



Mathachusetts

Official Newsletter of MASSMATE

Massachusetts Mathematics Association of Teacher Educators

Affiliate of the Association of Mathematics Teacher Educators

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Message from the President : Polina Sabinin

Let's take a moment to reflect on victories and essentials!

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When I speak with colleagues and other teacher educators, I find that we are all a little frazzled - trying to balance too many projects and initiatives in too little time! We get caught up in the frenzy of new initiatives to evaluate and support, new requirements to prepare for and meet, new research and standards to examine and incorporate. I think we need to take a moment to pause and reflect: reflect on our victories (big and small); refocus on the big ideas and essentials of what we do; and join with peers to help ground each other before returning to our everyday responsibilities.

One big victory is the overall quality of mathematics education in Massachusetts! With the expertise, determination, and efforts of policy makers, teacher educators, school leaders, teachers, parents, and students, our state consistently leads the nation and the world in mathematics achievement. For over 4 years, Massachusetts students have scored highest in the U.S. on NAEP. In 2007 we participated as a nation in the TIMSS administration and ranked in the top 6 worldwide. The Common Core State Standards have been, in part, modeled on what we do here. We lead the transformation that will require more and better mathematics for our high school students. Everywhere I go in the state, I hear impassioned conversations about integrating and refocusing middle and high school mathematics to ensure that our students are prepared for college, citizenship, and productive life.

Then there are smaller victories - victories that we see in our classes, our hallways, our department meetings. I think back to the student who had an Aha! moment about linear functions and slope when experimenting with

axis scales on his graphing calculator. Then, there is a teacher who engaged in a thoughtful conversation about taking first steps in differentiating instruction, a breakthrough since a few weeks earlier all I was hearing was "basic skills", "MCAS" and "Accuplacer". Another teacher, who has been doing wonderful things in her own classroom, chose to become a leader in her department. She initiated a discussion among her colleagues about how an effective math classroom should look, sound, and feel. Small victories are everywhere if we stop, look, and listen! Take a moment to think of two small victories that you observed in the last month.

Let's also take time to reflect on the big ideas and essentials of mathematics education. What is mathematics? Is it a set of facts, procedures, and concepts or a way of thinking and reasoning? What mathematics should be held as a capstone of K-12 education? What mathematics do our students need to learn and understand in order to make the best possible use of opportunities, feel the most empowered in whatever path they choose, and to have the most control of their life? How do we ensure that every student who walks into our schools has a genuine opportunity to learn worthwhile mathematics? What needs to be done to make sure that every child receives the kind of support that he or she needs to succeed? These are difficult questions requiring reflection and conversations - conversations among mathematicians and mathematics educators, school leaders, teachers, and students!

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Check out our web-home!

www.MASSMATE.net



Webmaster: Katie Thompson
webmaster@MassMATE.net



Massachusetts Mathematics
Association of Teacher Educators

and



MassMATE and Bridgewater State University announce our annual Symposium for Mathematics Teacher Educators

Preparing to Lead During Times of Change

Keynote: Commissioner Mitchell Chester

Massachusetts Department of Elementary and Secondary Education

May 25, 2011 8:00 a.m.—3:30 p.m.

Campus Center @ Bridgewater State University, Bridgewater, MA

As teacher educators, teachers of mathematics, professional development providers, district math specialists, and consultants, our members are regularly involved in supporting teachers as they work in their classrooms and with their students. Through this symposium we will explore strategies and resources that effective instruction.

Please visit www.MassMATE.net for more information.

Sample Session Topics:

Common Core State Standards

Overview

Connect Standards of Mathematical Practices to Mathematical Content

Response to Intervention

Overview

RTI and Professional Learning Communities

Assessment

Registration:

Early Bird Deadline May 13th, 2011 \$50.00

Full Price Deadline May 20th, 2011 \$60.00

Registration Fee includes

- ✓ MassMATE Annual Membership
- ✓ Symposium Registration
 - ✓ Breakfast
 - ✓ Lunch

Professional Development Model for Introducing Teachers and Students to Using Graphic Organizers in Math Class

Submitted by Carol Hynes
 Leominster Public Schools (retired) and currently
 presenting professional development programs throughout
 the US

incorporate the classroom format with two specific components: (1) students would work in groups of two or three to share what they knew about the word/term/graph/table/equation that was in the center of the web and (2) students would share their results with the whole class. The benefit was that both students and teachers could clearly see what students knew and what misconceptions they might have. The teacher could plan how to best meet students' needs when presenting the new material.

