



AMATYC News

American Mathematical Association
of Two-Year Colleges

Serving the professional needs of two-year college mathematics faculty

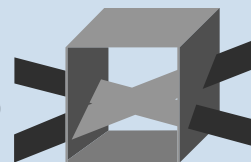
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AMATYC Awarded NSF Grant for the *Crossroads Revisited* Project

The National Science Foundation (NSF) has awarded AMATYC a \$75,000 grant to plan the digital products to accompany the updated AMATYC *Standards 2006* (working title: *Beyond Crossroads*) document being prepared in the *Crossroads Revisited* Project. Planning grant funding was received from the Course, Curriculum, and Laboratory Improvement (CCLI) and Advanced Technological Education (ATE) Programs at NSF.



Objectives of the project include:

- Determining the most important areas for which supplements and digital products should be developed to supplement the updated AMATYC Standards.
- Researching and analyzing various media to select the most appropriate delivery mechanism.
- Establishing timelines and identifying materials and resources, human and otherwise, needed for developing and producing the various digital products.
- Developing a production and dissemination plan that will place the digital products within easy reach of full- and part-time faculty and mathematics departments.

Two focus meetings will be held, with smaller working groups communicating by email and conference calls between the two meetings. Each meeting will include selected members of the Writing and Planning Teams for the *Crossroads Revisited* Project and media/technology experts. The first meeting was held in early October 2004 at Southwest Tennessee CC in Memphis, TN, the home of the AMATYC Office.

This planning grant will culminate in designs for approximately four to six digital projects related to the implementation of *Beyond Crossroads*. It is expected that these projects will respond to two-year college mathematics faculty's needs for implementation materials related to the Standards. As examples, one product might illustrate different modes of instructional delivery, while another might address class, course, and program assessment.

Principal investigators for the NSF project are Susan S. Wood, J. Sargeant Reynolds CC (VA), and Philip Mahler, AMATYC Past President, Middlesex CC (MA), who together with Sadie Bragg, Borough of Manhattan CC (NY), are the Directors of the *Crossroads Revisited* Project. Richelle Blair, Lakeland CC (OH), serves as Project Editor.

Additional information about the NSF Digital Products Planning Grant can be obtained via the *Crossroads Revisited* Project link on the AMATYC website, or by contacting Susan S. Wood at swood@jsr.vccs.edu.

Project ACCCESS Accepts Its First Cohort

Project ACCCESS (Advancing Community College Careers: Education, Scholarship, and Service) is pleased to announce the first class of ACCCESS Fellows. This diverse group of faculty will attend the first of their two consecutive AMATYC national meetings in Orlando where they will participate in specially developed pre-conference workshops as well as regular conference activities. In the intervening year, Fellows will attend an MAA Section meeting near their home institution where they will participate in the MAA's Section NExT activities and the regular meeting. Through the many ACCCESS activities, Fellows will gain knowledge of the culture and mission of the two-year college and its students, and acquire familiarity with the scholarship of teaching.

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PRESIDENT'S CORNER



Judy E. Ackerman

Montgomery College • Rockville, MD

Every four years the AMATYC President represents AMATYC at the International Conference on Mathematics Education (ICME). ICMEs are sponsored by the International Commission on Mathematical Instruction (ICMI), an organization that conducts international comparative studies of issues related to mathematics instruction. Membership in ICMI is composed of representatives of countries, not individuals, and the leadership has traditionally come from research mathematicians who are concerned about what is going on in school mathematics. This was the 10th ICME and it was held on the campus of the Technical University of Denmark on July 4-11, 2004. Unlike previous ICMEs that were hosted by a single country, this one was hosted by the Nordic countries.

Through a grant from the National Science Foundation, the National Council of Teachers of Mathematics (NCTM) awarded approximately 45 travel grants to ICME-10 for K-16 mathematics educators. Travel grantees were assigned to a group and each group reported back to NCTM on their designated topic. I was the leader for the Information and Communication Technology group. Other group members included AMATYC members Doug Mace and Quincy Magby as well as two high school teachers and one teacher educator. Our group was unique in that none of us had attended a previous ICME. We each attended sessions on information and communication technology as well as sessions that were associated with some of our other individual interests in mathematics education.

The program of ICME-10 is organized very differently from that of AMATYC or other mathematics meetings in the United States. There were plenary sessions, lectures, topic study groups, discussion groups, a thematic afternoon, national presentations, and poster sessions. It definitely took some thought to figure out the organization of ICME and to decide which sessions to attend.

A new United Nations Educational, Scientific, and Cultural Organization (UNESCO) traveling exhibit, "Experiencing Mathematics," was displayed for the first time at ICME-10. It is a hands-on exhibit created by scientists from France, Japan, and the Philippines. Perhaps the most fascinating part for me was the bicycle with square wheels that moved effortlessly on a roadbed made up of a series of regular curves. I loved the way that this challenged my thinking about rotation and movement.

Marilyn Mays, a past president of AMATYC, was one of the organizers of the discussion group, *Current problems and challenges in non-university tertiary mathematics education*. Most of the tertiary schools from other countries were either technical institutes or colleges. The two-year college concept in the United States and Canada is still not widely replicated elsewhere. The major topics that were discussed were ones that had been raised at ICME-9, the first time that there were sessions related to non-university tertiary colleges. Broader questions dealt with whether or not applications should be focused on student interest or student majors. There is a universal need to figure out what to do with students who are not well prepared for their classes. AMATYC members Steve Krevisky, Geoff Ask, Mary Ann Hovis, and Doug Mace participated in this discussion group and Mary Ann and Geoff presented information on the AMATYC *Crossroads Revisited*



project. It appeared that in most other countries placement tests are not used in these institutions. This may be in part because admission is selective. Students go into a set sequence of courses. If students have difficulty, there are diagnostics tests and then a recommendation that they seek help.

I attended sessions on promoting equality in mathematics classrooms and participated in the thematic afternoon session on mathematics and society. Frederick Leung (Univ of Hong Kong, China) summarized the work of his technology working group in a lecture, *Information and Communication Technology (ICT) in Mathematics Education*. This included discussion of different ICT used around the world as well as the extent of its use.

