



The Ohio Council of Teachers of Mathematics NEWSLETTER

June 2005

No. 83 +n

Mary Rhein Honored at Akron Conference



Mary Rhein was awarded the Buck Martin Award for Outstanding Mathematics Teaching at the secondary level at the OCTM Annual Conference Awards Banquet. Mary has been teaching at Lakota West High School in the Lakota School District near Cincinnati since she graduated from Miami University 26 years ago.

Mary has spent her career being very student-centered. She was the Mu Alpha Theta sponsor at Lakota and is now on the Mu

Alpha Theta National Governing Board as Region IV Governor, as such she represents schools from Indiana south to Tennessee and all states to the east. She has taken students to 22 national conventions and coached them to 10 finishes in at the national level.

At the state level, through Mary's urging and creative genius, the Ohio High School Mathematics Invitational Olympiad (OHMIO) was created in 1999. Students are chosen by their high scores on the OCTM Annual State Mathematics Contest. Besides running that contest, she has assisted with the OCTM State Contest as a Site Director and contest grader.

Mrs. Rhein's philosophy for teaching is that as she approaches a new day she says to herself, "Today I'm

going to teach my students something new and show them how it applies to their lives." She says that she doesn't always live up to this high ideal but she keeps trying.

Mathematics is fun in her class as students attest that "she really likes math." She decorates her room with mathematics history posters, stars with students' high scores on them, and awards for the students. She gives them reasons to excel.

Mary's father filled her with a love of numbers and by the fourth grade she had decided that she would be a mathematics teacher. She uses her own dyslexia to help her students who also suffer with the disorder. Through her example, they learn that they, too, can learn significant mathematics.

Laura Anfang Wins Kenneth Cummins Award for College Teaching

In an attempt to recognize the many OCTM members who are teaching at the college level, the Kenneth Cummins Award for College Teaching was originated this year at the 2004 Awards Banquet. Laura Anfang was the first to receive the cherished award. She has a long career in mathematics education and taught many

years at the high school level before joining the faculty at John Carroll University. At JCU she supervises student teachers and teaches various mathematics methods courses.

Laura's teaching philosophy has evolved over the years through working with colleagues and
(Cont. Page 2)



End of the School Year

-Linda S. Hallenbeck, President

I have always found the end of the year to be bitter sweet. While it is exciting to look forward to summer and all we want to accomplish, it is also a time we say good-bye to students we have come to know. Throughout the school year we take great effort to get to better understand our students. We have moved from just knowing their names in the fall, to often being able to take a quick look into their eyes and knowing how they are *really* feeling. We can look at our students at the end of the year and note their growth and perhaps wish for more the next year.

The end of the year is also an opportune time to reflect on the year. To ask what went well, what can be improved upon, and how can it be accomplished. Last year at this time my newsletter article was titled: "Be a Better Teacher – Part II" and I gave several ideas for you to think about over the summer and put into action in the fall. The common theme in the ideas centered on forming a foundation for a community of learners. You may want to consider putting one of these ideas into action next fall. Suggested ideas included: Book Clubs; Curriculum Instruction Study; Mathematics Content Area Study Group; Assessment Study Group; and Attending the OCTM Fall Conference.

Summer is a time for rejuvenation. Part of the rejuvenation process is to relax and "veg-out." Often it seems the sooner we do this,

the more ready we are for rejuvenation of the brain. There are several opportunities available to mathematics educators over the summer. Most institutions of higher education offer a multitude of course offerings. Additionally, the Ohio Mathematics Academy Programs (OMAP) have been expanded to include more content areas in two different grade bands for grades 3-6 and grades 7-10. We are fortunate to have such a vast number of opportunities available.

The Board must say good-bye to Dan Brahier

The OCTM board must also say some good-byes. Dan Brahier has served the council well. Four years ago Dan was President-Elect. He then served two more years as our President, and this past year as Past President and chief advisor to yours truly. Thank you, Dan, for the four years, as well as all the past and future times you give to OCTM. A very special thank you also goes to Donna Cooper who has served as the Vice President for Secondary. We wish you well. District Directors have a challenging responsibility as they serve as direct links to the various regions of Ohio. We must say good bye to three great District Directors: Linda Bollman (Southwest); John Baal (South) and Rebecca Maggard (West). OCTM has appreciated the time and efforts each has given to

continue to strengthen our organization. We look forward to continuing to work with each of you in various capacities.

