
PCSM NEWSLETTER

Leaders in Mathematics Education

February 2007

PENNSYLVANIA COUNCIL OF SUPERVISORS OF MATHEMATICS

PRESIDENT'S MESSAGE

From the President

- Mary Foley

The skiers are still waiting for WINTER in northeastern Pennsylvania, and the gamblers are enjoying the first slots in Pennsylvania - at Mohegan Sun at Pocono Downs - with another casino to open at Mount Airy in Mount Pocono. I foresee much more interest in mathematics, especially probability, in the months to come! HAPPY 2007!

Our 29th Annual Meeting, held at Seven Springs on October 26, was excellent. Nina Girard, her committee, and the staff at the resort are to be commended for making our stay so successful and enjoyable. Carol Marchand and Jane Wilburn provided a very informative program with Glenda Lappan and Frank Marburger as speakers. Glenda proved to be well worth waiting for as she shared her expertise on the topic "State Grade Level Expectations: National Agreement and Disagreement." Frank, as usual, was very informative and forthright on his topic "The Emerging Future of Mathematics."

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!

Many THANKS to the book publishers and their representatives who are always so cordial and generous in providing meals and goodies. McDougal Littell /Houghton Mifflin provided breakfast, Prentice Hall a coffee break, and Scott Foresman the luncheon. Portfolios from Macmillan / McGraw Hill, and pens and bags from Harcourt were given to each attendee. Please be sure to THANK their reps when they stop in your district.

Congratulations to Jane Wilburn, who is PCSM President-Elect and will begin her term at our next meeting to be held on Thursday November 8, 2007 at the Radisson Hotel in Valley Forge. Please plan to attend. If you are presenting at PCTM, try not to present on Thursday morning so you won't miss the PCSM meeting. The PCSM Constitution has been revised and will be voted on at the meeting. We are grateful to Hank Field, Arlene Dowshen, and Kathy Hebert, who spent many hours working on revisions. We appreciate your time and talent.

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Congratulations also to Dr. John Kerrigan of

West Chester University, who received the Hall of Fame award. John is well known in mathematics education and has presented at many state and national meetings. He is certainly a worthy recipient.

Once again I encourage you to invite mathematics leaders (not necessarily supervisors - are there any left?) to join PCSM and to encourage students to pursue a career in mathematics education. We have a severe shortage of secondary math teachers in northeastern Pa. The NCLB deadline is fast approaching, and we need talented people to keep mathematics "alive and well."

Enjoy the Second Semester

Mary Foley
foleymath@earthlink.net

From the Editor

- **Cathy Schloemer**

As I write to you, winter has finally found its way to western Pennsylvania. Since "the weather outside is frightful," have you finally had a chance to look at the new NCTM "Curriculum Focal Points"? This document has certainly been the biggest news item in mathematics education since our newsletter in the fall.

In case you are not yet familiar yet with the Focal Points – or if you just wonder what people are saying about them – I have tried to distill some of the discussion into a synopsis that I hope you will find helpful. You will also find instructions for how to obtain a copy of the Focal Points, in case you have not yet done so.

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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PENNSYLVANIA COUNCIL OF SUPERVISORS OF MATHEMATICS

29TH ANNUAL MEETING MINUTES **Thursday, October 26, 2006**

The 29th Annual Meeting was held at the Seven Springs Mountain Resort in Somerset County, PA. It was held in conjunction with the 55th Annual Meeting of the Pennsylvania Council of Teachers of Mathematics.

A full breakfast was provided through the courtesy of McDougal Littell / Houghton Mifflin.

President M. Foley called the meeting to order at 8:35 AM and welcomed the members present. President Foley introduced the McDougal Littell / Houghton Mifflin representatives present at breakfast and thanked them for their generosity in providing it.

Minutes from the 28th Annual Meeting were approved as distributed on an M. Starkey/A. Massey motion.

The Treasurer/Membership Report was distributed. It indicated a balance of \$16,747.77 as of October 10, 2006 and a paid-up membership of 109. There are a total of 173 names in the database. The report was approved on an A. Massey/M. Matras motion.

There was no old business.

NCTM representative Ann Massey reported that she was pleased with the delegate caucus this year. The problems of previous years seem to have been solved.

Nomination Committee Chair Carolyn Marchand reported that Jane Wilburne was elected President-Elect and Jack Mowbray was elected Secretary. She thanked the Committee members for their help.

H. Field reported that the Constitutional Revision Committee has drafted a revised constitution. One copy each of the old constitution and the draft constitution will be given to the Executive Board.

Awards Committee Chair G. Battisto issued a call for

nominees for PCSM awards.

President M. Foley thanked Janie Zimmer for her work.

President M. Foley also thanked MacMillan / McGraw-Hill for the portfolios and Harcourt School Publishing for the pens.

