



Mathematics Council NEWSLETTER

The Alberta Teachers' Association

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President's Message

Welcome back from your summer break. It doesn't seem that long ago that I was writing my message for the spring issue of this newsletter.

This will be my last president's message. It seems like just last week I was stepping into the president's role, with great trepidation. Although times have been challenging—with proposed changes to curriculum, negative press about teachers, and the perceived lack of structure and teaching of basic skills in math—I have learned a lot and have had the opportunity to work with incredible people.

Thank you to all my executive members and the ATA staff for making my job much easier. Although I am stepping down as president, I will continue to serve on the Mathematics Council (MCATA) as past president.

I look forward to seeing everyone at the annual conference in Calgary on October 17 and 18.

Remember: do math and you can do anything!

Marj Farris

From the Editor's Laptop

Women in mathematics is a topic that continues to crop up. Why are there fewer women than men in mathematics? What can we do to make mathematics more accessible? While I haven't managed to solve this dilemma, I would like to highlight two women who have entered this field successfully.

The first is Maryam Mirzakhani, who recently received the Fields Medal (the International Medal for Outstanding Discoveries in Mathematics) for her work in complex geometry. She is the first woman to receive this award since its creation in 1936. To learn more, go to www.bbc.com/news/science-environment-28739373.

The second is our own Marj Farris. In her role as MCATA president, she has done everything from putting together a letter for Alberta Education concerning a new initiative to coming up with the best math T-shirt slogans ever (such as " π rates of the Pythagorean" and "There will be no crying in math class"). Her up-to-date knowledge of issues in the world of mathematics is inspiring. Although she will no longer lead us as president, she will remain on the council as past president and will take on new work as a member of the Affiliate Services Committee of the US-based National Council of Teachers of Mathematics (NCTM). She also will remain active in support positions in our more northerly schools. Way to go, Super Math Woman!

Let us all—great math women and men—head into this new school year inspiring as many new mathematicians as we can!

Karen Bouwman

TERM Meetings for 2014/15

Teachers of Mathematics in the Edmonton Region (TERM) will meet on September 22, December 1, March 2 and May 11 during the 2014/15 school year. The meetings are at 5:00 PM at Paul Kane High School in St Albert. For more information, contact Donna Chanasyk at donnajc@telus.net.



Alberta Education Update

In 2008, schools across the province began implementing the current K–9 mathematics program of studies. To ensure clarity of expectations, Alberta Education has updated the program of studies, effective September 1, 2014. Several supports, including the teacher support resource *Alberta K–9 Mathematics Achievement Indicators*, have also been updated. These are available at <http://education.alberta.ca/teachers/program/math.aspx>.

Some specific outcomes for Grades 1–5 have been updated to clarify expectations. These clarifications are as follows:

- Students are expected to recall, understand and apply number facts, including multiplication facts.
- “Students investigate a variety of strategies and become proficient in at least one appropriate and efficient strategy that they understand. Strategies may include traditional algorithms such as long division and vertical addition; however, specific strategies are not prescribed in the outcomes” (p 9).
- “The teaching professional has the flexibility and responsibility to meet the learning needs of each of his or her students” (p 9). Programs of study identify *what* students are to learn; teachers determine the *how*.

Other available supports include the following:

- *Facts About Mathematics Education in Alberta for Parents* (http://education.alberta.ca/media/8394307/q-a_par_eng.pdf)
- *Bulletin for Teachers: Helping Parents Understand the “Alberta Mathematics Kindergarten to Grade 9 Program of Studies”* (http://education.alberta.ca/media/8394320/q-a_teach_eng.pdf)
- Fact sheets for parents of K–9 students (<http://education.alberta.ca/teachers/program/math/parents/links.aspx>), which describe key clarifications to the math program
- Fact sheets for parents of high school students (<http://education.alberta.ca/teachers/program/math/parents/links.aspx>), which explain the three high school course sequences
- FAQs for parents (<http://education.alberta.ca/teachers/program/math/parents/faq.aspx>), students (<http://education.alberta.ca/teachers/program/math/students/faq.aspx>) and educators (<http://education.alberta.ca/teachers/program/math/educator/faq.aspx>), which answer common questions about learning math in Alberta
- Videos (<http://education.alberta.ca/teachers/program/math/videos.aspx>) that show how elementary students communicate, solve problems, use technology and apply strategies in mathematics; that outline each of the seven mathematical processes; and that promote awareness of the mathematics program
- Supports for teachers, including programs of study (<http://education.alberta.ca/teachers/program/math/educator/progstudy.aspx>), authorized resources ([\[program/math/educator/resources.aspx\]\(http://education.alberta.ca/teachers/program/math/educator/resources.aspx\)\), fact sheets and useful links \(<http://education.alberta.ca/teachers/program/math/educator/links.aspx>\), and other support materials \(<http://education.alberta.ca/teachers/program/math/educator/materials.aspx>\)](http://education.alberta.ca/teachers/</div><div data-bbox=)

