



Mathbits

Comments and Reflections from Fall Conference Attendees

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The keynote speaker, Tom Gillaspay, opened the conference by speaking about current demographic trends in Minnesota and the resulting impact on the state's educational system. He pointed out that Minnesota often leads the nation in categories such as low rates of poverty, high employment, and higher levels of education. Many decisions in the past about prioritizing education have influenced these things. However, we live in a changing state; the population is getting older and more diverse and we need to anticipate the effects of these changes. Teachers have the challenging task of ensuring that children are better and more effectively educated and that all children succeed. (Becky Clark)

I attended the session "Symbol sense: what is it and how do we nurture it?" presented by Martha Wallace. She discussed some of the stereotypes students and adults have toward algebra and emphasized how important algebra is in giving meaning to arithmetic operations, studying relationships among quantities, and solving many kinds of problems. She compared symbol sense to number sense. As with number sense, students with symbol sense can read and interpret symbols in context, predict the form of results, judge reasonableness, and use appropriate equivalent forms. (Jamie Hogberg)

I attended Deb Guthrie's session on problem solving in grades K-2. We used manipulatives to explore a variety of problems including "part-part-whole" and compare problems and three types of subtraction problems as well as techniques used to teach visual problem solving. Some of the techniques that were covered shed new light on what the third graders I'm working with in my current placement are dealing with. This will enable me to better work with them in the coming weeks. (Jared Langness)



I could write about Cathy Wick's session (Namibian schools, Botswana safari, how I spent my summer) forever! She was in Namibia and Botswana with a group of educators from Augsburg College and had lots of pictures, stories, and clever insights to spice up a lesson: geometry and African flags, algebra and cheetah speeds, symmetry and African blankets.... She challenged us by sharing what some nationals told her, that the words she shared would shape our opinions about Africa and other third-world countries. What a lot of pressure! (Jen Adamson)

My favorite session was "Get 'er done," led by Mary Pat Nydahl and Mary Perrine. There were lots of ideas to help build student motivation and self-esteem. One idea is to have students practice mathematical concepts immediately after they have been taught and have the students teach the concept to someone else. They also stated that the brain stores things that are connected to survival, movement, intensity, emotions, and novelty. (Allison Wiebe)

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Upcoming Events:

- **Future Teacher's Conference**
- **Spring Conference**

Mathbits

Greetings to all of you!! I hope your school year is going well and if it is anything like mine, it is going by very quickly!!

Pondering by the President

Karen Coblentz
MCTM President

First of all, I would like to thank our Fall Conference Chairs – Melissa Loe, Terry Wyberg, and Donna Forbes. They put together a terrific program and we had a great day! Our fall conference, combined with the State Science Association conference, was held at Andover High School on October 21 and was attended by about 500 people!! We had many pre-service teachers and teachers in their first or second year of teaching. We welcome them to MCTM and hope to see them continue to be involved in our organization.

This edition of *Mathbits* is very important as it is our election issue. We feel we have an extremely strong slate of candidates and wish them all well. Please read through the candidates' profiles and send your ballot back as soon as possible. Your vote is very important!!

We are making preparations for our 2006 Spring Conference which again will be held in Duluth. There will be a major change to the schedule and we want to inform all of you ahead of time. This year, we will not be having a Friday evening meal along with the keynote speaker presentation. Instead, we will hear the presentation from our keynote speaker immediately following the final session on Friday. After that, we will be treated to the Presidents' Reception with a selection of hot and cold hors d'oeuvres. Our delegate assembly will be held following the reception and a full dinner will be served to our delegates. We invite you to contact your district director to join us for the delegate assembly! Please make note of this as you plan your trip to Duluth! We look forward to seeing you there. If you are interested in presenting or presiding, feel free to visit our website, mctm.org, to submit a proposal. Thanks!!

What do you do for fun?

MATH!

Here's a brief story I'd like to share with you from my principal's perspective! A couple of weeks ago my school had an assembly on self control. The assembly was great and the students enjoyed it. During the assembly, the characters in the play would stop their action to involve the audience in helping the boy solve his problem. One of the questions they asked was, "What do you do for fun?" One student answered, "MATH!!" It took the leader a little off guard and he later told me, "You must be doing something right because not too often do we hear math as being fun." I share that with you to remind all of us that math is fun and we need to share with others that same sentiment. Math in the "real world" is fun and exciting, just like reading a great book!

Thank you for all you do!

Karen Coblentz
Karen.Coblentz@dc.k12.mn.us

A long-time MCTM member, Janis Cimperman, Associate Professor of Mathematics at St. Cloud State University, was recently honored by the SCSU College of Education. The education students selected her to receive the college's Teacher of the Year award. Jan teaches the mathematics content courses for prospective elementary teachers.

Minnesota and the 2005 NAEP

The 2005 National Assessment of Educational Progress (NAEP) results were released on October 19. NAEP, also known as “The Nation’s Report Card”, is the only nationally representative and continuing assessment of what America’s students know and can do in mathematics (as well as several other disciplines). In mathematics, five content areas are assessed: number and operations; measurement; geometry; data analysis; and algebra. The NAEP mathematics scale ranges from 0 to 500.

The assessment is administered each odd numbered year to representative samples of 4th and 8th grade students in each state. Historically, Minnesota’s students have performed at or near the top of the nation in mathematics. The 2005 results show that this is again the case. In 4th grade in Minnesota:

- The average scale score was 246. This was higher than the average score of 237 for the Nation’s public schools and higher than the state’s average score of 242 in 2003.
- Of the 52 jurisdictions (50 states plus the District of Columbia and the Department of Defense Schools) that participated in the 2005 assessment, students’ average scale scores in Minnesota were statistically higher than those in 46 jurisdictions, and not significantly different from those in 5 jurisdictions (Kansas, Massachusetts, New Hampshire, New Jersey, and Vermont).
- The percentage of students who performed at or above the NAEP *Proficient* level was 47 percent. This percentage was greater than that in 2003 (42 percent), and was greater than that in 1992 (the first year of data – 26 percent).
- The percentage of students who performed at or above the NAEP *Basic* level was 88 percent. This percentage was greater than that in 2003 (84 percent) and greater than that in 1992 (71 percent).
- Achievement gaps persist in Minnesota but for the most part are narrowing slightly. There was no significant difference between the average score of male and female students. Black students had an average scale score that was lower than that of White students by 32 points. In 1992 this difference was 38 points. Hispanic students had an average scale score that was lower than that of White students by 28 points. In 1992, the sample of Hispanic students was not large enough to report data. Students of poverty (as indicated by free/reduced lunch) had an average score that was 21 points lower than that of students not eligible for free/reduced lunch. In 1996, this difference was 20 points.

