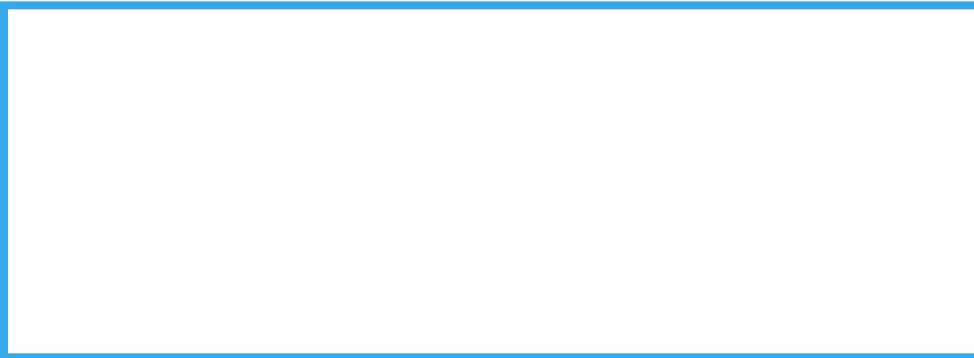


ACHIEVE SUCCESS - Come to the Well of Leadership Resources at NCSM in Atlanta



Meet with national and international leaders in mathematics education at the 39th Annual NCSM Conference in Georgia, March 19–21, 2007.

President of NCSM, Linda Gojak, will address “What is Happening in Mathematics Education?” on Monday. Time will be given for an open discussion to include standards, NCLB, curricula, governmental action opportunities, equity, and other issues of interest to members.

Board members Janie Zimmer, Ted Hull, and Jim Barta will address issues on professional development, equity and access, and contributions of other cultures during their presentations on *Overcoming Roadblocks and Challenges of Intensive and Sustained Professional Development in an Urban Setting*, a “Road Map to Instructional Leadership: Reaching Equity in Mathematics by Increasing Student Achievement, and about *Ethno Mathematics for Leadership in Our Schools, Part I – Providing Leadership to Diversity Mathematics in our Classrooms and Part II – Strengthening Supervisor Leadership for Culturally Responsive Mathematics*.

Francis (Skip) Fennell, NCTM President, will address “Curriculum Focal Points, the National Math Panel, Competition, and Partnerships” during his presentation on Tuesday.

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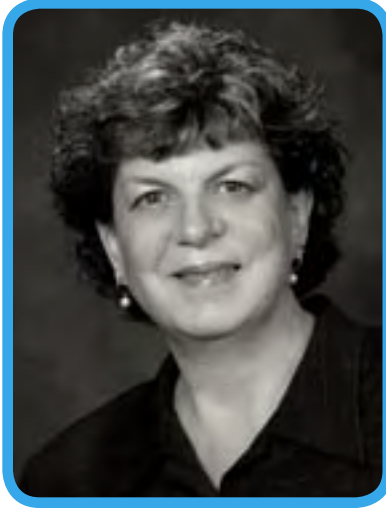
NCSM Housing Block

Housing for our Conference in Atlanta, March 19–21, 2007 is open now and will close on January 19, 2007. Go to the NCSM website, www.ncsmonline.org, to reserve your housing for the NCSM conference.

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From the President



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What Is Success? Over the last several years, I have come to the realization that there are many ambiguous words used to describe instruction and achievement in the classroom. Ask ten educators to describe a standards-based classroom or standards-based curriculum; you will likely receive a great variety of responses. You would probably get the same results with terms such as inquiry-based lessons, problem solving, data-driven instruction, learning communities, and the list goes on.

Over the past few years I have had the privilege of working with many schools and districts. All are deeply concerned with student achievement and student success. I have begun to wonder how we define success and achievement... and how our definitions represent the right thing to be doing for kids. With the No Child Left Behind legislation, all of our schools and districts are under the gun to have students be successful on annual achievement tests. More and more schools and districts are pushing down the curriculum so that fourth and fifth graders are "doing" mathematics from sixth and seventh grade textbooks. Seventh and eighth graders are taking high school algebra and geometry courses. When I meet with districts that are implementing such an approach my question to them is "Why?" The response I get is usually "The kids will do better on the state tests."

Stop the Madness! It is time for us to examine deeply all our definitions of success in mathematics. Is it the ability to crunch numbers and manipulate symbols? To recite definitions with little or no understanding? Perhaps we have not considered some very important characteristics of a successful mathematics student. Go to the bookshelves and take down your copies of the *Professional Teaching Standards*—remember, it's the purple book—and the *Assessment Standards*—it may still be in the shrink wrap—from NCTM. These documents have some very important information for us as leaders and teachers of mathematics at all levels. Use those documents to consider how you can help teachers examine their practice and convince decision makers that success is more than passing the state test.

Reaching a certain score on a test is certainly important in this day of accountability. Are we forgetting about other aspects of being a successful mathematics student? What about appreciation for the beauty of mathematics as it is in real life contexts? Are teachers so busy "covering" the curriculum in preparation for the test that our students do not get an opportunity to explore mathematics and appreciate the patterns that make up mathematics and how those patterns affect life—from nature to the state lottery? Do students have the opportunity to grapple with rich mathematical tasks that may take several days or weeks to solve? Do students have the opportunity to debate with other students their thinking on how to determine the best deal on two differently priced pizzas? Do we give students the opportunity to develop habits of mind that will serve them for the rest of their lives? Or... is our definition of success simply to pass the state test and move to the next course.

What is your definition of success in mathematics? Take some time to reflect on your thoughts. As you influence other teachers, how might you make your thoughts a part of your own practice?

Teamwork Makes the Dream Work!

NCSM invites you to participate as a volunteer at the
39th Annual Conference in Atlanta, Georgia, March 19–21, 2007
Check for more information at the NCSM website, ncsm@mathforum.org
beginning November 1st

Over 200 opportunities exist for attending sessions which are either 60, 90 or 120 minutes in length. Individual and panel presentations by speakers including as Marilyn Burns, Rosa Cordova Perez, Dana C. Cox, Thomas Dick, Claudette Engblom-Bradley, Michael Fierle, William Finzer, David Foster, Karen Fuson, Catherine M. Grant, Carole Greenes, Fred E. Gross, Paul Lawrence, Steven Leinwand, Jerry Lipka, Karen S. Norwood, Luis Ortiz-Franco, Jane Schielack, Cathy Seeley, Frederick Silverman, Nancy Terman, Lucy West, and Zalman Usiskin will address issues important to leaders within the field of mathematics education.

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39th Annual
NCSM
Conference,
Atlanta, Georgia

The strands on Professional Development Models, Assessments, Technological Innovations, Equity and Access Strategies, Contributions of Other Cultures to Curriculum and Instruction, and Outreach and Advocacy Strategies offer participants many opportunities to engage in networking. Presentations such

Valarie A. Elswick

1st Vice President NCSM
Program Chair, Atlanta 2007

as *Engaging the Next Generation of Leaders: Who will do your job tomorrow?*, *Weaving Key Professional Developments Strategies for Optimum Learning and Sustainable leadership*, *Linking Assessment and Instruction: Providing Intervention Support in Number and Operation for Struggling Students*, *Supporting Teachers in their Classrooms to Increase Student Achievement*, *PD to Strengthen Collaboration Between Math Teachers and Special Education*, *Launching Teams to move their Educational Communities Toward a Vision of Continuous Mathematics Improvement*, *Anticipating, Monitoring, Selecting, Sequencing and Connecting Student Work: Five Actions to Ensure Equity and Access in the Classroom*, *Meeting the Needs of Gifted Mathematicians in the Era of No Child Left Behind*, *Bridging the Gap Between Self-Learning and Education: My Life as a Teacher of Mayan Children*, *Now that teachers have the technology, how can we help them to use it appropriately?*, *Performance with Fractions: A Demonstration of Cultural Differences Inside the United States and Overseas*, and *Five Practical, Research-based Instructional Strategies that every Supervisor Needs to be able to Advocate for and Model*, will provide access to a wide variety of topics and issues for all participants.

Eleven Regional Caucus meetings are scheduled for Tuesday morning following the breakfast session. Cuacuses provide an opportunity for members to receive information about the work of NCSM including projects, initiatives, task forces, publications and a wide variety of activities. You will also have the opportunity to meet with the Regional Directors to share and discuss ideas and concerns that you have as members of NCSM.

Sponsor Showcases are another highlight of the conference. This year there are twelve showcases which provide a special time to meet with the sponsors of our conference and learn of their work in the area of mathematics education at all grade levels. Special Interest Meetings will be held following the conclusion of the Wednesday luncheon. These meetings are open to all conference attendees and guests who wish to network, share common interests, and discover new resources.

