Mathematics Council
NEWSLETTER
The Alberta Teachers' Association

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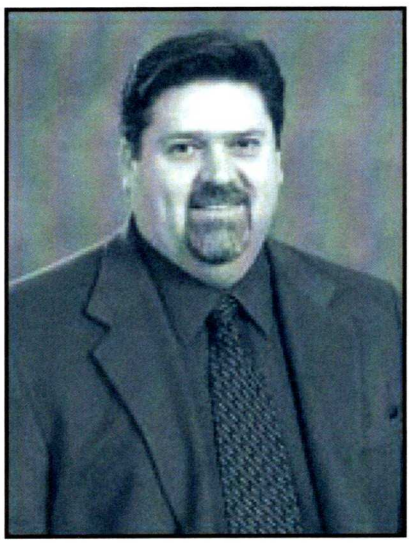
Distinguished Teaching Award

Education professor Dr Craig Loewen received the University of Lethbridge 2006 Distinguished Teaching Award. Craig is a member of MCATA. The following article is reprinted with permission from the U of L 2005/06 Report that was included in the *Edmonton Journal.*



Dr Craig Loewen's passion for teaching excellence is well known in the Faculty of Education and beyond, inspiring University of Lethbridge students and teachers in Alberta and around the world.

Working diligently to build students' self-confidence, Craig Loewen has the unique ability to ensure that math-challenged students become skilled and confident math teachers. Bringing the content to life through anecdotes, humour and research experiences, Craig Loewen makes the complex simple and ensures that math is meaningful, engaging and practical. In his classroom he incorporates diverse innovative activities that encourage multiple ways of teaching and learning. His students often note that Dr Loewen's course is the first time they have enjoyed and truly understood math.

Craig Loewen's involvement and influence in teaching also extend beyond his U of L students. He works hard to influence teachers through his inservices and workshops, and has developed many valuable resource materials for teachers to use in their classrooms. Very generous with his time and resources, Craig Loewen will visit a classroom at short notice to assist the instructor in teaching the students a complex concept. In 1995, math educators from the University of Alberta invited him to participate with them in providing workshops on alternative approaches to teaching mathematics to teachers and teacher educators in Namibia, Africa.

Also active in research, Craig Loewen has worked diligently to disseminate new knowledge. His 50-plus publications include books, journal articles and electronic publications. Dr Loewen has served as editor and co-editor of the journal *delta-K* and as publications director for the Mathematics Council of the Alberta Teachers' Association. He has won seven funded research grants for projects that have contributed to the betterment of the teaching profession. Dr Loewen's research shows a genuine curiosity about how students learn and how teachers can promote and enrich student learning.

Craig Loewen's awards and distinctions show his peers' high regard for his contributions to the teaching profession. The Alberta Teachers' Association recognized Dr Loewen's involvement in preservice and inservice mathematics education by awarding him their Educational Research Award in 1998. The next year, he was appointed a Friend of the Mathematics Council of the Alberta Teachers' Association.

For his ongoing dedication to improving teaching and learning, and the significant impact he has had on so many teachers and students, The University of Lethbridge is honoured to award Dr Craig Loewen the Distinguished Teaching Award.

President's Message

As president of MCATA, I meet four times a year with other teachers, from Division I to postsecondary, at our MCATA executive meetings. The energy created by this diverse group, all of whom are passionately interested in mathematics education, is quite remarkable. We discuss, argue, laugh and pursue ideas down many twisting paths. At the beginning of December our official meeting was over by noon on Saturday. I watched, fascinated, as the conversations carried on for almost two hours after the official meeting ended. This is the kind of synergy you get with a diverse group who share a common passion.

I believe that the diversity of background and teaching experience contributes to the synergy. I encourage you to get a taste of this for yourself. Find a colleague who is as interested in math as you are but who teaches at a far different level. Talk math and listen to each other. What are the challenges? What are the most surprising things that students at your level do? What is most rewarding for you in teaching math? As you talk and listen, I believe you will find that there are more commonalities than differences and that you will also gain new perspectives on the world of mathematics education.