In 8th grade in Minnesota:

- The average scale score was 290. This was higher than the average score of 278 for the Nation’s public schools and not significantly different than the state’s average score of 291 in 2003.
- Of the 52 jurisdictions that participated in the 2005 assessment, students’ average scale scores in Minnesota were statistically higher than those in 48 jurisdictions, and not statistically significantly different from those in 3 jurisdictions (Massachusetts, South Dakota, Vermont).
- The percentage of students who performed at or above the NAEP *Proficient* level was 43 percent. This percentage was not significantly different from that in 2003 (44 percent) and was greater than that in 1990 (the first year of data – 23 percent).
- The percentage of students who performed at or above the NAEP *Basic* level was 79 percent. This percentage was not significantly different from that in 2003 (44 percent) and

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Mathematics Specialist Report

Tom Muchlinski

MDE Academic Standards
& Professional Development

was greater than that in 1990 (23 percent)

- Achievement gaps persist and in one instance have widened. There was no significant difference between the average score of male and female students. Black students had an average scale score that was lower than White students by 46 points. In 1990 data for Black students was not reported due to sample size requirements. Hispanic students had an average scale score that was lower than White students by 34 points. In 1992, the sample of Hispanic students was not large enough to report data. Students of poverty (as indicated by free/reduced lunch) had an average score that was 27 points lower than students not eligible for free/reduced lunch. In 1996, this difference was 18 points.

A very comprehensive report on the NAEP results is available at <http://nces.ed.gov/nationsreprotcard/> The site also has a section containing items that have been released from previous assessments. These items provide a useful resource for the mathematics classroom.

The results are encouraging and are certainly something we can take pride in. How can we get more students beyond the Basic level? How can we close the gaps? A major part of the answers to these questions lies in analyzing our instructional practices and to grow and refine those practices that hold promise for increasing student achievement and in discarding those that do not. We obviously are doing some things that are very effective in terms of instruction for many students. Let's continue to work to develop and implement practices that improves the achievement of those students we have yet to reach.

Tom Muchlinski

Dubbed the "Oscars of Teaching" by Teacher Magazine, the Milken National Educator Awards were created by Milken Family Foundation Chairman and Co-Founder Lowell Milken in 1985 to celebrate, elevate, and activate the highest caliber professionals in our nation's schools.

Jeannine Salzer was one of 100 unsuspecting secondary teachers, principals, and specialists throughout the U.S. surprised with the news of her \$25,000 award, which can be used any way she chooses. She received the news about this award during an emotional, schoolwide assembly, which was attended by state and local officials, students, peers, and community leaders, including Governor Tim Pawlenty and Educator Commissioner Alice Seagren.

Unlike most teaching awards, the Milken Educator Awards have no formal nomination or application process. Educators are recommended for this prestigious honor without their knowledge by a blue-ribbon panel appointed by each state's department of education. Candidates for the Milken Educator Awards are selected on the basis of the following criteria: Exceptional educational talent as evidenced by effective instructional practices and student learning results in the classroom and school; Exemplary educational accomplishments beyond the classroom that provide models of excellence for the profession; Strong long-range potential for professional and policy leadership; and Engaging and inspiring presence that motivates and impacts students, colleagues, and the community.

Salzer has taught math for 13 years. She has a bachelor's in elementary and middle school mathematics, and a master's in curriculum and instruction. She is a fantastic teacher, focusing on the needs of each student. For example, she sets reading goals for each student and monitors growth, uses student work to guide the games and other tools she uses to teach concepts and skills, uses individualizes instruction, with student folders containing pre- and post-assessments, uses technology such as computer-based cameras and graphing calculators, provides class incentives including "Lunch with the Math Expert," which students actually seek out. Salzer began an initiative to loop a cohort of 7th- and 8th-grade students at high risk for failure. In two years she focused instructional strategies to meet their needs, and this year, in 9th grade, the majority are experiencing success in math.

Professionally, Salzer provides leadership at the school, district, and state levels. She is National Board Certified; is an 8th-grade team leader on an interdisciplinary team of 10 teachers, where she is

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**Jeannine Salzer,
Hopkins North
Junior High,
honored with a
Milken National
Educator Award in
October**

Have you become involved in developing the math MCA-II?

There are many opportunities for teachers at all grade levels to become involved in advisory panels. Advisory panels help the test vendor and MDE prepare and refine state tests to meet the state's academic standards and test specifications.

Test Specifications Panel

The MCA-II test specifications are aligned to the Academic Standards and indicate which strands, substrands, standards, and/or benchmarks will be assessed. Teachers do a thorough study of the standards and provide input on appropriate ways to assess students in the content at each grade level. The committee for each grade level consists of teachers from that grade as well as teachers from grades above and below. The teachers that work on the individual grades then meet as a large group to review the "big picture" of the assessments as set out in the test specifications.

New Item Review Panel

The test vendor has the responsibility of providing new items to be considered for the MCA-II. The items are written according to the test specifications. The items are then submitted to MDE for review by teacher panels. The panel for each grade level meets from 3 – 5 consecutive days and reviews around 225 items. The items are checked for alignment to the Academic Standards and the test specifications. The panel recommends to accept, modify, or reject each item. After edits are completed, the items are eligible for field testing.

Bias Review Panel

Items that are eligible for field testing are reviewed to make sure test items are fair for students with respect to gender, ethnicity, race, geographic region, handicapping conditions, and other factors. Members of this committee are selected to represent a diverse background but are not required to have a background in mathematics or teaching.

Rangefinding Panel

After field testing, student work on open-ended or constructed response items is scored according to criteria. Members of the rangefinding panel score a sample of student work on the constructed response items and verify that the scoring criteria produces valid and consistent scores for students. The panel recommendations are used to train the professional test scorers.