The Atlanta Program Committee has worked diligently reviewing and evaluating proposals to ensure a productive conference experience for all. The committee members are Eleanore Livesey, Geri Anderson-Nielsen, Fred Dillon, Peggy Akin, John Sutton, Florence Glanfield, Fred Gross, Sue Harding, Debbie Donovan, Gloria Sanok, Bob Robinson, Kathleen Ross, Ron Lancaster, Noemi Lopez, Joan Vas, Barbara K. Wilson, Fay Zenigami, Bill Collins, Bill Caroscio, Jennie Bennett, Tim Kanold, and Linda Gojak.

I look forward to seeing you in Atlanta at the 39th Annual NCSM Conference where you will have a terrific conference experience and a wonderful city to visit. For program questions or concerns please contact me by email at earthlinktne

National Mathematics Advisory Panel

by Mark Driscoll
Editor, NCSM Journal

The purpose of the National Mathematics Panel, established by Executive Order 13398, is to foster greater knowledge of and improved performance in mathematics among American students. The September 13 meeting included an open session for public comment and testimony from the National Council of Teachers of Mathematics, the National Science Foundation, the American Competitiveness Council, and major mathematics textbook publishers.

At this second meeting of the National Panel, Mark Driscoll presented the statement that follows on behalf of NCSM and TODOS.

I am Mark Driscoll, representing the National Council of Supervisors of Mathematics (NCSM) and TODOS. I am the Editor of the NCSM Journal of Mathematics Education Leadership and a member of both NCSM and TODOS. On behalf of both organizations, let me say that we are very grateful to the National Mathematics Panel for inviting us to be represented here today.

My remarks pertain to the Panel's category of interest, "Learning Processes," with implications for the "Instructional Practices" subgroup. Specifically, on behalf of TODOS and NCSM, I want to call your attention to the issue of enhancing the mathematical success of English Language Learners (ELLs), and to the associated issue of galvanizing mathematics education leadership in this regard.

In the past three decades, the number of U.S. children living in households where native language is not English more than doubled from 9.1 to 19.1. (Firestone et al, 2006) The total number of students labeled as "Limited English Proficiency" is 9.1% of the student population, or 1.5 million. (Abedi, 2006). Many of these children are struggling with mathematics in English, which adds a considerable learning hurdle for them. In this remarks, I will cite some research results and promising practices that give shape to an imperative, yet a hope-filled imperative, regarding our helping ELLs become more successful in mathematics.

In brief, we believe it imperative to teach ELLs the academic language of mathematics not as vocabulary drill, but in the context of working on mathematics tasks that are challenging and have high cognitive demand. We also believe it imperative for national leaders to encourage and support district and school leaders in building teacher capacities to teach ELLs in this way.

I said these are hope-filled imperatives, because results, tools, and practices already exist that can help transform ELLs' experience in mathematics classrooms. We lack coherent programs for scaling up their use, and that requires galvanized leaders to me elaborate.

Consider first the results of the E UASAR project from the 1990's (Silver & Stein, 1996; Silver et al, 1995). E UASAR, a five-year intervention in six middle schools serving poor communities, was both a school demonstration project and a comparative research study of educational change and improvement. One strand focused on the nature of classroom mathematics tasks and on the nature of student engagement with them (Henningesen & Stein, 1997) The researchers distinguished tasks according to cognitive demand. They noted that different mathematics tasks make different levels of cognitive demand and that the cognitive demand of a task can change during a lesson, depending on what teachers and students do in implementing them.

Using extensive classroom observation and analysis, along with a project-developed Cognitive Assessment Instrument, the study concluded that student learning gains were greatest in classrooms in which instructional tasks consistently encouraged high-level student thinking and reasoning (e.g., conjecturing, justifying, interpreting), and least in classrooms in which instructional tasks were consistently procedural in nature. In brief, the project led to the conclusion that, in order to foster students' success in mathematics, teachers must support students' cognitive activity by providing a rich diet of work on meaningful tasks for which neither the complexity nor the cognitive demand is reduced--i.e., tasks that involve "doing mathematics."

For ELLs, the phrase "meaningful tasks" takes on even more complexity because of the role of academic language. This provides a pointed challenge to teachers and administrators. Particularly because of current testing demands, many are tempted to address ELL needs by separating language work from mathematics work, with strategies such as vocabulary drills. (Firestone et al, 2006) Often, this lack of integration of language and content development results in a lack of active engagement by ELLs in the mathematical work being done in their classrooms. (Firestone

However, despite the added challenge of academic language, there is no need to cease heeding the UASAR message, as evidenced in the story of one 5th-grade teacher whose work has been studied by Chval and Khisty (Chval & Khisty, 2001; Khisty & Chval, 2002). Sarah (a pseudonym) teaches in a school that is nearly 100% Latino in one of the poorest neighborhoods in a large urban school district in the Mid-West. In the focal year of the study, the average child entered her classroom half a year behind the expected 4.8 in the ITBS, with only five of the 24 students performing at the 4.8 level or above. After just eight months in Sarah's classroom, her students outperformed the other fifth-graders in her school, as well as other fifth-graders in her district, and 15 of the 24 (62.5%) performed at the 5.8 level or above. This success was typical of Sarah in other years.

In tracing the roots of this success, Chval and Khisty document a consistent use by Sarah of writing assignments and classroom discourse related to challenging mathematics problems, used as occasions for clarifying--not simplifying--mathematical language. To get a flavor for how such discourse works, consider the following brief interaction between Sarah and her students (p. 23 of Chval & Khisty 2001; a similar exchange is recorded on p. 8 of Khisty & Chval, 2002). It is the first week of school and the children have been engaged in a challenging geometry problem. The word *congruent* has been introduced:

Sarah: Look at that word everyone. Congruent. What does that mean?

Student: Like another copy.

Sarah: An exact copy. Because here, look here is the circle. Is this circle congruent to that circle?

Chorus: No.

Sarah: No, they're not exact copies. They're similar, they're both circles, but they're not exact copies.

Of course, Sarah is but a case of one. However, we believe that scaling up success like hers is possible, if our leaders--at national, district, and school levels--act to increase attention in teacher education to:

The importance of integrating content and academic language development in classroom discourse. (See, for example, the framework and tools in Garrison et al, 2006.)

The crucial role that teacher attention to cognitive demand plays in the mathematical work done by all students, but especially by ELLs. (See, for example, the framework and tools in Stein et al, 2000)

The importance of attending to mathematical language and its specialized discourse, and of learning how to create learning environments that use multimodal mathematical communication--speaking, writing, diagramming, etc.

A quick example can elaborate the third bullet. Along with several colleagues, I am currently involved in an effort by New York City's Office of English Language Learners to solve a problem through the professional development and collaborative efforts of teachers, coaches, and administrators. The problem: In the city, there is an unexplained achievement gap in mathematics between ELLs and other participants: middle-school teams comprising assistant principals, math coaches, and ESL specialists. The goal of the effort: From lesson preparation to interacting with students in the classroom to analyzing student work, each school team will be more effective in understanding evidence of difficulty with academic language as well as evidence of difficulty with mathematical concepts, and will inform the teaching and support of ELLs accordingly.

A core activity in this effort has been the gathering and analysis by the school teams of student work on challenging mathematics problems. We have chosen to use problems primarily from a project

"From lesson preparation to interacting with students in the classroom to analyzing student work, each school team will be more effective in understanding evidence of difficulty with academic language as well as evidence of difficulty with mathematical concepts, and will inform the teaching and support of English Language Learners accordingly."

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National Mathematics Advisory Panel

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The National Assessment Governing Board Sets New NAEP Policies for 12th Grade

materials focused on geometric thinking. We believe that suitable geometry problems invite multimodal mathematical communication, especially when the student work being gathered is in the form of newsprint presentations by small groups of students.

For example, one of the problems pertains to geometric dissections and asks students to solve a problem. The problem asks students to cut up a given parallelogram and rearrange all the pieces to make a rectangle. Then, it tells them: "In a sequence of pictures, show where you decided to cut and how you rearranged the pieces." Next, "Describe in words where you decided to cut and how you rearranged the pieces." And, ultimately, "Will your method allow you to transform any parallelogram into a rectangle?" The transitions from pictorial to verbal explanations and from specific cases to mathematical generalization provide teachers with ample opportunities to clarify and develop mathematical language for students. In the coming year, we hope to determine how significant such opportunities are in creating effective learning environments for ELLs.

Thank you for your time and attention.

1. *Fostering Geometric Thinking in the Middle Grades*, NSF EHR-035340. Education Development Center, Newton, MA., 2004-2008. Mark Driscoll and June Mark, Co-Principal Investigators.

Note: See the NCSM website, www.ncsmonline.org, for a complete bibliography for this article.

