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# PCSM NEWSLETTER

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Leaders in Mathematics Education

May 2007

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PENNSYLVANIA COUNCIL OF SUPERVISORS OF MATHEMATICS

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## PRESIDENT'S MESSAGE

*From the President*

- Mary Foley

Be careful what you wish for! We waited the whole winter for snow, and now that it finally arrived it refuses to leave: April 15, and 12 inches of snow have arrived with a Nor' Easter! I hope you have found some time to relax now that the PSSA's are completed and pressure is off both the teachers and students.

Our 30th Annual meeting will be held at the Raddison Hotel in Valley Forge on Thursday November 8, 2007. Please plan to attend, and invite and encourage your colleagues to accompany you. Jane Wilburn and Carolyn Marchand are in the process of setting up the program and promise to have informative and interesting sessions. Arlene Dowshen, Kathy Hebert, and Hank Field have spent many hours updating the Constitution and it will be ready for your approval. (A copy is enclosed here.) Many thanks to them for all their hard work.

**Please check the date on the mailing label of the newsletter. If the date is 2007 (07) or earlier, it is time to renew your membership. Save money by renewing for three years. If each of us signs up a new member, our membership will double!**

February's newsletter had an excellent report on the Curriculum Focal Points for Pre-K through 8th grade. I hope you have taken advantage of the free download on [www.NCTM.org](http://www.NCTM.org). The Focal Points are an excellent resource. They provide examples of the KEY mathematical ideas or topics on which others build and offer a focused framework to guide school districts as they revise their curriculum and assessment programs.

Don't forget to send nominations for annual awards to Gen Battisto. I am sure you know several worthy candidates who would appreciate being nominated.

I hope by the time you read this that spring has arrived in your area and you are enjoying warm sunny days and looking forward to some well-earned rest and relaxation.

Mary Foley

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*From the Editor*- **Cathy Schloemer**

What is the probability of rain, of snow, or of sunshine today? There might be 100% probability of each, given recent forecasts! I would like to add that I hope there is 100% probability that you will ask a colleague to join PCSM. Every year, we have an excellent conference (with excellent food too!) in conjunction with PCTM. The three newsletters each year should also give you quick access to professional opportunities, electronic resources, and the latest news in the world of mathematics education. Besides, PCSM lets you meet and work with colleagues who are mathematics leaders from all over the state. It's a bargain at the price! Please invite a colleague to join.

You'll notice we are enclosing a copy of the new PCSM Constitution. Thank you to Arlene Dowshen, Kathy Hebert, and Hank Field for all their hard work to update this document.

As always, my deepest gratitude goes to Chris Czapleski for her continuing work as PCSM proofreader and suggestion giver. Chris, I would not want to do this without you!

What else would you like to see in the newsletter? Would you like to contribute a suggestion or even an article? Please send correspondence to me at:

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**THE NCTM REPRESENTATIVE'S 2007 REPORT**

Each year at the annual meeting of the National Council of Teachers of Mathematics (NCTM), representatives from NCTM Affiliate Groups are invited to participate in Regional Caucuses and a Delegate Assembly. The Delegate Assembly is NCTM's formal structure for Affiliates to make recommendations about mathematics education issues or Council operational issues.

**PCSM NEWSLETTER****THE 2007 EASTERN REGIONAL CAUCUS**

It is a pleasure to report that the Eastern Regional Caucus at the 2007 Annual Meeting of NCTM in Atlanta, Georgia was very beneficial. The Caucus did indeed fulfill the goal of providing an opportunity for delegates and alternates to meet informally to share information and to discuss and revise proposed resolutions.

Dick Evans from Plymouth, New Hampshire presided over the Caucus held on March 21, 2007. Bill Barnes from Baltimore, Maryland was the other Affiliate Service Committee (ASC) member directing our Caucus. The NCTM Board of Directors who attended our Caucus were Jim Rubillo, Henry Kepner, Beatriz D'Ambrosio, Marshalyn Baker, and Jacqueline Smith. The representatives/alternates who attended from Pennsylvania included Chris Czapleski, Mary Lou Metz, Nina Girard, Winnie Peterson, and myself.

Evans began the Caucus by asking each representative/alternate to introduce herself/himself and cite an affiliate success and an affiliate problem that had occurred in the last year. This proved to be an excellent way for us to share good ideas and to learn more about NCTM representatives in our region. The District of Columbia Representative reported that they were involving Charter School teachers in their organization and described their "Mathematics on the Mall" program. A New York Affiliate had increased membership by having each member "bring someone with you" to meetings; this group also designed a Leadership Summit for school decision-makers.

When Evans called for resolutions, one Affiliate came forth with a new resolution. This resolution began by commending NCTM for its development of the K-8 Curriculum Focal Points. However, "we understand that there is a similar project in place for the 9-12 level. We resolve that the review process for this new project include more input from the general membership." We discussed, rewrote and revised this resolution; the result was Resolution 0.NR.07.02 detailed in the following Report on the Delegate Assembly.

