

Kentucky Council of Teachers of Mathematics



March 2005

Message from the President

When I assumed the position of President-Elect two years ago, I knew the day would come when I would assume the President's position. During this time, I have had a wonderful teacher in the person of Lori Durham. I speak both personally and for the membership - We are most grateful for Lori's tenure as President of KCTM and I am fortunate to have her counsel as Past-President.

We welcome our newest Board members who took office in January 2005. President-Elect: Maggie McGatha from University of Louisville; High School Vice-President: Velva Barker from Knox Central High School in Barbourville; Middle School Vice President: Billie Travis from Georgetown Middle School; Secretary and WKCTM Representative: Susan Collins from Elizabethtown High School; and GLCTM Representative: Amy Herman from Gheens Academy. We also extend our congratulations to Ruth Casey who was recently elected to the NCTM Board of Directors, and to Billie Travis who was awarded "Kentucky Teacher of the Year."

Our next elections will be in September, so begin thinking now about potential candidates for KCTM Board positions. The Offices that are up for election this year are Treasurer, College Vice-President, and Elementary Vice-President. KCTM is only as strong as its membership and those willing to share their expertise. Please contact any officer if you are interested in serving in one of these positions.

The fall 2004 KCTM conference was successful. We had about 300 attendees with a total of 67 breakout sessions. So, mark your calendars for the fall 2005 conference - November 5, 2005 at North Laurel High school. Check our website (www.kctm.org) later this spring for more details, including online speaker forms. Direct any comments or questions to our Conference Co-Chairperson, Maggie McGatha (maggie.mcgatha@louisville.edu).

Enjoy this edition of the KCTM Newsletter. If you have any comments or questions, please contact: Amy Herman (aherman1@jefferson.k12.ky.us) or me (foletta@nku.edu).

Respectfully yours,
Gina Foletta
KCTM President
foletta@nku.edu

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Minutes of KCTM Board Meeting - November 20, 2004

Members Present:

Ruth Casey, Velva Barker, Lori Durham, Beth Noblitt, Billie Travis, Peg Darcy, Gina Foletta, Leslie Robertson, Maggie McGatha, Amy Herman, Kathy Bulmer, John Ashurst, Susan Collins

Introduction of Current and Incoming Officers, Thank You to Departing Officers, Congratulations



Congratulations to Ruth Casey (shown here) for being elected to the NCTM Board of Directors.

Congratulations to Billie Travis for receiving "Kentucky Teacher of the Year"

Introductions of new officers:

Billie Travis - Middle school V.P.- Georgetown Middle School

Velva Barker - High School V.P. - Knox Central H.S. in Barbourville

Maggie McGatha - President Elect - University of Louisville

Susan Collins - Secretary and WKCTM rep- Elizabethtown H.S.

Amy Herman - GLCTM rep.

And thank you to:

John Ashurst - outgoing High School V.P.

The August minutes were approved as received.

Establishing a new policy for what we publish on our website was discussed. In the past, we have denied groups wanting to advertise positions and openings. We decided not to post time sensitive

information, but instead to provide a link for related organizations of interest. The KAGE conference information, it was decided, should be included in the next newsletter and a link to the KAGE organization could be provided on the website under related organizations of interest.

On-line registration information was passed from Lori to Ruth. Ruth commented that on-line registration is not a problem. On-line payment is the problem.

NKU is interested in reviving a statewide math contest.

The KCTM board will support the idea of the development of this project. More information will be provided later from Gina.

Current KCTM Membership is at 560.

2004 Conference Report

67 total sessions, 12 extended sessions, 50 total speakers, 300 attendees

Main complaint - no vendors selling on site, no coffee

Current Membership is at 560.

Treasurer's Report - contact Peg Darcy

Under KCTM products - Amy proposed that a "mock-up" for new products needs to be presented to the board meeting for approval on new merchandise. The spelling error on the t-shirt will make it hard to move the rest of the product.

The MESA expenses for the Presidential awardees should be reimbursed. Peg and Ruth will check with Ann Bartosh about getting that reimbursement.

Discussion of 2005 Budget - Peg Darcy

The Budget Committee will meet and report later. Kathy Montgomery needs to be invited to the Budget Committee meeting and to Board meetings.

Newsletter Report - Amy Herman

The next newsletter is scheduled to be out in November.

Amy still needs an article from John.

Affiliate reps need to submit information on upcoming Affiliate Conferences.

Amy still needs a letter from the President. Included in the letter will be an announcement of the new board members.

The KAGE conference information, it was decided, should be included in the next newsletter along with information promoting MathCounts.

KDE report - Ann Bartosh

On Wednesday, November 17th, KDE hosted a focus group to visit the idea of revising The Core Content for High School Mathematics. There were approximately 50 stakeholders in attendance representing the following groups: Industry, Parents, Administrators, Classroom teachers, Community

and Technical Schools, College Mathematics and Teacher Education. Core Content, it was decided, needs to be edited down and the topic of fractions (K-12) needs help. The Council on Post-Secondary Education used the American Diploma Project Benchmarks to create a new core content and KDE also tried to revise the document internally, but neither of the documents seemed to fit the satisfaction of the group. Bill Bush suggested that KDE take 5 different documents that exist across the nation and try to create a new core content from these documents.