The National Assessment Governing Board sets policy for the National Assessment of Educational Progress (NAEP); it has revised the blueprint for the 12th grade mathematics version of the NAEP exam in an attempt to make the test better reflect the skills that students need for college and highly skilled jobs. The changes, approved August 1, 2006, are expected to make the math test more challenging in some areas, through the addition of algebraic concepts and trigonometry problems that are more complex, and through a stronger emphasis on mathematical reasoning and problem solving. Those revisions could also shape individual states' math standards, which are often influenced by the content of the NAEP frameworks. The National Assessment Governing Board has spent about two years on this project.

The 12th grade math test is given to a random sample of public and private school students around the country. It was most recently given to about 9,000 students in 2005. States are required to participate in NAEP in reading and math at the 4th and 8th grade levels, which provides the basis for state-by-state comparisons of scores. There is currently no such requirement for the 12th grade NAEP, although President Bush has proposed one. The 12th grade NAEP test was last revised for the exam given in 2005. In its efforts to revamp the 12th grade math test, the governing board contracted in September 2006 with Achieve, a Washington-based policy organization founded by the nation's governors and business leaders to push for higher state academic standards. The board used Achieve's American Diploma Project Benchmarks, a document that seeks to identify the skills that high school graduates need for success in college and the workplace, as a resource in overhauling the framework. (Source: Education Week, August 7, 2006)

Plan now to be part of the
NCSM Summer Leadership Academy
July 17–20, 2007
Midway, Utah

Challenged with increasing student achievement for all student groups, the Richardson Independent School District (RISD) and Texas Instruments (TI) partnered on a research-based, systemic intervention.

Students in the intervention were African American or Hispanic, with most classified as economically disadvantaged. Of the 125 students served in the pilot, 79 students had failing scores on the 2005 Texas Assessment of Knowledge and Skills (TAKS) mathematics assessment. Remaining students were included because they were identified as struggling in their knowledge of mathematics content.

Creating an intervention in mathematics is difficult because educational systems are complex. Leaders understood the need to change the system through the use of multiple components, implemented simultaneously, to eliminate the achievement gap.

An intervention was developed targeting eight key components, implemented within the same school year. These components were: 100-minute power block classes, integration of TI-73 and TI-Navigator technology to enrich and enhance classroom instruction and assessment, common aligned assessments, high expectations for all students, increased administrator support, increased teacher content knowledge, and increased parental support for mathematics.

Professional development was provided throughout during bi-monthly meetings with a mathematician, Saturday trainings with exceptional presenters, and less formally through strategies shared during the teachers' common planning time. This provided teachers with needed information about content, pedagogy and curriculum and assessment standards to meet the needs of the struggling students.

Results indicate a positive growth in student performance in mathematics; one third of students that had previously failed the 2005 TAKS mathematics exam successfully passed the 2006 exam. Students also had a significantly higher growth in the percent of items correct than similar students on other RISD junior high campuses. On average, participating students increased the number of items correct on the test by seven items, while comparison students decreased the number of items correct on the exam by three items. Teacher content knowledge improved as evidenced by a .86 standard deviation on the Learning Mathematics Teaching (LMT) assessment administered upon project completion.

Other qualitative findings of the project indicate an increase in students' algebra readiness, and the problem solving approaches increased student expectations and performance. The use of the TI-Navigator system increased student participation and engagement, reduced behavioral problems in class and shifted responsibility for learning to students. Teachers also noted students spent more time working through problems, and were able to realize when corrections were needed at a faster rate. Parents reported a positive difference in children's math performance and attitudes.

As you look to increase student achievement, I encourage you to conduct a formal needs assessment, and establish partnerships that will help meet the needs identified. It is essential that we provide all students with the mathematical skills they need to be college and work ready in order to compete in the global economy in years to come.

Developing Interventions that Increase Student Achievement

by Paula Steffen Moeller, Ed.D.

NCSM thanks Texas Instruments, Inc. for its sponsorship of the NCSM Annual Conference and the design of the NCSM membership brochures. This article is placed in appreciation of the support of Texas Instruments, Inc.

Iris Carl Award Winner's Report on the 38th Annual NCSM Conference, St. Louis, Missouri



*by David Erickson, University
of Montana, Department of
Curriculum & Instruction
david.erickson@mso.umt.edu.*

The mission statement for NCSM speaks to the “international force” of members “to achieve excellence in mathematics education.” Indeed, mathematics education is at a critical stage in its relatively short 100-year history. This spring about the same time as the NCSM conference, President Bush announced a National Mathematics Panel to “empirically evaluate the effectiveness of various approaches to teaching math, creating a research base to improve instructional methods for teachers.” (See <http://www.ed.gov/about/inits/ed/competitiveness/math-now.html> (paragraph 1))

This aligns with at least two of the NCSM vision statements:

offer up-to-date information about research, issues, trends, programs, policy, and practice in mathematics education, and

collaborate with other stakeholders in the education community and with business and government to strengthen leadership in mathematics education.

My participation at the 38th Annual NCSM Conference allowed me the opportunity to learn about up-to-date research in mathematics education and to collaborate with other leaders in the field.

On May 15, Secretary of Education Spellings published the list of 17 National Math Panel members (<http://www.ed.gov/news/pressreleases/2006/05/05152006a.html>). Some of these members have little connection to mathematics education; some advocate methods of teaching opposed to the vision of the NCSM. Our organization's membership is essential in communicating with panel members what we believe, what was shared in numerous sessions at this past conference in St. Louis. For example, Reys, Dingman, Olson, Sutter, Teuscher, Chval, Lappan, Larnell, Newton, Kim, and Kasmer (April, 2006) shared the Executive Summary Working Draft of the Intended Mathematics Curriculum as Represented in State-Level Curriculum Standards: Consensus or Confusion? In this report, they state criticism from the Fordham Foundation (2005) for the over-reliance on calculators contradicted this finding through their research in looking at state standards (p. 10). Those National Math Panel members who openly oppose the use of calculators, their finding needs to be explicitly shared. This is our role, to provide the panel members with resources based upon research, not just opinions.

Jeane M. Joyner and George Bright shared research on helping teachers implement formative assessment as a means of informing instruction. They argue that listening to students is a way to gather, design, and plan for future instruction (cf. Pellegrino, Chudowsky, & Glaser, 2001). A traditional problem, “What is the area and perimeter of a (given) rectangle,” can be restated, “Without actually computing the area or perimeter of a (given) rectangle, list everything you know that would help you find the area and perimeter.” This focuses the response not on a numerical response but on a process. We know that ~ 1 calculators can compute with accuracy, but we need to be listening to our students to encourage explanations on what is necessary to get the calculator to function. The emphasis nationwide for summative assessments is not the only assessment we want our teachers implementing.

Many NCSM members shared research-based approaches toward a better understanding of mathematics through their presentations at this year's conference. I am a newly elected board member to the Montana Council of Teachers of Mathematics. It is my hope to continue to share through my state organization as well as through my teaching of future and current teachers of mathematics. We can make a difference in mathematics education. We can encourage each other and support excellence in mathematics education. NCSM members are leaders because they take an active role in furthering mathematics education locally, nationally, and internationally.

The NCSM Annual Financial Report provides a description of income and expenses for the 2005-06 budget year from July 1, 2005 through June 30, 2006. NCSM has two major accounts — Operations and Charitable Trust.

Annual NCSM Financial Report

by Fran Berry, NCSM Treasurer

NCSM Operations Income

NCSM earns money from membership dues, registration fees from annual and regional conferences and academies, grants from organizations and foundations, the sale of advertisements, labels, and some publications, interest earned on savings, and reimbursement/bank credits.

Membership Dues.....	~ 190,05 (
Registration Fees.....	~ 267,025
Grants.....	~20,000
Sales.....	~70,711
Reimbursements.....	~ 7,362
Interest.....	~8,62 (
TOTAL Income	\$563,776

NCSM Operations Expenses

NCSM spends money in six different ways: conferences, academies, publications, strategic plan projects and initiatives, technology, and general operations. A description of the expenses and monies spent in each category follows. Amounts shown in parentheses are disbursements.

Conferences

This category includes all expenses related to the Annual Conference: building the program, audio-visual, room rental and decorating expenses, and all costs associated with printing, shipping, and registration materials, as well as regional conferences organized by NCSM Regional Directors. (~ 1 (5,776)

NCSM is very fortunate to have the support of generous sponsors (CASIO; CORD Communications, ETA/Cuisenaire; Educator's Outlet, Holt, Rinehart and Winston; Houghton Mifflin; Key Curriculum Press, McDougal Littell; McGraw-Hill Education; Pearson Achievement Solutions, Pearson Prentice Hall, Pearson Scott Foresman; Scholastic, Texas Instruments; and Tom Snyder Productions) and NCTM for our Annual Conference. Our sponsors provide assistance with meal functions, conference bags, neck wallets, coffee mugs, session signage, conference program book, and program support. NCTM supplements our conference by providing reduced rental fees for meeting rooms and allowing us the use of Travel Technology Group (TTG) for hotel reservations.