**THE 2007 NCTM DELEGATE ASSEMBLY**

Delegates from approximately 110 Affiliates met on Thursday, March 22nd in the Georgia World Congress Center. NCTM President Skip Fennell presented charters to three new Associate Affiliates (East Alabama, St. Croix in Virgin Islands, and Northern Iowa) and one new Student Affiliate (Gwinnett County, Georgia). Fennell then delivered the President's Report addressing such topics as the National Mathematics Advisory Panel,

NCTM Strategic Priorities, Curriculum Focal Points, and Leadership Development.

Hank Kepner, NCTM's president-elect, presided over the Delegate Assembly. The following resolutions were presented to the assembly, voted on, and passed by the delegates.

*Resolution 0.NR.07.01\* (passed)*

Be it resolved that the Delegate Assembly recommend to the NCTM Board of Directors that the Western Caucus will meet following the opening session of the NCTM Annual Meeting and Exposition in Salt Lake City (2008) and Washington, DC (2009) as a pilot. (Initiated by the Western Caucus.) Supporting comments stated that to attend a Delegate Caucus that convenes at 2:00 p.m., many delegates need to travel the day before the meeting. This requires loss of a work day and need for an extra night's lodging.

*Resolution 0.NR.07.02 (passed)*

Be it resolved that the Delegate Assembly recommend to the NCTM Board of Directors that the review and release process for the grades 9-12 mathematics curriculum project include an opportunity for input from the general membership. (Initiated by the Eastern Caucus.) It was felt that there was little input from the general membership in formulating the K-8 Curriculum Focal Points and the delegates asked to be included in the 9-12 curriculum project. Teachers affected by a project should be included in its formulation.

*Resolution 0.NR.07.03 (passed)*

Be it resolved that the Delegate Assembly recommend to the NCTM Board of Directors that in order to qualify for the Leadership Circle the percentage of the Partner Affiliate's membership who are NCTM members should be a tiered structure with at least three levels. (Initiated by the Southern Caucus.) My opinion: This resolution reminded me of Lake Wobegon "where all the children are above average." Delegates who voted for this resolution seemed to want recognition for very little participation. Originally 75% of an Affiliate's membership needed to be members of NCTM to qualify for the Leadership Circle. This percentage was dropped to 65%, and this proposal originally asked for recognition if 25% of the Affiliate's members belonged to NCTM.

These resolutions are forwarded to the NCTM Board of directors for review at its July meeting. The Board's response to the resolutions will be reported in our next PCSM newsletter.

Respectfully submitted by Ann Massey  
NCTM Representative for PCSM

\*The first character in each resolution identifier indicates whether the resolution pertains to mathematics education ("M") or to the operational programs of the Council ("O"). The second character indicates whether the resolution is referred to another NCTM committee ("R").)

## **Addition to the PCSM 29<sup>th</sup> Annual Meeting Minutes Thursday, October 26, 2006**

Janie Zimmer, NCSM Director, awarded two \$50 gift certificates, one to the person whose birthday was closest to Christmas and the other to the person whose birthday is closest to 10/26. Thank you, Janie.

The meeting was adjourned at 1:15 PM.

### **New Findings on Math Anxiety**

Researchers: Math anxiety saps working memory needed to do math

SAN FRANCISCO, California (Reuters) -- Worrying about how you'll perform on a math test may actually contribute to a lower test score, U.S. researchers said on Saturday.

Math anxiety -- feelings of dread and fear and avoiding math -- can sap the brain's limited amount of working capacity, a resource needed to compute difficult math problems, said Mark Ashcroft, a psychologist at the University of Nevada Las Vegas who studies the problem.

"It turns out that math anxiety occupies a person's working memory," said Ashcroft, who spoke on a panel at the annual meeting of the American Association for the Advancement of Science in San Francisco.

Ashcroft said while easy math tasks such as addition require only a small fraction of a person's working memory, harder computations require much more. Worrying about math takes up a large chunk of a person's working memory stores as well, spelling disaster for the anxious student who is taking a high-stakes test.

Stress about how one does on tests like college entrance exams can make even good math students choke. "All of a sudden they start looking for the short cuts," said University of Chicago researcher Sian Beilock.

Although test preparation classes can help students overcome this anxiety, they are limited to students whose families can afford them.

Ultimately, she said, "It may not be wise to rely completely on scores to predict who will succeed."

While the causes of math anxiety are unknown, Ashcroft said people who manage to overcome math anxiety have completely normal math proficiency.

