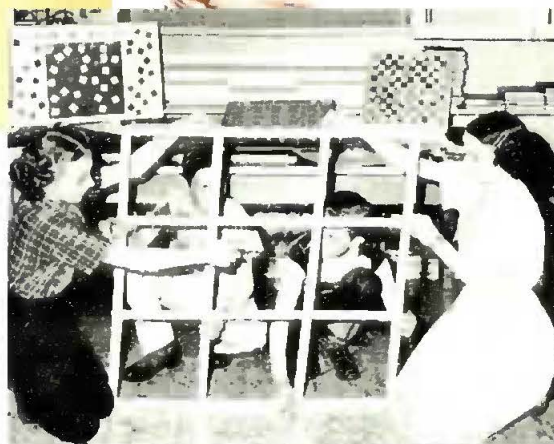


delta-k

Journal of the Mathematics Council of the Alberta Teachers' Association

Volume 50, Number 2

March 2013



Special Issue: Celebrating 50 Years of *delta-K*

Guidelines for Manuscripts

delta-K is a professional journal for mathematics teachers in Alberta. It is published twice a year to

- promote the professional development of mathematics educators, and
- stimulate thinking, explore new ideas and offer various viewpoints.

Submissions are requested that have a classroom as well as a scholarly focus. They may include

- personal explorations of significant classroom experiences;
- descriptions of innovative classroom and school practices;
- reviews or evaluations of instructional and curricular methods, programs or materials;
- discussions of trends, issues or policies;
- a specific focus on technology in the classroom; or
- a focus on the curriculum, professional and assessment standards of the NCTM.

Suggestions for Writers

1. *delta-K* is a refereed journal. Manuscripts submitted to *delta-K* should be original material. Articles currently under consideration by other journals will not be reviewed.
2. If a manuscript is accepted for publication, its author(s) will agree to transfer copyright to the Mathematics Council of the Alberta Teachers' Association for the republication, representation and distribution of the original and derivative material.
3. All manuscripts should be typewritten and properly referenced. All pages should be numbered.
4. The author's name and full address should be provided on a separate page. If an article has more than one author, the contact author must be clearly identified. Authors should avoid all other references that may reveal their identities to the reviewers.
5. All manuscripts should be submitted electronically, using Microsoft Word format.
6. Pictures or illustrations should be clearly labelled and placed where you want them to appear in the article. A caption and photo credit should accompany each photograph.
7. References should be formatted consistently using *The Chicago Manual of Style's* author-date system or the American Psychological Association (APA) style manual.
8. If any student sample work is included, please provide a release letter from the student's parent/guardian allowing publication in the journal.
9. Articles are normally 8–10 pages in length.
10. Letters to the editor or reviews of curriculum materials are welcome.
11. Send manuscripts and inquiries to the editor: Gladys Sterenberg, 195 Sheep River Cove, Okotoks, AB, T1S 2L4; e-mail gsterenberg@mtroyal.ca.

MCATA Mission Statement

Providing leadership to encourage the continuing enhancement of teaching, learning and understanding mathematics.

Cover photo courtesy of the Edmonton Public School Board archives.



Volume 50, Number 2

March 2013

CONTENTS

INTRODUCTION

Down Memory Lane 3 *Gladys Sterenberg*

FEATURE ARTICLES

- Overview of Change—Or a Look at the Forest Before We
Can't See It for the Trees 4 *E A Krider*
- Discovery or Programming 6 *William F Coulson*
- Euclid Must Go! 8 *Marshall P Bye*
- A Constructivist Approach to Teaching Mathematics 14 *Sol E Sigurdson*
- Mathematics and the Alberta High School Curriculum 18 *John G Heuver*
- Enhancing Mathematics Teaching in the Context of the
Curriculum and Professional Standards of the NCTM 21 *Klaus Puhlmann*
- Explanation and Discourse in 9th-Grade
Mathematics Classes 28 *Elaine Simmt,
Florence Glanfield and
Shannon Sookochoff*
- Perceptions of Problem Solving in Elementary Curriculum 36 *Jennifer Holm*
- Assessing Young Children's Attention to Pattern and Structure 43 *Lynn McGarvey*

TEACHING IDEAS

- Open Search in Elementary Mathematics Experiences 48 *T P Atkinson*
- Introducing Contemporary Concepts in Traditional Arithmetic 50 *James M Grasley*
- The Laboratory Approach in Mathematics—Calgary
Junior High Schools 52 *Bernice Andersen*
- Junior High School Math Option 55 *Harry Topolnitsky*

Copyright © 2013 by The Alberta Teachers' Association (ATA), 11010 142 Street NW, Edmonton, AB T5N 2R1. Permission to use or to reproduce any part of this publication for classroom purposes, except for articles published with permission of the author and noted as "not for reproduction," is hereby granted. *delta-K* is published by the ATA for the Mathematics Council (MCATA). EDITOR: Gladys Sterenberg, 195 Sheep River Cove, Okotoks, AB T1S 2L4; e-mail gsterenberg@mtroyal.ca. EDITORIAL AND PRODUCTION SERVICES: Document Production staff, ATA. Opinions expressed herein are not necessarily those of MCATA or of the ATA. Address correspondence regarding this publication to the editor. *delta-K* is indexed in CBCA Education. ISSN 0319-8367

Individual copies of this journal can be ordered at the following prices: 1 to 4 copies, \$7.50 each; 5 to 10 copies, \$5.00 each; more than 10 copies, \$3.50 each. Please add 5 per cent shipping and handling and 5 per cent GST. Please contact Distribution at Barnett House to place your order. In Edmonton, dial 780-447-9432; toll free in Alberta, dial 1-800-232-7208, ext 432.

Personal information regarding any person named in this document is for the sole purpose of professional consultation between members of The Alberta Teachers' Association.

1.4 Kilograms of Hamburger and a Litre of Milk, Please	58	<i>S A Lindstedt</i>
Of Students, Computers and Learning	60	<i>Barry McGuire</i>
Implementing Manipulatives in Mathematics Teaching	64	<i>A Craig Loewen</i>
A Collection of Connections for Junior High Western Canadian Protocol Mathematics	71	<i>Sol E Sigurdson, Thomas E Kieren, Terri-Lynn McLeod and Brenda Healing</i>

CONCLUSION

Getting Conversation into the Mathematics Classroom: Essential, but Formidable—Perhaps “A Bridge too Far”?	80	<i>Werner Liedtke</i>
---	----	-----------------------