Data Review Panel

After the items have been field tested, the data from each item is reviewed by a panel. The panel verifies that the item aligns with the standards and test specifications and then looks at student performance data. Items that meet the psychometric specifications for the MCA-II are eligible to be used on future tests as "operational" items. Operational items are the ones that generate the student scores and are used to determine if schools and districts are making Adequate Yearly Progress (AYP).

Standard Setting Panel

This panel helps establish the cut scores that separate achievement levels for a particular test. They review how various cut scores would affect students and schools.

Eligibility for Panels

Teachers are encouraged to submit their names and credentials through the MDE web site http://education.state.mn.us/mde/Accountability_Programs/Assessment_and_Testing/index.html. MDE identifies a random sample of panel members who match certain criteria so the panel will be balanced. As the data base grows, panels become more balanced with respect to ethnicity, gender, geographical region, and experience.

For more information about Assessment and Testing or participating in Advisory Panels, contact Rosemary Heinitz. Rosemary.heinitz@state.mn.us

**What's New
in Statewide
Assessment
and Testing?**

Rosemary Heinitz

Math Content Specialist
MDE Assessment & Testing

**MCTM
CONNECT****Make sure that beginning teachers know about CONNECT activities!**

After highly successful Fall Conference sessions that were endorsed by CONNECT, our focus is now on the Teachers of the Future Conference, to be held on Saturday, Feb. 25, at Cityview Community School in Minneapolis. While this conference is planned by some members of the CONNECT Committee and has a math emphasis, the sessions will also be appropriate for teachers of English, Social Studies, Science and reading. Elementary, middle school and high school teachers, both beginning and pre-service, will find sessions that address the practical, everyday concerns of new teachers and help them become successful teachers of the future. For more information, check *Conferences* at www.mctm.org

The MCTM Mentoring program is up and running. Any math teacher in their first three years who would like to have an experienced math teacher as a mentor, contact Larry Luck at larryluck@aol.com or 763-784-0084.

Preliminary plans are in place for the CONNECT Session in Duluth on Thursday, April 20, from 7:00-9:00 PM. This free event for beginning and pre-service teachers, held the evening before the Spring Conference, will provide information about the most useful conference sessions to attend, networking with other teachers with similar concerns, a free meal and the famous book and door prize give-away. Plan now to attend this and all Spring Conference events. Watch for more details.

\$\$\$ for Beginning Mathematics Teachers !!!

- Did the headline for this piece catch your eye?
- Are you a mathematics teacher in the first five years of your career?
- Are you an experienced teacher looking for a way to mentor new mathematics teachers in your building?
- Are you an MCTM member hoping to show newer members of the profession the benefits of MCTM membership and the value of MCTM conferences?

**MCTM
Foundation**

Cathy Wick
Chair of Governing Board

The MCTM Foundation can help. In this issue of *Mathbits* you will find the application form for MCTM Spring Conference Support. The MCTM Foundation will give awards to some beginning mathematics teachers to support their attendance at the 2006 MCTM Spring Conference in Duluth MN. The awards of up to \$250 must be used for such conference expenses as registration and lodging. Award recipients will be recognized at one of the meal gatherings during the conference, and will be expected to assist in preparing an article about the conference experience for a future issue of *Mathbits*. Use the application yourself or pass it along to an eligible teacher. The application form can also be found on the MCTM website. If you have any questions, Contact Cathy Wick at cwick@ties2.net. Applications must be mailed by February 20, 2006.

Looking for Research Partners

The Comparing Options in Secondary Mathematics: Investigating Curriculum (COSMIC) project is seeking to identify secondary schools that have parallel mathematics programs in grades 9 & 10, one program being integrated mathematics (e.g., Course 1, Course 2, etc.) and another single subject courses (e.g., Algebra, Geometry, etc.). If you teach in a secondary school that is offering these dual mathematics programs and would be interested in learning more about this study, please visit our website at <http://cosmic.missouri.edu>, and e-mail us at cosmic@missouri.edu. The COSMIC project is funded by the National Science Foundation and located at the University of Missouri.

Board of Directors Election

Six offices on the Board of Directors of MCTM will be filled in this current election. The members of the Nominations and Elections Committee have nominated candidates for each office. Please read the descriptions of the nominated candidates on the attached pages and complete the enclosed ballot. *All ballots must be within 10 days of receipt of this newsletter.*

YOUR VOTE IS IMPORTANT. Please complete your ballot and drop it in the mail today.

Office Qualifications and Responsibilities:

I. President-Elect

The president-elect shall serve for one year and then be installed as president, serving for two years. The nominee must have been a member of the Council continuously during the preceding five years and have participated in the activities of the Council. The president shall be the chief officer of the Council and, as such, shall preside at all meetings of the Board of Directors and at the annual business meeting of the Council. In the absence of the president or in the event the president is unable to serve, the president-elect or past president shall assume the responsibilities of the president.

II. Vice President for Mathematics

The vice-president for mathematics shall be from a Minnesota college, university, or technical college whose primary duties include teaching mathematics. A nominee for vice-president must have been a member of the Council continuously during the preceding three years and have participated in the activities of the Council. The vice-president serves a three year term. The vice-presidents plan all conferences sponsored by the Council.

III. Vice President for Elementary

The vice-president for elementary represents elementary school teachers from across the state. (Additional for vice-presidents, see above.)

IV. District Directors (districts 2, 5, and 8)

District directors represent the members in their district. It is the responsibility of directors to promote membership in MCTM, to serve as representatives of their district's members in the Delegate Assembly, and to identify and work to solve problems that may be specific to mathematics teaching in their district. Nominees for district directors must have been a member of the Council continuously during the preceding three years and must work in the district that the director is to represent. The directors shall serve a term of three years.

Note: The above information is taken from *Bylaws of the Minnesota Council of Teachers of Mathematics, effective May 1, 2003.*

Candidate Information

Enclosed ballot must be returned within 10 days.