If you have any questions about the mathematics programs of study, please contact Amaya Ortigosa, team leader, Mathematics K–9, at 780-422-5079 or amaya.ortigosa@gov.ab.ca; Kris Reid, team leader, Mathematics 10–12, at 780-427-3588 or kris.reid@gov.ab.ca; or Diane Stobbe, French team leader, Mathematics K–12, at 780-427-7489 or diane.stobbe@gov.ab.ca.

PEC Report

Given the ATA’s successful partnership with Finland, Alberta math teachers might be interested to know that we have entered into a research partnership with Norway. The project is called Mindful Leadership for Teaching and Learning in Mathematics. The goal is to establish a network of schools in Canada and Norway that are committed to improving student learning in mathematics through mindful leadership. Evidence shows that educational development is most effectively achieved through innovations undertaken by networks of schools committed to building the capacity of teachers, rather than through system edicts or policy directives. A particular focus will be equity, which is a challenge in mathematics, given its history of being viewed as a mechanism for sorting and ranking students. For more information, contact J-C Couture at 780-447-9462 (in Edmonton) or 1-800-232-7208 (toll free in Alberta).

Carol Henderson

Letter from NCTM

On behalf of NCTM, I would like to recognize Marj Farris for her upcoming appointment to the Affiliate Services Committee. NCTM’s committees and editorial panels are central to the council’s work, second only to the board of directors in their leadership role in NCTM. Marj’s appointment is recognition of her significant contributions to and leadership in mathematics education.

We appreciate your support in allowing Marj to assume this important role in NCTM and serve her peers in advancing the highest quality mathematics education for all students.

*Sincerely,
Diane J Briars
President-Elect, NCTM*

C³: Current Commentary by Council

Alberta Makes Changes to the Mathematics K–9 Program of Studies

Effective September 2014, Alberta teachers of Grades 1–5 will have a slightly modified mathematics program of studies to guide their instruction.

Parents have expressed concerns about the perceived lack of mastery of basic facts and traditional algorithms by children as they go through the Alberta school system. In April, approximately 250 parents rallied outside the legislature to protest the province’s math program and the methods used to teach math. About 16,000 people signed a petition asking the government to go back to the basics and fix Alberta’s math curriculum. Then minister of education Jeff Johnson insisted that the current curriculum covers math basics, but parents were not convinced.

In response to these concerns about “New Age” approaches to teaching math, Alberta Education has released an updated program of studies to clarify the intent of the mathematics program. This document explicitly states that students must be able to demonstrate recall of basic facts and to use and describe mental mathematics strategies. Parents have also been confused about the need for students to use a variety of strategies to perform basic arithmetic operations. Although the 2007 curriculum does not require students to know and apply more than one efficient strategy, many of the teaching resources ask students to master several different strategies. The updated program of studies explicitly states that although students may “investigate a variety of strategies,” they need to “become proficient in at least one appropriate and efficient strategy” (p 9), which may or may not include traditional algorithms.

Alberta Education has indicated that the government’s role is to determine what specific mathematics concepts students need to learn and when. How students are taught these concepts is the responsibility of the teacher. As the program of studies states, “specific strategies are not prescribed in the outcomes” (p 9).

So, is this clarification of Alberta’s K–9 mathematics program of studies a move to “back to the basics”? Will these changes satisfy the naysayers who insist that the current program of studies is faulty and that it is failing our students? Will teachers return to “traditional methods” of teaching and use timed tests and flash cards to drill students on basic facts? Or will the research-based philosophy of the program of studies prevail? Only time will tell.