The meeting was adjourned at 8:46 AM on a Wilburne/Mowbray motion.

At the conclusion of the business meeting, the first presenter was NCTM Past-President Glenda Lappan who was introduced by Ann Massey. Ms. Lappan's topic was State Grade Level Expectations: National Agreement and Disagreement.

A coffee and pastry break was provided through the courtesy of Prentice Hall.

Joann Mullen introduced the next speaker, Frank Marburger from the Pennsylvania Department of Education. His topic was The Emerging Future of Mathematics.

Luncheon was provided through the generosity of Scott Foresman. President Mary Foley recognized and thanked the Scott Foresman representatives who were present.

After lunch, Awards Chair G. Battisto presented the Supervisor's Hall of Fame Award to John Kerrigan. She called upon H. Field who gave some information and stories about John's career. G. Battisto asked that members keep the award nominations coming to her in the future.

Respectfully submitted,

John S. Mowbray
Secretary

PCSM AWARDS

At the PCSM Annual Meeting held at Seven Springs Resort on October 26, 2006, a new member was added to the prestigious Supervisor Hall of Fame. It was an honor to present the Hall of Fame Award to Dr. John Kerrigan, professor of mathematics and education at West Chester University. John has rendered long and dedicated service to PCSM. He was a co-editor of the Handbook for Mathematics Supervisors in Pennsylvania, produced by PCSM shortly after its

inception as a PCTM affiliate. Dr. Kerrigan was an

innovator in providing opportunities for teachers to gain access to the use of technology in the classroom and has led countless professional development classes.

Anyone who has been a frequent attendee at local, state, regional, or national mathematics conferences has undoubtedly enjoyed numerous sessions presented by John Kerrigan. He gives a fresh, new perspective in every presentation and his enthusiasm for mathematics and teaching remains contagious.

We are indebted to Hank Field for offering this very worthy nominee for the Supervisor Hall of Fame. Hank shared his personal admiration for John Kerrigan and a summary of John's many contributions to Mathematics Education in his good-humored presentation of the award.

PCSM acknowledges with gratitude all other nominations and encourages members to offer nominations for the 2007 awards. The four awards designated in the PCSM constitution are: Outstanding Contribution to Supervision, Outstanding Contribution to PCSM, Distinguished Service, PCSM Hall of Fame and Past President. Award nominations may be submitted at any time to: Gen Battisto, Awards Chair, 37 Reeder St., Mt. Pocono, PA 18344, genb@pnpa.net, 570-839-7152.

ABOUT THE NCTM's "CURRICULUM FOCAL POINTS"

September 12, 2006, NCTM released its "Curriculum Focal Points," a document intended to complement the *Principles and Standards for School Mathematics* published in 2000. Despite the passage of several years, recent studies demonstrate that the *Standards* are implemented in an inconsistent way from state to state and even district to district. Specifically, there has been little agreement on which goals and topics fit at what particular grade levels. With an increasing demand for accountability (e. g. NCLB) and a highly mobile population of both teachers and students, student achievement suffers as students find themselves repeating some topics unnecessarily and missing other critical topics all together.

The Focal Points provide a means to alleviate

this unevenness among curricula.

For each grade level from pre-K through 8, the “Curriculum Focal Points” provides three major areas of focus (“focal points”) and includes commentary about how each area connects backward and forward in the curriculum. The document repeatedly reminds teachers of the need to infuse instruction with the five big process standards from the *Principles and Standards* document as well: communication, reasoning, representations, connections, and problem solving.

The major goal of the document is to serve as a structure for curriculum development that can lend some coherence in curricula from district to district and state to state. No matter what John Hechinger said in the *Wall Street Journal* September 12

([http://online.wsj.com/article_email/SB115802278519360136-](http://online.wsj.com/article_email/SB115802278519360136-1MyQjAxMDE2NTE4MjAxMjIyWj.html)

[1MyQjAxMDE2NTE4MjAxMjIyWj.html](http://online.wsj.com/article_email/SB115802278519360136-1MyQjAxMDE2NTE4MjAxMjIyWj.html)) and what Tamar Lewin said in the same publication September 13

(http://www.nytimes.com/2006/09/13/education/13math.html?_r=1&oref=slogin), this

document does not in any way advocate “back to basics.” In case you missed it, on September 15, NCTM president Francis (Skip) Fennell sent an email to members which said in part:

“Unfortunately, some of the media coverage has raised questions and caused concern among our members. Despite several conversations with a reporter from the Wall Street Journal explaining what the Curriculum Focal Points are and are not, a September 12 Wall Street Journal article did not represent the substance or intent of the focal points. The focal points are not about the basics; they are about important foundational topics. The Council has always supported learning the basics. Students should learn and be able to recall basic facts and become computationally fluent, but such knowledge and skills should be acquired with understanding. Unfortunately, some of the other news media

have followed the Wall Street Journal's lead and

have similarly misrepresented the Curriculum Focal Points.”