There! I've given you a new challenge to include in your New Year's resolutions.

—Janis Kristjansson

From the Editor's Pencil

Thank you to those who responded to our "Mathematics or Semantics?" question in the last issue (some responses will be published in the next newsletter). Many of us are concerned with the way math is presented to our students and how they are able to interpret what they read and/or hear. This was brought home to me again recently in my Grade 3/4 class, where two of my students continue to have problems telling time. Because time always made sense to me, it is very difficult for me when they don't get it. I often can't see what is missing and what I need to address. However, we had a breakthrough when I realized that "10 after 3" for them meant that the minute hand moved ten minutes past the numeral 3 on the clock face. As adults, we take it for granted that "10 after 3" means "10 minutes after 3 o'clock," but for young children trying to remember which hand measures what, shortening the expression just led to more confusion.

I am grateful to the children that they asked me for help, and that they were prepared to stay after class to help me discover what I had not been able to teach them. If we listen carefully, we can learn more about teaching from our students than from anything we studied in university!

—Anne MacQuarrie

Conference Report

Jasper Park Lodge provided a beautiful setting for Conference 2006: Pathways to Understanding. It was a long trip for most who attended, but we received very positive feedback about the venue.

Dr Anne Watson (Oxford University, UK) led Thursday's leadership symposium. Participants engaged in many mathematical activities that both challenged conventional ways of thinking and allowed them to experience the manner in which their own examples can be used to open up new levels of understanding and new possibilities for investigation. Anne invented a new verb when she announced that "I can see you've all been Tom Kierened," a nice tribute to Alberta's mathematical community.

Professor John Mason from the Open University in the United Kingdom officially kicked off the conference with a thought-provoking talk about how we might direct attention in the mathematics classroom. Rumour has it he was up a good part of the night incorporating new ideas into his talk to address common concerns that he became aware of through many conversations during the week prior to the conference. Even with a crowd of over 300, he was able to stimulate thought-provoking conversations about mathematics.

John and Anne have generously provided copies of all of their talks, and they are available on the MCATA website at www.mathteachers.ab.ca.

We hosted 63 sessions on Friday and Saturday, and we received a great deal of positive feedback on their quality. We offer a huge thank you to the speakers who shared so much of their passion, time and energy in presenting their ideas and engaging in the meaningful conversation that emerged from them.

Dr Edward Burger's after-dinner talk was both inspiring and entertaining. I have heard his question—"What will they remember 20 years from now?"—repeated several times since the conference. For those who are interested, his "Top Ten Life Lessons" are also posted on the MCATA website.

On behalf of MCATA, I would like to extend congratulations to Nicole Patrie, this year's Dr Arthur Jorgensen Chair Award winner, and to Gerald Krabbe, the 2006 Mathematics Educator of the Year. Also, a big thank you to this year's Friends of MCATA, Geri Lorway and Len Bonifacio.

On behalf of the conference committee, I would like once again to thank the speakers, displayers and participants who came together to share their common interest in mathematics education at the 2006 conference.

—Martina Metz
Conference Chair

Alberta Education Update

Revisions to High School Programs of Study

The next step in the revisions to the high school mathematics curriculum will be an online survey available in March 2007 on the Western and Northern Canadian Protocol (WNCP) website, www.wncp.ca. There will be a link to the survey from the Alberta Education website.

Alberta Education will also be conducting focus group meetings in March 2007. Requests for nominations have been sent to superintendents and were due on January 31, 2007.

Elementary Mathematics Workshops

Approximately 30 Division I and 30 Division II facilitators attended facilitator training sessions on the following topics:

- Teaching Measurement Concepts K–3
- Teaching Measurement Concepts 4–6
- Teaching Shape and Space Concepts (2-D shapes and 3-D objects) K–3
- Teaching Shape and Space Concepts (2-D shapes, 3-D objects and transformations) 4–6

In January and February these same facilitators will attend sessions on

- Teaching Patterns and Pre-Algebra K–3 and
- Teaching Patterns and Pre-Algebra 4–6.