While you are saying good-bye to the reason we go to school everyday, remember to take time for yourself and begin to make plans to HAVE A GREAT SUMMER!

ONCE AGAIN, I WOULD ENCOURAGE YOU TO BEGIN TO MAKE PLANS NOW TO ATTEND THE OCTM FALL CONFERENCE TO BE HELD IN DAYTON ON OCTOBER 6-8, 2005. YOU CAN GO ON LINE AT WWW.OHIOCTM.ORG TO GET REGISTRATION INFORMATION.
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Anfang (cont.)

outstanding professors such as Kenneth Cummins, Maryjane Werner, Johnny Hill, Robert Kolesar and many others. For her, the main ingredient to successful mathematics teaching and learning is to get the students involved and engaged by giving them the opportunity to investigate and make conjectures, to allow them to struggle for a while and to require them to communicate their understanding both orally to the class and in writing. She often tells her students and student teachers that in the classroom, when the teacher appears to be working harder than the students – something is wrong!

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Election Results

The results of the recent election of officers are as follows:

President Elect – Bonnie Beach

Vice-President, Secondary – Jack Albers

Treasurer – Ruth Hubbard

Southwest District Director – Ann Dinkheller

South District Director – Ruth Ann Murphy

West District Director – Barbara Farris

If any of these folks are from your area or district, please give them your congratulations and assistance when they ask.

It is an honor to serve you the OCTM membership but the officers need your assistance to strengthen the organization.

The board meets three times a year to conduct the business of the organization. These are open, public meetings and you are welcome at any time. Check the website or call 800-449-OCTM if you have questions about the board meetings.



President-Elect

Bonnie Beach has served the OCTM in many different ways throughout her professional career. Among them are Membership Secretary, Southeast District Director, OCTM Conference Program Chair, and various committees. She has spoken at many of the conferences as well.

Currently she is the Associate Dean and Associate Professor of Mathematics Education in the College of Education at Ohio University. She serves OCTM as the Southeast District Director.

She currently serves on the Board of Directors of the Coalition of Rural and Appalachian Schools (CORAS), the Board of directors of Ohio Association of Colleges of Teacher Education.

She has served on the Ohio Graduation Qualifying Examination Content Review Committee, Board of Directors for the Ohio Mathematics Education Leadership Council (as well as its president and secretary), and various National Council of Teachers of Mathematics Regional Conference program committees and she has presented at many NCTM regional and national conferences.

She is passionate about making mathematics accessible to all students and has been working towards that goal for 35 years. She sees OCTM as a vibrant organization that truly promotes excellence in teaching mathematics and looks forward to serving OCTM to help this vital work go forward.

Vice-President, Secondary, Jack Albers

currently is on the faculty at Lehman Central Catholic High School. He is also an Ohio Mathematics Academy Program (OMAP) trainer in Module II, for the Geometry and Spatial Sense and Measurement Standards as well as Module I for the Patterns, Functions, and Algebra Standard.

In the past he has taught at Marion Local High School for 30 years and served as an adjunct professor at Wright State University teaching mathematics and mathematics education courses.

He has served OCTM as its West District Director and he has presented at numerous conferences. He has also presented at NCTM annual meetings.

Jack has been honored as the Secondary Teacher of the Year by the University of Dayton and West Ohio Education Association, he is

a Charter member of Ohio Mathematics Education Leadership Council (OMELC), and has been the West District PC T award winner.

We are lucky that at this stage of his career, Jack has more time to devote to OCTM. We look forward to his leadership in this position.

Treasurer, Ruth Hubbard has served as treasurer since 2001. Currently she is retired but served as a mathematics teacher for grades 9-12 at Walnut Hills High School in Cincinnati.

Ruth serves OCTM in a myriad of other ways. She is a reviewer for the *Ohio Journal for School Mathematics*, she presents at OCTM conferences, she serves on the contest committee, and she initiated and supervised the Copy Center at the conferences. She has served on the Conference Committee for the last three which were in Cincinnati.

She has won the Presidential Award for Excellence in Mathematics Teaching in Ohio in 1985. Ruth organized the Ohio Team to the American Regions Mathematics League (ARML) from 1981 to 1996 and is currently leading an effort to revive the Ohio Team.

Ruth has also served as treasurer and president for her local chapter of Delta Kappa Gamma.