Academies

This category includes all expenses related to NCSM Summer Academies — session facilitators, meals, audio-visual, supplies, materials and all costs associated with printing, shipping, and staff. (~ (5,936) McDougal Littell provides in-kind contributions for banquets, gifts, printing, and mailing as well as grants that support future academy development.

Publications

This category includes all expenses (development, printing, and mailing) related to the NCSM directory, newsletter, journal and sourcebooks. (~ 71,977) Texas Instruments provides in-kind support by designing and printing the NCSM membership brochure. Houghton Mifflin provides in-kind support by designing and printing the NCSM monograph series.

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Strategic Plan Projects and Initiatives

This category includes all expenses (meeting expenses, printing, mailing, and consultant fees) related to NCSM's current strategic plan projects and initiatives: Conference Manual, Equity, Executive Director, Intra-Board Communications, Membership, and Publications. (~ 9,172)

...continued from page 9

Technology

This category includes costs associated with the NCSM Website, its redesign and maintenance, and contracted services that provide technical support to NCSM Board members. (~ 19,068)

General Operations

This category includes all expenses related to the general operations of the Council. Expenses include: the salary for the NCSM Executive Director, the cost of personnel to maintain membership records, process conference and academy registrations, and produce the directory; all costs associated with board meetings, committees, and affiliation dues with organizations like NCTM and the Conference Board of Mathematical Sciences; bank charges for processing credit card payments; liability insurance, and office expenses. (~ 177,203)

Total NCSM Operations Expenses

Conferences.....	~ 1 (5,776
Academies.....	~ (5,936
Publications.....	~ 71,977
Strategic Plan.....	~ 9,172
Technology.....	~ 19,068
General Operations.....	~ 177,203
TOTAL Expenses.....	\$469,132

Charitable Trust

*The NCSM Charitable Trust was established in January 1998 and accepts contributions to support the mission and vision of NCSM. During the 200 (-05 fiscal year, ~ 5,000 was used to establish the Iris Carl Mathematics Leadership Fund within the Mathematics Education Trust (MET) of NCTM. During the 2005-06 fiscal year, the fund was used to support three mathematics educators, future leaders who had not attended an NCSM meeting, to attend the annual conference in ~~the Iris Carl~~ **the Iris Carl** Mathematics Leadership Fund is now maintained within the NCSM Charitable Trust. As the fund grows it will support additional mathematics educators in succeeding years, thus contributing to the realization of the NCSM vision of a "cadre of well-trained, broadly-informed and perceptive leaders of mathematics education at all levels"*

Consider Donating to the NCSM Charitable Trust

Contributions to the NCSM Charitable Trust are tax deductible and can be made by check or credit card. If using your credit card, send the card number expiration date, cardholder name and cardholder signature. Contributions should be mailed to:

Fran Berry, NCSM Treasurer
9373 S. Prairie View Drive
Highlands Ranch, CO 80126

Currently, Sherry is the Director of the North Central Arizona Math & Science Consortium and a full-time High School Math Teacher. She was AZ's second Presidential Awardee in 198 (, using her funds to create a strong problem solving climate in her school and a professional lending library in mathematics. She has always been actively involved in Mathematics Leadership in Arizona.

**NCSM Member
"Spotlight"
Sherry Baca,
Prescott, AZ**

Ask anyone, "Whom do you ask for help in math?" You will hear, "Sherry!" Sherry believes that all children can learn math. She was a 7th – 9th grade teacher for 16 years before moving to Prescott High School in 1988. She has been the Math Coordinator for the district since 1979, and was the MATHCOUNTS coach for years. She even accompanied one of her students to the **NCSM** in Washington, DC in 1983.

Ask Sherry about the highlights of her career; it will be all about students. She will also tell you about the teaching projects like 'IISM' (Instructional Improvement in School Mathematics), Project SMART (Science & Math for Arizona's Rural Teachers), and sitting on the Mathematics Sciences Education Board, helping to write AZ Math Standards, AATM (for 28 years in a variety of offices including President), and she has been an instructor for Math Learning Center and The Teachers' Development Group in her spare time

"Go to conferences, go to workshops, talk to others, and GET INVOLVED," said Sherry when I asked her to share one thing that would be important for new teachers. She also said, " ou need to open your practice to new ideas." I asked Sherry these questions:

Who has served as a mentor to you?

Dr. Dennis Nelson who used to be the Basic Skills Director for Mesa Public Schools in Mesa, Arizona, has always been a role model for me. When I first met Dennis he was President of the Arizona Association of Teachers of Mathematics and so willing to share his expertise with others. He seemed to always be in the know about everything and yet was a very humble person. Dennis wasn't a leader who sat back and watched others do the work. He was right there working harder than anyone. Dennis influenced so many teachers with his enthusiasm for teaching, his genuine care for students, and his dedication to improving mathematics education. When I first started teaching, I went to all of his workshops and stole many of his ideas because they worked. Later, I relied on him for help in my job as district mathematics coordinator. To this day I never pass up a chance to hear Dennis present or to pick his brain on what new project he is working on.

What aspect of your work gives you the most satisfaction?

Watching students grow in their understanding and enjoyment of mathematics provides the most satisfaction to me.

What is your greatest source of frustration?

Never having enough time to do everything that I want to do especially in the classroom. There are so many ideas I would like to try but only so much can fit in a school year.

What do you consider the most important issue in mathematics education today?

I think that one of the most pressing issues in mathematics education today is the difficulty in finding math teachers to fill positions in many areas of the country. As Director of the North Central Arizona Mathematics and Science Consortium, I frequently have schools contact me because they are looking for math teachers. This past year my own school district had a math opening that went unfilled all year and for next year there are two positions open. As more math teachers retire, I see this becoming an even bigger concern.

Sherry is leading the way for many of the math leaders in Arizona!



"One of the most pressing issues in mathematics education today is the difficulty in finding math teachers to fill positions in many areas of the country."

**NCSM Member
"Spotlight"
Jim Bohan,
Lancaster, PA**



"...always be looking for ways that could lead to greater involvement, leadership, and meaningful professional growth on the part of the teacher."

The Eastern 2 Region is delighted to put the NCSM Spotlight on Jim Bohan.

Jim has been active throughout the region as a past NCTM Regional Services representative, a past NCSM Eastern 2 Director, and also involved in many NCSM activities, most notably being the director of the NCSM Leadership from its early days in 1998 and through 2005.

Jim has been a mathematics teacher; and for 35 years, and until 2005, the coordinator of mathematics in Manheim Township in Lancaster, Pa. He is currently an assessment specialist in one of Pennsylvania's Intermediate Units—but still involved in and focused on mathematics.

Jim says that his goal as a mathematics teacher was always to empower his students with sufficient conceptual understanding and procedural efficiency they could confidently meet the quantitative and logical challenges that adult life would bring to them. Further, he hoped to convince them of the need for and the value of life-long learning.

Jim's goal as a mathematics supervisor was to serve and support the teachers so they could become the best teachers and mathematics leaders that could possibly be. Jim feels that his greatest contribution to mathematics education was creating, nurturing, and sustaining a culture in his former school district in which advanced mathematics was expected for every student; and in which every mathematics teacher had the support, encouragement, and resources to become an educational leader.

In providing adequate support and direction for his teachers, Jim found that a model of year-long, focused, action-research projects for elementary teachers in grades 1 through 5 proved to be the most exhilarating and ~~productive~~ **effective. This model consistently showed great gains in content understanding and pedagogy and provided evidence that students of the participating teachers performed above expectations. This action research engaged the teachers and motivated many to assume leadership positions. This would never have occurred in the normal classroom context.**

The road of leadership is not always easy, and Jim talked about how frustrations have led him to reflect and become a better leader. He looks back on throughout his career, his greatest frustration has been that he has not always been allowed to contribute in ways that he felt would be beneficial. This was a great source of frustration for him, and has undoubtedly motivated Jim to be more receptive to ideas from the teachers in his charge. This has become an incentive for Jim to always be looking for ways that could lead to greater involvement, leadership, and meaningful professional growth on the part of the teacher.

Jim is certainly a leader and superstar in mathematics education. He is always open and growing—and always looking for ways to involve and bring out the best in others. This is the mark of an exceptional leader.

Is Your NCSM Membership About to Expire?

Check the date on your mailing label on the back of page.

Don't delay; renew today!

Wesley Yuu is new to leadership and his answers to the following questions

provide insight both for emerging and experienced leaders. If you are just beginning the journey of leadership, he gives you guidance in what you can do and how you can make a difference. If you are an experienced leader, he helps you remember all the things you can do to provide assistance. Cheryl Avalos, Western Region 2 Director

NCSM Member
"Spotlight"
Wesley Yuu,
Hawaii Dept. of
Education

What motivates you to be a leader in mathematics education?

I have a firm belief that all students can be proficient in learning mathematics at the targeted grade level. I've carried this belief through my 9 years of teaching in the classroom, and have seen firsthand, the power of believing in your students.

