



# Mathachusetts

Official Newsletter of MASSMATE

Massachusetts Mathematics Association of Teacher Educators

Affiliate of the Association of Mathematics Teacher Educators

Fall 2011

Volume 6, Issue 1

## Message from the President : Paula Sennett

### Never a Dull Moment!

#### Special points of interest:

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One thing we can say for sure is that the role of mathematics teacher leader is never boring! Our plates are always full as we work to:

- train, recruit, hire, mentor, and retain the best teachers
- remain state of the art with respect to mathematics education
- remain state of the art with respect to technology and its appropriate use in mathematics education
- effectively share best practices with the teachers with whom we work and strive to help them be effective and reflective practitioners
- select and implement the best curricula and curriculum materials (and this with ever decreasing financial resources)
- align the curriculum with our state's standards
- interpret the results of our students' performance on standardized tests and use this analysis to improve future performance

And the list goes on. Some of you may be amazed that I could write almost a whole paragraph without addressing the elephant in the room - **The Common Core State Standards** or, in Massachusetts, the new Massachusetts Curriculum Frameworks. Well, the tasks listed above are key to our effectively addressing these standards. As we work to align our curriculum, materials and pedagogy with these new guidelines, we will continue to do what we have done since our own state standards evolved. The good news is that we will be doing

this along with the mathematics teacher leaders in 47 other states and will have the ongoing support of national organizations such as the National Council of Supervisors of Mathematics and the Association of Mathematics Teacher Educators.

Working with school districts in Massachusetts and surrounding states, I hear similar conversations related to the changes that the new standards will require with respect to content - what is to be taught at what grade level, when does this have to happen, and what curriculum materials will best support these changes. What I hope to also hear are conversations related to what instructional practices will help our students to become mathematically proficient at whatever grade level and with whatever content.

When the National Council of Teachers of Mathematics developed the National Standards more than ten years ago, they outlined both content and process standards. The unfortunate truth was that the process standards often received short shrift, with the focus remaining on content and skills. The overarching themes articulated in the Guiding Principles and Standards for Mathematical Practice must not take a back seat to content. As teacher leaders it is our responsibility to see that our mathematics programs address the Guiding Principles and that our teachers' instructional practices develop in their students the

Continued on Page 4

Check out our web-home!

[www.MASSMATE.net](http://www.MASSMATE.net)



Webmaster: Katie Thompson  
[webmaster@MASSMATE.net](mailto:webmaster@MASSMATE.net)



Massachusetts Mathematics  
Association of Teacher Educators

and



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

**Teacher Leaders Making it Happen:  
Bringing the Guiding Principles and  
Standards for Mathematical Practice into  
the Mathematics Classroom**

### Keynote: Steve Leinwand

Principal Research Analyst at the American Institutes for Research  
and Past President of NCSM

**May 23<sup>rd</sup>, 2012**

**Bridgewater State University, Bridgewater, MA**

Please visit [www.MassMATE.net](http://www.MassMATE.net) for more information.

**Space is limited and registration is required (no on-site registration),  
so register early!**

#### **Registration:**

Early Bird Deadline May 11th, 2012 \$50.00  
Full Price Deadline May 18th, 2012 \$60.00

#### Registration Fee includes

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

For further information e-mail Conference Chair:  
Polina Sabinin  
[Symposium@MassMATE.net](mailto:Symposium@MassMATE.net)

## Talking in Math Class —

### Some Advice for Mathematics Teacher Educators

Submitted by Nancy Anderson

As an educator profoundly interested in the relationship between classroom discourse and student learning, I'm absolutely thrilled that the third mathematical practice of the Common Core State Standards for Mathematics reads, "construct viable arguments and critique the reasoning of others." My interest in classroom discourse (also called discourse-intensive instruction, math talk or accountable talk) started during my very first year of teaching when I was blessed to be the protégé of two masters in the field - Suzanne Chapin and Catherine O'Connor. Because of what I learned from Drs. Chapin and O'Connor, pressing students to make their reasoning explicit and prompting them to respond to the thinking of others have become my *modus operandi* as a math teacher. Questions such as "Who can repeat what Maria just said?" and "How is Maria's strategy related to what Tim presented earlier?" permeate my work as a teacher of elementary, secondary and college students. As a professional development provider, I'm often asked how math coaches, department chairs, and administrators can help teachers increase the amount of productive math talk in their classes. When I'm asked for my advice (and sometimes even when I'm not), I usually suggest the following as a good place to start.