This was an incredible opportunity to reflect on mathematics education practices in the United States, particularly on technology use and non-university tertiary institutions. Many of the issues are the same around the world. I came away valuing the system of comprehensive community colleges that is present in the United States and Canada even more because it is not available everywhere. Participating in ICME-10 reminded me that there are thoughtful, student-oriented mathematics educators in every country.



Planning to Conduct Some Classroom Research?

AMATYC encourages two-year college mathematics faculty to conduct classroom research or research on practices in mathematics instruction at two-year colleges and to become an AMATYC Research Associate (ARA). AMATYC will be able to provide support to ARA Appointees such as labels, publicity, and recognition.

Members may request an ARA Appointment at any time. ARA applicants submit a statement of interest, an outline of the research proposal, a resume, and letters of support from their institution and/or graduate program to the AMATYC Executive Director of Office Operations, Cheryl Cleaves (ccleaves@southwest.tn.edu).

Additional information is available at the AMATYC website.



FOCUS ON OUR MEMBERS

This feature highlights AMATYC members who have been formally recognized for their teaching.

David Price

David Price, Tarrant County College, Arlington, TX, is the 2003 AMATYC Teaching Excellence Awardee for the Southwest Region. David remembers being impressed immediately at his first AMATYC conference by the quality of the presentations and the dedication and professionalism of AMATYC members. David writes, "to be chosen as a recipient of the Teaching Excellence Award by colleagues who truly understand the nature of mathematics education at the two-year college level was a profound honor."

David reports that his most interesting work has focused on the honors program, The Cornerstone Program. It features an interdisciplinary curriculum that seeks to integrate learning across disciplines, including both sciences and humanities. In addition to being the curriculum director of Cornerstone on his campus, David is one of three instructors who team-teach History of Thought. The other two team-members represent philosophy and science, and the purpose of the class is to trace the development of mathematics and science from their roots in philosophy. The course develops a historical, philosophical, and cultural context for the mathematics and science classes that the Cornerstone students take for their degrees. Some students have decided to pursue work in these areas well beyond the minimum required for graduation. David writes that we all know that the pressure of covering the required topics in our math courses leaves little time to offer a broader perspective on the nature of mathematics and its relationship to other fields of study. A class such as the History of Thought provides a means of bridging that gap.

Simply nominating a colleague is an honor and recognition of the dedication to teaching for which two-year college mathematics faculty are renowned. The deadline for the 2005 AMATYC Teaching Excellence Award is **Thursday, December 9, 2004**. Criteria, nomination materials, and frequently asked questions can be found at www.amatyc.org.

Project ACCESS, Continued from page 1

The first class of Project ACCESS Fellows are:

Ezell Wesley Allen, Southwest Tennessee CC, TN
 Orlando B. Alonso, LaGuardia CC, NY
 Eric Aurand, Eastfield College, TX
 Brandi L. Bass, Nunez CC, LA
 Kimberly A. Bethea, Montgomery College, MD
 Jennifer Cass, Cabrillo College, CA
 Brenda K. Edmonds, Johnson County CC, KS
 Jacque Freudenthal, Spokane CC, WA
 Heather Gamber, Cy-Fair College, TX
 Elena Garant, Moraine Valley CC, IL
 Nikki Grantham, Darton College, GA
 Jack Green, Mt. Hood CC, OR
 Karen S. Hale, Onondaga CC, NY
 Karl Hess, Sinclair CC, OH
 Ana Jimenez, Pima CC, AZ

James G. Kelly, Bellevue CC, WA
 Nadarajah Kirupaharan, Borough of Manhattan CC, NY
 Andrea H. Mathis, Northeast Mississippi CC, MS
 Donna J. McNatt, Cuyahoga CC, OH
 Douglas M. Muse, University of Arkansas CC-Batesville, AR
 Anne E. O'Shea, North Shore CC, MA
 Kurt Overhiser, Valencia CC, FL
 Jim Sheldon, Anoka-Ramsey CC, MN
 James Matthew Spratt, Isothermal CC, NC
 Katherine Villarreal, North Lake College, TX
 Aaron Warnock, Highline CC, WA
 Laura Watkins, Glendale CC, AZ
 Andrew Wilson, Parkland College, IL
 Christopher Yarrish, Harrisburg Area CC, PA

Project ACCESS, a professional development and mentoring program for new two-year college mathematics faculty, is funded by a grant from ExxonMobil Foundation and is jointly sponsored by AMATYC and the MAA.

Judy Ackerman
 President

Kathy Mowers Phil Mahler
 President-Elect Past President

Tom Adamson Irene Doo
 Treasurer Secretary

Jack Keating Wanda Long
 Northeast VP Central VP

Rob Farinelli Mary Robinson
 Mid-Atlantic VP Southeast VP

Rob Kimball Christie Gilliland
 Southeast VP Northwest VP

Jim Roznowski Jan Ford
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www.amatyc.org



The Outer Banks Summer Institute

by Ed Laughbaum

The “Developmental Algebra Using a Function Approach” Summer Institute was attended by 40 math teachers from sixteen states. Debbie Crocker (Appalachian State Univ), Marlena Herman (Rowan Univ), and Institute Director, Ed Laughbaum (The Ohio State Univ) taught the institute. The AMATYC Outer Banks Summer Institute is a cooperative effort between AMATYC and the Teachers Teaching with Technology College Short Course Program, www.math.ohio-state.edu/~shortcourse/, based at The Ohio State Univ.

The Field Research Facility and Army Pier, www.frf.usace.army.mil, where the Summer Institute was held, provided an interesting setting for activities on the beach, water, pier, and tower. In teaching algebra from a function approach, we analyzed functional relationships in numeric and graphic forms. The Field Research Facility collected function-type data and class members collected data using the CBL2™ and the Vernier Sensors. Analysis of function behaviors continued as we studied symbolic representations using the list editor on the TI-84 Plus SE. This was followed by an analysis of geometric behaviors of functions. The function approach finished by using function and function behaviors to enhance teaching of most topics in the slightly revised traditional algebra curriculum.

Participant comments included “This course has given me lots of ideas for change in developmental algebra.” “The short course was excellent—great content and environment.” “Thank you for a very informative and fun event.” “I would love to come back.” “Thoroughly enjoyed the experience.”

