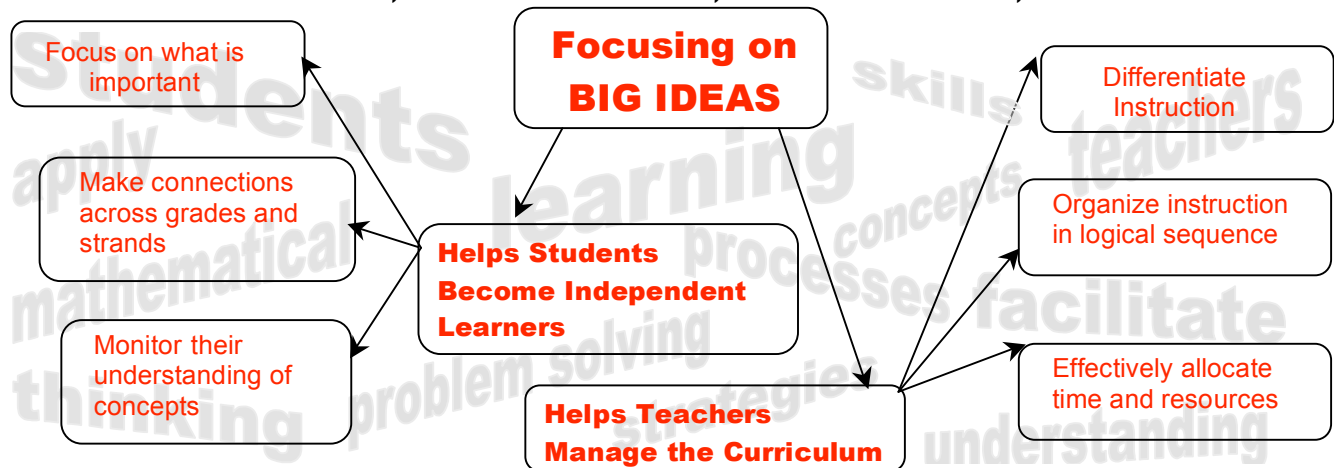




Ontario Association for Mathematics Education
Association ontarienne pour l'enseignement
des mathématiques

2011 Leadership Conference

for teachers, administrators, co-ordinators, coaches



Big Ideas and Mathematics Instruction Thinking Big about Planning and Assessment

March 3-5, 2011

Holiday Inn, Toronto International Airport

(970 Dixon Rd, Toronto ON)

A multi day retreat for teacher leaders to intensively investigate ways to think big about planning and assessment in mathematics by focusing on ONE of the following:

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|--------------|--|
| Grades K-6 | -- Inquiry-Oriented Learning and Big Ideas for PJ Students and Teachers |
| Grades 7-10 | -- Looking at Teaching and Learning Intermediate Mathematics Through the Lens of Big Ideas |
| Grades 10-12 | -- Using Big Ideas to Focus Instruction and Assessment in Senior Math |

All Inclusive Registration Fee: \$438/\$473 (OAME/non-OAME)

Includes: All sessions, 2 nights accommodation (2 people/room), meals, banquet, receptions, publishers' and suppliers' displays

OAME thanks Union Gas, a Spectra Energy company, for its financial support

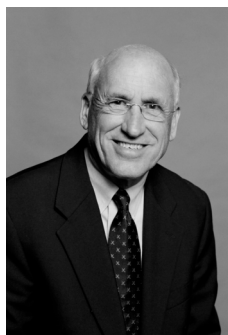
WHY SHOULD TEACHERS, CONSULTANTS AND COACHES ATTEND THIS CONFERENCE?

- ... to identify and link the big ideas and instructional decisions to student learning and teaching;
- to share best practices in order to see, hear, and experience mathematics in a classroom;
- ... to determine ways to integrate available resources that are effective in building mathematics understanding;
- ... to discuss and share thoughts and views on current emergent ideas and issues with other educators.

Program Overview

DAY	TIME	ACTIVITY
Thursday Mar 3, 2011	6 p.m. – 7:45 p.m.	REGISTRATION outside the Trillium Ballroom
	8:00 p.m. - 9 p.m.	OPENING KEYNOTE: Dr. Skip Fennell: “Big Ideas and Mathematics Learning: Focusing on Big Ideas about Fractions”
	9 p.m. - 11 p.m.	RECEPTION/SOCIAL. Hors d’oeuvres, sandwiches, crudités, and refreshments.
Friday Mar 4, 2011	7:30 a.m. - 8:30 a.m.	BUFFET BREAKFAST
	9 a.m. - 12 noon	WORKGROUPS and LEADERS. Mid-morning refreshment break included. Primary/Junior K-6: Chris Suurtamm and Barbara Graves Intermediate: 7-10: Judy Dussiaume and Trish Steele Secondary 10-12: John Rodger and Dwight Stead
	12 :15 - 2:15 p.m.	PUBLISHERS’/SUPPLIERS’ LUNCHEON: preview of new products and an opportunity to view the many displays
	2:30 p.m. - 4:45 p.m.	WORKGROUPS continue. Mid-afternoon nutrition break included.
	5:00 p.m. – 5:30 p.m.	CASH BAR
	5:30 p.m. – 7:30 p.m.	BANQUET & KEYNOTE SPEAKER: Dr. Richard Epp: “Why Doesn’t the Moon Fall Down?”
	7:30 p.m. –10:00 p.m.	ACTIVITY, DOOR PRIZES, SOCIAL TIME
Saturday Mar 5, 2011	7:30 a.m. - 8:30 a.m.	BUFFET BREAKFAST
	9 a.m. – 11:30 a.m.	Completion/consolidation of WORKGROUPS. Mid-morning refreshments. Complete evaluations.

