Teaching Practices That Support Student Understanding and Learning of Mathematics

Presenter: Dr. Peg Smith

Designing robust conversations is a key part of a powerful mathematics class. Educators are charged with developing students who are able to formulate, analyze, justify, and critique mathematical thinking. Knowledge from two decades of research has contributed to a framework that will strengthen teaching and learning. The Eight Mathematical Teaching Practices is a framework of high-leverage practices and essential teaching skills, which truly promote deep learning of mathematics. In this session, Peg will connect the Eight Mathematical Teaching Practices to the 5 Practices for Orchestrating Productive Mathematical Discussions. The 5 Practices are a road map that teachers use before and during a lesson to achieve high-demand learning objectives. These make student-centered approaches to mathematics more manageable and accessible for teachers. Participants will engage in and examine rich tasks and consider how the framework and the practices will be implemented in the classroom.

MARGARET (PEG) SMITH, Professor in the Department of Instruction and Learning in the School of Education and a Senior Scientist at the Learning Research and Development Center at the University of Pittsburgh, is a prolific writer and distinguished researcher. Her work and contributions have positively impacted mathematics education locally and nationally. Over the past two decades she has been developing research-based materials for use in the professional development of mathematics teachers and studying what teachers learn from the professional development in which they engage. Currently, she is working on materials that support the implementation of effective teaching practices. In 2010 she received the Susan Loucks-Horsley award from the National Staff Development Council in recognition of her efforts to promote professional learning in mathematics and in 2013, she received the dean’s award for excellence in teaching, given to faculty in the School of Education.