Ruth looks forward to continuing to help OCTM stay in sound financial condition and putting in place a framework for an endowment trust. She also wants to see funds used

responsible to enhance the efforts of mathematics teachers.



Southwest District Director, Ann Dinkheller is the Secondary Mathematics Curriculum Leader for Mason City Schools. In the past, she has been on the mathematics faculty at Xavier University, a teacher and coach in Sharonville, and an adjunct professor at Miami University, University of Cincinnati, and Wilmington University.

Her previous service to OCTM has been as a reviewer for the *Ohio Journal for School Mathematics* and presented at numerous conferences.

A communicator for mathematics education, she has written articles published in the *Mathematics Teacher* (NCTM) and the *Ohio Journal for School Mathematics*. She has presented at NCTM conferences as well as the Greater Cincinnati Council of Teachers of Mathematics' meeting. She has been both the Principal Investigator as well as a teacher involved in numerous Ohio Board of Regents grants.

She won the Alumni Outstanding Service to the Profession Award from Emporia State University.

Ann looks forward to this opportunity to serve the organization that has helped her so much in her career. She wants to be sure those

opportunities will continue to be available to mathematics teachers in Ohio.

South District Director, Ruth Ann Murphy currently is an associate professor of teacher education at Marshall University in Huntington, West Virginia.

She has been an instructor at Ohio University and an elementary and middle school mathematics teacher in Portsmouth.

Ruth Ann was a Project Discovery Teacher Leader for the South Region, has been a Cognitively Guided Instruction Teacher Leader, and a key participant in an Ohio Board of Regents Eisenhower Grant for Scioto County. She was nominated for Portsmouth City School's Elementary Teacher of the Year award.

Ruth Ann has gained valuable insights in the teaching of mathematics in her attendance of OCTM conferences and local meetings. She believes an active, strong local association could be one effective means of providing teachers support as they incorporate the *Principles and Standards for School Mathematics* into their classrooms.

West District Director, Barbara Farris is an Independent Educational Consultant for Wolfson Education Resources.

In the past, Barbara has been a mathematics teacher at North College Hills Junior and Senior High School, mathematics teacher at Centerville High School, and mathematics teacher and

department head at Trotwood Madison High School. She has also served as instructor and adjunct professor at Wright State University, pre-college division.

She has served OCTM by being the Hospitality Chairperson for the 1998 conference. Wright State University Area Council of Teachers of Mathematics (WSUACTM) has enjoyed



GAMES

-*Kimberly Yoak, Secretary*

GAMES (the Greater Akron Mathematics Educator's Society) finished out the year with three great events. In February, we held our annual mini-conference and had nine sessions with 46 mathematics educators and pre-service teachers in attendance. In March, Judie Melillo from Kent State University presented on "Using Procedures to Develop Algebraic Thinking." This was also our Spring Celebration of Teachers, and we recognized attendees who were pre-service teachers, mentor teachers, entry-year teachers, and new GAMES members. **Forty** educators attended this meeting.

Finally, on 23 May 2005, we will conclude the year with a night with the Akron Aeros, during which we will hear a city engineer talk about the design and planning of the baseball park, have a great picnic, and enjoy the baseball game! Anyone

her leadership as president, past president, and membership chair. She will serve again as Hospitality Chairperson when OCTM returns to Dayton in 2005.

Barbara has had a curriculum unit published in School to Work. She served on the Twelfth Grade Proficiency Test Content Review Committee for the

interested in attending this event should contact Kim Yoak at st_kyoak@mail.neonet.k12.oh.us.



-*Linda JC Taylor, ORC Mathematics Review Board Chair*

Have you noticed the new feature on ORC? If you look carefully in the upper right hand corner of the home page you will see "My ORC Collection" outlined in green. If you have not explored this feature, you really need to try the next time you visit ORC.

The My ORC Collection will create a unique URL for your collection on ORC. Within your collection, you may create folders that will hold links to your favorite ORC sites. Then when you want to use them for a presentation in class or during professional development, they are all in one convenient location.

You can create your description for each site or just attach the Professional Commentary that ORC has for the site, or both.

You need to become a registered user to use the My ORC Collection. When you register, you may also choose

Ohio Department of Education.

Barbara looks forward to building upon the network of mathematics teachers she works with in the WSUACTM area. She sees this wider network as a way to influence mathematics instruction and helping teachers share ideas.

to have the Headline news sent to your email address every week when it is posted. Read more about My ORC Collection in the FYI section of the homepage.

