# Mathematics Council NEWSLETTER

The Alberta Teachers' Association

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## President's Message

As the 2009/10 school year rounds the corner to a close, I am sitting at my desk reflecting on changes in my teaching style and the mathematics curriculum. Although both have changed dramatically over the many years I have been teaching, they have some commonalities.

At the beginning of my teaching career (back in the old days when you rode a horse to school uphill both ways) I taught the concepts in a single way, and the students were responsible for learning them. The curriculum was heavily weighted in favour of memorizing procedures and paper-and-pencil testing.

Thankfully, things have improved. I now recognize that students learn in various ways. It is my responsibility as the teacher to ensure that I differentiate presentation of skills and concepts to meet each learner's style. Although the students are still responsible for learning, I must help them develop this responsibility. They need to be taught how to manage their own learning and have time to practise this skill.

The curriculum changes have been just as dramatic. The processes of mathematics are now as important as or even more important than the particular procedure and concept. We need to teach our students to embrace problem solving, to view problems as an adventure rather than something to be feared.

Many of our students' future jobs aren't even thought of today. Therefore, students must be equipped with transferable knowledge and skills. This is even more imperative in mathematics. Although computers and calculators have replaced the old paper and pencil and slide rule, number sense will never become obsolete. The thinking skills we nurture and develop in the new mathematics curriculum will remain with students long after they have forgotten how to solve a trigonometric identity.

In closing, I challenge everyone (first- or thirty-year teachers) to reflect on your current teaching practices. Look at the new mathematics curriculum and make one change that will help your students' learning improve, not just test results.

And remember, if you can do math, you can do anything!

*Marj Farris*

## Executive Meeting Highlights

Most of the meeting was spent debriefing different aspects of the annual conference held in October at the Edmonton Marriott at River Cree Resort. With the information that was shared, planning for the 2010 events was the focus: a symposium in the spring and fall as well as the annual conference in Calgary. Concerns about TNET were discussed, and a motion was passed that the MCATA president write a letter to the ATA president documenting some of the shortcomings of TNET from a specialist council perspective.

## Awards and Grants

Please be aware of upcoming award and grant deadlines. Nomination and application forms have been included with this newsletter. Take this opportunity to nominate someone for a mathematics educator award or apply for a grant.

# From the Editor's Laptop

Wow! It is so hard to believe that another year is almost over. With only two months left in the school year, many teachers consider this crunch time when we must squeeze everything we haven't taught yet into the minds of our students. This is when I look back and realize how much my young students have grown since fall.

Yes, these seven-year-olds have grown taller, but their minds are sharper, their thoughts are clearer and their understanding of how the world works is developing continuously. The other day I heard the sweetest thing any math teacher could hear from a student: "When are we doing math?" The students were looking at the daily schedule on the board and realized that math had been substituted with another activity because of a schedule conflict. Well the uproar in my Grade 2 class over not doing math was heart warming. When did these little people decide that they enjoyed math? When did they decide that math was one thing they couldn't live without? Do I care when? Not at all! My main thought was, "Hooray! They love math."

They were rewarded with a chance to do math in the computer lab later that day during our technology block. They logged in and went to the National Library of Virtual Manipulatives (www.nlvm.usu.edu) and tried out the base 10 addition application. We had been adding and subtracting with and without regrouping for weeks now using many different strategies including the base 10 blocks. I figured that they would be happy for a half hour or so and then I'd let them do something else. The room was abuzz as they leaned over to discuss each problem with their friends and were excited when they arrived at the right answer. Some students who hadn't quite realized how "that regrouping thing" worked were enlightened and ran to explain to me how the computer "made a group of 10." Fifty minutes later 22 students were disappointed when I told them that time was up.

The point of this story is that they didn't start out this way about math. At the beginning of the year some students loved math, and others just wanted to know if it was lunchtime yet. So how did they develop this love for math? How can I get my next year's students to feel the same way toward a subject that is so challenging and so important? My passion for math may play a small role; seven-year-olds are excited about things that you are excited about. But it has more to do with the opportunities the new curriculum has for exploration and development of personal strategies. In our classrooms math is a time of exploration, discovery and, most important, discussion. Most learning occurs by students discussing how to solve a problem. I am merely the facilitator. Of course, there are days when I just don't know what else I can do to get them to understand without just telling them. Those days remind me of how far they have come and how far they will go with patience and the opportunities of the new curriculum.

So this spring instead of thinking about crunch time and how much your students still have to learn, think about how far they have come. Until next time, happy teaching!

*Tancy Lazar*

# 2010 MCATA Conference

Mark October 22–23 on your calendars! MCATA's 2010 conference, "The Joy Is in the Journey," will be at the Coast Plaza Hotel & Conference Centre, in Calgary. If you would like to be a speaker at this conference or need a registration form, please go to www.mathteachers.ab.ca for more information.

