



4th Annual

Mathematics Educator Mini-Conference

Saturday, March 19, 2016/ Pitt-Johnstown

8:30-9:00	REGISTRATION : Biddle Hall Lobby
9:00-10:15	CONCURRENT SESSIONS: Biddle Hall
Session A (early childhood)	<p><u>Making the Most of Open (Empty) Number Lines</u> by Dr. Margaret Stempien, Indiana University of PA</p> <p>Participants will learn about and create open number lines. This strategy helps children record and enhance their mental arithmetic, and deepens their mathematical reasoning. We will also look at how open number lines can be used for more than whole number addition and subtraction. Finally, ten-frames and strategies such as “up over ten” and “down over ten” will be investigated as early foundations for reasoning with open number lines.</p>
Session B (teachers of grades 4-8)	<p><u>Population Education: Teaching Mathematics for the Global Family</u> by Jessie Minor, Central Cambria Middle School and Dr. Kate Remillard, Saint Francis University <i>Population Education Trainers</i></p> <p>This highly interactive session will introduce mathematics teachers to <i>PopEd</i>, the leading source for K-12 curriculum about human population trends and their effects on the environment and society. Population dynamics are a natural fit for teaching about growth, percentages, ratios, and other mathematics concepts! Participants will engage in activities that adhere to the Common Core requirement, and NCTM’s recommendation, to bring real-world data into the classroom. Leave with free lessons and resources on CD-ROM.</p>
Session C (secondary)	<p><u>Add Sparkle to Your Classroom with the “Flipping Queen”</u> by Trisha Kaylor, Blairsville High School</p> <p>This session will explain the steps, pitfalls, and many successes that I have experienced in my flipped classroom as I have transformed it into a flexible learning environment. You will learn how to use technology to easily differentiate learning, increase student engagement and rapport, and create authentic learning opportunities for your students.</p>
Session D (learning support)	<p><u>Engaging Differential Learners through Cooperative Learning</u> by Dr. Elizabeth Harkins and Dr. Bethany McConnell, Pitt -Johnstown</p> <p>Cooperative learning provides opportunities for students at all levels to develop positive interdependence, individual and group accountability, and interpersonal and group collaborative skills. Cooperative learning also allows for students to increase their self-esteem - critical when teaching female students, minority students, or struggling learners. Compared to students learning on their own, students who are engaged in cooperative learning perform better on tests, especially with regard to reasoning and critical thinking skills. In addition, they are more able to actively participate in the learning process, enjoy learning more, and are more likely to trust other students.</p>
10:30-11:30	<p>BRUNCH and LHMA Annual Business Meeting (Student Union Cambria Room) Enjoy brunch and conversation with your colleagues in the region!</p>



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2016 LHMA KEYNOTE SESSION

11:30-12:30 Student Union, Cambria Room

Moving to Action: Implementing *Principles to Actions*' Effective Mathematics Teaching Practices

by Dr. Melissa Boston



Session Description:

NCTM's *Principles to Actions* identifies eight research-based effective teaching practices necessary for promoting equitable and ambitious mathematics teaching and learning. NCTM has also developed the online *Principles to Actions Toolkit* to provide images and examples of these practices. This talk will engage participants in analyzing effective mathematics teaching using video cases and resources from selected modules in the Toolkit, with hopes of fostering ideas for using the *Toolkit* to start conversations and engage in professional learning with colleagues and administrators back in your districts.

Speaker Biography:

Dr. Melissa Boston is an Associate Professor in the School of Education at Duquesne University (Pittsburgh, PA), where she teaches mathematics content and pedagogy courses for preservice secondary mathematics and elementary teachers. Melissa is the lead developer of the Instructional Quality Assessment (IQA) Mathematics Toolkit, a set of rubrics for analyzing mathematics teachers' instructional practices via classroom observations and collections of students' work. Melissa was awarded the Association of Teacher Educators' 2008 Distinguished Dissertation Award for her dissertation research on teachers' learning and instructional change following participation in a professional development workshop. Melissa has published articles in *Elementary School Journal*, *Journal of Mathematics Teacher Education*, *Journal for Research in Mathematics Education*, *ZDM: International Journal of Mathematics Teacher Education*, *Journal of Mathematics Education Leadership*, *Urban Education*, and *Mathematics Teaching in the Middle School*. She has also published several book chapters connecting research to practice, and she assisted in developing the professional development materials, *Improving Instruction in Mathematics: Using Cases to Transform Mathematics Teaching and Learning*. Melissa has served on the NCTM "Student Explorations in Mathematics" committee (member, 2007-2008; Co-Chair, 2009), Editorial Panel of the NCTM *Annual Perspectives in Mathematics Education* (2015), Associate Editor of *Mathematics Teacher Educator* (2012-2015), and on Advisory Boards for research in mathematics education. Melissa is currently Series Editor for the 2017-2019 NCTM *Annual Perspectives in Mathematics Education* and an external evaluator for two Mathematics-Science Partnership (MSP) grants. In her research, Melissa continues to examine instructional quality in mathematics through classroom observations and students' work, with current interests in the intersection of cognitive demands with 1) instructional technology and 2) equitable mathematics instruction.