Mathematics Council NEWSLETTER

The Alberta Teachers' Association

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President's Message

As I write this, I am looking out my window at a snowstorm and –26°C on the thermometer. Last week it was +10°C every afternoon. "In like a lamb and out like a lion" certainly fits this March. The one certainty is that eventually real spring will come—and then summer.

The new math curriculum seems to mirror this to a certain extent. Remembering that real change, change that makes a difference in the lives and learning of others, takes time. Sticking with what we have implemented and continuing to refine the way we think about math are imperative for true success. The results can be like spring in Alberta—gorgeous blue skies and a warm wind blowing one day, a blizzard with fierce winds the next—but eventually the changes in weather, much like the changes implemented with the new math curriculum, will become embedded in our practices, and true change (like springtime in the Rockies) will have come. The key is to never give up the hope of making a difference.

True mathematical understanding and critical thinking are the keys to lasting success in mathematics. The new pedagogy in the curriculum is our best hope of remedying the increase of mathematically illiterate citizens in our society. Math teachers are the front line in creating that change.

If you are looking for a good PD opportunity on this topic, join us at the MCATA Spring Symposium in Calgary with Mike Shaughnessy (NCTM president) as he talks with us about "Infusing the Classroom with Reasoning and Sense-Making."

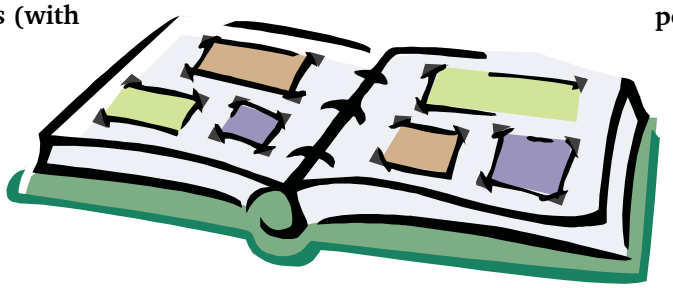
And remember: If you can do math, you can do anything!

Marj Ferris

From the Editor's Laptop

If there is one thing that will get a majority of students involved in a topic, it is relevance—a real-life problem that demands a solution, or a real-life solution that is just asking for a problem. My colleague and I often have discussions on how we can bring these relevant problems into the classroom. Well, this year she came up with a good one that turned into a whole-school activity without my catching on.

To understand how this worked, you need to know a little bit about our school setting. We teach in a K–12 school with a total of 68 students (with the anomaly of having no students in Grade 3). I teach, in multiple subject areas, K–2 and 7–12. All the students know all the teachers, and all the teachers know all the students.



This past December, I married the love of my life. Our favourite wedding gift was a green scrapbook for which every student in kindergarten through Grade 10 had created something for us.

In Art/ELA class, the kindergarten and Grade 1 classes created a wedding picture and wrote some words of wisdom for us.

Grades 2 and 4 were instructed to write instructions on some aspect of life. Topics included how to get a job, how to roast marshmallows, multiple mac-and-cheese recipes and how to love someone.

From Grades 5 and 6 we received formal letters. Now, either Grades 5 and 6 students have only babies and little kids on their minds, or someone prompted them, because we received many instructions on child rearing. Babies cry a lot. They might need help with their homework … and do things without permission … and whine. Make sure that if you have a boy, teach him the ways of hockey, and make sure he likes Sidney Crosby and not, and I mean *not,* Alexander Ovechkin. … And the list goes on.

And last but not least, my favourite part—the Grades 7–10 contribution. Did you know how much math is involved in planning a wedding? I didn't realize it myself, but they created all sorts of great problems to solve involving wedding things. "If you have 196 guests, and ¾x of them bring gifts, at an average of 2 per guest, and you get 210 gifts, what is the value of x? Round to the nearest thousandth." "If the length of Miss Viersen's stride in her wedding dress is 0.3 m … Miss Viersen takes ½ a stride per second … there are 10 rows of chairs along the aisle … each row is 0.5 m wide … each row is 0.5 m apart from the last row … there is an extra 0.5 m behind the last row … How long will it take Miss Viersen to get down the aisle?" "(A) On her wedding day, Miss Viersen is 5 feet, 6 inches. Usually she is 5 feet, 2 inches. How tall are the heels on Miss Viersen's shoes? (B) Her heels are what percentage of her total height?"

And I could continue, but the point is that you never know when something can become real performance assessment. Talking to the teachers after the wedding, they told me the kids had worked hard on these problems and assignments; many of them have come back to me, a number of months after the fact, to ask me if I've solved their problem, tried their recipe or polished up on my Crosby facts.