- **Model by example.** Steep your department meetings with math talk. Present an open-ended and cognitively demanding math problem. Ask teachers to present their own solution strategies and respond to those presented by their colleagues. Make this the first item on every agenda. Don't use the excuse that there's too many administration tasks to make time to talk about math. If we preach that communication should permeate our math classes, it must permeate our meetings as well.
- **Assure teachers that it's still okay to "tell".** Sometimes educators interpret recommendations for discourse-intensive instruction as condemnations of direction instruction. They envision classrooms where students talk directly to each other without any input from the teacher. But empirical research on the use of discourse shows that the teacher must stay as actively engaged in classroom discussions as he does when giving a more formal presentation. Reminding students of a similar problem when they reach an

impasse, offering a counterexample when students are converging on a compelling but flawed conjecture, or stepping in when mathematical arguments turn personal are just three examples highlighting the teacher's role in keeping math talk productive. Math coaches and department chairs can help teachers use discourse productively by assuring them that student talk and teacher talk are complementary aspects of effective mathematics instruction.

- **Leave the checklist at the door.** Let's imagine the following scenario: You are department chair or administrator in the midst of a classroom observation. The teacher you are observing calls on a student to explain her strategy for finding the volume of a rectangular prism. The student's initial response is unclear and incomplete. In the course of four follow-up questions, each one aimed at explicating a specific part of the student's strategy, the teacher helps the student describe a viable and efficient way to find the volume using the idea of layering. In her responses, the student occasionally refers to the units used to measure volume as squares rather than cubes. The checklist on your clipboard has one line that reads, "Teacher asks questions that help students clarify their own reasoning," and another that reads, "Teacher encourages students to specify and apply appropriate units of measure." Which do you check? Neither, both, one but not the other? My position would be to abandon the checklist entirely. Assessing whether or not a discussion is helping students learn is far more complicated than checking boxes on a list.

As illustrated in this hypothetical (but typical) example, helping students formulate robust explanations and use precise mathematical language are two effective practices that sometimes stand at odds when used in actual practice. Rather than looking for teaching practices in a process-product fashion, those who seek to assess a teacher's use of classroom talk should ask, "What information about the student's understanding was gleaned from this teacher-student sequence?" Answering this question requires professional knowledge, time, and a lot of hard work. But just as we have acknowledged the complexities of communicating about mathematics in the classroom, so too must we acknowledge the complexities of communicating about teaching mathematics.

## Talking in Math Class — Continued...

I would not have committed to using math talk in math classes if it weren't for the support I received from my mentors, Suzanne Chapin and Catherine O'Connor. When I was discouraged after a particularly unproductive discussion, they would remind me how hard this kind of instruction was for me -- and my students! When I succeeded in facilitating a discussion about complex mathematical ideas, their enthusiasm was contagious and emboldened me to use talk more and more. My success using discourse to help students learn rests on the shoulders of my mentors and convinces me that mathematics teacher leaders play a vital role in transforming classrooms into the mathematical discourse communities envisioned in the Common Core.

### References:

- Chazan, D. & Ball, D. (1999). Beyond being told not to tell. *For the Learning of Mathematics*, 19, 2–10.
- Franke, M.L., Webb, N., Chan, A.G., Ing, M., Freund, D. & Battey, D. Teacher questioning to elicit students' mathematical thinking in elementary school classrooms.
- O'Connor, M.C. (2002). Can any fraction be turned into a decimal: A case study of a mathematical group discussion. *Educational Studies in Mathematics*, 46, 143–185.

**Nancy Anderson** is a former elementary and middle school mathematics teacher and a current doctoral candidate in mathematics education at Boston University. She is the co-author of *Classroom Discussions: Seeing Math Discourse in Action*, a Math Solutions/Scholastic publication. She can be reached at nan@bu.edu.



### Message from the President Continued...

mathematical proficiencies required for students to be successful in their study and use of mathematics.