So what motivates me to be a leader in mathematics education is pursuing my vision for all teachers to believe that ALL their students can (and should) be proficient in mathematics. I know that there are teachers who share my belief, so part of reaching my goal is to find these teachers and help them to become leaders in mathematics education.

What do you feel is your greatest contribution to mathematics education?

I feel that my greatest contribution to mathematics education is the part I played in the proliferation of standards-based mathematics curriculum, instruction, and assessment across the state of Hawaii at the middle school level. I was an 8th grade teacher at Mililani Middle School (MMS) when it first opened in 1998. As a new school, every mathematics teacher was trained to use the Connected Mathematics Program (CMP). At the same time, about five other middle schools across the state were also implementing CMP for the first time. To validate that CMP was a rigorous and standards-based program, I convened a work group to align the CMP with Hawaii mathematics standards. Then, the following year, I led another work group to develop standards-based assessment tasks that could be used as part of a learning portfolio. The tasks we developed over 5 years ago are still being used today, and the teachers who were part of the original work group have continued to develop new and improved tasks. As the original pilot schools continued using CMP, more and more schools were coming aboard. It was in 2000 that I became a trainer for the program, along with four other Hawaii teachers. Together, we have continued to offer CMP training across the state as we have grown from six CMP schools in 1998 to forty CMP schools today.

"I feel that my greatest contribution to mathematics education is the part I played in the proliferation of standards-based mathematics curriculum, instruction, and assessment across the state of Hawaii at the middle school level."

In what area do you feel you have really grown and developed recently?

Since leaving the classroom three years ago, my understanding of the big picture of mathematics education has been growing. I used to be isolated in my 8th grade classroom with just a slight glimpse of the 7th grade curricula. But now that I am in my current position as the State Educational Specialist for Mathematics, I have been working with the mathematics standards for K-12 and paying closer attention to the way that standards are developed over a period of time.

What has been your greatest challenge and how did you address it?

My greatest challenge is my limited exposure to elementary mathematics. In the short term, I have had to rely on my colleagues for their expertise in the elementary standards. But all the while, I have been reading journals, articles, and books on elementary mathematics in order to get a better understanding of how concepts should be developed in the elementary years. Marilyn Burns is someone I never knew about while in the classroom, but I have found her books to be very eye-opening. I still have a lot to learn, and I hope to spend more time visiting with teachers as they see how the reform mathematics programs are working.

What is the most valuable professional development you have received?

The best conference that I have ever attended was the CMP User's Conference at

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Canadian Regional Report



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A dangerous undertaking! All who have watched any of the multitude of Award shows on TV (Oscars, Emmys, Geminis, Tonys, ...) are familiar with the whole "I'd like to thank" routine that begins almost every acceptance speech and can go on indefinitely. The danger of any such attempt, of course, is that some of great significance will be left out and be upset by the omission. Nonetheless about to embark on such a venture, so let me preface it by reminding everyone of my advanced age, it's quite common to have "Senior moments", and should I slip one (or two or three J) while writing this, I hope you'll be patient and understand with me.

Over the course of the last two years or so, I've had the pleasure and privilege of being part of what every member of NCSM likely dreams about—a meaningful and significant professional development initiative in mathematics with the potential of beginning (and hopefully sustaining!) systemic improvement of mathematics learning/teaching! Although the initiative was unfortunately "short circuited" recently (I won't bore readers with the details in this venue), it will remain one of the most pleasurable, exciting, and rewarding experiences of my (LONG!) career!! It was also truly wonderful to discover how many incredibly capable and talented people there are out there working diligently to make school mathematics better for all students. So now, at the risk of leaving someone significant out, I'd like to recognize/thank some of these incredible people for what has been a "phenomenal ride!" Almost all of these folks are NCSM members, which also means that NCSM will continue to be a powerful force in promoting and achieving quality mathematics education programs!

Thank you to...

Ruth Dawson and Chris Suurtamm for their skill, insight, and vision for the Early Years Mathematics Expert Panel and subsequent Initiative.

Peter Sovran and Issam Massouh for their passion and skill in keeping the Primary and Junior Mathematics Initiatives moving forward and for enabling me to be a part of it

The Primary and Junior Mathematics Writing Team—one of the most wonderful, enjoyable, energetic, knowledgeable and capable groups of people I've ever had the pleasure of working with—the "original cast" Jennifer Torney, Lyn Vause, Keith Baumann, Jane Bennett, Ed Enns, and Molly Larin, and those who joined throughout the process—A.J. Greene, Greg Clark, Linda Adams, Jennifer Brown.

...and thank you to our "outside" experts—it's such a wonderful thing in our profession that those we meet as "professional colleagues" can so easily also become friends. I'm honored and privileged to be able to count in that category folks such as

Randy Charles, whose continuing vision of the Big Ideas in Mathematics has contributed so much to my own learning, to the Math Initiative, and to the improvement of mathematics teaching/learning

Cathy Fosnot, whose unwavering belief in the ability of all children to do significant mathematics is a model for us all, and whose knowledge in mathematics and mathematics teaching/learning seems boundless

Opportunities such as the one I've just had don't come along often—I will never forget the experience, or the people! Thank you one and all!! (and apologies to anyone I've forgotten!)

Exciting things are going on in mathematics in our Northeast Region: Conferences, grants, and new assessments are among the Fall activities.

Eastern 1 Regional Report

VERMONT...After months and months of work "Magic in the Mountains" (the New England Fall Conference, (ATMNE) that will be held in Burlington, Vermont, October 19 and 20. Thank you for all the people from Vermont who worked on this. It looks like a great program. Johnny Lott, past NCTM President will be a keynote speaker and everyone is looking forward to hearing what he has to say. Although there is no specific NCSM activity I will be there representing NCSM and encouraging new membership. (Bob Sinclair)



RHODE ISLAND...For a small state they sure have a lot going on. They are dealing with another round of US DOE Partnership Grants. This is a huge undertaking on Professional Development. It is WEB based and has sections for the following: Students, Educators, Family, and Community. This will be an on-going project and we look forward to your sharing your findings. (Judith Keeley)

**Jackie Mitchell
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NEW HAMPSHIRE... Five Distinguished Educators will be working in mathematics with those schools and districts that need improvement. The conference will be held in March. Things on the horizon include the New State Assessment and Grade Level Expectation Alignment. (Betty Erickson)

MASSACHUSETTS...They are gearing up for the 2007 ATMNE Conference to be held in Springfield. Therefore there will be no fall conference this year. (Peg Kenney)

CONNECTICUT...They are transitioning to a Fall Meeting so that they will not conflict with their school testing that takes place in March (Ken Sherrick)

MAINE...Their summer academy workshops were an overwhelming success. The Maine Mathematics and Science Alliance (MMSA), with sponsorship from a Math and Science Partnership grant, focused on content training for math teachers in grades K-8 using the National Research Council publication *Children Learn Mathematics* National Academies Press, 2002. The training centered around the five strands of mathematical proficiency: understanding, computing, applying, reasoning, and engaging. The training was offered to both teachers and teacher leaders. The MMSA reported that 233 teachers completed the training and in addition 3 participants completed the teacher leader component of the academy. Maine is anxiously awaiting the release of the NCTM "focal points" which should be released by mid September. Once this document is made public, Maine's newly proposed set of educational standards, The Maine Learning Results Revision, will be analyzed for consistency with the NCTM document and then sent to the legislature for adoption. Dan Hupp

NEW YORK...The New York Supervisors (NYSAMS) will have a breakfast on October 27th in Saratoga. I will be representing NCSM and giving a talk on Leadership. The fall meeting of ATMNYS will have taken place by the time this newsletter is out. The next issue of this newsletter will have much more from New York. (Beryl Szwed)

**Don't miss the NCSM Breakfast
7:00 a.m., Friday, October 27, 2006
Saratoga Hotel, Saratoga, New York
NYSAMS Conference**

Eastern 2 Regional Report



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On September 12 the Curriculum Focal Points for Pre-kindergarten through Grade 8 Mathematics was released by National Council of Teachers of Mathematics (NCTM). The Curriculum Focal Points identifies three important mathematical topics at each grade level from pre-kindergarten to eighth grade to help bring coherence to the diverse mathematics curricula in the United States.

The focal points are based on the formative work of Randall I. Charles, whose article on Ideas and Understandings appeared in the NCSM Journal Spring-Summer 2005. The focal points offer a framework for states and districts to use in designing more focused curricular expectations and assessments. The focal points lay a foundation for deep understanding and lasting learning in mathematics. The Council's Principles and Standards for School Mathematics includes guidelines for excellence in mathematics education and issues a call for all students to engage in more challenging mathematics. The Curriculum Focal Points document extends the Principles and Standards for School Mathematics 2000 and constitutes the logical next step in implementing the vision of the Standards.