## Keynotes

Olive Chapman is professor of mathematics education and associate dean in the Division of Teacher Preparation, Faculty of Education, University of Calgary. She is associate editor of the *International Journal of Mathematics Teacher Education*. Her research interests and publications deal with mathematics teacher thinking and learning; mathematics knowledge for teaching; mathematical thinking, problem solving and contextual problems; students' sense-making (misconceptions) of mathematics; and inquiry-based mathematics classroom discourse. She has taught mathematics education courses and has been involved in providing professional development experiences for both elementary and secondary school teachers.

Arthur Benjamin is both a professor of mathematics and a magician. He has combined his two loves to create a dynamic presentation called "Mathemagics." In this presentation, which is suitable for all audiences, Benjamin demonstrates and explains his secrets for performing rapid mental calculations faster than a calculator. *Reader's Digest* calls him "America's Best Math Whiz." He has presented his high-energy talk for thousands of groups worldwide. Benjamin has appeared on many television and radio programs, including *Today*, CNN, *Amazing Discoveries* and National Public Radio. He has been profiled in the *New York Times, Los Angeles Times, USA Today, Scientific American, Discover, Omni, Esquire, People, Wired* and *Reader's Digest*. Benjamin received a standing ovation when he presented part of his show at the TED 2005 meeting. Since the talk went online, it has been viewed over a million times.

*MATHEMATICS COUNCIL THE ALBERTA TEACHERS' ASSOCIATION PRESENTS:*

# The Joy is in the Journey

**ANNUAL CONFERENCE OCTOBER 22-23, 2010**
**Registration Begins Thursday Evening October 21, 2010**
**The Coast Plaza Hotel & Conference Centre**
**1316-33 Street NE**
**CALGARY, ALBERTA**
**For further information and ongoing updates, visit www.mathteachers.ab.ca**

**MCATA** *is the Mathematics Council of the Alberta Teachers' Association and its mission is to provide leadership to encourage the continuing enhancement of teaching, learning and understanding.*

## CONFERENCE REGISTRATION FORM

**Name**: (last) _____ (first) _____

**Address**: _____

**City**: _____ Province: _____ Postal **Code:** _____

**Phone:** (home) _____ (school) _____ (fax) _____

**School Name:** _____**Teaching Certificate #:** _____

**Email:** _____

**Grades Taught:** ___ K-3 Div I, ___ 4-6 Div II, ___ 7-9 Div III, ___ 10-12 Div IV, ___ Post Secondary

In registering for this specialist council conference, you are voluntarily providing your personal information and consenting to its collection, use and disclosure for all purposes connected with your attendance at this conference.

**Conference Fees:**

You are entered in the Early Early Bird Draw if your registration is postmarked by **June 30, 2010** and the Early Bird Draw if your registration is postmarked by **September 16, 2010**. Draws are for one night's accommodation at The Coast Plaza Hotel & Conference Centre, Calgary.

**Register early to avoid disappointment**. Space is limited for this conference. Make sure you register early.

**Early Registration** (Postmarked by October 1st, 2010)

| | |
|---|---|
| Non MCATA Member (includes a MCATA membership) | $380 _____ |
| Current MCATA Member (must be a member at the time of registration) | $350 _____ |
| Student (Undergraduate-provide copy of student ID ) | $100 _____ |
| Retired MCATA Member | $350 _____ |

**Late Registration** (Postmarked after October 1st, 2010)

| | |
|---|---|
| Non MCATA Member (includes MCATA membership) | $405 _____ |
| Current MCATA Member | $375 _____ |
| Student Member (Undergraduate) | $125 _____ |
| Retired MCATA Member | $375 _____ |

**Persons not eligible for specialist council membership** $760 _____
Central Office staff who did not elect active ATA membership cannot be members of specialist councils. The superintendent and deputy superintendent of school jurisdictions and teachers in direct charter, federal or private schools must be ATA associate members in order to qualify for specialist council membership. Questions? Call ATA at 780-447-9400 or 800-232-7208.

**A conference fee includes Friday breakfast, lunch, Friday Night Social and Saturday breakfast.**

**Extra meal tickets:**

| | |
|---|---|
| Friday Breakfast | $22 _____ |
| Friday Lunch | $30 _____ |
| Saturday Breakfast | $22 _____ |

**Total Fees $_____**

In making application for membership to MCATA, you are voluntarily providing your personal information and consenting to its collection, use and disclosure for all purposes connected with your participation as a member of the Mathematics council.