Candidates for President Elect



Susan Johnson

Current Position:

Chair, Department of Education
Northwestern College
St. Paul, MN

Education:

Ph.D., Curriculum & Instruction, University of Minnesota
M.A., Mathematics Education, University of Minnesota
B. A., Mathematics/Biology/Elementary Education, Bethel
College, St. Paul, MN

Professional Affiliations:

Minnesota Council of Teachers of Mathematics
National Council of Teachers of Mathematics
Minnesota Association for Supervision and Curriculum Development
Association for Supervision and Curriculum Development
Association of Teachers Educators
Minnesota Association of Colleges for Teacher Education

Previous Involvement with MCTM and Mathematics

Education:

VP for Mathematics Education, MCTM
Co-Chair, MCTM Fall Conference Committee
Chair, MCTM Professional Concerns Committee
Presenter and Presider for MCTM Conferences
SciMath^{MN} Writing Team, *Minnesota Framework for Initial
Licensure for Teachers of Mathematics*
MN Board of Teaching Writing Team, *Standards for Initial
Licensure of Teachers of Mathematics*

Goals as an MCTM Officer:

The strength of MCTM as an organization rests in its membership. The professional involvement of P-16 mathematics educators in Minnesota is the key to the development of policies and practices which support the mathematics learning of all Minnesota students. Therefore, as an officer with MCTM I would be committed to continuing MCTM's efforts: to involve mathematics educators at all levels in the work of the organization; to provide high quality professional development opportunities; and to strengthen the involvement of pre-service teacher education students in the organization.



Judy Stucki

Current Position:

Teacher, Wayzata High School
District Math Resource Teacher

Education:

M.A., Mathematics Education, University of Minnesota
B.S., Mathematics, Mankato State University

Professional Affiliations:

National Council of Teachers of Mathematics
Minnesota Council of Teachers of Mathematics

Previous Involvement with MCTM and Mathematics

Education:

I have served as a district director, coordinated vendors for the fall conference, and served as spring conference program chair. I have also done staff development and mentoring through two NSF grants.

Goals as an MCTM Officer:

I would like more opportunities for teachers to get together and network and like all of you have said I would like to see more teachers to become involved in MCTM.

Other Information:

I have 35 years of teaching experience, most of it in the Wayzata District.

Candidate Information

Enclosed ballot must be returned within 10 days.

Candidates for Vice President for Mathematics



Sandra Johnson

Current Position:
Associate Professor of
Mathematics
St. Cloud State University

Education:

B.A., M.Ed., Mathematics, University of North Dakota

Professional Affiliations:

Minnesota Council of Teachers of Mathematics
National Council of Teachers of Mathematics
Mathematical Association of America
Association for Women in Mathematics
American Mathematical Association of Two-Year Colleges
Minnesota Association for Developmental Education

Previous Involvement with MCTM and Mathematics

Education:

Presenter at MCTM conferences; Presenter at regional NCTM conference; Minnesota Joint Committee on Math Preparedness for College member; Minnesota PK-16 Partnership Aligned Mathematics Assessment Project participant; Minnesota State Department of Education Assessment Advisory Committee member; MnSCU Assessment for College Readiness Committee member; MnSCU Mathematics Preparedness Committee member; Worked on MCA test with item analysis and data review

Goals as an MCTM Officer:

My main goal is to facilitate communication between mathematics educators at all levels, from preschool through college. We must work together to address the important issues involved in providing a quality mathematics education for all students. I see MCTM as an essential participant in aligning mathematics expectations between K-12 and higher education.

Other Information:

I've taught junior high and senior high as well as college mathematics – and have loved teaching math at all levels! Everywhere I've taught, I've met well-trained educators with genuine concern for their students and a passion for the mathematics they teach. I'd welcome the opportunity to work with more of you on the MCTM Board of Directors.



Ann Sweeney

Current Position:
Assistant Professor of
Mathematics
College of St. Catherine,
St. Paul

Education:

B.S., Mathematics, Loyola University, Chicago
M.S., Mathematics Teaching, University of Illinois, Urbana-Champaign

Professional Affiliations:

Minnesota Council of Teachers of Mathematics
National Council of Teachers of Mathematics
Mathematical Association of America

Previous Involvement with MCTM and Mathematics

Education:

I have presented at the MCTM Spring Conferences and served as a presider. When the +1/-1 committee was formed I became a member and now serve on the CONNECT committee to provide support to preservice and beginning teachers. I am the CONNECT Virtual Mentor for about 50 mentees. As the virtual mentor, I send out emails approximately every two weeks with ideas, web sites, activities, problems, news, etc. that the mentees can use in their classrooms. This program is modeled on the 3M Virtual Mentoring Program, which I am directing, at the College of St. Catherine. I became involved with the 3M program because of my work at the college with Elementary Education majors, particularly those getting the Middle School Math Specialty.

Goals as an MCTM Officer:

Because of my interest in and work with teacher preparation, my goals concern beginning and preservice teachers on all levels. I would like to see more of them get involved with MCTM so they are in a community that can value and support them. All of us have benefited from those wonderful teachers who have gone before us and who worked hard to make MCTM the viable and helpful organization that it is. Serving as a VP in MCTM is one way I can pay back those I owe much to.

Candidate Information

Enclosed ballot must be returned within 10 days.

Candidates for Vice President for Elementary



Judy Hansen

Current Position:
First grade teacher
Brown Elementary School
Pipestone Area Schools

Education:

B.A., Elementary Education, Southwest Minnesota State University, Marshall

Professional Affiliations:

National Council of Teachers of Mathematics
Minnesota Council of Teachers of Mathematics
QTN Mathematics Team
Education Minnesota

Previous Involvement with MCTM and Mathematics

Education:

MCTM District 2 Director
Presenter and Presider at MCTM
Presenter and Presider at regional NCTM Regional conferences
Member of Mathematics Best Practice and QTN Team
MN Mathematics Frameworks committee
Facilitator for Mathematics Phase II training
Frequent Delegate to MCTM Delegate Assembly
Member of District Curriculum committee
Member of School Improvement Team
MathBits, Focus on the Elementary Grades

Goals as an MCTM Officer:

Goals as an MCTM Officer: I intend to continue the hard work to make MCTM accessible to all educators in Minnesota. We need a professional organization that is committed to math education for all, focused on the exchange of professional ideas. Our conferences, website, and Mathbits provide multiple opportunities for communication regarding best instructional practices and connections across K16 levels. As a Board member, I will work to promote these opportunities. The power and effectiveness of MCTM is its membership.