Power Standards and End of Course Exams for mathematics are currently being field tested in 5 counties.

Policy Manual Update - Lori Durham, Gina Foletta

Gina provided two handouts:

- 1) Conference Site Coordinator - change title to Conference Site **Chair**
- 2) Conference Co-Chairs web diagram

Suggestions were given. Gina will edit and expand the graphic.

Lori revised the Elections Committee Policy page. John provided Lori with comments.

The Elections Committee Policy page will be revised to reflect John's suggestions.

The elections committee consists of the 2 outgoing V.P.'s

The chair of the elections committee will be? This needs to be decided.

Next meeting we will review Article 6 Section 7 of the Bylaws.

Gina will forward to Kathy the new policy manual pages that have been approved. These pages are located at www.kctm.org/Policy_Manual

2005 Conference Report - Lori Durham

MESA Banquet

Date: November 4, 2005 Site: North Laurel High School

Local Caterer. Lori Durham and Kathy Montgomery visited the local conference and found the food and facilities to be adequate.

\$15 will be the proposed cost for the banquet.

Conference Date and Site

Date: November 5, 2005 Site: North Laurel High School

Motion to move 2005 Conference to November 5th was made by Susan and seconded by John. Motion Passed.

Motion to set the following prices was made by Peg and seconded by Gina.

\$55 to attend (with membership included)

\$15 to speak

\$100 for vendor tables

Site Coordinator will be Jamie Davis (teaches at North Laurel)

Site Chair? to be determined

Vendors not buying a table, but asking to have their information shared at the conference must

donate a door prize for the MESA banquet.

Board Meeting Dates for 2005

February 12, 2005

May 14, 2005

August 27, 2005

November 19, 2005

Submitted by:

Susan Collins

KCTM Secretary

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News from NCTM

-The Program Committee for the 2006 NCTM Annual Meeting is currently seeking speakers to lead presentations during the conference. The conference will be in St. Louis, MO from April 26-29, 2006. You can submit speaker proposals online at www.nctm.org/meetings/stlouis/faq.htm

-Mission Mathematics II Series is available! The series has been developed by NASA and NCTM in an effort to link the science of aeronautics with the Standards. This revision of the original series aligns the activities with the PSSM.

-The NCTM 2005 Annual Meeting will be in Anaheim, CA April 6-9. For more information about the 2005 Annual Meeting, browse the conference program at www.nctm.org/meetings/anaheim

-April is Math Education Month!! To download a Mathematics and the Cosmos poster, essays, and related resources, visit www.mathaware.org

-NCTM's Professional Development Focus for the year is "Developing Algebraic Thinking: A Journey from Preschool to High School." Visit www.nctm.org/focus to learn more about the Professional Development Focus of the Year and to access teaching resources related to algebraic thinking.

Submitted by:

Maggie B. McGatha, Ed.D

KCTM President Elect

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The Van Hiele Levels of Geometric Thinking

In 1988, the Journal of Research in Mathematics Education published a Monograph titled "The Van Hiele Model of Thinking in Geometry Among Adolescents" by David Fuys and Dorothy Geddes which presents results of a research project on the Van Hiele levels of geometric thought. These levels of geometric thinking are based on the research of Dina van Hiele-Geldorf and Pierre van Hiele in the 1950's. The van Hieles also explored the role of instruction in helping students move from one level of geometric thinking to the next. According to the van Hieles there are five levels of geometric thinking. They claim that the learner cannot achieve one level of thinking without having passed through the previous levels. The five levels are:

Level 0: The student operates on geometric figures based on appearance.

Level 1: The student analyzes figures based on relationships among components of the figures. The student also empirically discovers properties of a class of shapes.

Level 2: The student gives or follows informal arguments to interrelate properties.

Level 3: The student proves theorems deductively.

Level 4: The student establishes theorems in different postulational systems.

Following are some examples of student responses and the levels of geometric thinking to which they correspond.

In level 0, a student is able to point to the right angles in a trapezoid. A student is able to identify squares by appearance, but does not recognize that a square has "equal sides and right angles".

In level 1, a student does note that a square has "equal sides and right angles." But when shown a parallelogram, the student cannot explain how "opposite angles are equal" follows from "opposite sides are parallel".

In level 2, given a list of properties of a square, the student says "opposite sides are equal is not needed because it already says that all four sides are equal." A student could follow a proof that the sum of the angles of a triangle equals 180° .

In level 3, a student gives proofs via Euclidean geometry. A student compares alternate proofs of the Pythagorean Theorem.

In level 4, a student compares theorems and postulates of Euclidean geometry to theorems and postulates of a non-Euclidean geometry.