For a question-and-answer forum that explains the “Curriculum Focal Points” in more detail than this article does, go to

<http://nctm.org/focalpoints/qa.asp> .

Or, to download a free copy of the 41-page document, go to

<http://www.nctm.org/focalpoints/>

ELITE PERFORMERS

"How We Know: What do an algebra teacher, Toyota and a classical musician have in common?"
by Jonah Lehrer -- September 2006 issue of *Seed*

URL:

http://www.seedmagazine.com/news/2006/07/how_we_know.php?page=all&tp=y

"...The connection between Toyota, John Dewey and [Bob Moses's] Algebra Project lies in the research of K. Anders Ericsson, a psychology professor at Florida State University, who has shown that doing leads to learning, and learning by doing leads to doing better..."

Ericsson started studying a range of 'expert performers.' He investigated chess grandmasters and the stars of the PGA tour, Scrabble champions and brain surgeons, concert pianists and circus acrobats. After putting these peak performers through a battery of cognitive tests, Ericsson realized that their talent wasn't genetic... Talent comes from learning by doing... 'The best performers are almost always the ones who practice the most'...

"But how does practice make perfect? ...He noticed that the best performers had a unique training style. They tended to downplay mindless drills and rote repetition. Instead, their practice sessions were deliberate, creative and thoughtful, like the outings of the Algebra Project or the progression of a rat through a maze. They set specific goals for themselves, continuously analyzed their progress and focused on process. 'A crucial part of practicing well is that you are always learning while practicing,' Ericsson says.

"According to Ericsson, this is how elite performers always practice. It is the secret trick of their talent, the way they become the best. Instead of treating practice as separate from the learning process--i.e., doing is what you do when you are done learning--they constantly find ways to integrate learning into

their doing process, and the payoff is immense. The brain is designed to learn in a very particular way, consistently favoring the concrete over the abstract, the practical over the theoretical... The individuals and organizations that take advantage of this psychological principle are the ones that excel, getting the most out of themselves and their charges..."

(Source: Reported in COMET
(<http://csmp.ucop.edu/cmp/comet/>))

WOMEN CAN'T DO MATH ... OR CAN THEY?

By Richard Morin [Pew Research Center]

Strange but true: Women score much lower on math tests if they are first asked unrelated questions about gender issues. The phenomenon is known as "stereotype threat" - a kind of performance anxiety discovered in 1995 when psychologists found that black students at Stanford University did significantly worse on intelligence tests if they were first asked to identify their race on the test form.

Since then, dozens of other experiments have confirmed that subtly cuing women, minorities and other stigmatized groups to think subconsciously about their gender or race causes them to do poorly in areas where the general stereotype suggests they are weak.

University of Texas psychologist Matthew S. McGlone wondered if there wasn't another side of the story. What if you prompted people to think about their strengths rather than their stereotypical weaknesses -- would that be enough to improve performance in areas where they weren't supposed to do well?

In a novel set of experiments, McGlone, working with Joshua Aronson of New York University, found that the answer is yes. "The idea that something is immutable due to some biological factor can be trumped," McGlone said.

Their ingenious study involved 90 undergraduate students, half men and half women, at Lafayette College,

where McGlone taught. To hide the purpose of their experiments, they told the students they were going to be asked some questions as part of a study of living conditions on the Lafayette campus. The questionnaire was composed of two parts. All the students answered one common set of general questions about campus life. In the second section, researchers varied the questions to prime

these students to think in slightly different ways.

A third of the students were asked whether they lived in a single-sex or co-ed dorm. McGlone wanted to subtly trigger "thoughts about their experiences as a gendered person on campus." Previous studies found that even this seemingly benign question would unconsciously activate male and female stereotypes, McGlone said.

Another group answered questions about why they chose to attend a private liberal arts college. The goal was nudge these young women and men into thinking how smart and accomplished they were.

"We were activating their snob schema," McGlone chuckled.

The control group was asked to write about their experience living in the northeastern United States.

Then the researchers engaged in a bit of scholarly deception. After the students finished the questionnaire, McGlone asked them for a favor. "I have a friend doing this study across the hall. Could you help us out?" he asked. The students agreed, went to another classroom, and took Vandenberg Mental Rotation Test, a standard test of visual-spatial ability.

The items on this test consist of two-dimensional depictions of three-dimensional objects presented at various angles. Test-takers are asked to pick out the identical objects from dissimilar ones.

Studies have repeatedly found that men are far better than women at mentally rotating objects, a skill linked to math ability. The gender differences on this test are the biggest gender differences yet found on any of the various mental aptitudes that psychologists say comprise "intelligence," McGlone and Aronson write in an article summarizing their results in a forthcoming issue of the *Journal of Applied Developmental Psychology*.