I think we'll agree that great performance activities are good to have in the classroom, but can often take a lot of time to find or create. We're here to help you. This edition of the newsletter contains a puzzle from last year's MCATA's 50th-anniversary conference. It also contains a resource section, for which a few MCATA members submitted some of their favourite places to find good performance activities. Enjoy!

Karen Bouwman

MCATA Game Quiz

Although we were playing with this puzzle at last fall's conference, we would like to share it with you again. Replace each letter in the puzzle with a number between 0 and 9. Each number can only replace one letter (ie, if T = 9, both Ts must equal 9, and no other letter can). Can you solve the puzzle? Possible solutions are on the last page.

MCATA
+FIFTY
YEARS

"Math Is Not a Spectator Sport"

2012 MCATA Conference
Jasper Park Lodge

This year's conference will be on October 12 and 13 at Jasper Park Lodge. We will be enlightened by Tom Schimmer and Alec Coures.

Tom Schimmer is an education author and consultant from Penticton, British Columbia. An educator since 1991, he has been a classroom teacher, a school administrator and a district-level leader. He is recognized as a leader and expert in the areas of assessment for learning, sound grading practices and educational leadership.

Tom will speak on "Game Time: Put Them In—They're Ready to Play!" Do we want students to simply do math as a series of abstract concepts or do we want them to immerse themselves in the math that's all around them? This session will highlight ways in which math instruction can move into the 21st century by changing how students think and feel about math. It's time for teachers to think about math instruction from the paradigm of possibility and for students to finally get off the bench. We know what works, we have a good game plan, our students are in the right frame of mind—so now it's time to play!

Alec Couros, PhD, is an associate professor of educational technology and media at the Faculty of Education, University of Regina, Saskatchewan. He has given hundreds of workshops and presentations, nationally and internationally, on topics such as openness in education, networked learning, social media in education, digital citizenship and critical media literacy. His graduate and undergraduate courses help current and future educators understand how to use and take advantage of the educational potential offered by the tools of connectivity.

Alec will speak on "Game Changers: What Math Teachers Need to Know About Educational Technology, Social Media and Networks." As we move into the mobile age, social networks and new media are reshaping the informational landscape. We have moved from an age of information scarcity to information abundance, and this presents new challenges for educators. This presentation will outline some of these changes as they are relevant to teachers, specifically teachers of mathematics. What are the key tools and resources worth paying attention to? How can educators leverage these new technological and network affordances? Join Alec as he explores these questions and helps to make sense of our digital age.

David Martin
Conference Committee

Nominate a Fellow Math Educator

Do you know a superb math teacher who is reaching students? Or a math leader who is assisting teachers and students to increase understanding?

Why not nominate this person for Math Educator of the Year? Categories include elementary education, secondary education and those who contribute to professional development.

Go to www.mathteachers.ab.ca and click on Grants/Awards to submit your nomination today. The deadline is August 1.

TERM Meeting

Teachers of Mathematics in the Edmonton Region (TERM) will meet on May 7, at Paul Kane High School, in St Albert, at 5 PM in Room 224 (on the north side of the building). For more information, please send a message to donnajc@telus.net.

MCATA Favourites

We all know that there are great resources out there, but finding them can take so much time. To help us all out, some MCATA members passed on their favourites. Enjoy!

Pi in the Sky is a publication of the Pacific Institute for the Mathematics Sciences (PIMS). This publication is aimed primarily at high school students and teachers; its main goal is to provide a cultural context/ landscape for mathematics. *Pi in the Sky* is available online at www.pims.math.ca—click on Resources and select Publications, then select Pi in the Sky from the menu on the left. If you wish to receive a print copy, send a message to pims@math.uvic.ca.

Calculation Nation—NCTM is a great resource for elementary and middle-school math teachers. In these games, students can play as guests, or join and play against other members. Topics include fractions, perimeters, factors and more. Go to calculationnation.nctm.org.

Illuminations—NCTM contains a library of 108 online activities created specifically to engage learners in a math classroom. Go to illuminations.nctm.org.

Mangahigh.com is another site containing games based on K–12 mathematics—especially useful for basic math skills.

Possible Math Quiz Solutions

Two possible solutions to the math puzzle are

a) 53141 + 09046 = 62187 and

b) 47313 +09015 = 56328.

Not wanting to ruin the fun, we'll let you find the other possibilities yourselves.

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