We are currently planning on a repeat of the same topic tentatively scheduled for June 12-17, 2005, at the FRF in Duck.



The AMATYC Review

The AMATYC Review invites manuscripts and reviewers. Author Guidelines and Reviewer Surveys may be obtained from the editor, Barbara Rives, Lamar State College-Orange, 410 Front St., Orange, TX 77630. Author Guidelines may also be found at www.amatyc.org/Publications/Review.

Summer Institute in Hawai‘i

by Jane Iida

Naho i uka, Noho i kai

Ua pa ‘a ke aloha

Welina mai he leo mahalo e

The chant, written by Lehua Veincent for the AMATYC Summer Institute in Hawai‘i, echoed over the edge of Halemaumau crater and over the clouds at Mauna Kea. The participants learned the chant at the opening reception, and repeated it at various locations to show respect to the beautiful environment and all the beings of the land. The chant translates:

For all beings towards the mountains, For all beings towards the oceans
Love is held fast to what exists
Greetings are sent with respected voice

The participants, from seventeen states and one Canadian province, enjoyed talks by outstanding lecturers. Darcy Bevins from the Center for the Study of Active Volcanoes gave some background material on Hawaii’s volcanoes and prepared activities on earthquakes, hazard equipment, and mineral identification. She then led a group to the site of the active lava flow. Another group of participants elected to go on a tour of other interesting sites in the area.

Shantelle Ching of the Polynesian Voyaging Society shared her experiences as a crew member of several deep-sea voyages (Hawai‘i to Tahiti, Ketchikan to Juneau, Mangarewa-Pitcairn-Rapa Nui) and as navigator on the Tahiti to Hawai‘i voyage in 2000. She spoke of navigating with the stars in the middle of the ocean. A visit to the 9300-foot level of Mauna Kea gave the group a good follow-up of the talk. Gary Fujihara of the University of Hawai‘i’s Institute for Astronomy provided an interesting program at the Visitors’ Center.

Fred Stone of Hawai‘i Community College’s Forest TEAM (Tropical Ecosystem and Agroforestry Management) explained how GPS units aid in the mapping and preserving of the native forests. The participants were allowed to experience the GPS technology. The group was then taken on a trip to the native gardens on campus. The guides very capably explained the uses of the plants in the garden.

Tying everything together mathematically was Lead Instructor Charles P. McKeague. He provided the mathematical connections to each of the special topics and field trips with great suggestions for classroom activities and lectures. As one participant indicated, “He is a role model for us all!”

Hawai‘i Community College’s Office of Continuing Education and Training once again provided the logistical support for the institute. Deborah Shigehara and her staff cheerfully met the needs of the participants. James Schumaker and Jim Metz were much more than just van drivers. They were knowledgeable in mathematics, the special topics, and tourist information. The credit for the success of the Summer Institute in Hawai‘i goes to the lecturers, the support staff, and all of the wonderfully cooperative participants.



Call for Presenters & Presiders

AMATYC * San Diego 2005

Help AMATYC provide the best in professional development for mathematics education in the first two years of college. Join the fun by presenting a session or workshop or by serving as a presider during the 2005 AMATYC Annual Conference in San Diego. The conference theme is "Catch the Wave." **The deadline to submit a proposal to speak in San Diego is February 1, 2005.** Proposals must be submitted electronically, beginning November 1, 2004, at www.amatyc.org. Submitting early lets you avoid the last minute computer jam that occurs when many try to access the site simultaneously.

Session topics run the full range of curriculum and pedagogy relating to two-year college mathematics to enrichment in mathematics. But, also consider that anyone can organize a discussion session on a topic of interest to attendees. For example, a discussion group on the administrative aspects of teaching might be of interest to faculty new in the field. The symposium on the scholarship of teaching held in Salt Lake City may have generated interest in this topic for further discussion. If you are proposing a "discussion group," be sure to describe how you plan to engage persons attending your session.

AMATYC policy stipulates that only the person who is listed **first** in the conference program is eligible for the reduced conference registration for speakers. Therefore, if you are one of multiple speakers proposing a presentation, you should jointly discuss how the names will be listed in the proposal prior to submitting it. The order in which names are listed in the proposal will be used as the order they are listed in the conference program.

Make plans now to present or preside November 10-13, 2005 in San Diego. Contact information for Wanda Garner, Conference Program Coordinator, Bob Malena, Presider Chair, and Margie Hobbs, Conference Coordinator can be found at the website www.amatyc.org.

Call for Nominations for AMATYC Office

by Philip Mahler, Nominating Committee Chair

Serving as an AMATYC officer is an excellent way to expand your professional horizons and contribute to AMATYC and to your profession. The Nominating Committee seeks recommendations for candidates for AMATYC office for 2005-2007. The offices that will be filled in the 2005 election are Vice President for each region, President-Elect, Secretary, and Treasurer. Nominations are due February 1, 2005. Nominations must be mailed to the chair, Philip Mahler, Middlesex CC, 591 Springs Road, Bedford, MA 01730-1197.

Nominations consist of a letter of intent, a vita, and a letter from your supervisor acknowledging the need for a week away in the spring and fall, if elected. For more information about the duties and requirements of office, as well as the nomination process, follow the "Call for 2005-2007 Executive Board Nominations" link at the AMATYC website. If you have questions or wish to suggest someone, including yourself, please contact one of the members of the Nominating Committee, listed on the webpage.

Who is a Delegate?

by Kathy Mowers

Who is a delegate? Why serve as a delegate? How can I be a delegate? These are all good questions. Members become delegates for many different reasons. Any regular member can be a delegate, and serving as delegate allows a member to work more closely with the regional vice president and leadership of AMATYC. Delegates may be interested in becoming leaders, or delegates may already be leaders who believe it is critical to the welfare of AMATYC for members to participate in this role.

Although anyone can attend the Delegate Assembly, only delegates conduct the business of the Delegate Assembly. It is also important for delegates to attend the forums and regional meetings so the delegate is informed on issues that they will vote on. During the year, regional vice presidents rely on their delegates to serve as their eyes and ears in the delegates' states. They also depend on the delegates to promote membership in AMATYC.