More than 10 years ago, our district started offering professional development for K-12 teachers with a focus on differentiation strategies, specifically using webs, word splashes, and other graphic organizers to support all learners. The presenters were knowledgeable and the examples they shared were interesting, but they were always for other contents areas-English Language Arts, Social Studies, Sciences- never for math.

As math teachers and math leaders, we decided to work together to find ways to use these organizers to help students access their prior math knowledge, build on it, connect topics across grade, and review. As our first effort, we decided to use the web, the strategy most familiar to students in other content areas. We agreed that it would work best in our math classes if we encouraged teachers and students to think and express ideas using specific guidelines for multiple representations: graphs, tables, equations, words/terms/expressions, and pictures.

As an example, here's a web for middle school that provides the fraction $80/100$ in the center of the web. Students brainstorm what it means, what they know about it, and other ways to represent it. The blank web is shown in figure 1 and the students' completed web is shown in figure 2. The students used post-its to place suggestions on the blank web and then the fully completed student's web was shown to the class using the document camera and LCD projector.

Communicate what you know about

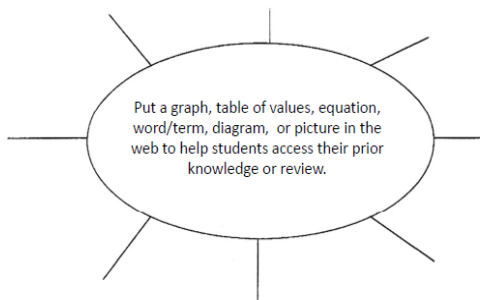


Figure 1

At our initial department meeting, we discussed the pros and cons of using a web to check for prior knowledge with students at the beginning of a new topic. To get real data and feedback about this idea, teachers were asked to use a web in one or more classes that they taught during the month interim between meetings. Teachers were asked to return with a prepared presentation modeling how they used a web with their students. The model was to

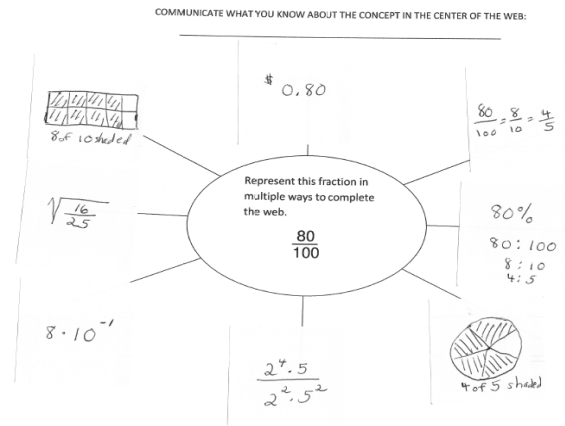


Figure 2

(Continued on Page 6)



Upcoming Conferences:

- ✦ **ATMIM Spring Conference**
Association of Teachers of Mathematics in Massachusetts
March 30, 2011
Marlborough, MA
www.ATMIM.net
- ✦ **AERA Annual Meeting**
American Educational Research Association
April 8 – 12, 2011
New Orleans, LA
www.AERA.net
- ✦ **AMS 2011 Spring Eastern Sectional Meeting**
American Mathematics Society
April 9-10, 2011
Worcester, MA
www.AMS.org
- ✦ **NCSM Annual Meeting**
National Council of Supervisors of Mathematics
April 11–13, 2011
Indianapolis, IN
www.MathEdLeadership.org
- ✦ **NCTM Annual Meeting & Exposition**
National Council of Teachers of Mathematics
April 13–16, 2011
Indianapolis, IN
www.NCTM.org/meetings
- ✦ **MAA MathFest 2011**
Mathematics Association of America
August 4-6, 2011
Lexington, KY
www.MAA.org
- ✦ **ATE's Summer Conference**
Association of Teacher Educators
August 5-9, 2011
Philadelphia, PA
www.ATE1.org
- ✦ **NCTM Regional Meetings**
National Council of Teachers of Mathematics
Atlantic City, NJ: Oct. 19-21, 2011
St. Louis, MO: Oct. 26-28, 2010
Albuquerque, NM: Nov. 2-4, 2011
www.NCTM.org/regionals.aspx
- ✦ **ATMNE 2011 Conference**
Association of Teachers of Mathematics of New England
November 9-10, 2011
Warwick, RI
www.ATMNE.net
- ✦ **AMTE 2012 Conference**
Association of Mathematics Teacher Educators
February 9-11, 2012
Fort Worth, TX
www.AMTE.net
- ✓ **MassMATE Symposium**
Preparing to Lead During Times of Change
 - Common Core Standards
 - Response to Intervention**May 25, 2011**
Bridgewater State University
Bridgewater, MA
www.MassMATE.net



