Assessment in Mathematics
L'évaluation en mathématiques
(Org: **Shannon Ezzat** (Winnipeg) and/et **Rebecca McKay** (UNB))

DARJA BARR, University of Manitoba
Taking Math Students from 'Blah' to 'Aha': How Can Assessment Help?

This talk will focus on several assessment experiments that have gone on at the University of Manitoba, both on a large (120 student class) and larger (1800 student course) basis. Some of these include Assessment For and As Learning, Outcome-Based Assessment, and some different approaches to exam grading schemes and exam questions.

LAUREN DEDIEU, University of Calgary
Using Assessments to Boost Motivation in a Second-Year Linear Algebra Class

How can we convince non-math majors that vector spaces are cool?! My second-year linear algebra course is a proof-based class for science students who have not necessarily seen proofs before. Helping students see value in this abstract course can be difficult. In this talk, I will discuss the assessments I have used to help boost student motivation.

DISCUSSION SESSION,

DANNY DYER, Memorial University of Newfoundland

CHRISTOPHER EAGLE, University of Victoria
In-class formative assessment in proof-heavy courses

Low-stakes formative assessments are a common feature of many lower-level mathematics courses. In proof-intensive courses, such assessments are less widespread. In this talk I will share some of my successes (both intentional and unintentional!) at incorporating collaborative in-class exercises into my proof-heavy courses. While designed as learning opportunities for the students, these exercises have also provided me with useful insight into unexpected sources of confusion for my students. I will describe some of the features that my more successful exercises have had in common, as well as student feedback about the inclusion of these exercises. Examples will be drawn from an upper-level linear algebra course and an introductory real analysis course.

MARIE LANGLOIS, Cornell University
Using Free Online Software to Efficiently Assess Students

The main Calculus I course at Cornell is undergoing an active learning restructure. As a part of this we have redesigned homework assignments to have two components: online (WeBWorK) and more involved presentation problems. We hope to get the students exploring with the materials, as opposed to only performing calculations. I will show examples of online questions for calculus and linear algebra that encourage students to reflect on the concepts. By reducing the amount of graded questions and by using a grading tool we manage to give feedback to students that better prepares them for exams and future mathematical endeavors.

REBECCA MCKAY, University of New Brunswick, Saint John
Active Assessment

Active learning is generally thought of as learning activities that have students doing things with an opportunity to reflect on what they are doing. These learning activities can include assessment both formal and informal. I have been considering ways of implementing these ideas to make assessment/evaluation more active to include a development of a broader set of skills together with an aspect of reflection. I will discuss examples from my classroom and plans for future innovations.

REBECCA MILLEY, Grenfell Campus, Memorial University of NL
Reading, Writing, Arithmetic: Assessment Strategies for Readings and Written Work in Mathematics

When students read course material before class, they come prepared with basic background knowledge and can dive right into deeper, active learning in class; but how can we "make" them read, and how can we assess that work? This talk will present effective strategies for assigning readings in math courses. Separately, we will discuss assessment of written work in mathematics, including suggestions for a fair and constructive rubric to evaluate students' technical writing projects.

PATRICK REYNOLDS, UNB
Assessing and Grading with Crowdmark

This past year we used Crowdmark (an online, collaborative grading platform) extensively with our Calculus I and II courses. In total 24 assessments were administered and graded (online) by a team of up to 15 people, and we experimented with multiple choice questions. I also used Crowdmark extensively in my smaller classes. I will share my reflections on the benefits of Crowdmark, for small as well as large class sizes, as well as some implications for how we assess learning in mathematics, how we give feedback, and the design of assessments to allow for equitable marking among a team of graders.