The Delegate Assembly's duties include approving policy statements, voting on dues increases, approving constitutional changes before the changes are sent to the membership for ratification, and presenting written recommendations to the executive board for consideration at the next board meeting.

Serving as a delegate can be a rewarding experience and can lead to additional involvement in AMATYC. Consider serving as an affiliate or state delegate. AMATYC needs members to serve in many different roles.

Each regional vice president appoints state delegates. The next term for state delegates will start on April 1, 2005, and will end on March 31, 2007. Now that you are interested, please contact your regional vice president so he or she knows of your interest. Serving as a delegate is a great way to learn more about AMATYC and to take that next step toward AMATYC leadership.

CROSSROADS Update Now Available for Review

Version 6.0 of the AMATYC *Standards 2006* document (working title: *Beyond Crossroads*) is now available for review at the AMATYC website, www.amatyc.org. All members and other mathematics education professionals are urged to visit the website and click on the link to *Beyond Crossroads* to print a copy for review. You are invited to respond to a short set of questions posted with the document. Attending the 2004 AMATYC Annual Conference in Orlando? Please review the draft prior to the conference, as the program will feature several opportunities to provide feedback on the draft to the Writing Team.

Call for Articles on Teaching

If you are doing something exciting and innovative in the classroom, please consider sharing your experiences by submitting an article to the AMATYC News. Send articles to the editor, Jean Woody, at jeanmwoody@cox.net.

Distance Learning Committee

by Nancy J. Sattler

The Distance Learning Committee welcomes your participation in their committee meetings in Orlando. The committee will meet on Friday, November 19, from 9:45 a.m.-10:35 a.m. and again on Saturday, November 20, from 12 noon-12:50 p.m. See your program for room locations. If you are unable to attend either of the Orlando

meetings, you can still be a member of the Distance Learning Committee. The email address of the listserv for the Distance Learning Committee is changing from MathViaDistance@imail.terra.edu to MathViaDistance@terra.edu. The old address will work for another month or so. Please note that you can post to the listserv without becoming a member of the committee or the listserv.

If you are interested in components of distance courses, but do not want to teach a totally online course, why not try using technology to enhance your traditional course? For instance, the use of online course management systems (WebCT, Blackboard, or other in-house versions); online automated assessment of exercises, quizzes, and tests (using features of WebCT, Blackboard, or textbook publisher's websites); and online tutorials may help traditional students learn more math!

A course management system can reduce the time faculty spend on non-academic tasks such as recording, calculating, and storing grades; photocopying course materials; posting changes in schedules and course syllabi; and sending out special announcements. An online automated assessment of exercises, quizzes, and/or tests, can reduce the time faculty spend on preparing quizzes and tests or making alternate versions of quizzes/tests. Online tutorials help students who are having difficulty in a particular area of mathematics. To learn about the various types of course management systems, go to www.citelearning.com/LMS/cms.html or to the Distance Learning Committee's webpage at www.terra.edu/amatyc, and click on Distance Learning Terminology. For additional readings, go to <http://imej.wfu.edu/articles/2000/1/index.asp> to visit the Interactive Multi-

media Electronic Journal of Computer-Enhanced Learning, which has a special section on course management systems.

If you are successfully using some type of online component in your class, why not share its success with the Distance Learning Committee by contacting the chair?

Grants Committee

by Mary Kay Abbey

As AMATYC has become a major force in mathematical education, many AMATYC members and nonmembers are including AMATYC in grant proposals. This happens in many ways from citing AMATYC documents to requesting letters of support and even suggesting a project in which AMATYC is the grant administrator. AMATYC wants its members to successfully apply for grants and will provide help when possible. The AMATYC Board will be considering the adoption of criteria to be used to determine whether or not AMATYC can support a particular grant proposal. Once these are available they will be published in the *AMATYC News*.

Until criteria and specific procedures are adopted, grant writers should contact the AMATYC Grants Coordinator a minimum of three weeks in advance of the proposal submission deadline since in some cases the Board will need to vote on whether or not to support a proposal.

If you have an idea for a proposal in which AMATYC would serve as the grant administrator, there needs to be much more time for discussion as many parties will be involved. In such an instance you should plan on involving AMATYC through the Grants Coordinator early in the proposal development process. Not only is Board approval needed but there are many issues that need to be resolved both by AMATYC and the budget advisor at your institution. This discussion can take over a month. As much as possible it is preferable to plan in advance so that your idea or proposal can be discussed at a board meeting (November and April). While the process may seem to be tedious, some grants will be more successful if an appropriate professional organization is the sponsor so the time is well worth the effort.

Placement and Assessment Committee

by Ed Gallo

Great news comes in "threes," I heard some time ago! And I have three points of interest to report to you at this time.

First, we have a great line-up of 15-minute presentations on placement and assessment at the Orlando conference. These are scheduled for Thursday morning, November 18th. These presentations are separated by five minute breaks, so you can come and listen to all of them; or go in and out to listen to the ones in which you are particularly interested.

Second, if you're interested in getting involved in the Placement and Assessment Committee (PAC), come to the PAC committee meeting on Saturday afternoon, November 20th. We will be soliciting comments and suggestions on placement and assessment portions of the *Crossroads Revisited* document. (You can take a look at the draft of the *Crossroads Revisited* draft document by going to www.amatyc.org, then /Crossroads/revisited.) Then the three PAC subcommittees (Assessment of Student Performance, Assessment of Mathematical Programs, and Placement) will hold separate meetings to discuss issues in their respective areas.

And, finally, plan on stopping by the committee poster display area in Orlando. The Placement and Assessment Committee (PAC), as well as all of the other committees, will have a poster that shows what the PAC has been involved in. Also, you can add your name to our mailing list if you want to receive the PAC Newsletter.

Technical Mathematics/AAS Programs Committee

by Mary Ann Hovis

As the 30th AMATYC Annual Conference approaches, the Technical Mathematics/AAS Programs Committee is very excited about sponsoring another themed session, *Growing Mathematically Using Biotechnology*. Two nationally recognized biotechnology faculty, Lisa Seidman from Madison Area Technical College and Linnea Fletcher from Austin CC, will make presentations and be available for questions. Along with these two guests, committee members Amy Hoffman, Rodney Null, and John Peterson will present problems from the biotechnology area for

the mathematics classroom. This session promises to be not only very informative but a great deal of fun. Come and meet the speakers. The session is on Thursday from 8:45 a.m.-11:40 a.m. and runs concurrently with the Themed Session on Assessment.