Awareness of the van Hiele levels of geometric thought has changed the way I think about teaching

geometry. The Journal of Research in Mathematics Education Monograph is an excellent way to learn about the Van Hiele levels of geometric thought and to see the impact that they can have on your teaching and your students understanding.

Fuys, D., Geddes, D., & Tischler, R. (1988). *The van Hiele model of thinking in geometry among adolescents*. Reston, VA:NCTM.

Submitted by:

Beth Noblitt

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The Math Projects Journal

Here's a great web site. The Math Projects Journal that can be ordered is a wonderful resource for pre-algebra, algebra I & II and geometry. It is full of projects to be done in the classroom in groups and/or individually. The web site is: www.mathprojects.com <<http://www.mathprojects.com>>

Submitted by:

Kathy Bulmer

KCTM High School Vice President

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Presidential Awards

Kentucky's 2003 Presidential Awardee for Excellence in Mathematics Teaching is Sue Fountain, a high school mathematics teacher from Jefferson County.

Kentucky's current state level 2004 finalists in mathematics are Jill Byrd from Nattie B. Luhr Elementary in Louisville, Paula Cissell from Beaumont Middle School in Lexington and Cynthia Woods from Walker Elementary in Monticello, KY. The 2004 Presidential Awardee from Kentucky will be announced soon. The award includes \$10,000 from the National Science Foundation and a paid trip for two to Washington, DC, to attend a weeklong series of recognition events and professional development opportunities.

The current competition is for the 2005 Presidential Award for Kentucky teachers of grades 7-12 and applications are due May 2, 2005. Teachers must be nominated prior to completing an application. Anyone—principals, teachers, students, parents, members of the community, or the general public—may nominate a teacher. Self-nominations are not accepted. Please nominate outstanding Kentucky mathematics teachers. Nomination forms are on the web at <http://www.paemst.org/>

About the Awards

The Presidential Awards for Mathematics and Science Teaching were established in 1983 by an Act of Congress and are administered for the White House by the [National Science Foundation](#). Each year the program recognizes outstanding mathematics and science teachers from across the United States and four U.S. jurisdictions for their contributions in the classroom and to their profession. In addition to honoring individual achievement, the goal of the Awards is to expand and exemplify the definition of excellent science and mathematics teaching. Awardees serve as models for their colleagues, inspirations to their communities, and leaders in the improvement of mathematics and science education.

Mathematics and science teachers from kindergarten through 12th grade are eligible for the award. In even-numbered years, the award is given to elementary teachers (grades K-6); in odd-numbered years, secondary teachers (grades 7-12) are recognized.

Who is Eligible for Kentucky's Presidential Award?

Teachers must satisfy the following criteria to be eligible:

- They must be teachers in Kentucky.
- They must be full-time employees of their school districts.
- They must have at least five (5) years of mathematics and/or science teaching experience prior to application.
- They must be assigned to teach mathematics and/or science during the current year at a public or private school.
- Elementary (K-6) teachers must be assigned, at least half time during the year, to classroom teaching of mathematics or science; or be grade K-6 teachers in self-contained classrooms.
- Secondary (7-12) teachers must be assigned, at least half time during the year, to classroom teaching of mathematics or science; or teach in self-contained classrooms in grades 7-8.

Submitted by:

Ann Bartosh

KDE Representative

News from Affiliates

NKCTM

NKCTM held a workshop for middle and high school teachers on Feb. 16. We had Tom Stull as our guest speaker on how to write good open response questions. Tom is one of the people that actually do write questions for the CATS test, so he is a great source of information regarding what makes a good question and what doesn't. He also went over the official guidelines for how to write a good multiple-choice question. Tom teaches at Dixie Heights HS in Kenton County, if anyone is interested in acquiring his services for a workshop. We had around 25 teachers attend this workshop.

NKCTM is also partnering with CINSAM and the Elementary Math/Science Alliance at NKU to sponsor a workshop for elementary math teachers on March 16. Topics to be covered are congruence and similarity, nets, area & perimeter and prisms and pyramids. Geofix shapes will be used to demonstrate several properties on the above topics. They can be purchased through Didax. Kathy Bulmer and Mary Shearer are the presenters.

Submitted by:

Kathy Bulmer

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LCTM

The Lexington Council of Teachers of Math held their "Math Madness" session on Thursday, February 19 at Tates Creek Senior in Lexington. Presenters included Debbie Waggoner, Shannon Cole, Jason Arnold and Jason Reed. Topics included "Teaching Fractions", "Teaching Probability and Statistics" and "Using the CPS System in your Math Class". Over 90 teachers representing 22 schools as well as the University of KY and ECU were represented. This was the 8th Annual "Math Madness" Professional Development Opportunity offered by LCTM.

Congratulations to Evelyn Christensen, LCTM secretary, on her recent publication, [More Multiplication Mosaics](#). Evelyn lives in Lexington and has published over 10 math resource books for teachers, parents and students. Check out a *Mindware* catalog, or your local bookstore to see her creative works!! Worth your time to buy a copy of her talents! Evelyn has also been featured in NCTM publications.

Submitted by:

Natalee Feese