Math curricula in the United States today are often described as “a mile wide and an inch deep.” Some states have close to 100 learning expectations per grade, with different expectations from state to state. The focal points are intended to begin a national discussion on how to bring consistency and coherence to math curricula. At each grade, the three topics present related ideas, concepts, skills, procedures that form the necessary foundation for understanding concepts in high level mathematics.

NCSM members Johnny W. Lott and Kathleen Nishimura have edited a report entitled Standards and Curriculum: A View from the Nation, on expectations across states for students' mathematics learning. This joint report by the Association of State Supervisors of Mathematics (ASSM) and NCTM of a project held July 2 - 24, 2004, provides insights into where we appear to be headed as a nation in our expectations for students' mathematics learning. The report is an initial attempt to examine across states the impact of the Standards on curriculum reform, discern how state educational agencies approached the task of developing state standards, and bring to light areas of commonality and difference. The information obtained from this endeavor lays a foundation for discussions about the future direction of local, state, and national mathematics curricula and will be used by mathematics supervisors to further evaluate and refine state initiatives.

The U.S. Department of Education has released initial peer review feedback and related information on revised comprehensive state plans for ensuring that all public elementary and secondary school students are taught by highly qualified teachers.

Based on the analysis of a 31-member team of experts, the Department determined that the vast majority of states made serious efforts to develop plans for having experienced, well-trained educators in classrooms, particularly in low performing, disadvantaged schools. The 50 states, the District of Columbia, and Puerto Rico submitted plans as required under the No Child Left Behind Act.

Nine states developed plans that were recognized by the experts as satisfying all six criteria outlined in the guidance provided by the Department including Eastern 2 states New Jersey, and Maryland. Thirty-nine states submitted plans that partially satisfy the six components and will be required to improve their plans and address the peer concerns by September 29, 2006. Four states (Hawaii, Missouri, Utah, and Wisconsin) did not address any of the six requirements. Add

information on the Revised State Highly Qualified Teacher Plans is available online. Details about the review process, protocols, and peer reviewers are also available online.

Key legislation to renew career and technical education programs was signed into law. U.S. House Education Committee leaders recently applauded the enactment of legislation to strengthen career and technical education and improve educational opportunities for students!

The Perkins Career and Technical Education Improvement Act S. 250 conference report was signed into law by President Bush in August, after the measure was passed overwhelmingly by both the House and Senate. The Perkins program represents one of the largest federal investments in U.S. high schools and is a key component of secondary and postsecondary education systems. Under the Perkins program, states and local communities help prepare youth and adults for the future by building their academic and technical skills.

The newly-signed Carl D. Perkins Career and Technical Education Improvement Act strengthens the Perkins program by helping states better utilize federal funds for secondary and postsecondary vocational education programs, increasing accountability and emphasizing student achievement, and strengthening opportunities for coordination between secondary and postsecondary career and technical education. For more information on efforts to enhance career and technical education, visit the Education the Workforce Committee website.

Please keep me posted on events in the East 2 Region.

NCSM members and other mathematics education leaders met in North Carolina for Designing Professional Development for Teachers of Mathematics and Science, a conference organized by Iris R. Weiss, President of Horizon Research, Inc. The conference was planned to assist state leaders in disseminating and applying the research on professional development design and implementation statewide. Specific goals of the conference were to:

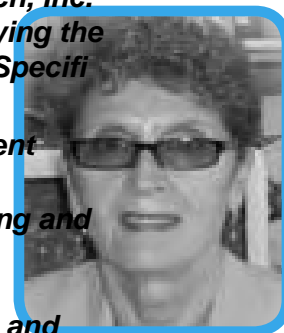
- j Increase state leaders' understanding of effective professional development design and implementation;**
- j Increase state leaders' understanding of systemic components of providing and sustaining large scale, high-quality professional development;**
- j Provide state leaders with materials and training to conduct a one-day workshop for professional development designers/providers in their state; and**
- j Provide state leaders with tools for evaluating the quality and impact of professional development.**

The NCSM representatives attending were Jim Barta, Shirley Cook Edwards, Valarie Elswick, Kay Gilliland, Linda Gojak, Bob Kansky, Steve Leinwand, Jackie Mitchell, Ruth Parker, Ruth Harbin-Miles, and Ted Hull. Designs were discussed that make explicit the assumptions, progression and interface of reform strategies, and take into consideration both short- and long-term goals and objectives. Creating such a design provides a necessary frame for guiding implementation, for dealing with unanticipated challenges and opportunities, and for informing decisions in the always unpredictable and often volatile education system.

There is so much available to mathematics educators on the Internet that it is impossible to keep up. It helps that NCSM is a member of the Triangle Coalition and information gleaned from their electronic bulletin is enormously helpful. We also hear regularly from Carol Fry Bohlin, Jerry Becker, and others.

<http://son.nasa.gov/> NASA, and the Canadian Space Agency (CSA) are

Southern 1 Regional Report



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Star Count Project will investigate the visual quality of the night sky and help assess the extent of atmospheric light pollution. NASA and the CSA are inviting U.S. and Canadian students to participate in an effort to study factors that affect how many stars can be seen at night. Steve MacLean, a member of the crew of the Space Shuttle Atlantis on the mission to the International Space Station, will perform the Star Count experiment during the mission. The students will be able to compare their own observations with MacLean's and other observers.

<http://www.oclc.org/worldcat/> Internet users can now search the catalogs of more than 10,000 libraries worldwide through WorldCat.org, a site that offers a downloadable search box to allow access to the world's largest database and resource for discovery of materials held in libraries. The search box can be downloaded from the WorldCat.org site to library web sites, museum sites, genealogy sites, book club sites, blogs, or any other site where web searchers would benefit from access to the collections of the world's libraries. WorldCat connects libraries of all types and sizes, from giant research libraries to small public libraries around the world. It enables people to find what they're looking for in library collections wherever they are located.

www.thefutureschannel.com The Futures Channel produces and distributes to K-12 schools, colleges, universities and other educational institutions documentary videos ("mini-movies") directly connecting lessons in mathematics, science, technology and engineering to exciting real world careers.

"When will I ever need to use this?"

For years, teachers across the country have struggled to help students in complex lessons on mathematics, science, technology and engineering. In fact, teachers rate "shows real-world connections," as the most important characteristic of a supplemental curriculum resource, according to in-depth research. The Futures Channel delivers powerful content that "connects" academic lessons with real world subject matter. On the Futures Home Page, changing weekly, is a listing of the free movies featured that week, available in QuickTime7 format. With these are work problems that may be used to connect with classroom curriculum topics. For further information contact newberger4@thefutureschannel.com

Please keep me posted on events in the South 1 Region.

Every year job demands increase. Educational leaders in mathematics must constantly prepare for the challenges that face us at the national, state, and local level. Education is the key. According to government reports, 67% of the new jobs will require some post-secondary education, with 33% of these requiring a college degree. To face these challenges alone is overwhelming. I encourage you to be active in organizations that fulfill your needs and help you achieve your goals. Opportunities are listed below, but I am sure others exist. Our best chance at success is in collaborative structures working with fellow professionals. Note these opportunities on your calendar, and seek out other ones.

Texas held the Fall 2006 meeting of the Texas Association of Supervisors of Mathematics in Austin, Texas on September 18 and 19. The meeting consisted of one day of professional development and one day of business. Thanks to Jim Wohlgelegen, TASM President, for an excellent job.

The Louisiana Association of Teachers of Mathematics met on Oct. 19-21 in Shreveport Louisiana. The theme was "Energize Learning with Math and Science". Thanks to Jean ware, LATM Convention Chair, and Jean May-Brett, Louisiana

Southern 1 Regional Report

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Southern 2 Regional Report



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Long time friendships with many of you in our Central 1 Region bring about a wide variety of discussions of mathematics education in our individual states. One discussion in particular is assessment. Additionally, since so many of my education students at Saint Mary's come from our region, it is natural for me to talk during classes about mathematics assessment in our states.

The No Child Left Behind Act (NCLB) of 2001 provides a wealth of opportunities. For this issue of the Newsletter, I want to provide some background for each state in our region that might shed light on our roles as mathematics leaders. NCLB requires all states to measure each public school's and district's corporation's achievement and establish annual achievement targets (AYPs) for the state. Accordingly, each state must develop starting goals for AYP and continue to raise its bar so that by the 2013-2014 school year 100 percent of the students are proficient on the state assessments.

Our states have common agreement on the overall purposes of these assessments, such as:

- i Academic progress of students**
- i Identification of students needing remediation**
- i Assessment of strengths and weaknesses of school performance**
- i Need for new programs and curriculum development**
- i Professional staff development**

How do our Central 1 states evaluate student progress?

Illinois: The Illinois Standards Achievement Test (ISAT) is used to measure student achievement relative to the Illinois Learning Standards. Students in Grades 3 through 8 take the mathematics tests. For high school students, the Achievement Examination is given in Grade 11.