The committee is currently critiquing the appropriate sections of the current draft version of *Beyond Crossroads* through email. This discussion will continue during our second meeting in Orlando, which is Saturday from 1:15 p.m.-2:05 p.m. Please attend and add your input to this important project. Further conversation will occur on what a next step might be for a follow-up to the current NSF grant, "Technical Mathematics for Tomorrow: Recommendations and Exemplary Programs."

Our first meeting, Friday 12:15 p.m.-1:05 p.m., will concentrate on assessing the themed session, discussing what and when our next themed session might be, the biotech workshop held in May 2004, and the transferability of some of the technical mathematics courses. Please join us.

Time will be allocated at each meeting for networking. You can be a part of this committee by attending one of the meetings at the conference or by emailing Mary Ann Hovis, hovis.ma@rhodesstate.edu. New people and new ideas are always welcome.

Technology in Mathematics Education Committee

by David J. Graser

As our annual conference nears, a committee chair's thoughts turn to visions of committee meetings. This year the TIME committee will meet on Thursday, November 18, 11:15 a.m. to 12:05 p.m. and Saturday, November 20, 2:30 p.m. to 3:20 p.m. The TIME Committee meetings are open to all AMATYC members. In the past few years there have been fewer and fewer new faces, so I want to encourage everyone to attend one or both meetings.

You are probably asking yourself, "What happens at a committee meeting?" Committee meetings at the annual conference are an opportunity for leaders in technology to get together and discuss the issues facing the AMATYC membership. In past meetings, the committee has discussed directives from the AMATYC board,

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Students Learn by Teaching

by Sandra Tannen, Camden County College, NJ

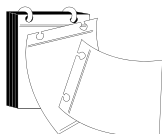
A few years ago, in my quest to be creative and innovative, I devised an assignment requiring each of my students to teach a lesson. To add impact, I decided to grade it as an exam. When I explained the project, a few of my students balked at the idea. Now, several years later, I have honed the assignment and it has proven to be an effective and enjoyable teaching tool.

I am a big proponent of the Socratic/Didactic method of teaching which involves part lecture and part exploration and collaborative efforts. It has been well documented over the years that when students verbalize concepts and think out loud, it enhances their learning. Students learn and retain knowledge more effectively when they build and explore knowledge for themselves.

To that end, I require my students to be teachers and they are graded on how well they accomplish this. My assignment asks each student to teach a lesson. It must be something that I have already taught and cannot be within two weeks of my lesson. The students are graded on clarity of explanation, proper use of mathematical terms and language, poise, and creativity. They must be prepared to answer questions pertaining to their topic. The actual lesson is usually around 10 minutes. In addition, each student has to prepare a 10-question worksheet for the class as well as a solution page with each problem carefully worked out. Students must submit this to me at least three days prior to their presentation date, so I can make copies for the class. The students can pick their topics and I do not permit repeat lessons that other students have taught. I instruct them to be creative and have fun. During their presentation, I participate as a student.

Although occasionally I get some dissenters, this activity has proven to be very effective. In addition to improving critical thinking by using active learning, this assignment also serves as a great review. All through the semester, my students are reminded of concepts they have previously learned. In the process of completing this assignment, some of my students have shown immense creativity. One student put the

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AMATYC CALENDAR OF EVENTS

Check the AMATYC website, www.amatyc.org, for information on conferences and meetings from other organizations.

November 18-21, 2004 30th Annual AMATYC Conference, Orlando, FL. Contact: AMATYC Office, 901.333.4643, amatyc@amatyc.org

December 2-4, 2004 CMC³ 32nd Annual Conference, Monterey, CA. Contact: Rick Hough, 650.738.4193, hough@smccd.net

February 18-19, 2005 TexMATYC/TCCTA Conference, Renaissance Hotel, Austin, TX. Contact: Linda Zientek, lzientek@blinn.edu. Website: www.texmatyc.org

February 26, 2005 MinnMATYC's Second Annual Future Teachers Conference, Minneapolis CTC, Minneapolis, MN. Contact: Tara Evensen-Daas, chateletvn3620@aol.com

March 4, 2005 ColoMATYC Conference, Red Rock CC. Contact: Rick Reeves, 303.914.6400, rick.reeves@rrcc.edu

March 10-11, 2005 NCMATYC's Annual Spring Conference, Durham Technical CC, Durham, NC. Contact: Chuck Wessell, wessellc@durhamtech.edu

April 7-9, 2005 MOMATYC Conference, Lake of the Ozarks, MO. Contact: Russell Murray, 314.984.7470, rhmurray@stlcc.edu

April 14-16, 2005 IMACC Conference, Allerton, IL. Contact: Marybeth Beno, mbedo@southsuburbancollege.edu

April 22-23, 2005 4th Annual TMatYC Conference, Pellissippi State Technical CC, Knoxville, TN. Contact: Bobby Jackson, rtjackson@pstcc.edu

May 20-21, 2005 NMMATYC Conference, New Mexico State Univ-Alamogordo, Alamogordo, NM. Contact: Janet Delgado, janet@nmsua.nmsu.edu

May 25-27, 2005 OCMA 25th Annual Conference, Talisman, Ontario, Canada. Contact: Gary Helmer, gary.hlemer@mohawkcollege.ca

November 10-13, 2005 31st Annual AMATYC Conference, San Diego, CA. Contact: AMATYC Office, 901.333.4643, amatyc@amatyc.org

Alaska

Current AMATYC members in Alaska are planning to get the AKMATYC affiliate up and running after a long hiatus. A meeting was held via a statewide audio conference on October 5, 2004. The purpose of the audio conference was to reorganize the AKMATYC affiliate and to interest new members statewide and in western Canada.

AKMATYC would like to invite our colleagues in British Columbia, Alberta, the Northwest Territories, the Yukon, and Nunavut to become involved in our effort to revive AKMATYC. For more information, please email **Jane Weber** at ffjw@uaf.edu.