Facilitators will be offering these workshops in both English and French to teachers across the province over the next two years. Consult your local regional consortium for further information on workshop availability.

Authorized Resources

A call for resources was issued in June 2006 for publishers to develop resources to support the implementation of the revised *Western and Northern Canadian Protocol Common Curriculum Framework for K–9 Mathematics.*

A resource review was held in January 2007, and a list of newly authorized English resources for Grades K, 1, 4 and 7 will be available in May of 2007. One English resource at each grade level will be translated into French and will be available in the spring of 2008.

English resources for Grades 2, 5 and 8 will be available in the spring of 2008 and for Grades 3, 6 and 9 in the spring of 2009. French resources will be available one year later.

For further information on the workshops or resources please contact Debbie Duvall, Resource Manager K–12 Mathematics, at debbie.duvall@gov.ab.ca.

Learner Assessment Branch

Pure Mathematics 30 will be offering a unit field test on trigonometry for the second semester this school year.

Applied Mathematics 30 will be offering a Statistics and Probability Unit field test in the second semester. Forms to sign up for both the unit field test as well as year-end field tests will be sent out in early February.

The deadline for June and August marker nominations is March 2007. Markers must be nominated by their superintendent.

For Your Consideration from PEC

As the Provincial Executive Council liaison for the Mathematics Specialist Council, I would like to remind you of two ongoing opportunities.

In October 2007, the ATA Educational Trust will award 35 grants to teachers planning to attend ATA specialist council conferences. This year, three mathematics teachers were assisted financially and were able to attend our conference in Jasper.

The second is our work with Canadian Teachers' Federation and Project Overseas. For the summer of 2007, we forwarded the names of 15 new applicants for consideration. The commitment is in the summer and involves working with teachers in Third World countries. CTF often needs math and science teachers to fill these positions. Check out the ATA website to find out more about grants and Project Overseas.

Finally, I would like to tell you about Set—a game I was introduced to at one of our Math Council meetings. I introduced this game to my primary students, and now we all hate to miss the daily puzzle at www.setgame.com. There is a Set card game for sale as well. Try it out. It's great for any level.

—Carol Henderson
Provincial Executive Council

Census at School

A Hit with Kids!

Last year, 32,000 students in Grades 4 to 12 across Canada completed the Census at School online survey. They had fun responding anonymously to questions about their lives while learning about census taking, measurement, statistical enquiry and graph making.

> I thought the program itself was excellent in that it engaged the students in asking questions about their own world...Once the data were collected, the students were able to dive into their class results, literally a treasure trove of information for them to play with.
>
> *—Alastair Wilson, elementary school principal, Calgary, Alberta*

Census at School is most popular for teaching data management in intermediate grades (6 to 8). Secondary classes also use it to practise more advanced data analysis techniques, including linear functions and sampling. Elementary teachers appreciate the project's cross-curricular nature: it touches on social sciences—population, health and social issues—and develops computer skills and critical thinking.

> I used the Census at School project with Grade 7s and 9s last year and it was extremely successful. The students took a census of our school population. We advised the entire school of our results through a morning news broadcast and posters.
>
> *—Donna Thornton, secondary math and computer science teacher, Beaconsfield, Quebec*

Here's what some Grade 4 and 5 students learned:

> We learned and practised how to measure.
>
> *—Jeeve*
>
> I learned that I could make a bar graph or any other kind of graph on the computer.
>
> *—Zia*
>
> I really felt as if I was an adult taking a survey. I learned that our school has lots of different kids.
>
> *—Carissa*

Get your class involved in Census at School, www.censusatschool.ca, this year. See the Canadian summary results for 2005/2006 and some exciting learning activities.

Please contact Danielle Rondeau, at danielle.rondeau@statcan.ca, with any questions or comments.

Source: www.statcan.ca/english/edu/lr2006/LR2006math.htm (accessed 2007 01 24)

Mathematics Summer Institute

Alberta Education will hold a Mathematics Summer Institute featuring kindergarten and Grades 1, 4 and 7, in Edmonton, on July 4, 5 and 6, 2007.
Watch for registration details.

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