ABOUT THE THURSDAY KEYNOTE SPEAKER



Skip Fennell is a mathematics educator and has experience as a classroom teacher, a principal, and a supervisor of instruction. He is currently Professor of Education at McDaniel College and Past President of NCTM. Widely published in professional journals and textbooks related to elementary and middle-grade mathematics education, Dr. Fennell has also authored chapters in yearbooks and resource books published by NCTM. In addition, he has played key leadership roles with the Research Council for Mathematics Learning, the National Science Foundation, the USA National Commission for Mathematics Instruction and the Association for Mathematics Teacher Educators. He was on the writing team of both the Principles and Standards for School Mathematics (NCTM, 2000) and the Curriculum Focal Points (NCTM, 2006).

ABOUT THE FRIDAY KEYNOTE SPEAKER



Richard Epp, from the Perimeter Institute for Theoretical Physics has a Masters degree in electrical engineering and a PhD degree in theoretical physics from the University of Manitoba, and has held postdoctoral research positions around the world working in general relativity: Einstein's theory of space, time and gravity. He enjoys introducing people of all ages to the mysteries and wonders of our amazing universe. He is an engaging speaker who appreciates how mathematics and physics have worked hand-in-hand to create some of the biggest and most powerful ideas in history. "Why Doesn't the Moon Fall Down?" will discuss one such idea and is based on an episode of the animated Alice & Bob in Wonderland series Dr. Epp created.

Program Details

Each participant will remain with the same workgroup for a total of 7 hours of workshop time

PRIMARY/JUNIOR (K-6) WORKGROUP

Inquiry-Oriented Learning and Big Ideas for PJ Students and Teachers

Teaching mathematics through an inquiry approach often poses issues for teachers who may not be comfortable with the mathematics that the students are investigating. To address this issue, Chris Suurtamm and Barbara Graves have been running a 1-week summer math program for the past 6 years that is designed for prospective elementary teachers entering the University of Ottawa Teacher Education Program. The goal of the program is to help beginning elementary teachers develop an understanding of some of the important mathematical concepts that they will teach. The 1-week program also serves as a research site to understand teachers' experiences with mathematics and ways in which their knowledge and confidence are enhanced.

In this session, we will describe the summer math program, and engage participants with some of the mathematics activities and problems that are used. We will also discuss our research on the participants' mathematical and pedagogical experiences with inquiry-oriented learning. The session will be of interest to elementary teachers and those who work with teachers in this grade band.



Workshop Leaders

Dr. Chris Suurtamm is an Associate Professor in Mathematics Education at the University of Ottawa. She was the Co-Chair of the Ontario Ministry of Education Early Math Expert Panel, an OAME Director, and the Canadian Representative on the NCTM Board of Directors. Her research focuses on assessment and inquiry-oriented teaching/learning in mathematics classrooms.

Dr. Barbara Graves is an Educational Psychologist and Associate Professor in the Faculty of Education at the University of Ottawa. Her research interests include applications of sociocultural theory, embodied cognition and complexity science to mathematics education to understand how humans learn mathematics in collaborative interactions.



INTERMEDIATE (7-10) WORKGROUP

Looking at Teaching and Learning Intermediate Mathematics Through the Lens of Big Ideas

The most recent focus on mathematics education in Ontario has involved a shift of emphasis to professional learning/coaching and allocation of resources to support all students doing mathematics. We believe it is possible to create a mathematics learning environment in which success for all students is an attainable goal. In this session you will DO math. Through the lens of Big Ideas, we will look at integrating the mathematical processes, effective questioning, differentiating instruction, and assessment for learning. You will explore CLIPS, and other learning tools; collaboratively develop or adjust a TIPS lesson based on a Big Idea; and have an opportunity to share effective teaching strategies. The beauty of learning is learning together.



Workshop Leaders

Judy Dussiaume has worked with Ontario mathematics educators as a Curriculum Coordinator for Mathematics 7-12 in the Rainbow DSB, and as a participant-leader in ministry projects such as TIPS, TIPS4RM, PRISM-NEO and CLIPS.

Trish Steele is currently the K-12 mathematics consultant for Simcoe County DSB. Trish is actively involved in ministry projects such as TIPS, CLIPS, and GAINS. Trish continues to work with her board and the province to share SCDSB artifacts of job-embedded professional development opportunities such as coaching, demonstration classrooms, and the CIL-M project.



SENIOR (10-12) WORKGROUP

Using Big Ideas to Focus Instruction and Assessment in Senior Math

Mathematics educators understand the value of planning instruction with the end in mind. Recent developments in Ontario and elsewhere suggest that teachers should construct for themselves a set of "big mathematical ideas" to act as a framework for planning instruction. These "Big Ideas" don't just reflect what we believe is important for students to know, but also how the instruction of those ideas should be planned and delivered over several grades. Dwight and John will focus on some key topics in the algebra strand of secondary school mathematics. They will demonstrate how planning truly effective instructional trajectories and appropriate assessment opportunities makes more sense and can be more efficiently accomplished when you focus on those "big ideas".



Workshop Leaders

John Rodger is a retired math teacher and department head from the Peel DSB. He has been a curriculum writer and a contributing author on several secondary textbook projects. John was an OAME Director and is on the executive of CHAMP. Currently, John works as a provincial mathematics coach.

Dwight Stead is a mathematics and computer studies educator, an active member of CHAMP, and an OAME director. In his current role as Mathematical Literacy consultant for the Dufferin-Peel CDSB he supports grades 7 to 12 teachers of mathematics by planning and delivering professional learning activities. He has a keen interest in technology and is a Texas Instruments T³ regional instructor.