Arizona

ArizMATYC held its fall 2004 meeting at the Snowflake campus of Northland Pioneer College on October 8. Officers elected in spring 2004 took office at this meeting. The new ArizMATYC Executive Board officers are: president, **Daniel Russow**, Arizona Western College; president-elect, **Shay Cardell**, Central Arizona College; secretary, **Jennifer Jameson**, Coconino CC; treasurer, **Anne Dudley**, Glendale CC; and past president, **Kate Kozak**, Coconino CC.

ArizMATYC is in the process of conducting a large membership drive. ArizMATYC's goal is to have every full-time faculty member at every community college in the state become a member of ArizMATYC. To accomplish this, a faculty member at each college is being asked to approach all faculty that are not members and tell them about the benefits of membership. The idea is that the personal touch may help to convince a person that ArizMATYC is a helpful organization. In addition, a prize will randomly be given to a new member at the fall 2004 meeting. We will let you know how successful this is.

California

This past June, CMC³-South held its board meeting in San Diego at the site of the 2005 Annual AMATYC Conference. **Peg Hovde**, the local arrangement committee chair, joined **Margie Hobbs**, **Cheryl Cleaves**, **Wanda Garner**, and **Judy Ackerman** for the final walk through.

San Diego promises to be another great conference site. Mark it on your calendars.

Maryland

Alejandra Sorto of Montgomery College completed her Ph. D. in Mathematics Education from Michigan State Univ in August 2004. The title of her dissertation is "Prospective Middle School Teachers' Knowledge About Data Analysis and Its Application to Teaching." She was invited to share results of this study at the 10th International Congress in Mathematics Education in Copenhagen, Denmark, in July 2004. Three other department members were in China during the summer.

Minnesota

MinnMATYC held its 15th Annual Conference on April 30-May 1, 2004. Approximately 140 members joined an additional 1,100 MCTM members to discuss mathematics education. At the conference MinnMATYC honored **Marv Riedesel**, Inver Hills CC, with its first Honorary Lifetime Membership. Marv was one of the initial founders of our organization, our first president, and our first Instructor of the Year. The lifetime membership also allows Marv to attend all future MinnMATYC conferences free! Marv and **Karen Hinz** (Anoka Ramsey CC) were recognized as members who retired this past year. **Tom Kersten** (Normandale CC) received MinnMATYC's Distinguished Teaching Award.

Nebraska

Vicki Cosentino, Metropolitan CC, Omaha, was chosen as the first winner of the NEBMATYC Teacher Excellence award.

Kandyce Arnold, Metropolitan CC, Omaha, received the ConAgra Foods Excellence Award for Teaching for Full-time Teachers.

New officers for NEBMATYC are president, **Connie Buller**, Metropolitan CC in Omaha; president-elect, **John Miller**, Northeast CC in Norfolk; secretary, **Debi Martin**, North Platte CC; treasurer, **Connie Ranard-Chandler**, Metropolitan CC in Omaha; and past-president and webmaster, **Dale Johanson**, Northeast CC in Norfolk.

New Jersey

Bergen CC faculty are working on a research project to determine the effectiveness of a supplemental support component for developmental courses.

At Sussex County CC (SCCC) students in **Mary DeHart's** statistics classes are participating in an ongoing project, "The Pulse of Sussex County." The survey project was created by SCCC president **Bradley Gottfried** and appears as a regular feature in the *New Jersey Herald*. The students help to select survey projects and formulate unbiased questions. They conduct the phone surveys using a randomly generated list of residential numbers. Survey results are given a thorough statistical analysis by SCCC institutional research and are discussed by students. Surveys completed include the NJ Bear Problem, the war in Iraq, county development, taxes, and the 2004 presidential election.

New Mexico

Several awards were presented at the NMMATYC conference last May in Santa Fe. **Roberta Himebrook**, NMSU-Alamogordo, received the 2004 David Lovelock Mathematics Teaching Excellence Award.

The 2004-2006 executive board includes president, **Ellen Schneider**, DABCC; president-elect, **Gordon DeSpain**, San Juan College; treasurer, **Mary Ellen Gallegos**, Santa Fe CC; and secretary, **Dane Reese**, Santa Fe CC. To learn more about NMMATYC, please visit our website at www.nm.matyc.org.

New York

Monroe CC hosted a "Beyond the Formula Teaching Statistics" Conference in August. The main focus for the conference was on curriculum, but other recurring themes of technology, methodology, and application were part of the program. Next year's session is scheduled for August 4-5 at Monroe.

Pennsylvania

Harrisburg Area CC hosted a one-day workshop on September 18, 2004, sponsored by Addison-Wesley. Speakers included **John Hornsby**, **Dick DeVeaux**, **Gary Rockswold**, **Darlene Winnington**, **Ruth Collins**, and **Mary Meneeley**.

Roseanne Hofmann from Montgomery County CC has developed some flash modules for beginning algebra, pre-calculus, and statistics (<http://faculty.mc3.edu/rhofman/First.htm#flash>), and has done some basic calculator tutorials using camtasia (<http://>

faculty.mc3.edu/rhofman/camtasia/graphicalindex.htm). She would be interested if others found them useful.

Texas

TexMATYC is conducting a membership drive and trying to organize campus representatives on all Texas two-year college campuses.

TexMATYC is planning a pre-service workshop for teachers on the Thursday before the spring TCCTA-TexMATYC conference in February. The workshop will be presented by **Robert M. Capraro** and **Mary Margaret Capraro**.

TexMATYC recently conducted a survey to determine how TexMATYC can better to serve community college mathematics faculty in the state. The survey was sent to TexMATYC members and non-members across the state, and, so far, the response is good. If you want to see a copy of the survey, it can be accessed at www.texmatyc.org/survey.html.

The new TexMATYC Executive Board took office in June of this year. The new officers are as follows: president, **Linda Zientek**; past-president, **Natile Woodrow**; vice-president, **Paula Wilhite**; secretary, **Mel Griffin**; treasurer, **Habibolla Far**; affiliate delegate, **Raja Khoury**; and newsletter/webpage editor, **Irene Doo**.

Utah

Clayton Brown was named Utah Valley State College (UVSC) Wolverine Teacher of the Year. **Chris Christopherson** received the UVSC Alumni Educator of the Year Award. **Jana Lunt** received the Teacher of the Year by UVSC Athletes.

