Institute 2019

Friday, September 20, 2019

Hamline University – Anderson Center  
774 Snelling Avenue, Saint Paul, MN 55104  
(SE corner of Snelling & Englewood)

**atlas** ABE Teaching & Learning  
Advancement System



[www.atlasABE.org](http://www.atlasABE.org)

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This ABE training opportunity is being offered in conjunction with the MN Department of Education and the ATLAS program at Hamline University. CEUs indicating attendance will be provided.

## AGENDA

**Key ideas for the day:** *equity and access, conceptual understanding, mathematical discourse, making student thinking visible, coherence*

**7:45-8:30 am – Registration at ATLAS Desk, Anderson Atrium (first floor)**

**8:30-9:00 am – Welcome, Warm-up and Continental Breakfast, Anderson 112 – Patsy Egan & ATLAS Staff**

**9:00-10:00 am – General Session: Creating the Conditions for Mathematical Discourse, Anderson 112 – Sara Van Der Werf** – Educators have the power to create the conditions that empower every student to engage in mathematical discourse. Effective discourse, the mathematical communication that occurs in a classroom, happens when students articulate their own ideas and seriously consider their peers' mathematical perspectives as a way to construct mathematical understandings. Practical ideas for how to equitably create these conditions will be modeled and shared.

**10:00-10:15 am – Break**

**10:15-11:45 am – Concurrent Session #1**

- (a) **Making Student Thinking Visible, Anderson 112 – Sara Van Der Werf** – What does the classroom norm of “making student thinking visible” look like for both teachers and students? Examples of the choices teachers make connected to the content they teach to foster this norm will be modeled and shared. What do you do with student thinking once it is visible? How do you teach and model for students how to make their thinking visible? Practical ideas for all levels of content will give educators a plan they can immediately implement to increase the visibility of student thinking in all students. ***THIS SESSION WILL BE REPEATED IN THE AFTERNOON***
- (b) **Multiplying Fractions: Re-unitizing Area, Anderson 305 – James Brickwedde** – Multiplying fractions can easily be taught by memorizing a few procedural steps. While true, many an adult lacks understanding as to why the procedures work and the number sense to support the actions. One way of conceptualizing multiplying fractions involves a unitization of an area from one unit referent to another. Working with drawings and grids, the session will work to connect the spatial visual relations to the number level by exposing the assumed unit of the whole ( $\times 1$ ). Participants will engage in tasks through drawings and through a set of grids in order to experience thinking about the relations behind multiplying fractions through a spatial visual re-unitizing experience. Work with fourth graders and subsequently with teacher candidates in a university math class has inspired this work. ***THIS SESSION WILL BE REPEATED IN THE AFTERNOON***
- (c) **Manager Panel: Creating Math Coherence Across the Program, Anderson 111 – Patsy Egan & Astrid Liden, with Panelists Molly Liberto, Polina Huffman, Kathleen Moriarty, Nancy Rosman, & Adam Kuehnel** – Join a panel of managers and teachers to discuss changes to math instruction delivery at the program level. Topics include incorporating math into ESL classes, assessment and placement, teachers' and students' responses to changes, and next steps to strengthen coherence in math teaching and learning. Ample time for questions and discussion provided. **If you are in a leadership position in your program, please join us!**

**11:45-12:45 LUNCH, Anderson 112 and Atrium**

## 12:45-2:15 pm – Concurrent Session #2

- (a) **Making Student Thinking Visible**, Anderson 112 – *Sara Van Der Werf* – What does the classroom norm of “making student thinking visible” look like for both teachers and students? Examples of the choices teachers make connected to the content they teach to foster this norm will be modeled and shared. What do you do with student thinking once it is visible? How do you teach and model for students how to make their thinking visible? Practical ideas for all levels of content will give educators a plan they can immediately implement to increase the visibility of student thinking in all students. ***THIS SESSION IS A REPEAT OF THE MORNING SESSION***
- (b) **Multiplying Fractions: Re-unitizing Area**, Anderson 305 – *James Brickwedde* – Multiplying fractions can easily be taught by memorizing a few procedural steps. While true, many an adult lacks understanding as to why the procedures work and the number sense to support the actions. One way of conceptualizing multiplying fractions involves a unitization of an area from one unit referent to another. Working with drawings and grids, the session will work to connect the spatial visual relations to the number level by exposing the assumed unit of the whole ( $\times 1$ ). Participants will engage in tasks through drawings and through a set of grids in order to experience thinking about the relations behind multiplying fractions through a spatial visual re-unitizing experience. Work with fourth graders and subsequently with teacher candidates in a university math class has inspired this work. ***THIS SESSION IS A REPEAT OF THE MORNING SESSION***
- (c) **Think and Communicate Like a Mathematician with Algebraic and Geometric Concepts**, Anderson 111 – *May Vang Swanson* – What do mathematicians do before tackling a problem? We notice. We assume. We describe. We wonder. Our students are mathematicians and we need to show them how to think and communicate like a mathematician and not just how to do math. We will work on algebraic thinking and geometry concepts through routines like notice/wonder, problem strings, which one doesn't belong, and high quality problem solving tasks.

2:15-2:30 pm - Break

2:30-3:15 pm - General Session: Reflection, Anderson 112

3:15-3:30 pm – **CEUs** – **Available at ATLAS REGISTRATION DESK**

### Presenter Bios

**FEATURED PRESENTER: Sara Van Der Werf** is a nationally board-certified teacher who taught secondary mathematics for Minneapolis Public Schools for 27 years with 5 of those years leading K-12 mathematics at the district office. Sara served in multiple positions on the Minnesota Council of Teachers Mathematics board, most recently as past-President. Sara currently travels her state and around the US speaking, providing professional development. Sara's passions in K-12 mathematics include engaging students in discourse, English Language Learners, teaching that values student reasoning about mathematical concepts and building positive student identities. Sara has a calculator museum and taught herself to ride a backwards bike that changed how she taught. Sara is active in the national mathematics community via twitter, @saravdwerf, and writes frequently at her blog, saravanderwerf.com.

**James Brickwedde** is a 21-year classroom veteran having taught first, second, and fourth grades. He currently is on the faculty of the School of Education at Hamline University in St. Paul, MN where he teaches all of the elementary mathematics content and pedagogy classes. As director of the Project for Elementary Mathematics, he has overseen the dissemination of Cognitively Guided Instruction in the State of Minnesota working with classroom teachers around how children build their mathematical understanding.

**May Vang Swanson** currently teaches middle school math at Capitol Hill Magnet School - St. Paul Public Schools. She likes to tell people that she is a reluctant middle school teacher, but because of the 6 years she has spent in middle school, she attributes a lot of her professional growth to teaching middle school students. Prior to middle school teaching, she spent 3 years teaching math in a high school and 2 years abroad in Japan. Beyond what she does in the classroom with students, she loves talking math with teachers and teacher educators. Sharing ideas and collaborating on some of the latest and newest instructional strategies gets her excited to go back to her students. She says that she is reminded daily by all of you that what we do is needed, and how we do it is how our students get inspired to do math.