ORC is currently working on two projects that will create some professional development around the state of Ohio. In April it hosted the PRIME (Prime Intervention in Mathematics Education) conference. There were 300 mathematics educators from around the state who looked into the idea of trying to find students who may experience failure in mathematics and intervene give students better mathematics understanding.

Two of the mathematics Review Board members, **Darrell Heintz** and **Nancy Sattler** presented at the T³ conference in Lima during the first week of April. Hope you had a chance to hear them.



Check the FYI portion of the homepage to stay up-to-date on the activities of the ORC and its staff.

Everling & Shambaugh Named 2004 Presidential Award Winners

Renee Everling of Kings Mills's J.F. Burns Elementary and **Catherine Shambaugh** of Strongsville's Whitney Elementary School were named 2004 Presidential Award Winners for Excellence in Mathematics and Science Teaching, the nation's highest honor for teaching in these fields, by President George W. Bush on 12 April 2005.

In the citations given to Everling and Shambaugh, President Bush commended them "for embodying excellence in teaching, for devotion to the learning needs of the students, and for upholding the high standards that exemplify American education at its finest."

As awardees, Everling and Shambaugh each receive a \$10,000 grant from the National Science Foundation (NSF), the independent federal agency that administers the awards program, an all expenses-paid trip to Washington, DC for the celebratory events, and professional development activities.

Established by Congress in 1983, the annual presidential awards program identifies outstanding mathematics and science teachers in all 50 states, the District of Columbia, Puerto Rico, the US Territories, and the US Department of Defense Schools. This year's recipients – chosen by a panel of leading mathematicians, scientists, and educators in conjunction with the White House – are K-6th grade teachers.

"These outstanding teachers show us what excellent teaching looks like," said Mark Saul, Ph.D., program director of Elementary, Secondary, and Informal Education at NSF. "They have a passion for their subject and a dedication to their students. They know how to bring out the best in every student, in every kind of school. We hope their example will simulate the creativity of other teachers and help attract new recruits to the mathematics and science teaching profession."



Everling starts every school year talking with her students about how and what they are going to learn. "Once we begin the process, the kids build the foundation to do hands-on science projects. Kids need to make a connection to the real world. If they can't link content and process to the real world and real situations, then they won't realize the importance of concepts and that all subjects tie into one another," Everling said.

An error becomes a mistake only if it goes uncorrected.

Shambaugh believes that good questioning skills guide students to an answer. "If they don't learn one way, I phrase a question in different ways until it clicks for them,"

Shambaugh said. "We work on understanding the underlying concepts to build to a higher level."

To make mathematics more hands-on and interactive, Shambaugh created a mathematics club before school so students could build structures. She also created a Problem of the Week that students can choose to solve on their own. "I had one kid solve the problem of the week for two years straight. His reward was a bookmark. He's an adult now, and he still has it," Shambaugh said.



Shambaugh has a poster in her room that states, "An error becomes a mistake only if it goes uncorrected."

"It makes students more comfortable, and they know that I make mistakes sometimes, too," Shambaugh states.

The week-long celebration in Washington, DC includes an awards ceremony, professional learning opportunities, conversations with leaders in education policy, and opportunities to meet dignitaries from the executive and legislative branches.

"The most important reward the teachers will receive is the ability to talk with each other, swap ideas, and techniques, and bring (cont. page 7)

Everling and Shambaugh (cont.)

everything they learn in DC home to their students.” said Saul.

As awardees, Everling and Shambaugh receive numerous gifts from corporate and government donors, including science and mathematics curricula from the JASON Foundation for Education, overhead projectors from 3M, and a professional development opportunity sponsored by EF Educational Tours, the nation’s leader in educational tours and intercultural exchange. Later this year, all the Presidential Awardees will travel to the Walt Disney Resort in Florida to participate in the Disney Youth Education Series programs, where the teachers will go behind the scenes of the theme parks to examine and explore science, leadership, history, and art.

The 2005 Presidential Award nominations are currently open for mathematics and science teachers in grades 7-12. Public, private, and parochial school teachers can be nominated by anyone, except themselves. For more information, visit www.paemst.org.