Other Information:

I enjoy being part of the professional development environment provided by MCTM. I would appreciate the opportunity to give back to the organization by serving on the MCTM Board of Directors. I truly enjoy sharing ideas with others about math education.



Patty Wallace

Current Position:
Second grade teacher
Baxter Elementary School
Brainerd Public Schools

Education:

B.A., Elementary Education, Mathematics Emphasis, Bemidji State University
M.A., Curriculum and Instruction, St. Thomas University

Professional Affiliations:

Minnesota Council of Teachers of Mathematics
National Council of Teachers of Mathematics
National Council of Supervisors of Mathematics
Association For Supervision and Curriculum Development
Education Minnesota

Previous Involvement with MCTM and Mathematics

Education:

MCTM District 8 Director 1997-2000; MCTM Recording Secretary 1996-1997; MCTM Delegate Assembly; Presenter and Presider at MCTM & NCTM Conferences; MCTM Spring Conference Program Committee 2000 – present; Facilitator – MDE Algebra Institutes (K-6); Member- Mathematics Quality Teaching Network; Presidential Awardee Elementary Mathematics 1999; MN Mathematics Frameworks Committee, Reviewer and Trainer; Christa McAuliffe Fellowship 1996-1997

Goals as an MCTM Officer:

- 1) I would like to help continue the hard work that MCTM has been doing for math educators in Minnesota. We need to stay committed to math education for all students and teachers.
- 2) I will encourage teachers and preservice teachers to become involved in their organization.
- 3) I would like to encourage networking among math educators in our state.
- 4) I would like to contribute to the high quality of conferences that MCTM is committed to producing. MCTM conferences help with the improvement of mathematics education throughout our state.

Other Information:

I have been a classroom teacher for 15 years. Although I teach all subjects, mathematics has always been my passion. I would enjoy being involved with the MCTM board.

Candidate Information

Enclosed ballot must be returned within 10 days.

Candidates for District 2 Director



Heidi Boerboom

Current Position:
7-9 grades math teacher
Minneota Public Schools



Mike Wesselink

Current Position:
Math Instructor
Worthington Senior High
School
Worthington, MN

Education:
B.S. , Mathematics, teaching option, Montana State University, Bozeman, MT
B.S., Physical Education, Southwest Minnesota State Univ., Marshall, MN

Professional Affiliations:
Minnesota Council of Teachers of Mathematics
National Council of Teachers of Mathematics
Education Minnesota/AFT/NEA

Previous Involvement with MCTM and Mathematics Education:
Core + Trainer 2001-03
CMP Trainer 1999
Former member of Mathematics Best practice Network
Mathematics Mentor, MN First Five Mentorship Program

Goals as an MCTM Officer:
I will continue to promote the communication and collaboration of our region’s mathematics teachers. While both the fall and spring conferences are excellent sources for revitalization and professional growth, I feel that we need more opportunities to network with mathematics teachers closer to our home schools. I will welcome input and concerns from the members of district 2 and do all that I can to help make teaching mathematics in Minnesota a rewarding and exciting profession.

Other information:
I have been teaching at Minneota Public School for 14 years and have seen some dramatic changes within myself, my colleagues, and my students. MCTM has been instrumental in that growth. On a more personal note, I am married and have two children—ages nine and four. I enjoy watching and playing sports and am also the assistant golf coach at Minneota High School.

Education:
M.S., Mathematics, Univ. of North Dakota, Grand Forks, ND
B.A., Mathematics, Northwestern College, Orange City, IA
Concentration in Computer Science

Professional Affiliations:
National Council of Teachers of Mathematics
Minnesota Council of Teachers of Mathematics
Education Minnesota,
National Education Association

Previous Involvement with MCTM and Mathematics Education:
I have been an active high school math instructor for 20 years. In addition, I have had the unique opportunity to teach some college level mathematics as a graduate teaching assistant, a teacher of “College within the High School” courses, and Math adjunct at the U of M – Crookston and East Grand Forks Tech. During my career, I have been involved with numerous projects, grants, continuing education courses and seminars. My most recent venture has been implementing a successful AP Calculus program at Worthington High School.

Goals as an MCTM Officer:
I hope to further develop resources, communication and information for the math classroom teacher. I also hope to advocate for the math teachers in my district. I know first hand that students in Minnesota are changing. I want to discuss how to best change with our students.

Other information:
My wife Tami and I have two children, Alyson and Matthew. I enjoy fishing, hunting, motorcycling, and when it's too cold for those, singing.

Candidate Information

Enclosed ballot must be returned within 10 days.

Candidates for District 5 Director



Kristin Johnson

Current Position:
Mathematics Teacher
St. Louis Park Alternative High
School
St. Louis Park

Education:

B.A., Gustavus Adolphus College, St. Peter, MN
Mathematics Teacher Licensure, University of Minnesota,
M.Ed., Mathematics, University of Minnesota

Professional Affiliations:

National Council of Teachers of Mathematics
Minnesota Council of Teachers of Mathematics
Education Minnesota, and NEA

**Previous Involvement with MCTM and Mathematics
Education:**

Presenter and presider at NCTM and MCTM conferences;
member of Scholars of Distinction committee; previous mem-
ber of Mathematics Best Practice Network; member of the
evaluation team for the 11th grade MCA test; served on MDE
committees examining and editing MCA test items and range
finding with field-tested items; facilitator of student work grant
through the Prep Center at District 287; St. Louis Park math
team coach, 1998-present

Goals as an MCTM Officer:

I will promote the Fall and Spring Conferences so teachers can
have the opportunity for professional learning by exchanging
ideas and materials regarding instruction in mathematics. I will
strongly encourage new teachers to join and current members
to become more involved in both MCTM and NCTM. I will
invite all teachers, including teachers in training, to become
active in the pursuit of improving mathematics instruction for
all of our students. I will support teachers by listening to their
needs and concerns and seeking ways to improve them.