Current Calls for Proposals:

- ✦ **April 1, 2011—Speaker proposal**
ATE's Summer Conference
Association of Teacher Educators
www.ATE1.org
- ✦ **May 1, 2011—Speaker proposal**
NCTM 2012 Annual Meeting
National Council of Teachers of Mathematics
www.NCTM.org/conferences
- ✦ **May 1, 2011 —Speaker proposal**
ATMNE 2011 Conference
Association of Teachers of Mathematics in New England
www.ATMNE.net
- ✦ **May 15, 2011—Speaker proposal**
AMTE 2012 Conference
Association of Mathematics Teacher Educators
www.AMTE.net
- ✦ **June 3, 2011—Speaker proposal**
NCSM 2012 Annual Meeting
National Council of Supervisors of Mathematics
www.mathedleadership.org
- ✦ **November 1, 2011—Speaker proposal**
NCTM Regional Meetings
National Council of Teachers of Mathematics
www.NCTM.org/conferences



Membership Report

Submitted by Stan Dick

While MassMATE is still a fairly young organization, and will be hosting only its sixth annual symposium this summer, as we go to press we have almost 200 members! Many of these members received their memberships as a bonus when they registered for last year's conference. In addition, a rapidly growing number are new members by virtue of recent registrations for the upcoming symposium. Even though we have only recently announced the conference, we are benefitting from a strong early flow of registrants, perhaps due to the excellent program we have planned, and the fact that Mitchell D. Chester, the Massachusetts Commissioner of Elementary and Secondary Education, will be our keynote speaker. In addition, a few teacher educators have joined as new mem-



bers recently, but have not, or have not yet registered for the conference. Our dues for membership remain at \$20 for regular members, or \$10 for students or those who have retired. We continue to draw members from all areas and levels of math teacher education, with leaders of math teacher education groups comprising our largest and fastest growing sector. Our ranks include Professors and Students in Graduate Colleges of Education and Mathematics Departments; Chairs of Math Departments; K-12 Principals, Superintendents, Program Directors, Center Directors, Coordinators, Teachers, Lead Teachers, Title I Teachers, Developmental Specialists, Coaches and Coach Coordinators; District and Department Mathematics Specialists; Curriculum Specialists and Directors; Professional Development Providers and Targeted Math Assistance Coordinators. As our membership grows, so do the opportunities to connect with others interested in teacher education. These opportunities are furthered by our newsletters, our website, and especially our symposia.

Getting involved in MASSMATE

Contribute to Mathachusetts



We value our member's thoughts and contributions! Please consider writing an article for *Mathachusetts*.

Also, let us know of any notewor-

thy events, projects, or programs occurring in your district or school, so that we may consider including it in *Mathachusetts* or on our website!

Please contact Cathy Draper at newsletter@MassMATE.net with your submissions.

Advertising in Mathachusetts

Mathachusetts will be publishing advertisements related to Mathematics Education. For more information, formats, fee schedules, and to obtain an application, please contact us at sponsor@MassMATE.net

Please note that by publishing an advertisement, MassMATE does not imply endorsement of the advertised product or the company.

New Positions Available

The Department of Mathematics & Statistics at the University of New Hampshire, Durham invites applications for a tenure-track position in Mathematics Education at the assistant professor level. Expected start date, August 2011. Email [Karen J. Graham, Ph.D. Professor, Department of Mathematics and Statistics](mailto:karen.graham@unh.edu) karen.graham@unh.edu for more information.