Puzzle Corner Answers:

Level One: 9762
Level Two: 102/98765
Level Three: 689/701

American Regionals Math League (ARML)

-Peter Knapp

This year, Ohio will be returning to the American Regionals Math League

(ARML), a prestigious national Mathematics Competition that draws over a thousand competitors from Maine to California and is held simultaneously at three sites across the country. This year, Ohio will be sending two teams to Pennsylvania State University for the first weekend of June to compete in the ARML.

The students who will be participating are: Christopher Jo from Athens High School, Stephen Watkins from Centennial High School, Allen Mayo from Dublin Coffman High School, David Nie from Findlay High School, Ben Fulan of Granville High School, Laney Kuenzel of Hathaway Brown School, Daniel Gilday and Stephen Kanzelmar both from Lakota West High School, Aaron Pollack of Liberty High School, David Kasper from Mount Vernon High School, Anika Huhn and Daniel Litt both of Orange High School, John Feldman and Daniel Schulte both of St. Xavier High School, Ron Turba from Seven Hills School, Greg Ebersole and Jon Krause both representing Strongville High School, Jeff Andrews, Aaron Friedman, and Kevin Lin all from Sycamore High School, Zachary Sjostrom of Thomas Worthington High School, Sean Carrick representing United Local High School, Jay Wang of University School, Andrew Duchi from Upper Arlington High School, David Backus and Chris Mohr both representing Village Academy, Martin Malone from Walnut Hills High School, and Yibo Shao and Raymond Tan from William Mason High School.

These students will represent Ohio very well at the ARML competition. Good luck to all of you. Thanks to all the advisors and mathematics teachers who have worked with these students so that they would have the chance to participate in such an event.



Math: It's No Secret Reveals Its Secrets

*-Jim Carruth, 2005
Conference Co-chair*

By the time you receive this newsletter a number of things will have happened with OCTM’s 55th Annual Conference in Dayton. All OCTM members should have received a brochure describing the conference to be held October 6 – 8, 2005. Registration and hotel information is included in this brochure. Unlike in other years the actual program booklet will only be mailed to registrants. If you would like to see what is planned in the way of a program in Dayton, you can access the complete list of sessions on the web at ohioctm.org. Also on the OCTM site are the hotel and conference registration forms. If you do not have access to the web, a copy of the program sessions can be obtained by mailing a request to OCTM 2005, 5601 Winterberry Ct., Dayton, OH 45431. The postmark deadline for mail-in registration is 1 September 2005.

(Cont page 8)

Carruth Cont.

On Thursday, Glenda Lappan, former President of NCTM, will be giving the keynote session. Also on Thursday there will be a welcoming reception in the exhibit area in the late afternoon. You can follow up this reception with a dinner at Citi-Lites, the restaurant located in the fabulous Schuster Performing Arts Center and then walk across the street for dessert at Solganiks.

On Friday, the Awards Banquet will be at The Crowne Plaza, the Conference Hotel. You can join your friends as we honor this year's award winners. There will be a social hour preceding the dinner. Entertainment will feature the West Carrollton Music department.

If you cannot get off school for the first two days of the conference, you can take advantage of the low on-site registration fee for Saturday. For just \$5 you can attend and hear some of Ohio's best and brightest mathematics teachers.

At the conference it will be possible to get CEU's as well as graduate credit for conference learning experiences. Other speakers include Johnny Hill and Jim DeBrosse, author of The Secret in Building 26, describing the work done in Dayton to break the WWII German U-boat code. So don't wait, get your registration in by September 1st and avoid the \$10 increase in fees after this date.

A MATH AND SCIENCE QUIZ - THE ANSWER: THE U.S. IS BEHIND

-Triangle Coalition Electronic Bulletin

1. Did you know that, according to the National Academy of Engineers, China awards more than four times the number of engineering degrees that the U.S. awards? (Roughly 300,000 in China compared to 71,000 in the United States.)

2. Did you know that U.S. students' proficiency rates in math and science decline over the course of the students' academic career? (There are more proficient 4th graders than 12th graders.)

3. Did you know that over the last 25 years, most of the job growth has been in science and engineering positions? (Those positions have grown at five times the rate of the civilian workforce as a whole.)

4. Did you know that while the number of undergraduate degrees awarded in the U.S. has increased 14% over the last 10 years, the number has declined in fields such as engineering and mathematics? (Mathematics degrees declined by 16 percent over the last 10 years.)

For more information about legislation to address this, visit www.house.gov/wolf.



