Leaders in Educational Thought: Special Edition on Mathematics

Project Description:

Daniel Ansari describes what dyscalculia is, the characteristics of dyscalculia and the implications of this cognitive dysfunction. He speaks of mathematics anxiety, growth mindsets and gender outcomes.

Cathy Bruce examines key characteristics of professional learning that lead to increased educator and student learning. She shares some of her findings in this area as well as in relation to discourse, learning through technology and from her work with young children.

Douglas H. Clements has conducted research and published widely in the areas of the learning and teaching of early mathematics and computer applications in mathematics education. His most recent interests are in creating, using, and evaluating a research-based curriculum and in taking successful curricula to scale using technologies and learning trajectories. He has published over 120 refereed research studies, 18 books, 70 chapters, and 275 additional publications.

Alex Lawson's research and work with teacher candidates has uncovered the importance of mathematical models in thinking mathematically. She shares this with us through examples using the number line and the arithmetic rack and describes how these models can become accessible through the use of contexts.

Dan Meyer, doctoral candidate at Stanford University, describes how inquiry can initiate thinking and about where this leads as students become engaged and mathematically fluent. He talks about the journey in the transformation to a classroom that includes inquiry.

Marian Small encourages us to think about what it is that is important for students to know and do through the lens of big mathematical ideas and through big instructional ideas. She leads us to think about the mathematics within three open tasks and deconstructs them in terms of teacher planning and what students might do.

Lucy West prompts us to be creative in our own thinking and to recognize creativity in the thinking of our students. She speaks of innovation and creativity as integral parts of mathematics and states that math is everywhere and very important to our lives.