Liz Stamson

Current Position:
Fourth grade teacher
Forest Hills Elementary
Eden Prairie

Education:

BAS, Elementary Education, Mathematics minor, University of
Minnesota, Duluth
M.A.Ed., Gifted and Talented Education and Mathematics in
the Elementary School, Hamline University, St. Paul

Professional Affiliations:

National Council of Teachers of Mathematics
Minnesota Council of Teachers of Mathematics
Education Minnesota

**Previous Involvement with MCTM and Mathematics
Education:**

Speaker for NCTM; Presenter and presider at MCTM confer-
ences; member of Best Practice Network for Mathematics; In-
vestigations trainer in MN and NY; Consultant for Marilyn
Burns Education Associates/Math Solutions; Presidential
Award for Excellence in Mathematics Teaching state finalist;
USA Today teacher of the year state finalist

Goals as an MCTM Officer:

As an organization, we need to continue to strive toward offer-
ing and supporting outstanding ways to provide exchanging of
professional ideas. We can do this by offering highly motiva-
tional and practical professional sessions at MCTM; keeping an
updated, exceptional website that offers information, ideas and
suggestions relevant to mathematics education; and providing
an informative Mathbits newsletter to highlight important top-
ics in our field. I would enjoy the opportunity to help continue
the journey toward superior mathematics education in Minne-
sota and would love to give back to the organization.

Candidate Information

Enclosed ballot must be returned within 10 days.

Candidates for District 8 Director



Paula Bengtson

Current Position:
Junior and Senior High
mathematics teacher
Rush City High School



Greg Gearey

Current Position:
Eighth grade mathematics
teacher
Forestview Middle School
Brainerd Public Schools

Education:

B.S., Elementary Education, University of Minnesota, Duluth
LD Certification, University of Minnesota
M.S., Mathematics, Bemidji State University

Professional Affiliations:

National Council of Teachers of Mathematics
Minnesota Council of Teachers of Mathematics
Education Minnesota

Previous Involvement with MCTM and Mathematics

Education:

Presenter and Presider at MCTM Fall and Spring Conferences
Presenter at one Regional NCTM Conference
Past Committee Member of MCTM Teacher Incentive Grant
Representative to past MCTM Delegate Assemblies
Worked on State Committee to develop and evaluate 7th and
11th Grade MCA's
Workshop Presenter for Teachers, Parents, and Students from
Preschool to High School Level

Goals as an MCTM Officer:

To be an active member of MCTM and work to continue providing the high quality educational opportunities for mathematics teachers at all levels.

Other Information:

I taught 6th grade for two years, special education at the junior/senior high school level for 14 years, and the last 16 years have been in junior and senior high mathematics. Currently I teach four 7th grade classes and two courses through concurrent enrollment: College Algebra/Trigonometry and Calculus over interactive TV.

Education:

Bachelors Degree from St. Olaf College
Masters in Education from Southwest State University
Masters work in Math Education at Bemidji State University

Professional Affiliations:

Minnesota Council of Teachers of Mathematics
National Council of Teachers of Mathematics

Previous Involvement with MCTM and Mathematics

Education:

MCTM Technology Committee
Technology/Equipment, MCTM Spring Conference

Goals as an MCTM Officer:

I have enjoyed the enthusiasm and passion for math education that so many of the MCTM officers exhibit. It is fun to be around people like that. My goal is to be one of those enthusiastic and passionate teachers, working hard as a council officer to promote "meaningful mathematics" in the state of Minnesota.

**Focus on the
High School Level**

Don Karlgaard
Mathematics Teacher
Brainerd High School
Brainerd, MN

Finance with the TI-83(84) Plus

The TI-83 Plus (and TI-84) have a wonderful FINANCE application. Their TVM Solver (TVM denotes Time, Value, Money) allows you to investigate interest rates, future value, present value, payments, and number of payments. Other features allow for the investigation of annuities, amortization schedules, internal rate of return, nominal and effective interest rates, and days between dates.

I'll try to help you see how this application works.

Let's say one wants to *find the monthly payment on a \$200,000 loan at 6% interest compounded monthly for 30 years.*

- Go to APPS, choose Finance, and then choose TVM Solver.
- N is the number of "payments", so type in 30×12 or 360.
- Set I% at 6 as it asks for the annual percentage rate.
- PV stands for present value, which is 200000.
- Leave PMT (Payment) until later – we will solve for it.
- FV stands for future value which we want to be zero. (We borrow \$200,000 and want to make monthly payments in order to "owe" the bank \$0.)
- Set the P/Y to 12 as we will have 12 payments per year. When you enter 12 here, you will notice that 12 appears for C/Y (compound periods per year). These two are tied together, but don't have to be the same.
- Make sure that END is highlighted on the bottom line, as that calls for payments to be made at the end of each payment period rather than at the beginning.
- We are ready to solve for the payment! Move the cursor back up to PMT=0, hit the green ALPHA key and then the ENTER key in order to solve.
- The monthly payment should be -1199.10. Why is it negative? A positive value means that it is your asset (money is coming to you). A negative value means that it is a debit (money you are paying out).

Any of the variables (N, I%, PV, etc.) on this screen can be solved for by placing the cursor on the variable you are solving for and then SOLVE.

Most Minnesota high schools require or provide this calculator family to their students. I think that ALL Minnesota students should have access to and understand how to use this application. Having young people figure out a monthly payment for a car loan or sound system will draw their interest. Seeing how much interest is paid in 30 years on a \$200,000 loan is amazing. Get your students going on this and have them show their parents!

It's not too early to
start planning...

2005 MCTM Minnesota Spring Mathematics Conference

Explore the Possibilities: Engage in Mathematics

Friday-Saturday, April 21-22, 2006

Participate in the conference as a Speaker or Presider

Speaker proposal forms (including and online submission option) are available on the MCTM website <http://www.mctm.org/conferences.html>. Submit speaker proposals as soon as possible. Presiders may also use the speaker proposal form to submit preferences for times and sessions. Registration form is also online and on page 18.

“Math at Home and Work” Project

DUE DATE: _____

Part 1 involves interviewing parents, neighbors, or others in order to make a list of at least 25 specific tasks in peoples’ daily lives (not their jobs) where math skills/ knowledge is put to use. We’ll start a list in class.

Part 2 involves identifying a minimum of five occupations that require proficiency in math skills beyond the basic operations with whole numbers. Students should choose occupations carefully since they must then contact an individual in each of the five different jobs and interview them using the questions listed below. Be sure to name the person and their occupation.