Indiana: The Hoosier state administers a criterion-based test, the Indiana Statewide Testing of Educational Progress (ISTEP), that is aligned to the Indiana Academic Standards. Standards for mathematics were adopted in 2000. The tests are given to students in Grades 3, 6, 8, and 11. In addition, students enrolled in courses designated as Core-40 courses take end-of-course assessments.

Kentucky: For Kentucky, assessment comes under the heading of the Kentucky Accountability Testing System (KATS). Included with KATS is the Kentucky Core Content Tests (KCCT), a criterion-referenced test in mathematics and other subject areas. The KCCT is given in Grades 4 through 8, while the norm-referenced test, CTBS/5 Survey Edition is given in Grades 3, 6, and 11.

Michigan: In 1990, the Michigan legislature passed Public Act 25, requiring schools and districts to develop 3 to 5 year school improvement plans. The Michigan Education Assessment Program (MEAP) test is a part of those plans. The MEAP is currently given in Grades 3 through 8 and high school. However, legislation enacted in 2005 mandates that for this academic year, the high school tests will be replaced with a new system of high school assessments called the Michigan Merit Examination.

Ohio: The Ohio General Assembly in 2001 established the Ohio Graduation Tests (OGT), aligned to its state standards. They are designed to measure, in particular, the level of mathematics expected of students at the end of the 10th Grade. These more rigorous tests replace the Ohio Ninth-Grade Proficiency Test. The Ohio Achievements Tests are given in Grades 3 through 8. In addition, all districts must use diagnostic assessments for students in Grades K through 3.

Mastery, success, proficiency, improvement, performance,... The list seems endless. As leaders in mathematics education, however, it is part of our responsibility to help students attain that success.

Central 1 Regional Report



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Central 2 Regional Report



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The National Commission on Teaching and America's Future suggests that broadening teacher leadership should become a priority. Our Mid West NCSM leaders must accept this responsibility and take the lead. They must share a vision of service, excellence, and achievement with others. Leadership is not a solo act and for school improvement in math education in the Mid West to take place, active involvement of many teachers is needed. NCSM envisions a cadre of well trained and broadly informed perceptive leaders of math education at all levels. A major project goal is to increase our membership. We will accomplish this by creating a standing membership committee and we will work to broaden the impact of NCSM through the mathematics education community. We propose to increase our membership by recruiting and supporting leaders who are not currently members of NCSM. Our eight state area has the fewest members of NCSM in our organization. Each of you can help recruit new members from your schools and universities. By joining NCSM opportunities will be provided for the enrichment of mathematical knowledge and development of leadership skills. More details will be forth coming on this new NCSM project.

There have been enduring challenges for leaders in mathematics education. Below is a series of quotes that range from the years 1830 to 2006. I have put these quotes about math education in chronological order. The year and source of the quote will be listed at the bottom of this page.

- 1. How does a school continue to improve on already high levels of student learning in math? Stay focused on individual and collective adult behavior and respond to any manifestation or source of student failure. Do whatever it takes to help kids learn.*
 - 2. The basic tenet in the proposed instructional reorganization is to make arithmetic less a challenge to the student's memory and more a challenge to intelligence.*
 - 3. By the old system, the learner was presented with a rule which told how to perform certain operations on numbers and when this was done, he would get the correct answer. But no reason was given for a single step. When he worked through and had the answer, he neither understood what it was nor what it was for. As he began in the dark, so he continued and the results of his learning seemed to be obtained by some magic other than by reasoning.*
- (. We should avoid manipulative tasks, which do not cast light on some basic concept. The student who understands the system of linear equations does not need rote methods but can create methods of solving quadratic equations. We believe that a student who has been exposed to a diet rich in ideas is more resourceful.*

Chronological order and sources are:

- 3 1830 Math Association of American on Reorganization of Math*
- 2 1935 William Brownell, NCTM's Yearbook*
- (1956 University of Illinois Math Committee*
- 1 2006 Tim Kanold, Park City, Utah, Leadership Academy*

I always enjoy the excitement that is evident as fall changes into winter.

Children are smiling. Teachers look tanned and refreshed. All have identified as members of our wonderful learning community. How fortunate we are to share this profession.

In the last letter, I posted several challenges. I urged everyone to carefully determine what we each must do to ensure ALL of our students have access to quality mathematical education based on Equity and Excellence. I suggested the major step in this direction is by becoming very clear on what mathematical concepts and skills we need our students to obtain, carefully considering the most effective ways to instruct, selecting the appropriate assessments to inform this instruction, and lastly determining if we have hit the mark!

Patty Harrington, State Superintendent of Education in Utah, spoke recently at a conference I attended. She said a problem she sees in our struggle to help all of students succeed is that too many of us seem unsure of exactly where we are taking the children. She suggested we should be so clear of our instructional goals and objectives while sharing these with our parents, that if a parent were met and asked in a grocery line what it was their 5th grade daughter was to learn in math class that year, that they could tell us! I pondered this suggestion for a long while and concluded that Patty's comment was provocative. I wonder how many of our my/parents do know what we expect of their children. To share this knowledge we must know this ourselves.

The teachers I meet do know "their practice." I, like Patty, believe once we know clearly what we want to teach our students, we can do so. We must successfully make this our imperative and find ways to accomplish our mission in ways that accommodate our natural teaching tendencies and the cultural/cognitive nuances of the students in the differing places we teach. Let us ponder the loftiest goals and then work together to attain them! Please communicate with me frequently and let me know how I can assist you in your efforts as together we shape a brighter future for America's greatest resource, our children.

Math Challenge!

A famous inventor is hopeful that she has invented a new type of measuring tool but needs your help to prove this. Her tool is drawn below. If she wants to use her tool (by discovering various combinations) to measure to the nearest inch for lengths from 1" to 2 (" can she do this? The dimension for each segment is 3, 6, 7, and 8 inches. Have your students make several tools with paper strips taped ~~AND~~ ~~you~~ and students, working in small groups to help you solve this problem. They should write number sentences that might allow them to measure every inch from one inch to 2 (inches.

The dimensions are 3, 6, 7, and 8. (Please email me with your answer and the reasoning used to determine it. The first correct answer will receive a ~ 25.00 gift certificate). Please share this problem with others.

Solution from the last challenge: Congratulations to Carol A. Edwards (Chandler, AZ) who submitted the first correct response to the challenge. The problem is to determine the sequence of numbers in the next bottom row.

1
1 1
2 1
1 2 1 1
1 1 1 2 2 1
3 1 2 2 1 1

Western 1 Regional Report



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Western 1 Regional Report

Carol Edwards wrote, "At first glance, I thought the sequence might be related to a Fibonacci sequence but I could not make that work. I got busy and did not think about it for a couple of days. Then I was lying in bed last night reading the NCSM Newsletter when I looked at it again and it hit me. I just had a $\frac{1}{2}$ Eureka! moment. I had to get up and tell you right away and was so excited that I could not get to sleep for a while! So a very sleepy body went to work this morning. :)" Carol did say she will use this with her students and see how they solve it and her reasoning:

"I believe the next number in the sequence is 13112221. Here's my reasoning.

Start with 1. The next number in the sequence is 11 because the first has one 1.

The third number in the sequence is 21 because the previous number has two 1's

The fourth number in the sequence is 1211 because the previous number has one 2 followed by one 1.

The fifth number in the sequence is 111221 because the previous number has one 1, one 2 and two 1's.

The sixth number in the sequence is 312211 because the previous number has three 1's, two 2's and one 1.

So, if this pattern is correct, the seventh number should be 13112221 because the previous number has one 3, one 1, two 2's, and two 1's."

Even though you are reading this as winter break approaches, I am writing this just as school is starting. For you, all of the fall conferences and it seems that things are slowing down. To get some new ideas to give to teachers that you are assisting or to jazz up your own lessons, you may want to visit the websites of state organizations.

Washington State Mathematics Council (WSMC) has a Teacher Exchange website (<http://www.wsmc.net/teacherexchange/index.htm>) that includes teaching tips, innovative curricula, and instructional strategies from other WSMC classes. Several publications available that are reasonably priced. There was even an on-line sale occurring when I visited the website (http://www.wsmc.net/pubs/WSMC_Sale)

Oregon Council of Teachers of Mathematics (OCTM) also has publications that will provide some great ideas. Their website is: <http://www.octm.org/>. The publications include the following:

Elementary Problems, Book 2 (Grades 4-7)

Intermediate Problems, Book 2 (Grades 6-8)

Secondary Problem Book (Grades 9-12)

Monday Math (K-6)

Puzzle of the Month and Math Magic (Grades 4-8)

Math in Literature (K-5)

You may even want to consider holding a Math Festival at your school.