Puzzle Corner

-Duane Bollenbacher, Historian

Level One: Using any four of the digits 1, 2, 3, 5, 6, 7, or 9, write the largest possible 4-digit number that is even. Each digit may only be used once.

Level Two: Using any eight of the digits 0, 1, 2, 3, 4, 5, 6, 7, 8, or 9, write the smallest possible positive proper fraction with exactly three digits in the numerator. Each digit may only be used once.

Level Three: Using any six of the digits, 0, 1, 2, 3, 4, 5, 6, 7, 8, or 9, write the largest possible proper fraction with exactly three digits in the numerator. Each digit may only be used once.

Answers can be found on page 7.

OMSC at Work

-Janet M. Herrelko, Ed.D., NBCT

OMSC Immediate Past Chair

Exciting! Empowering Teachers! Committing to Shared Accountability and Responsibility! The Ohio Mathematics and Science Coalition is working to help Ohio educators increase student success in mathematics and science.

Just what did OMSC do to accomplish their goals? Last summer, OMSC conducted a Principals' Academy funded by the Ohio Department of Education. The theme of the Academy was to help principals learn how to use school data to improve instruction and to understand where students have strengths and needs. The feedback from the participants was positive and

appreciative. OMSC would like to replicate the workshop in other parts of the state when additional funding is secured.

The Lorain Schools' Explorer Middle School in conjunction with OMSC applied for a grant from NASA that was received to introduce teachers to ways to collect student data that help teachers examine, review, reflect on their teaching. The workshops use the Ohio Resource Center lessons as a starting point. Teachers collect lesson data, which they examine collaboratively. Discussions focus on pedagogical changes that can be made to improve the lessons for Lorain students. Linda Gojack is the scheduled presenter. Lorain teachers, this is an opportunity not to be missed!

At the spring coalition meeting on February 18, 2005 held at the Ohio School

Boards Association building in Columbus, Bill Schmidt made an exciting presentation of his data gathered from working in Ohio with the PROM/SE and TIMSS.

Vigorous discussions followed the presentation in which OMSC members from business, government sectors, and educators discussed the implications of these data on the Ohio educational system.

Some of the themes that came from those discussions included several of these topics. Successful changes to improve mathematics scores take time. Specifically, long range planning over periods of five and ten years was noted. Mathematics topics, while listed in the *Ohio Academic Content Standards*, need to be focused and coherent.

Discussion extended into revising the present mathematics *Academic Content Standards*. Members

stressed that alignment between what is being taught and assessment needed to be kept in mind throughout any change process. Business members emphasized improving the Ohio Graduation Test to become a test of high school curriculum rather than questions from eighth grade level topics. Members noted that our top policy leaders should report to the public the real situation in Ohio schools; what should be done to improve the state of mathematics in Ohio; and our state leaders should spearhead these changes.

OMSC welcomes your insights on these topics. You can share your comments at the OMSC web site www.oai.org/OMSC/. Come and join our efforts by becoming a member of OMSC! Applications can be found at the web site. You can go to the OCTM web site for more information.

The 2005 EMPT Summer Academy

“Remedial Algebra Using a Function Approach” is scheduled for July 11 - 13, 2005 at the Holiday Inn on the Lane next to The Ohio State University campus. This 3-day academy is for teachers of a remedial senior algebra course (Algebra II teachers will also find the ideas presented useful in the traditional approach or standards-based approach.). Registration is free and two hours of Math 610 is available at the current OSU tuition rate.

We “**use**” **function and function representation** in the teaching of more traditional topics. That is, teaching from a function approach means **using functions and function behaviors** to teach mathematics such as factoring, equation solving, arithmetic operations on polynomials, systems of equations, inequalities, properties of inequalities, definitions, concept of asymptotic behavior, absolute value, slope, laws of exponents, etc. Inherent in the function approach to teaching algebra (with a graphing calculator) are the cognitive processes of associations, pattern recognition, attention, visualizations, priming, and the enriched teaching environment. By teaching to the way the brain functions, we will remove a layer of difficulty to learning algebra.

For further information, please email Ed Laughbaum at <elaughba@math.ohio-state.edu>.

Ohio EMPT is a Program of the Ohio Board of Regents.

News from NCTM: A message from President Cathy Seeley



Using Research to Improve Teaching

Federal policymakers and the public have raised a call for teaching and decision making in schools to become more evidence-based—to use research to guide our practice. As educators, we welcome this call. After all, what we care about most is how well our students learn.