Focus on the Middle Grades

- 1) How do you use math skills in your job? Please give a few specific examples.
2) What math courses did you need to take to be able to do these math-related parts of your job? Anything beyond algebra?
3) How high would you rate good math skills as necessary for success in your job (scale of 1 to 10)?
4) What helped you the most when learning math skills in school (lots of drill and practice, hard work, good teacher, natural ability for math, etc.)?
5) Do you use a calculator or pencil/paper to do calculations?
6) What advice do you have for young math students?

The project, when complete, should include:

- 1) the list of at least 25 math tasks used in daily lives
2) verbatim interviews or summary paragraphs for each of the five occupations
3) a concluding paragraph of what the student learned in the process of completing the project.

The project does not need to be typewritten, but should be neat and edited for spelling and grammatical errors. The scoring rubric for this project is below:

Table with 2 columns: Task description and Points. Rows include: the list of 25 tasks (25 points), interviews/summary paragraphs (35 points), concluding paragraph (10 points), overall presentation (10 points), and TOTAL (80 points).

This learning project was shared by Kaye Tavernier, Cook County Middle School, Grand Marais, MN

This is a project I do with my middle school students 2nd quarter every year. I find that’s a good time to do the project because they see relatives over the holidays and can get their interviews then. I think it helps them to realize lots of people use math regularly at home and also in their jobs. I also like all the wonderful advice the other adults give.

I usually have them give me a short update on their progress twice during the quarter. Otherwise, some students will easily put off doing anything until right before it is due.

When all projects are turned in we spend a day sharing at least one interview per student in class. We make a list of all the occupations represented. We also discuss what advice was given and whether they think that advice would be helpful. It seems my students are always astounded at the extent that math is used at home and at work.

Weighing With Candy Pumpkins

Math Concepts: counting, measurement, estimation

- Gather a variety of objects which can be weighed using balance scales (marker, deck of cards, cassette tape, scissors, glue stick etc.)
- Use candy pumpkins as weights.
- Each student will select an object, estimate how many candy pumpkins it weighs, and record their estimation on a chart provided.
- The student then weighs the object, counts the number of candy pumpkins, and records it on a chart such as the following

Focus on the Elementary Grades

Judy Hansen
First Grade Teacher
Brown Elementary
Pipestone, MN

Object	Estimation (in number of pumpkins)	Actual Weight (in number of pumpkins)

This is an idea that can be used in any season. Contributed by Sharon Wolf, First Grade Teacher, Brown Elementary School, Pipestone, MN.

Math Contest for Grades 7-12

For more information about the contest or would like to be on the mailing list please contact:

Keith Agre or
David Robinson
ECC 139, SCSU
720 4th Ave. So.
St. Cloud, MN 56301

Did you know that St. Cloud State University annually sponsors a mathematics contest for students in grades 7 – 12? The contest is held every spring and attracts approximately 1000 students from across the state. Your students should come too!

This year's contest will be held on Thursday April 6. The contest consists of a one-hour mathematics exam for the students beginning at ~9:30. They are then free to explore the many options SCSU has to offer. Past program activities have included open gym at Halenbeck Hall, tours of the National Hockey Center, planetarium shows, engineering and aviation demonstrations, and an optional selection of lunches. The day concludes with an awards ceremony shortly after lunch. You will have the opportunity to network with other mathematics teachers across the state and your students will interact with others who are interested in and enthusiastic about mathematics.

Certificates are awarded to students who finish in the top 10% of their grade level. The top three finishers in each grade level are awarded medals. The top three teams in each grade level will receive a plaque.

mathcontest@stcloudstate.edu

(Continued from page 4)

responsible for testing procedures, organization, and team atmosphere; she has built a collaboration among teachers, administrators, and parents; runs summer trainings throughout the state for Connected Math, a project for which she conducted a field study; she works throughout the state as a leader in math curriculum innovation, but never at the expense of her own teaching; is a member of the Minnesota Department of Education's select Quality Mathematics Teacher Network; is vice president of the junior high, Minnesota Council of Teachers of Mathematics (MCTM); is vice chair of the Minnesota Math Teachers Association, reviews and makes recommendations to national authors as a teacher whose district is one of only 14 national review sites; has led small learning communities to study "student work" with cross-discipline teachers; is very involved with special education teachers in aligning curriculum; has worked consistently with districts implementing integrated math programs.

The Milken Educator Awards have become the largest national teacher recognition program in the U.S., recognizing exceptional educators with more than \$54 million in cash prizes from the Foundation since the program's inception. In addition, these educators join the Milken Educator Network, a coalition of more than 2,100 top educators who serve as both expert resources and partners to network members and policymakers as they help cultivate and expand innovative programs in their classrooms, schools and districts.

(Continued from page 1)

In the session "Survival: a teacher's perspective" with Anne Bartel, classroom management and cooperative learning techniques were the focus of discussion. I found it interesting when the teachers commented on the goal of having three to four rules and enforcing those throughout the year. If a teacher tries to enforce too many rules, it can create an unhealthy reaction. (Julie Ross)

Tina Gorgos presented the session "Read?! But this is a MATH class!" She suggested helpful activities for activating students' prior knowledge before reading, getting them to focus on essential questions during their reading, and helping them to reflect on their reading once they are done. During this session I realized that I automatically do many of the suggested activities to try to understand math texts, but it helped me understand I could be more intentional about using them myself and about teaching them to my future students. (Rachel Tyree)

Thanks to Northwestern College math education students for their reports on the conference sessions.

You are invited to attend a MathPacks workshop!

MathPacks: What is it?

- Activities that apply classroom ideas to real-world context
- Based on Minnesota standards in math and science for Grade 5
- Available for any teacher who would like to use MathPacks at The Science Museum of Minnesota
- Involves students in measuring, data analysis, and proportional reasoning as they measure dinosaurs, trees, and themselves at the Science Museum of Minnesota.



Workshops will be held at the Science Museum during December 2005 and January 2006. A light meal and beverages will be provided, along with free parking and a certificate of participation. Workshop dates and times:

Thursday, January 5, 5:30 – 8:30 PM
 Saturday, January 7, 9 AM – noon
 Thursday, January 12, 5:30 – 8:30 PM
 Saturday, January 14, 9 AM – noon

Register for a workshop via email; send your RSVP to Susan Kocher at skocher@smm.org. Deadline for registration is January 3, 2006. If you have questions or need more information about MathPacks, call 612-221-4554.