Source: CNN.com, Tuesday, February 20, 2007. See <http://www.cnn.com/2007/EDUCATION/02/19/math.anxiety.reut/index.html> as reported by Jerry P. Becker [jbecker@siu.edu](mailto:jbecker@siu.edu)

On this same subject, a more detailed article, "Understanding 'Math Anxiety'" by Sean Cavanaugh, appeared in *Education Week*, 2/21/07.

## Students' View of Intelligence Can Help Grades

By Michelle Trudeau

A new study in the scientific journal *Child Development* shows that if you teach students that their intelligence can grow and increase, they do better in school.

All children develop a belief about their own intelligence, according to research psychologist Carol Dweck from Stanford University.

"Some students start thinking of their intelligence as something fixed, as carved in stone," Dweck says. "They worry about, 'Do I have enough? Don't I have enough?'"

Dweck calls this a "fixed mindset" of intelligence.

"Other children think intelligence is something you can develop your whole life," she says. "You can learn. You can stretch. You can keep mastering new things."

She calls this a "growth mindset" of intelligence.

Dweck wondered whether a child's belief about intelligence has anything to do with academic success. So, first, she looked at several hundred students going into seventh grade, and assessed which students believed their intelligence was unchangeable, and which children believed their intelligence could grow. Then she looked at their math grades over the next two years.

"We saw among those with the growth mindset steadily

increasing math grades over the two years," she says. But that wasn't the case for those with the so-called "fixed mindset." They showed a decrease in their math grades.

This led Dweck and her colleague, Lisa Blackwell, from Columbia University to ask another question.

"If we gave students a growth mindset, if we taught them how to think about their intelligence, would that benefit their grades?" Dweck wondered.

So, about 100 seventh graders, all doing poorly in math, were randomly assigned to workshops on good study skills. One workshop gave lessons on how to study well. The other taught about the expanding nature of intelligence and the brain.

The students in the latter group "learned that the brain actually forms new connections every time you learn something new, and that over time, this makes you smarter."

Basically, the students were given a mini-neuroscience course on how the brain works. By the end of the semester, the group of kids who had been taught that the brain can grow smarter, had significantly better math grades than the other group.

"When they studied, they thought about those neurons forming new connections," Dweck says. "When they worked hard in school, they actually visualized how their brain was growing."

Dweck says this new mindset changed the kids' attitude toward learning and their willingness to put forth effort. Duke University psychologist, Steven Asher, agrees. Teaching children that they're in charge of their own intellectual growth motivates a child to work hard, he says.

"If you think about a child who's coping with an especially challenging task, I don't think there's anything better in the world than that child hearing from a parent or from a teacher the words, 'You'll get there.' And that, I think, is the spirit of what this is about."

Dweck's latest book, *Mindset: The New Psychology of Success*, gives parents and teachers specific ways to teach the growth mindset of intelligence to children.

Source: National Public Radio - Morning Edition, Thursday, February 15, 2007. See <http://www.npr.org/templates/story/story.php?storyId=7406521>

As shared by Jerry Becker, 2/19/07.

### About the National Mathematics Panel Preliminary Report....

The report is available at

<http://www.ed.gov/about/bdscomm/list/mathpanel/index.html>

You can download the report by clicking on Preliminary Report under the heading FEATURES at this website. Unfortunately, the report does not say much. A year after the formation of the panel, the 16-page report issued provides just an overview of the panel's membership, procedures, and mission – no recommendations so far about mathematics education. Apparently the panel is saving its recommendations for the final report, due by the end of February 2008.

### PCSM AWARDS

Time seems to accelerate as we near the end of the school year, so it becomes important to watch the calendar. The PCSM Annual Meeting for 2007 will be a part of the PCTM Meeting in Valley Forge, November 7-9, 2007. It is not too early to think about nominating a PCSM colleague for one of our annual awards. Nominations are welcome at any time and should be submitted by September 28, 2007 to insure consideration for the 2007 Meeting.

Nominations for Outstanding Contributions to PCSM, Outstanding Contributions to Mathematics Supervision or PCSM Hall of Fame may be made on the Awards Nomination Form included with this newsletter. Nominations may be submitted electronically or by mail to [genb@pnpa.net](mailto:genb@pnpa.net) or Gen Battisto, 37 Reeder Street, Mt. Pocono, PA, 18344. For questions, feel free to call 570-839-7152.

It takes just a short time to make a nomination and it is an appropriate way to recognize the efforts and dedication of mathematics leaders who are responding to the ever increasing challenges of mentoring new teachers and promoting advanced student achievement. I look forward to receiving many nominations.

### Upcoming Conferences and Events:

#### USACAS 2007 Conference -- (2) CAS OR NOT

##### (2)CAS (computer algebra)

WHEN: Saturday, June 16, 2007 8:15a.m.-4:15p.m.; Sunday, June 17, 2007 8:00a.m.-1:00p.m.