What is a Mathematics Festival? A California Math Council Mathematics Festival is an exciting school-wide event to expose students, teachers, and parents to key critical mathematics topics in a positive, self-exploratory, festival-like atmosphere. The Mathematics Festival program is designed for ready access and kinesthetic learning for 8th grade students with activities appropriate for ALL those grades along with challenges above those levels. It's good mathematics, standards-based, AND FUN! Visit <http://www.cmc-math.org> for more information.

Western 2 Regional Report



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Finally, for a little mental stimulation, you may want to ponder the following question (or share it with some teachers or students):

What is the ratio of men to women in a town where $\frac{2}{3}$'s of the men are married to $\frac{3}{4}$'s of the women?

This is from Susan J. Lamon's *Book* *Understanding Fractions and Ratios for Understanding, Second Edition, New Jersey: Lawrence Erlbaum Associates, Publishers, 2006.*

Nominate a deserving California teacher or teacher leader for California Mathematics Council's George Polya or Edward Beagle awards. The George Polya Memorial Award may be conferred upon the teacher or teachers, K-12, who have been deemed as outstanding teachers of mathematics over a sustained period of time, have supported CMC activities, have been active participants in CMC, and have had visibility throughout the state of California. This person should be one of the top two or three teachers you have known. The Edward Beagle Memorial Award may be conferred on an educator or educators who have, for a sustained period of time, been supportive of CMC activities, have offered continual encouragement, and have been actively involved in California mathematics. This may be a college professor, a district superintendent, a mathematics supervisor, a member of the California Department of Education, or any other deserving educator. Throughout California there are a number of truly outstanding educators, whose presence brings strength based on experience, service, success, and vision. These are the educators whom CMC endeavors to honor with the Edward Beagle Memorial Award. Contact Sandie Gilliam for information about nominating individuals for either award at legnet4@nctm.org. The deadline for nomination letters is February 1, 2007.

A statewide inservice day was jointly sponsored by the Oregon Council of Teachers of Mathematics and Eastern Oregon University on Friday, October 13, 2006. Inquiries Outside the Cube, Making the Most of Math and Science Symposium, focused on math and science teaching for grade bands of K-5, 6-8, and 9-12. Each session of 80 minutes showcased high quality lessons or activities that implement the state and national standards in either math or science or both.

**Stay Informed
about Education
Public Policy
with Legislative
Updates**

One way to stay informed about Mathematics Education Public Policy is with Legislative Updates prepared each week by the National Council of Teachers of Mathematics (NCTM). The Legislative Update is a summary of education-related public policy activity in Washington. The update also occasionally includes announcements of grants and other opportunities, and a collection of links to recent clips of articles on education.

The free Legislative Update is e-mailed to subscribers and posted on the NCTM Web site. To subscribe, please send an e-mail message to legnet4@nctm.org and include your e-mail address, your name, the grade that you teach or your teaching specialty, and your state.

Current and past Updates are also posted on the NCTM Web site at www.nctm.org/advocacy/update. The National Council of Teachers of Mathematics (NCTM) Director of Public Affairs is Ken Krehbiel. As an affiliate organization, NCSM receives a great deal of information and help from Ken.

Michigan State University. The whole conference focused on the implementation of the Connected Mathematics Program. Presenters included teachers, principals, district supervisors, graduate students, CMP authors, trainers, and researchers. There were a variety of sessions that met the needs of beginning teachers, veteran teachers, of students with special needs, and administrators.

What model of professional development have you provided for teachers?

I have conducted workshops for teachers, presented at local math conferences, contracted presenters to conduct workshops, and coordinated online courses. I am currently looking into establishing professional learning communities and study groups.

Who has been your greatest mentor in math education leadership?

My greatest mentor is my supervisor, Kathleen Nishimura. She has 25 years of experience as a state mathematics specialist, and has served a term as the president for the Association of State Supervisors of Mathematics (ASSM). Kathleen's door is always open, and I often tap her for her expertise. I have known Kathleen every since I started teaching eleven years ago, so I also follow what I have picked up from her

What wisdom do you offer to those working to develop leadership potential?

I would tell potential leaders to remember that they are a part of a learning community; i.e. accept what others have to offer you, and share what you have to offer with others.

What aspect of your job gives you the most satisfaction?

I love working with teachers and conducting professional development workshops. I love it even more when the teachers apply what they learned in my workshop and let me know how it went.

What are your greatest sources of frustration?

My greatest source of frustration is not having enough time and resources to accomplish all that needs to be done. My wish is for every classroom to have all of the manipulative materials, technology, facilities, and human resources so that students can have experiences so they learn the WHY behind the math concepts rather than focusing only on the HOW TO. I wish that every school would have a math coach who can provide on-site professional development and appropriate support for new teachers.

What is the most important issue for leaders in mathematics ed. today?

The most important issue in mathematics education is providing teachers with the training and resources to help ALL students to be proficient in mathematics.

Thanks, Wesley Yuu, for sharing your experiences and knowledge with us.

Plan now to honor your graduating seniors through the NCSM Mathematics

Student Recognition Program. Identify a graduating senior who ranks in the top 10% of the high school's graduating class and who has demonstrated outstanding achievement in four years of high school mathematics. NCSM will furnish, without charge, up to two certificates per high school. Write the names on the certificates, frame them, and present them at an appropriate ceremony.

Provided to NCSM members only, the Mathematics Student Recognition

Program is an NCSM service created to provide a way to honor outstanding high school seniors who excel in mathematics. Requests must be placed before May 15 (NCSM Awards, P.O. Box 150368, Lakewood CO 80215-0368) or picked up at the NCSM merchandise table near registration at the 39th Annual NCSM Conference in Atlanta, Georgia, March 19-21, 2007.

**NCSM Student
Recognition
Program**

**NCSM Member
"Spotlight"
Wesley Yuu**

The NCSM Mission and Vision

MISSION: NCSM is an organization for leaders in mathematics education. NCSM is unique in its purpose—supporting mathematics education leadership at the school, district, college/university state/province, and national levels. Its membership constitutes an international force, collaborating to achieve excellence in mathematics education.

VISION: NCSM envisions a cadre of well trained, broadly informed, and perceptive leaders of mathematics education at all levels. These leaders must be empowered and held accountable for facilitating the implementation of quality mathematics education programs for all students. More specifically, NCSM:

will offer up-to-date information on research, issues, trends, programs, policy, and practice in mathematics education.

will provide opportunities for the enrichment of mathematical knowledge and the development of leadership skills.

will promote the importance of designated mathematics education leaders at all levels.

will promote networking among members.

will collaborate with other stakeholders in the education community, and with business and government to strengthen leadership in mathematics education.

will recognize outstanding mathematics education leaders.

The Role of our NCSM Board: As representatives of the membership, the NCSM Board establishes goals, and creates and reviews new projects and initiatives that advance the mission and vision of the organization. The Board monitors the achievement of existing goals and projects to ensure their continued alignment with the mission and vision.

For more information about NCSM, visit www.ncsmonline today!

Your NCSM Newsletter...

The purpose of the NCSM Newsletter is to advance the mission and vision of the NCSM by informing the members of the on-going activities of the Council, and up-to-date information about issues, trends, programs, policy in mathematics education, and promoting networking and collaboration among NCSM members and other stakeholders in the education community. Your NCSM Newsletter is published four times a year—Fall, Winter, Spring, Summer—is mailed to NCSM members only as a benefit of your NCSM membership..

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Please send Newsletter materials to: Kay Gilliland, 1 (2 (0 Skyline Blvd. Oakland, CA 94612, GillilandK4 mac.com. Send all other inquiries to: NCSM, PO Box 150368, Lakewood CO 80215-0368, tel/fax: (303) 27 (-5932, or email: ncsm4mathforum.org

Your NCSM Newsletter Editors

Your NCSM Newsletter Co-Editors, Kay Gilliland and Paul Giganti, would like you to know that we are constantly looking for ways to improve your Newsletter to provide you with the information you need to do your job as a leader in mathematics education. Please feel free to drop us an email with your suggestions for future issues.

Kay Gilliland, Managing Editor: gillilandk4mac.com

Paul Giganti, Jr., Technical Editor: pgiganti4berkeley.edu

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Please check all that apply. I am a leader in mathematics education at the following levels:

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~ Calendar Reminders ~

*For further information on the events below, go to the NCSM web site:
www.ncsmonline.org*

**October 27, 2006 NCSM Breakfast, NYSAMS Conference,
Saratoga, New York**

November 1, 2006 Glenn Gilbert Award nominations close

November 1, 2006 Iris Carl Award applications close

January 19, 2007 NCSM Conference Housing Block closes

March 17-18, 2007 NCSM Board Meeting, Atlanta, Georgia

March 19–21, 2007..... NCSM Annual Conference, Atlanta, Georgia

March 21-24, 2007 NCTM Annual Meeting, Atlanta, Georgia

July 17-20, 2007 NCSM Leadership Academy, Midway, Utah