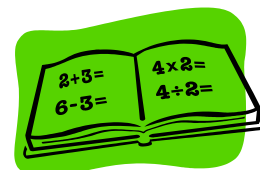
Let's add another bullet to our list of things we need to work on:

- assist the educators with whom we work in their efforts to make the Guiding Principles and Standards for Mathematical Practice live in their classrooms.

This bullet captures the theme for MassMATE this year - "Teacher Leaders Making it Happen: Bringing the Guiding Principles and Standards for Mathematical Practice into the Mathematics Classroom"

Yes, our plates are full and there's never a dull moment, but working together and collaborating with those who share the same responsibilities we can work effectively to get it all done!

I look forward to working with the many members of MassMATE during this, my first year as president, and to carrying on the excellent traditions established by my predecessors as we work to fulfill the mission of MassMATE: *to promote the improvement of mathematics teacher education at all levels*. The board of MassMATE wishes you a successful school year and we hope to see you at our Symposium at Bridgewater State University on May 23, 2012.



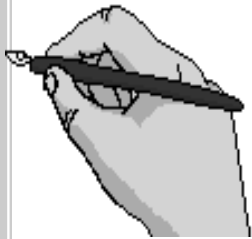
## Membership Report

Submitted by Membership Chair, Stan Dick

We have broken another record! As we go to press MassMATE has almost 230 members! This is a new record, and an increase of about 20%. All but a dozen or so of these members attended our very successful conference in May of this year. We continue to draw from a very broad spectrum of education professionals, and we are gratified that these leaders feel that the MassMATE association and our conferences are important sources of information for their careers, as well as good places to learn about and work with others of similar interests. Thank you for your support, as we persevere together in educational leadership in times that are difficult for all of us.

## 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 noteworthy 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](mailto: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](mailto:sponsor@MassMATE.net)

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

## Upcoming Conferences

### ‡ NCTM Regional Meetings

National Council of Teachers of Mathematics  
Albuquerque, NM: Nov. 2-4, 2011  
[www.NCTM.org/regionals.aspx](http://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](http://www.ATMNE.net)

### ‡ AMTE 2012 Conference

Association of Mathematics Teacher Educators  
February 9-11, 2012  
Fort Worth, TX  
[www.AMTE.net](http://www.AMTE.net)

### ‡ AMS 2011 Spring Eastern Sectional Meeting

American Mathematics Society  
March 17-18, 2012  
Washington, DC  
[www.AMS.org](http://www.AMS.org)

### ‡ ATE's Winter Conference

Association of Teacher Educators  
April 2-4, 2012  
University of Coimbra, Portugal  
[www.ATE1.org](http://www.ATE1.org)

### ‡ AERA Annual Meeting

American Educational Research Association  
April 13-17, 2012  
Vancouver. British Columbia, Canada  
[www.AERA.net](http://www.AERA.net)

### ‡ NCSM Annual Meeting

National Council of Supervisors of Mathematics  
April 23-25, 2012  
Philadelphia, PA  
[www.MathEdLeadership.org](http://www.MathEdLeadership.org)

### ‡ NCTM Annual Meeting & Exposition

National Council of Teachers of Mathematics  
April 25-28, 2012  
Philadelphia, PA  
[www.NCTM.org/meetings](http://www.NCTM.org/meetings)

### ‡ MAA MathFest 2011

Mathematics Association of America  
August 2-4, 2012  
Madison, WI  
[www.MAA.org](http://www.MAA.org)



## Conference, Reception, Conference!

Submitted by Conference Chair, Polina Sabinin


We are happy to report that 2011 Symposium was our most successful yet! For the second year in a row, we had to close registration days before the conference! Our attendance increased by more than 50% from the year earlier and we filled the huge ballroom to capacity. The theme for the conference was “Preparing to Lead in Times of Change” with a focus on the Common Core State Standards and Response to Intervention. Commissioner Mitchell Chester joined the conference as the Keynote speaker. Sessions were lead by teacher educators who are leaders in their field. By partnering with ESANE, the number of exhibitors almost tripled from 2011. In 2011, our symposium also found a new home at Bridgewater State University. We are grateful to BSU for their generous support and hope to continue the partnership for years to come. To everyone who made it such a success we take off our hats in gratitude!