I have not published research myself, but throughout my career in the classroom and at the district, state, and national levels, I have needed to know what research had to tell me so that I could be a better teacher or help others be better teachers. I have also yearned to connect to the research community and let them know what questions I was hearing every day: *What teaching approach is most effective? Should we track our students? Will using calculators help or hurt my students' learning? How should the curriculum be structured to maximize students' learning?*

Why is making these connections between research and practice so challenging? Some might point to a lack of available research findings in a format that is easy to grasp. Others might mention that sometimes research seems to give us conflicting results or that particular studies are not designed to be immediately applied in the classroom. We might observe a widespread lack of interest from classroom teachers and district leaders in research articles or sessions on research at conferences. We might also note that teachers face tremendous pressure to focus on short-term test results and to pursue these test results using techniques and materials that may contradict what research tells us about how children learn mathematics. And more recently, we have seen much discussion about defining research in increasingly narrow, quantitative ways that seem to exclude a great deal of high-quality work in the mathematics education research community.

The fact is that we need to know more about many things. A recent report from the National Research Council, “On Evaluating Curricular Effectiveness: Judging the Quality of K–12 Mathematics Evaluations,” alerted us to the fact that we don’t yet have as much information as we might like to answer questions about which programs seem to be most effective for students. We have much to learn about what it takes to implement a program well and how we can measure results with respect to the fidelity of implementation. But there are also many things we do know. *Principles and Standards for School Mathematics* is built on a strong research base that is described in a comprehensive partner volume — *A Research Companion to “Principles and Standards for School Mathematics.”* In addition, a quick source of research pertaining to many current issues of interest to mathematics teachers and other leaders is *EdThoughts: What We Know about Mathematics Teaching and Learning*. In recent years NCTM has produced many research publications, including *Lessons Learned from Research* and *Putting Research into Practice in the Elementary Grades: Readings from Journals of the NCTM*. The *Journal for Research in Mathematics Education* is respected around the world as a peer-reviewed forum for sharing high-quality studies. And all three of NCTM’s school journals periodically publish short articles on research targeted to the practitioner. Do we have access to research? Absolutely. Do we need even better access? Positively.

NCTM is once again positioned to take a leadership role among the academic disciplines by strengthening the bridge that connects research to the practice of teaching and the outcome of learning.

As a council of education professionals, let us create new resources that put usable information into the hands of those directly responsible for students’ learning. Let us create new mechanisms for asking the research community for help on the questions that we most need answered. Let us use research to guide policy decisions that support improvements in teaching and learning. Let us expand the group of individuals and institutions whose focus is not primarily on teaching or primarily on research but primarily on the link between the two.

You can help us to make research findings more accessible by letting us know what your concerns and questions are. What do you most need to know to improve teaching and learning in your classroom, school, or district? Send your thoughts to research@nctm.org. We will use your input as a guide as we seek to provide answers.

**The Ohio Council of Teachers of Mathematics
Individual Membership Form**

Circle One: Renewal New Membership

Name _____

Address _____

2nd Address _____

City _____ State _____

Zip+4 _____

SSN (last four digits only) _____

Home Phone (_____) _____

Work Phone (_____) _____

Email: _____

Employed by: _____

Position: _____ Grade Levels: _____

____ Male ____ Female

Make checks payable to OCTM and mail them with this form to:

**Sister M. Theresa Sharp, SND
OCTM Membership Secretary
13000 Auburn Road
Chardon, OH 44024-9330**

Check one below:

- ____ \$25.00 for 1 year
- ____ \$60.00 for 3 years
- ____ \$5.00 student membership

____ Life – Available without payment of dues to persons who were OCTM members for 15 consecutive years prior to retirement.

____ From time to time, OCTM makes our members' mailing information available to other reputable organizations or companies for mathematics-related products or services that might be of interest to our members. We are confident that many of our members find this a valuable and time-saving service. If, however, you would like your name excluded from these mailings, check here.

OHIO COUNCIL OF TEACHERS OF MATHEMATICS



OCTM NEWSLETTER

LINDA JC TAYLOR

18564 BOERGER ROAD

MARYSVILLE, OHIO 43040-9052

PUT IT ON YOUR CALENDAR

6-8 OCTOBER 2005

55TH OCTM ANNUAL CONFERENCE

IN DAYTON

MATH: IT'S NO SECRET