2012 Institute Sessions

Each of the following options are half-day institutes. You will choose 2 of the sessions to attend.

Option A
Title: Using the Internet to Spice Up Your Math Class

Description: During this interactive computer-based workshop, we will explore a collection of math-related materials including video collections, digital libraries, open courseware, classroom response questions, interactive demos, math games, humor sites, and new search methods. You should be able to go home and begin immediately incorporating material into any of your math courses.

Bio: Dr. Maria H. Andersen is the Learning Futurist for the LIFT Institute and a Math Professor at Muskegon Community College. She writes the "Teaching with Tech" column for MAA Focus, the Director of the MCC Math & Technology Workshop, and the Professional Development Coordinator for AMATYC. Lately she has been spending a lot of time building video games for learning algebra and musing about the future of higher education. You can find Maria blogging on the Internet at TeachingCollegeMath.com or sharing on Twitter at @busynessgirl.

Option B
Title: The Universally Designed Math Class

Description: Most classrooms are comprised of students with various learning needs and styles including those with identified disabilities. This session will provide an overview of the research-based framework and principles of Universal Design for Learning (UDL) for meeting those needs and why it is necessary with the high achievement standards that schools face today. UDL is a framework for curriculum development which has flexible goals, methods, materials, and assessments to meet the needs of ALL learners. Participants will explore resources for developing and acquiring curriculum materials in math that are universally designed form the outset. They will also review and explore math lessons and examples of materials that are designed to meet the needs of diverse learners while ensuring a high quality educational experience.

Bio: Pamela Cunningham has been a Special Educator, and Assistive Technology Consultant for Monroe County Intermediate School District in Monroe Michigan for the past 12 years. She holds Master's Degrees emphasizing in Assistive Technology, Educational leadership, and Curriculum and Instruction. She has advocated the principles if UDL through various local and national presentations and initiatives. Pamela is a member of the Region IV Assistive Technology Consortium in Southeast Michigan which has been a pivotal group in promoting the principals for Universal Design for Learning through projects, research, and presentations and has a passion for working with educators and students to help ensure success in school and for the future.

Option C
Title: Mathematics discourse in secondary classrooms (MDISC)

Description: In this session, participants will collaborate to solve a high-level mathematical task, examine student work, and watch a video of a mathematics classroom discussion of the same task. Particular attention will be given to the ways in which the teacher's facilitation of the task is both productive and powerful for student learning.

Bio: MDISC is an NSF-funded collaboration between mathematics educators at Michigan State University (Beth Herbel-Eisenmann, PI, & Michael Steele, co-PI) and the University of Delaware (Michelle Cirillo, co-PI) to create professional development materials for secondary mathematics teachers. Because there is evidence that

having students articulate their ideas, explain their reasoning, and engage in mathematical discussions improves students' opportunities to learn, the MDISC materials focus on mathematics discourse – that is, the ways in which communication and meaning-making occur in the mathematics classroom. See www.mdisc.org for more information about the project and project team.

Option D
Title: Learning Mathematics through Reasoning and Sense Making - Embedding the Standards for Mathematical Practice. [PK-Grade 5 institute].

Description: The Common Core Standards must be studied and implemented as a coherent whole of mathematical ideas and decision-making – not as a set of isolated statements. Participate in a conversation on helping students build a meaningful understanding of mathematical concepts – which includes the building of meaningful strategies and reasoning prior to the presentation of standard algorithms!

Option E
Title: Learning Mathematics through Reasoning and Sense Making - Embedding the Standards for Mathematical Practice. [Grades 6 - 12] institute].

Description: The Common Core Standards must be studied and implemented as a coherent whole of mathematical ideas and decision-making across content categories – not as a set of isolated statements. Participate in a conversation on helping students build a meaningful understanding of mathematical concepts and their multiple representations – which include the building of meaningful strategies and reasoning prior to the presentation of formal symbol manipulation!

Bio: Hank Kepner takes his expertise in mathematics education directly into classrooms and school districts, both locally and nationally. He is professor of Mathematics Education and holds an appointment in the Department of Mathematical Sciences, University of Wisconsin - Milwaukee. He has taught middle and high school mathematics for 12 years in Milwaukee and Iowa City and is currently active in schools. His professional development efforts and research interests in mathematics education, teacher education, and mathematics focus on having students make sense of mathematics – their involvement in explaining "why that works."

Henry Kepner. Professor, Education and Mathematics, University of Wisconsin-Milwaukee. President: National Council of Teachers of Mathematics (2008-2010); Association of Mathematics Teacher Educators (1993-95), National Council of Supervisors of Mathematics (1991-93). National Science Foundation Program Officer (5 years)