The board does not rest for long, however, and we are busy planning our reception at the ATMNE conference in Warwick, RI and our 2012 symposium. If you are attending the ATMNE conference, please join us for drinks and dessert on November 9<sup>th</sup> at 6:30 pm in the Newport Room.


Now, get those calendars! Our 2012 symposium will be on May 23<sup>rd</sup>, 2012 at Bridgewater State University! The theme for this year is “*Teacher Leaders Making it Happen: Bringing the Guiding Principles and Standards for Mathematical Practice into the Mathematics Classroom*”. Our keynote speaker will be Steve Leinwand, Principal Research Analyst at the American Institutes for Research and Past President of NCSM. We are expecting another record attendance, so make sure to register early!


For more information on the past and future happenings, visit us at [www.MassMATE.net](http://www.MassMATE.net).

### Useful Links:


 Massachusetts Mathematics Association of Teacher Educators (MassMATE)  
[www.MassMATE.net](http://www.MassMATE.net)


 Association of Mathematics Teacher Educators (AMTE)  
[www.AMTE.net](http://www.AMTE.net)


 Association of Teachers of Mathematics in Massachusetts (ATMIM)  
[www.ATMIM.org](http://www.ATMIM.org)


 National Council of Supervisors in Mathematics (NCSM)  
[www.mathedleadership.org](http://www.mathedleadership.org)


 National Council of Teachers of Mathematics (NCTM)  
[www.NCTM.org](http://www.NCTM.org)

 Massachusetts Department of Elementary and Secondary Education Professional Development  
[www.doe.mass.edu/pd](http://www.doe.mass.edu/pd)


 National Council on Teacher Quality (NCTQ)  
[www.NCTQ.org](http://www.NCTQ.org)


 MathForum  
[www.MathForum.org](http://www.MathForum.org)

 Association of Teachers of Mathematics of New England (ATMNE) [www.ATMNE.org](http://www.ATMNE.org)

 Triangle Coalition for Science and Technology Education  
Triangle Coalition Electronic Bulletin (TCEB)  
[www.triangle-coalition.org](http://www.triangle-coalition.org)

 Education Development Center (EDC)  
[www.edc.org](http://www.edc.org)

 Salem State Collaborative Project for Mathematics, Science, and Interdisciplinary Education (CPMSIE)  
[www.rsimons.org/cpmsiemay2009/](http://www.rsimons.org/cpmsiemay2009/)

 Mathematics and Computer Science (MACS) Collaborative at Bridgewater State College  
[www.bridgew.edu/MathCS/MACSCollaborative.cfm](http://www.bridgew.edu/MathCS/MACSCollaborative.cfm)





## Calling All Mathematics Teacher Educators

Are you attending the ATMNE Conference in Warwick, RI?

If so, please join us at the **MassMATE Reception**

co-sponsored by

**MassMATE**

*www.MassMATE.net*

**MathMITT**

*www.MathMITT.com*

**Texas Instruments**

*www.Education.TI.com*

November 9<sup>th</sup> at 6:30 pm - Newport Room - Crowne Plaza Hotel

*Dessert, beverages, cash-bar, and give-aways!!!*

### Treasurer's Corner

Submitted by Treasurer, James Kearns

Thanks to your participation in the spring MassMATE conference, increased membership, and generous hosting by Bridgewater State University, we were able to bolster our coffers this year! We have big plans for how to use this money to improve our services to our members including an updated website and our version of a listserv to facilitate more communication between mathematics teacher educators. We also have been granted non-profit status by the federal government, and plan to apply for non-profit mailing status through the post office which will help lessen the cost of future mailings.



## Board of Directors of MASSMATE:

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newsletter@MassMATE.net

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symposium@MassMATE.net

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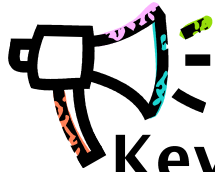
## MASSMATE's Purposes and Goals

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!*



## The MassMATE Symposium

## Keynote Speaker Has Been Announced!

*Don't miss our very special keynote speaker*

### **Steve Leinwand**

*Principal Research Analyst at the American Institutes for Research and*

*Past President of NCSM*