**Bring your MCATA bag from last year to receive a bonus gift.**

**Method of Payment:**
**MCATA does not accept credit cards, School PO's or Board P.O's. Payment must be made by money order or cheque**. No post dated cheques will be accepted. Registration must be accompanied by full payment. Please MAKE CHEQUES PAYABLE to: **Math Council ATA.**

**Conference Cancellation Policy**
If it becomes necessary for you to cancel your registration, please cancel in writing by fax (780)469-0414 or mail (1826-51 Street, Edmonton, AB T6L 1K1) to the MCATA Conference Registrar prior to **October 1st, 2010.** A $40 administration fee will be levied on refunds issued prior to this date. No refunds will be issued after this date. NSF cheque fee: $20.00

**Mail Registrations to:**
MCATA Conference 1826-51 Street, Edmonton, AB T6L 1K1.

Registration confirmation letters will be faxed to each participant. It is pertinent that you **include the correct fax number on your registration form**. It is also important that you indicate the grade/division you teach.

Full program and speaker schedule will be supplied upon check in at the conference. A sample of the speaker list and session descriptions will be available on line www.mathteachers.ab.ca in September.

For further registration information, contact Patricia at (780)450-1813 or mathematicsconference@shaw.ca . More registration forms can be downloaded from the MCATA website www.mathteachers.ab.ca

**Accommodation:**

The Coast Plaza Hotel & Conference Centre is holding a block of guestrooms at a special rate of $154.00 per night. This special rate does not include the applicable taxes. Book your reservation by calling 1-403-248-8888. Let them know that you are attending **the ATA Math Conference**. The block will be held until **September 21, 2010.** Ensure you have made your own hotel reservations prior to this date.

**Keynote Speakers:**

For biographical information on our Friday and Saturday keynote speakers, please visit the MCATA website at www.mathteachers.ab.ca. Sessions will be given on interactive whiteboards.

# Alberta Education

## Implementation Countdown

The revised K–9 Mathematics Program of Studies will be fully implemented this September with provincial implementation occurring in Grades 3, 6 and 9 (English and French). As well, high school implementation will begin this fall with Grade 10 (English and French). Students enrolled in a Grade 10 mathematics course starting this fall will be taking either Mathematics 10C, 10-3 or 10-4. As of August 2010, Pure Mathematics 10, Applied Mathematics 10, Mathematics 14 and Mathematics Preparation 10 will be withdrawn and can no longer be offered in schools.

Authorized resources for Mathematics 10C and 10-3 (in English and French) are now available for ordering through the Learning Resources Centre.

An information package about the changes to the high school mathematics program is available for teachers, administrators, students and parents. This package can be accessed at the following link to the Alberta Education website: http://education.alberta.ca/teachers/program/math/info.aspx. Information regarding postsecondary acceptance will be made available at this link as it is released.

## High School Mathematics Institute

The second High School Mathematics Institute, "Seeing the World Mathematically! Math for All Students," (in both English and French) will be held on Tuesday, June 22, 2010, and will continue the discussion begun in January with Peter Liljedahl. High school mathematics teachers are encouraged to attend all the institutes. This opportunity is sponsored by the Alberta Regional Professional Development Consortia and is at no cost to participants. Registration is through the local consortium.

## Assessment Standards

The Standards documents for Mathematics 10C and 10-3 are now available in a draft version on the Alberta Education website at http://education.alberta.ca/teachers/program/math/resources.aspx. The French version of these documents will be available on the Alberta Education website in August 2010.

## Learner Assessment

Quest A+ (https://questaplus.alberta.ca) hosts on-demand practice tests and digital-format field tests for many subjects in Grades 3, 6, 9 and 12. Digital-format PATs are available for machine-scored tests for Grades 6 and 9. Next year, unit and year-end field tests for Pure Mathematics 30 and Applied Mathematics 30 will be offered in digital format only.

## Clearing Graphing Calculators for Mathematics and Science Diploma Examinations

Teachers and administrators should be aware that it is possible for students to download shell programs or emulators that prevent a graphing calculator from being properly cleared. In some cases the traditional "Memory Cleared" message disappears sooner than it should, which can be a tell-tale sign. For further information on proper clearing steps and on how to override some of these fake programs, please refer to the Using Calculators and Computers section of the General Information Bulletin (http://education.alberta.ca/media/1126589/06%20ama30%20information%20bulletin%202009-10.pdf).

## Calculator Policy (2012–2013)

Although diploma examinations for the revised high school mathematics program will not be available until 2012, teachers may want to advise students taking Mathematics 10C of the approved list of graphing calculators, especially if students plan to write a Mathematics 30-1 or 30-2 diploma examination in the future. This list will be posted on Alberta Education website in June 2010.

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