**Opportunity for
Elementary Grades
Teachers**

Insert Spring 2006 Conference Registration Form on this page.

MCTM Foundation
Application for MCTM Spring Conference Support
Applicants must be MCTM members or be sponsored by a current MCTM member and have 5 years or less of teaching experience (including 2005-2006)

Name _____ Email Address _____

Address _____ Phone _____

Are you an MCTM member? _____ If no, who is your MCTM Sponsor? _____

Years of Teaching Experience (including 2005-2006) _____

School Name _____ Principal/Administrator _____

School Address _____

Include the following information on additional pages, typed or word processed.

Proposal (no more than one page)

Need: Why are you applying for this award? Please list other possible funding sources. What expenses will be paid by your district/school? **Outcome:** Explain what you hope to gain from your attendance at the MCTM Conference. Describe how you plan to use the information gained at the conference in your classroom and share it with other members of your school community.

Background and Experience (no more than 2 pages in resume or outline form)

Formal Education: Give the institution, type of degree, major, minor and dates completed

Teaching Experience: Give the school(s), teaching assignments and dates that accurately portray your teaching career.

Continuing Education and Professional Activities: List a few recent activities, for example workshops, conferences, classes, that have helped you to become a better mathematics teacher. Also list any professional organizations you are involved with and describe your involvement.

Principal's Letter of Support

The principal's letter of support must verify that release time will be provided for attendance at the MCTM Spring Conference (April 21-22,2006). It should also address how your conference attendance will be helpful to the school/district.

Monetary awards are to be used for Spring Conference expenses (registration, lodging, reserve teacher). The value of the award will be no more than \$250.00 per awardee.

Applications must be mailed by February 20, 2006

Completed applications and letters should be mailed together to:

MCTM Foundation
c/o MCTM
PO Box 120418
New Brighton, MN 55112

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Guaranteed
Address Service Requested

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www.mctm.org

Karen Coblenz, President
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Arnie Cutler, Executive Director
612- 626- 8326—W
651- 631- 2136—H
cutler@tc.umn.edu

Teresa Gonske, Mathbits Editor
651- 631- 5228—W
tlgonske@nwc.edu



Mission Statement:

The MCTM is an organization of professionals dedicated to promoting the teaching and learning of meaningful mathematics for all students by supporting educators in their efforts to improve mathematics education.

Mark Your Calendar

Feb 25 Future Teachers Conference
April 20-22 MCTM Spring Conference 2006, Duluth

Do we have your correct address?

MCTM strives to provide membership with current information regarding mathematics education in the state of Minnesota. To accomplish this goal, we need an accurate, permanent address for each member. Is your correct address printed on the label of this issue of *Mathbits*? If not, contact Exec. Director Arnie Cutler at 612-626-8326 or cutler@tc.umn.edu or visit the MCTM web site (www.mctm.org) membership page to make your change. Student MCTM members and members in transition are encouraged to provide a permanent address. Thank you for helping us stay in touch!

**Check the mailing label for your membership renewal date.
Renew online at
www.mctm.org**

FYI: In an effort to be cost effective, MCTM sends newsletters at USPS bulk rate. As a result, delivery times may vary between postal districts. MCTM is working to ensure timely delivery of information. Please contact Teresa Gonske or Arnie Cutler with any concerns.

Please submit items for the February issue of *Mathbits* to tlgonske@nwc.edu by January 9. Email tlgonske@nwc.edu or call 651-631-5228 if you have questions. - Teresa Gonske, Editor

2006 MCTM Spring Mathematics Conference Registration Form

Explore the Possibilities: Engage in Mathematics

*Teaching Principle *Equity Principle *Standards *Connections
*Communication *Number and Operations *Problem Solving

DECC, Duluth, MN • Friday-Saturday, April 21-22, 2006

Name _____

Mailing Address _____

City _____ State _____ Zip _____

If you are a new member OR if any of the following has changed, fill in the information requested below.

Home phone (include area code) (_____) _____ Work Phone (_____) _____

Fax (_____) _____ E-mail _____

School District Name _____ School Building _____

Circle one: teacher supervisor student retired other _____

Circle one: elementary jr. high/middle high school post secondary other _____

Spring Conference Registration Fees

Regular Friday & Saturday registration fee includes 2 lunches and a Friday late afternoon hors d'oeuvre buffet.

Regular Saturday only registration fee includes 1 lunch.

NOTE: Registrations on-site or those postmarked or sent after April 1, 2006 will be charged a \$15 late fee.

	<u>Fri.&Sat.</u>	<u>Sat. only</u>	Special Meal Requests
MCTM Member	_____ \$140.00	_____ \$ 90.00	Meal Tickets for Speakers or Non-registered Guests: _____ tickets for Friday lunch @\$16.50 = _____ _____ tickets for Saturday lunch @\$16.50 = _____ _____ vegetarian meals preferred
Non-member	_____ \$165.00	_____ \$ 115.00	
Student Member	_____ \$ 70.00	_____ \$ 45.00	
Student non-member	_____ \$ 82.50	_____ \$ 57.50	
Speaker	Registration fee waived – select and pay for meals using the table at the right		

There is no Friday only registration.

MCTM Dues

Circle one: new renewal do not need to renew

Indicate membership category:

_____ One year regular \$25.00

_____ Two year regular \$40.00

_____ One year undergrad student \$12.50

_____ One year retired \$12.50

I do not wish to have directory info published

Individuals should make their own lodging arrangements

For information about lodging and events in Duluth call 1.800.438.5884 or visit www.visitduluth.com

MCTM Foundation Contributions are optional but welcome!

I am willing to be a president

Amount Due & Method of Payment: ___credit card ___check ___ p.o. # _____ (copy attached)

Conference Registration/Meal Fee _____

Membership MCTM _____

Foundation Contribution (Optional) _____

Total Due _____

Credit card number _____

Expiration date _____

Type of card ___ Master Card ___ Visa ___ Discover

Signature if using credit card _____

Mail to: MCTM, P.O. Box 120418, New Brighton, MN 55112 or register online at www.mctm.org