Debbie Duvall

Conference 2014

“A Bridge to the Future”

October 17 and 18

Coast Plaza Hotel and Conference Centre,
Calgary

The annual MCATA conference will be held in Calgary on October 17 and 18. This year’s theme is “A Bridge to the Future.” Listen to a variety of speakers present ideas on the future of mathematics and mathematics education, and find out how we are moving education into the 21st century.

For more information about the conference and to register, go to www.mathteachers.ab.ca/information-and-registration.html.

Keynote Addresses

Bodies in Motion—Brains in Motion: Moving Education in the 21st Century Learning

Hear from Dieter Breithecker, Europe’s foremost expert on posture, motion and ergonomics as they relate to social, behavioural and learning patterns, and learn how adequate movement promotes both physical development and academic progress.

Mathematics: Bridging Past Present Future

In what ways has mathematics served as a bridge between past and present, and how might it serve as a bridge from the present to the future? Florence Glanfield will explore questions such as, Why do we teach the mathematics that we do? Who gets to decide what mathematics we teach? Who gets to decide how we teach what we teach? What does the future hold? What mathematics might be needed in the future?

For more information on the keynote addresses and for speaker bios, go to www.mathteachers.ab.ca/keynote-speakers.html.



Reminder

Bring back any past MCATA conference bag and receive a special gift!



Math Contest Winners

2014 Edmonton Junior High Mathematics Contest

A total of 662 students from both the public and the Catholic districts participated in the 36th annual Edmonton Junior High Mathematics Contest, which consists of multiple-choice and short-answer questions.

The top 50 students are recognized at an annual banquet held the last week of May. Parents and sponsoring teachers are also invited.

The key sponsors of the contest are IBM, the Association of Professional Engineers and Geoscientists of Alberta (APEGA), MCATA and ConocoPhillips Canada.

For more information about the contest, the solutions and the contest winners, go to www.mathteachers.ab.ca/edmonton-junior-high-math-contest.html.

2014 AHSMC

Part II of the 57th Alberta High School Mathematics Competition (AHSMC) was written on February 5 by 76 students representing 17 schools. A list of fellowship winners and top achievers can be found at www.mathteachers.ab.ca/alberta-high-school-mathematics-competition.html.

MCATA Grants

MCATA grants are available for professional development, for research into math education, or for other initiatives that promote and enhance mathematics education in Alberta.

Grants of up to \$500 are awarded twice each year. Applications should detail the nature of the project, those participating and benefiting, and how the project incorporates diversity in regional development opportunities for teachers. The grants are intended to assist in covering the cost of facilitating professional development. Consider applying for this grant to cover your transportation costs to and from the MCATA annual conference.

For more information or to apply, go to www.mathteachers.ab.ca/mcata-grants.html or contact Carmen Wasylynuik, director of awards and grants, at carmenbt@telus.net.

May 2014 MCATA Executive Meeting

The last meeting of the MCATA executive for the 2013/14 school year was held in May, with the following agenda items:

- Dr Arthur Jorgensen Chair Award (no applications submitted)
- May symposium
- Plans for the 2014 annual conference in Calgary
- Plans for the 2015 Mathematics Council and Science Council joint conference in Edmonton

Some executive members attended the meetings or conferences of other groups, which helps MCATA network with other math educators. The following are some of those events: the conferences of the NCTM and the National Council of Supervisors of Mathematics (NCSM), the Curriculum Mathematics Study Group, the north-south postsecondary meeting, presentations on the Edmonton and Calgary junior high math contests and the Alberta High School Mathematics Competition, Edmonton Regional Learning Consortium events, the ATA's Annual Representative Assembly (ARA), and Edmonton Public Schools and Edmonton Catholic Schools PD sessions.

MCATA Fall Symposium

Understanding the Numeracy Benchmarks October 16, 2014

Coast Plaza Hotel and Conference Centre, Calgary

SHELLY WELLS will provide an overview of Alberta Education's numeracy benchmarks. These benchmarks are an anchoring component of curriculum redesign. Participants will gain a better understanding of what numeracy is and how it is different from mathematics, as well an understanding of the implications of the benchmarks for teachers and students.

For more information and to register, go to www.mathteachers.ab.ca/2014-fall-symposium.html. The registration deadline is **October 9**.

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