Then McGlone looked to see if cuing people to think about their gender, their status as college students at prestigious private school or their experiences living in the northeast had any effect on their performance on the rotation test. It did. Among those in the control group, the tests produced a familiar result: The men did 15 to 20

percent better on the Vandenberg test than the women.

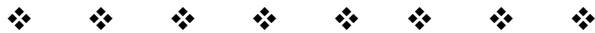
And among those who had been subtly cued to think about their gender, the gap was even wider--guys did "25 percent to 30 percent better than the women."

But the surprise came among those who were primed to

think about their status as students at an exclusive private college. The gender gap closed dramatically as women's performance improved while men's did not change. "There was no significant difference between men and women," McGlone reported.

The results suggest that stereotype threat can be counteracted, at least in part, by cuing people about other aspects of their lives. "With a pretty simple manipulation we could significantly reduce this gap," he said. "There might be things that make all of these biological factors go away."

(Source: The Pew Research Center, Thursday, August 31, 2006. See <http://pewresearch.org/obdeck/?ObDeckID=58> . as reported by Jerry Becker, 9/23/06 at jbecker@SIU.EDU)



Summer Program for Women in Mathematics
<http://www.gwu.edu/~spwm/>

The Summer Program for Women in Mathematics is entering its thirteenth year of educating mathematically talented undergraduate women who are completing their junior year and may be contemplating graduate study in mathematical sciences. Now through March 1, 2007, this George Washington University program is accepting applications for its five-week intensive program, June 30 to August 4, 2007.

Sixteen women will be selected. Each will receive a travel allowance, campus room and board, and a stipend of \$1,500. Due to restrictions of the funding agency, only US citizens or permanent residents of the US can be supported.

For further information, please contact the director, Professor Murli M. Gupta (mmg@gwu.edu, 202-994-4857) and/or visit the web site.

(Source: Math Internet Forum – 11.46 – 11/17/06)

Upcoming Conferences and Events:

2007 T³ (Teachers Teaching with Technology) International Conference
 March 9-11, 2007

Chicago, IL

Go to: www.education.ti.com

NCSM Annual Conference:

"ACHIEVE SUCCESS"

March 19-21, 2007

Atlanta, Georgia

For more information: www.ncsmonline.org

NCTM 39th Annual Conference

Mathematics: Representing the Future

March 21-24, 2007

Atlanta, GA

For more information, see: www.nctm.org.

IAS/Park City Mathematics Institute

(Institute for Advanced Study)

July 1-21, 2007, Park City, Utah

Visit www.ias.edu/parkcity

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) or contact conference coordinator

Alan Rogerson at arogerson@inetia.pl

NCTM Regional Conference

October 11-12, 2007

Richmond, VA

For more information, see: 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.

Ideas for Pi Day (March 14)

Go to <http://mathforum.org/t2t/faq/>

Mathcasts

A “Mathcast” is a talking “math movie” or a “whiteboard movie.” Mathcasts can tutor students, demonstrate problem solutions, or share teaching methods. See how to use this site:

http://www.mathcasts.org/index.php?title=Main_Page#How_to_use_this_site

or just go to

<http://www.mathcasts.org/>

Geo-Calc

Find area, perimeter, angles, sides, and other measures for two- and three-dimensional shapes. The site includes instructions for installation and use.

<http://www.baldgeeks.com/geocalc.htm>

The National Curve Bank

The National Curve Bank is a resource designed for students of mathematics. We strive to provide features that a printed page cannot provide (e.g., animation, interaction, audio, and color). We also include the geometrical, algebraic, and historical aspects of curves.

See

<http://curvebank.calstatela.edu/home/home.htm>

for a list of topics and more information. For classroom teachers, we suggest the following examples for how the site may be used:

* In trigonometry, see

<http://curvebank.calstatela.edu/unit/unit.htm>

* For prime number theory and math in the news, see

<http://curvebank.calstatela.edu/prime/prime.htm>

* For a brief mathematician's birthday "pop-down," see

<http://curvebank.calstatela.edu/birthdayindex/birthdayindex.htm>

* For a special project idea, see

<http://curvebank.calstatela.edu/sphericon/sphericon.htm>

* For interactive fractals, see

<http://curvebank.calstatela.edu/fractal/fractal.htm>

The National Curve Bank welcomes your participation. See "Submit Your Curve" :

<http://curvebank.calstatela.edu/submitcurve/submitcurve.htm>

(Source: Shirley Gray

(sgray@calstatela.edu) URL (with Flash intro): <http://curvebank.calstatela.edu/>

URL (without Flash intro):

<http://curvebank.calstatela.edu/home/home.htm>

as reported in COMET 7(31), 11/11/06)



Thank you, Chris Czapleski, for your faithful and careful editorial help! --C. Schloemer, Ed.