Officers for UMATYC are President **John Jarvis**, Utah Valley State College, and Secretary/Treasurer **Ben Moulton**, Utah Valley State College.

Virginia

The Virginia Highlands CC (VHCC) Mathematics Department made a decision in the spring of 2004 to adopt the TI-84 Plus Silver Edition graphing calculator as its standard. Consequently a 2004 T³ College Short Course was held at VHCC for all faculty–full-time and adjuncts. Faculty from the surrounding sister colleges also attended the Short Course. **Debbie Crocker** was the instructor, and **Pansy Waycaster** was the on-site organizer.

Washington

A group representing Washington community college mathematics departments met to work with a state project aimed at better defining the “college-ready” mathematics student and easing transitions between high schools, community colleges, and four-year schools. The project’s work will continue over the next two years.

Thirty-five faculty gathered for four days in August at the Sleeping Lady Retreat Center in Leavenworth, WA, to focus on integrating mathematics into their curricula. The fifth annual Math Across the Curriculum (MAC) Summer Institute was hosted by faculty from Edmonds CC and funded by the National Science Foundation. This year, the MAC institute was held jointly with the MAA PREP workshop on Quantitative Literacy Across the Curriculum, hosted by The Washington Center. Over 100 faculty total were in attendance at the conference from 30 institutions around the country.

MAC participants worked in interdisciplinary teams to create curriculum integrating mathematics and/or quantitative reasoning into economics, biology, ESL, English, art history, computer science, environmental science, Spanish, and gerontology. Further information about these and other MAC projects are available on the MAC website, <http://mac.edcc.edu>, or by contacting the coordinators **Deann Leoni**, dleoni@edcc.edu, or **Rebecca Hartzler**, rhartzle@edcc.edu. The coordinators also will be presenting on the MAC project at AMATYC’s annual conference in Orlando.

Wyoming

William Manzer, math and physics, retired from Western Wyoming CC after 35 years of service.

See Calendar on page 7 for specific conference information. Due to space limitations, not all news submitted may have been printed.

Committee Reports,

Continued from page 7

technology usage outlined in the *Crossroads* document and sponsorship of sessions at future conferences.

At the Conference, plan to attend the TiME Committee meetings, which are open to all AMATYC members. The agenda includes a review of the signature documents of the TiME Committee: the Position Statement on the Instructional Use of Technology in Mathematics and the Position Statement on the Use of Internet Resources to Enhance Mathematics Instruction. These documents were authored as long as six years ago and may need a facelift to reflect current technology usage. In addition, the committee will examine the reasons for the committee existing and focus members on what is important to us.

All of these documents and an agenda for the committee meetings are available on the TiME Committee’s new website at www.time.amatyc.org. If you are interested in contributing to the TiME Committee’s work, please review these documents prior to the conference and email suggestions to david_graser@yc.edu. You can also contribute to the committee by suggesting links for the webpage or by authoring an article for the website. These links and articles appear on the website upon receipt. There are currently over 40 links to companies producing technology for use in the mathematics classroom and electronic journals documenting the effective use of technology.

Students Learn,

Continued from page 7

rules for the four operations of signed numbers into a rap song. Before long the whole class was rapping. It was a riot. Another challenged the class to come up with a new acronym for the Order of Operations. The winner was Please Eat My Dead Alligator Soon. After some of my students get over their initial fear of coming up in front of the class, they genuinely seem to enjoy the activity. One of my students told me that she decided to become an educator, after realizing that she had a knack for teaching. I have even learned some new tricks from my students. It is very exciting to see how resourceful and creative people can be when given the opportunity!

Traveling Workshops in Teacher Preparation

by Ruth Collins

As a part of the AMATYC/NSF Teacher Preparation grant, the following affiliates have been awarded Teacher Preparation Workshops for the 2004-5 school year. If you are interested in the topics of teacher preparation, we hope you will plan to attend the one nearest to you. Mark your calendars now! All workshops are being held within an affiliate meeting. Other topics and presentations will be available at each affiliate meeting. Contact information is provided below.

MMATYC affiliate meeting: January 13, 2005

The first course: number theory, pedagogy and communication
Cecil County CC, Northeast, MD
Contact: James Herman, jherman@cecilcc.edu

ArizMATYC, affiliate meeting: February 26, 2005

Pedagogy and communication
Chandler/Gilbert CC, Chandler, AZ
Contact: Kathryn Kozak, kathryn.kozak@coconino.edu

TMATYC affiliate meeting: February 26, 2005

The first course: pedagogy and communication
Chattanooga State CC, Chattanooga, TN
Contact: Angela Everett, angela.everett@chattanoogastate.edu

NEBMATYC affiliate meeting: April 8, 2005

Probability/Statistics Instruction for Preservice Teachers
Western Nebraska CC; Scottsbluff, NE
Contact: Dale Johanson, dale@northeastcollege.com

FUTURE AMATYC CONFERENCES

2004	Orlando	November 18-21
2005	San Diego	November 10-13
2006	Cincinnati	November 2-5
2007	New Orleans	November 15-18
2008	Washington, D.C.	November 20-23

JOIN AMATYC

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WINDOW ON WASHINGTON



In September, the American Association of Community Colleges (AACC), the National Association of Community College Teacher Education Programs (NACCTEP), and AMATYC partnered to convene the *Teaching by Choice: Addressing the National K-12 Teacher Shortage* invitational conference funded by a National Science Foundation (NSF) grant. This conference was a follow-up to an NSF supported workshop held in 1998 to investigate the role that community colleges played in the science and mathematics preparation of future K-12 teachers. In 1998, the notion that community colleges had a role in teacher preparation was not always recognized. The report of the 1998 workshop, *Investing in Tomorrow's Teachers: The Integral Role of Two-Year Colleges in the Science and Mathematics Preparation of Prospective Teachers* is available at www.nsf.gov/cgibin/getpub?nsf9949.

Prior to the *Teaching by Choice* conference, participants were asked to complete a questionnaire that inventoried current practice in community college teacher preparation programs. A bibliography was sent in advance to participants. This conference documented the changes that have taken place over the past six years in community college teacher preparation programs. In addition it provided a forum to discuss the current and emerging issues in these programs. A summary report of the *Teaching by Choice* conference proceedings and recommendations will be published in spring 2005 by AACC.