WHERE: Illinois Mathematics and Science Academy, 1500 Sullivan Road, Aurora, Illinois 60506

COST: \$250

For more information or questions contact: Dan Hall at [dhall@elmhurst205.org](mailto:dhall@elmhurst205.org) OR Ray Klein at [rklein9019@aol.com](mailto:rklein9019@aol.com)

Registration is open NOW at [www.meecas.org](http://www.meecas.org)

#### The 8th International Conference on Technology in Mathematics Teaching (ICTMT)

July 1- 4, 2007. [University of Hradec Králové](http://www.ictmt8.org), Czech Republic (Hradec Králové is located 100 kilometers (62 miles) distance from Prague (Praha), & easily accessible by train, bus or car.)

Registration: <http://www.ictmt8.org/ictmt8/>

#### IAS/Park City Mathematics Institute (Institute for Advanced Study)

July 1-21, 2007, Park City, Utah

Visit [www.ias.edu/parkcity](http://www.ias.edu/parkcity)

#### 2007 NCTM Affiliate Leaders Conferences

July 6-8, 2007, Salt Lake City, Utah

OR August 10-12, 2007, Chicago, Illinois

[www.nctm.org/affiliates/resource/index.htm](http://www.nctm.org/affiliates/resource/index.htm)

#### International Conferences in Mathematics Education - The Mathematics Education into the 21st Century Project

Next conference: September 7-13, 2007, Charlotte, NC. Go to:

[http://csmp.ucop.edu/cmp/comet/2006/01\\_23\\_2006.html#B3](http://csmp.ucop.edu/cmp/comet/2006/01_23_2006.html#B3)) or contact conference coordinator

Alan Rogerson at [arogerson@ineta.pl](mailto:arogerson@ineta.pl)

**NCTM Regional Conference**

October 11-12, 2007

Richmond, VA

For more information, see: [www.nctm.org](http://www.nctm.org).**PCSM Annual Conference**

November 8, 2007, Valley Forge, PA

**PCTM Annual Conference**

"Freedom: The Essence of Mathematics"

November 7-9, 2007, Valley Forge, PA

For more information visit: [www.pctm.org](http://www.pctm.org).**School Science and Mathematics Association  
Annual Convention (SSMA)**

November 15-17, 2007, Indianapolis, Indiana

Hotel reservations at [www.adamsmark.com](http://www.adamsmark.com)Registration and information at [www.ssma.org](http://www.ssma.org)**NCTM Annual Conference**

April 9-12, 2008, Salt Lake City, Utah

[www.nctm.org/meetings/](http://www.nctm.org/meetings/)**ELECTRONIC RESOURCES****Fascinated by origami? Looking for a challenge?**<http://www.langorigami.com/>**The 2007 Origami Design Challenge**

Lang includes this description of the topic: "A plant. Not a leaf, or a single flower, but a full plant. (Roots, pot, ground are optional.) You pick the species: moss, fern, herbaceous, woody, big, small, weed, or tree; it's your choice. But whatever it is, it must be folded from an uncut square."

For eligibility and other information, view the bottom of this page:

<http://www.langorigami.com/art/challenge/challenge.php4>

(Math Forum Internet News No. 12.8 (23 Feb. 2007))

**Texas Instruments Syllabus Support Offer**

<http://education.ti.com/syllabus>

Texas Instruments wants to add greater impact to your curriculum and lessons. Let them know in what courses you are using TI technology, and they will send you support materials to help integrate it into your classroom:

- a classroom activities CD that includes hundreds of technology-enriched math and science activities
- a TI Presentation Link adapter (valued at \$39.95 USD) that allows each student to present to the class

Simply send TI your syllabus listing the TI-83 Plus/TI-84 Plus families or the TI-89 family graphing calculators by September 15, 2007.

Looking for a summer online workshop?

[http://mathforum.org/nsdl\\_mathtech/](http://mathforum.org/nsdl_mathtech/)

The Math Forum is hosting a series of online workshops for teachers who work with students in 5th through 9th grade.

Teachers are exploring how technology can help students build algebraic reasoning as they model and solve contextualized problems using a variety of representations, including graphs, tables, equations, and words.

The workshop fees are being covered by a National Science Foundation (NSF) grant, and afford participants the convenience of anytime, anywhere online learning. There are a limited number of openings for the three upcoming six-week workshops.

Workshop 3: April 1 - May 12

Workshop 4: May 13 - June 23

Workshop 5: June 24 - August 4

Overview:

[http://mathforum.org/nsdl\\_mathtech/overview.html](http://mathforum.org/nsdl_mathtech/overview.html)

Application:

[http://mathforum.org/nsdl\\_mathtech/apply.html](http://mathforum.org/nsdl_mathtech/apply.html)

**Source:** Math Forum Internet News (No. 12.11 – 16 March, 2007)