The Department of Mathematics Education at Brigham Young University seeks applications to fill a continuing faculty status (similar to tenure) track position at the Assistant Professor level, to begin August 22, 2011. Applicants must apply on-line <https://yjobs.byu.edu> and attach online a letter of application and current curriculum vitae

Alabama Professional Development Still in Focus After 10 Years

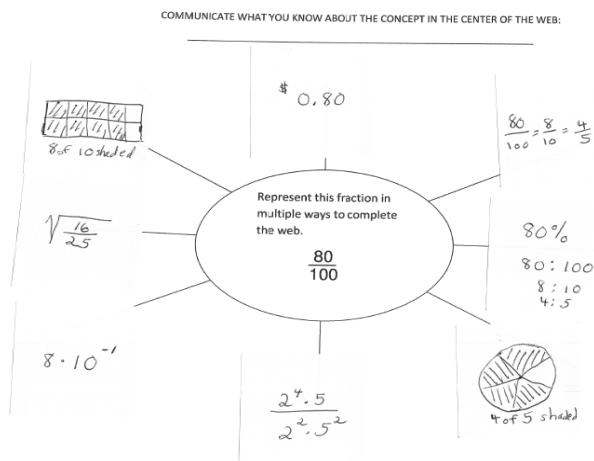
In 1999, then State Superintendent of Education Dr. Ed Richardson, and Deputy State Superintendent of Education, Dr. Joseph B. Morton, decided that there was a serious need to improve math and science instruction across Alabama. In January 2000, the State Department of Education (SDE) appointed a Blue Ribbon committee. This committee was composed of some of the state's best Grade K-12 teachers and administrators, university faculty and administrators, and leaders from business and industry. The Blue Ribbon committee pursued every step possible to design the most effective statewide initiative for improving math and science teaching. The Alabama program was named Alabama Math Science

and Technology Initiative (AMSTI) and has expanded annually to include more teachers, schools, and university involvement to benefit all of Alabama school students.

Fast forward to 2010, the FY 2010 state budget was \$29 million for the AMSTI line item after several years of successful work with AMSTI teachers and students.

Additional information about AMSTI can be found at www.amsti.org.

Professional Development Model for Introducing Teachers and Students to Using Graphic Organizers in Math Class (continued from page 3)



At the subsequent department meetings, the teachers brought samples of the webs they'd introduced in math class and also brought samples of completed webs to share what students knew and were able to do. We also used a teacher summary sheet for each web that included information about the topic in the web with addressed standards, the classes in which the web was being used, explanations of how it was used (to check for prior knowledge, to review before class, district, and state assessments). We also incorporated sections for both student and teacher reflections on the benefits of using the web plus the teacher's suggestions for their colleagues.

For two school years, we worked together at our monthly curriculum/department meetings learning about new differentiated instruction strategies. These strategies were then classroom tested by our teachers, first introducing them to

their own students and then using them over the course of the month. Just as we did with the webs, we shared our samples and student work with our colleagues at the next meeting.

We were having such positive results with the strategies that we wanted to be able to share them throughout the middle school and high school math department in all our schools. We set up a folder on our district web site so that all teachers could access the sample graphic organizers and strategies we implemented to support our students. We organized the materials by type of organizer and by strand from the curriculum frameworks. We added teacher notes so that new staff would have a way to get started using them with their students.

As of now, we've moved our materials to the UMASS Medical School Regional Science Resource Center web site <http://www.umassmed.edu/MathGraphicOrganizers.aspx?linkidentifier=id&itemid=49072>. Teachers from around the area and around the world have access to hundreds of organizers, lessons, and labs that were created by teachers from our district and from around the state. You could say that our differentiated instruction strategies developed in Leominster have now gone viral so that we can share our classroom tested materials with all math teachers - (1) strategies to access their students' prior math knowledge plus (2) instructional strategies to help students make connections across grade levels and courses.

Mathematics and Computer Science Collaborative at Bridgewater State University

The Mathematics and Computer Science (MACS) Collaborative at Bridgewater State College has a proud twenty-two year history of providing meaningful professional development for area mathematics educators. It is the Collaborative's goal to provide opportunities for teachers to see the "big picture" of improved mathematics teaching and learning through experiences that broaden and deepen their own understanding of mathematics concepts and effective pedagogy. Each year, MACS develops a series of workshops based upon a carefully selected and relevant theme. This year's theme is *Manipulatives and Modeling Make Math Meaningful*.