The conference format included facilitated discussion groups that addressed the following: recruiting science, technology, engineering, and mathematics (STEM) students into community college teacher preparation pathways, strengthening the STEM curriculum, instruction and assessment in community colleges, providing professional development in STEM areas to current K-12 teachers, and improving pathways to state licensure for community college students in teacher preparation programs.

The *Teaching by Choice* conference is one more example of how AMATYC works with other professional organizations to promote the role of community colleges.

Just in case you are not familiar with AACC or NACCTEP here is some information about their missions as well as their URLs. The mission of the AACC is "Building a Nation of Learners by Advancing America's Community Colleges." More information about AACC can be found at their website at www.aacc.nche.edu. NACCTEP's mission is "to promote the community college role in the recruitment, preparation, retention, and renewal of diverse PreK-12 teachers and to advance quality teacher education programs in the community college." Their website is www.nacctep.org.

Mathematics of the Ancient Maya

by Charles Miller

This summer thirty college faculty members from around the United States gathered in Merida, Mexico, to take part in the NSF Chautauqua course *Ancient Maya Mathematics in the Ruins of the Yucatan Peninsula, Mexico*. The five-day course was led by Ed Barnhart, director of the Maya Exploration Center. Ed has worked for over a decade in Mesoamerica as an archaeologist, explorer, and instructor.

There were two components to the course. One component was the classroom sessions on Mayan mathematics, astronomy, and geometry. The mathematics was based on a positional base-twenty system using symbols for zero, one, and five. Yes, believe it or not, they had the concept of zero. The following is a representation of 4,962.

<u>••</u>	(12 x 400 = 4800)	
<u>•••</u>	(8 x 20 = 160)	(• represents one unit,
••	(2 x 1 = 2)	— represents 5 units)

One could imagine the use of stones and sticks in early computation. In addition to the dots and bars, fancier forms of the numbers were used on markers and structures.

Numbers and ratios seemed to play an important part in the ancient culture and religion. It was interesting to see how ratios representing not only the square root of two, but also of 3 and 5 were constructed geometrically. The Mayan mathematics system did not include decimals or fractions, so these roots could only be done by geometric construction. Numbers and ratios that appear in nature were especially important.

In the area of astronomy, the Mayans were able to accurately predict eclipses thousands of years in advance. They also based some of their activities on the two equinoxes. It was amazing to consider how this ancient civilization was able to construct buildings in such a way that on an equinox, the sun would shine through a window to light up a throne, illuminate a figure on a wall, or continue through another window on the other side of the building to produce a spectacular effect. The cycles of the moon, Venus, Mars, and Saturn were known and used by the religious leaders to help make decisions. It is interesting that Venus was tied to battles and Mars to love. They used three different systems for recording extended periods of time, a long calendar, a short calendar, and a combination of the two. Their year had 360 days plus five evil days.

(The number 360 fit their system of numbers better than 365.) Despite the lack of fractions, the ancient astronomers realized that the length of the cycle was really about 365.25 days and made appropriate adjustments on a regular basis for this.

The second and main component of the program consisted of visiting five ruins representing various periods in the Mayan history. We explored Uxmal, Kabah, Chichen Itza, Mayopan, and Dzibilchaltun. We climbed the pyramids, looked with awe at the structures and artwork, and noted the patterns of the cities. The stonework was beautiful. In one case, a large stone snake was constructed in such a way that when the sun rose, due to the shadows, the snake appeared to move. In addition to this, we spent time taking measurements of rooms, doorways, and windows to get data to either support or disprove some current theories about the use of various ratios in Maya architecture. It felt great to be part of some on-going archaeological research.

Our group was housed at the Hotel Caribe in Merida, the Yucatan capital, so in the evenings we were able to enjoy some of the culture of the city. There were a number of free street concerts and festivals while we were there. We also had access to several museums and theaters.

For those of us who love both mathematics and archaeology, this was a truly glorious experience.

In Memory of

AMATYC regretfully announces the deaths of active members

Bill Bompart

August State Univ (retired)
Augusta, GA
GMATYC

Freda Ducorbier

Delgado CC
New Orleans, LA
La-MsMATYC

Brooks Spies, Jr.

Kansas City Kansas CC
Kansas City, KS
KAMATYC



The **AMATYC News** is the official newsletter of the American Mathematical Association of Two-Year Colleges and is published five times per year in January, March, May, August, and October. Your articles, announcements, comments, and letters to the Editor are welcome. Submit all materials by December 1, February 1, April 1, June 1, and September 1 for the respective issues.

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AMATYC Foundation

*Service
Support* →

The AMATYC Foundation earnestly solicits your support for one of its three funds: The *Crossroads Revisited* Fund, the Project ACCESS Fund, or the General Development Fund. Any amount helps and is greatly appreciated. Please visit www.amatyc.org/Foundation/foundation.html for more information.
Philip Mahler, Foundation Chairperson

We make a living by what we get, but we make a life by what we give.
Winston Churchill

Student Mathematics League by Chuck Wessell

The dates for this year's Student Mathematics League competition are:

Round 1: Friday, October 22, 2004 through Saturday, November 6, 2004
Round 2: Friday, February 18, 2005 through Saturday, March 12, 2005

There may still be time to register and receive the round one test. You must register electronically at www.amatyc.org.

Please attend a very special session at the AMATYC Annual Conference in Orlando, FL at 10:00 a.m.-10:50 a.m. on Thursday, November 18th. This session, entitled "Student Math League Competition for Conference Attendees," will give you the opportunity to take a 15-question version of a Student Math League test. If you are not currently giving the Student Math League test at your college, come see what the test is all about. If you are already a Student Math League moderator, come and enjoy taking rather than giving the test. Remember to bring your calculator.



Try the Student Math League test yourself in Orlando!

Dates To Remember!

2004 AMATYC Conference
in Orlando
November 18-21, 2004

Teaching Excellence Award
Nominations
Deadline: December 9, 2004

Call for Presenters &
Presiders
Deadline: February 1, 2005

Call for Nominations for
AMATYC Office
Deadline: February 1, 2005

For more information
visit
www.amatyc.org

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