Each of the four seminars presented this school year offer four sessions for teachers to choose from based on

their grade level (PreK-3, 4-6, 7-8, 9-12). Most of the sessions are presented in two parts and focus on a particular strand of the Massachusetts Mathematics framework, allowing teachers to take the learning back to their classrooms before reconvening for a follow-up session. The grades 9-12 sessions this year will also offer workshops on Moodle and Accuplacer.

The dates for this year's seminars are April 8th and May 19th. The seminars begin at 4:00 p.m. (registration is at 3:30) and end at 7:00, followed by dinner from 7:00 to 8:00. For additional program and registration information, please visit the





MACS website at: <http://www.bridgew.edu/MathCS/MACSCollaborative.cfm>.



BRIDGEWATER
STATE UNIVERSITY

Useful Links:

-  Massachusetts Mathematics Association of Teacher Educators (MassMATE)
www.MassMATE.net
-  Association of Mathematics Teacher Educators (AMTE)
www.AMTE.net
-  Association of Teachers of Mathematics in Massachusetts (ATMIM)
www.ATMIM.org
-  National Council of Supervisors in Mathematics (NCSM)
www.mathedleadership.org
-  National Council of Teachers of Mathematics (NCTM)
www.NCTM.org
-  Massachusetts Department of Elementary and Secondary Education Professional Development
www.doe.mass.edu/pd
-  National Council on Teacher Quality (NCTQ)
www.NCTQ.org
-  MathForum
www.MathForum.org
-  Association of Teachers of Mathematics of New England (ATMNE) www.ATMNE.org

-  Triangle Coalition for Science and Technology Education
Triangle Coalition Electronic Bulletin (TCEB)
www.triangle-coalition.org
-  Education Development Center (EDC)
www.edc.org
-  Salem State Collaborative Project for Mathematics, Science, and Interdisciplinary Education (CPMSIE)
www.rsimons.org/cpmsiemay2009/
-  Mathematics and Computer Science (MACS) Collaborative at Bridgewater State College
www.bridgew.edu/MathCS/MACSCollaborative.cfm



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MASSMATE's Purposes and Goals

The Massachusetts Mathematics Association of Teacher Educators (MassMATE) is a nonprofit organization whose purpose is to provide a forum for mathematics teacher educators to communicate with each other and collaborate with other groups interested in the teaching of mathematics in the state of Massachusetts. Specifically, the goals of MassMATE are to:

- promote **leadership** among mathematics teacher educators;
- serve as a **forum** for ideas and resources in mathematics teacher education;
- encourage **research** related to mathematics teacher education;
- promote quality **undergraduate** and **graduate** programs in mathematics education;
- encourage and support professional development programs for **in-service** teachers;
- encourage and support professional development programs for **postsecondary faculty** involved in mathematics education;
- facilitate **communication and collaboration** among **professionals** involved in mathematics education and mathematics teacher education at all levels;
- facilitate **communication and collaboration** among members of educational **administrative** units, such as departments of mathematics and departments of education;
- coordinate activities and work collaboratively with **other associations** and organizations concerned with the preparation and professional development of mathematics teachers;
- work cooperatively with the **federal and state** agencies to enhance the mathematical, pedagogical, and clinical **preparation of teachers** of mathematics at all levels with respect to criteria for credentialing and licensing teachers in Massachusetts.



Share these with a colleague and have them join MassMATE today!

President's message continued ...

Let's have these conversations – in our homes, in our schools, and in our greater education community! We'll start! On May 25th, MassMATE will host our annual Symposium with the focus on the Common Core State Standards and Response to Intervention. We are excited to welcome Commissioner Mitchell Chester as our keynote and a line-up of exciting and knowledgeable speakers to lead our sessions. Please check our website for up-to date information! We hope that you are able to join us at Bridgewater State University to learn, share, and discuss!

On a final note, I would like to thank all of you and the MassMATE board for the hard work you do! I am honored to have been the president of MassMATE for two exciting and productive years. As my tenure comes to an end on May 25th, Paula Sennett will take the helm. Paula's wisdom, energy, and commitment to MassMATE have been invaluable ever since she was elected to the board in 2008. I look forward to learning from her leadership and supporting her as she leads us through the challenges and victories of the next two years!

I look forward to seeing you on May 25th at Bridgewater State University!

Remember, it's all about the kids!