AMTE Connections

The Newsletter of the
Association of Mathematics Teacher Educators

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In this issue:

Preparing Highly Qualified Mathematics Teachers

Karen Karp, AMTE President

In response to the implementation of the No Child Left Behind (NCLB) Act of 2001, key players are looking deeply at the implications of the regulations, which specify that all teachers in core subjects such as mathematics will be required to be "highly qualified" by the end of the 2005-2006 school year. This directive includes special education teachers who directly provide mathematics instruction at middle and high school levels. On a more accelerated timeline, new teachers in school systems that now receive federal Title I money will need to meet these requirements by the conclusion of the current academic year, 2002-2003. Also by the end of 2002-2003, paraprofessionals who provide mathematics instruction in Title I schools will need either an Associate's Degree, two years of study at an institution of higher education, or a passing grade on a specified state or local mathematics test. Many school systems are concerned that their teachers will not meet these deadlines and universities are scrambling to see how they can maintain their key position as the primary preparer of mathematics teachers.

As states establish detailed requirements for their teachers that are aligned with the definition of a highly qualified teacher, universities are exploring how they will respond to help teachers meet these qualifications. Whereas minor program changes might enable all new teachers, including those completing alternative certification programs, to meet the highly qualified teachers' criteria (often through taking the PRAXIS II exam in the content area), a more challenging issue is how to upgrade and retain teachers who are already in classrooms. Teacher education programs face the task of providing mathematics content in a package that is typically bound by sequential mathematics content course offerings. Recognizing this predicament, at a recent CBMS meeting, Hyman Bass, President of the American Mathematical Society and a member of AMTE, suggested that trying to get all middle and high school teachers to complete a mathematics major by 2005-2006 is akin to "scheduling a train wreck."

While universities regroup and strategize, new approaches are emerging from non-traditional agents, who are customizing offerings for school districts without the constraints of credits, accreditation, state regulations, and sometimes slow curricular change mechanisms. Therefore, for-profit groups, and in some cases, publishers of curriculum materials are trying to fill the gap and provide less complicated solutions marketed directly to school districts. They hope to be responsive by delivering a quick fix while universities struggle to change existing courses and programs.

Some universities and colleges are attempting more creative approaches that still fit within accreditation guidelines and institutional restrictions. Several are building relationships with local two-year colleges, institutions where content delivery is central to their mission. AMTE members need to share novel approaches that emerge as they find ways to team education and mathematics faculty at two- and four-year institutions with school districts and state departments of education. Please consider sharing some successful solutions in a future volume of this newsletter or in a proposal for a session for next year's annual conference in San Diego.

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Comments, questions, and suggestions for AMTE Connections should be directed to the editor:

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AMTE Reports and Announcements

Special Session: There will be a brief AMTE business meeting to be held before the reception at the NCTM meeting in San Antonio. Members are encouraged to attend and participate as changes in the constitution are being recommended.

Treasurer's Report (1/1/02-12/31/02)

Inflows (2002):	$85,210.15
Outflows (2002):	$45,102.05
Current Balance:	$ 116,717.11**

**This balance is high because we have yet to pay for the majority of the costs of this year's conference.

As of January 28 there were 649 current AMTE members.

Results of Recent Elections:

- Jenny Bay-Williams – Secretary
- Peg Smith - Board Member
- Susan Friel - Board Member

Next year we will need a President Elect and a Treasurer. To make a nomination, contact Randy Philipp at rphilipp@mail.sdsu.edu

Amendments to the Constitution

The following constitution changes were presented, in concept, at the annual business meeting on February 1, 2003 in Atlanta, GA. The AMTE members present at the meeting unanimously approved the changes. A ballot is enclosed in this issue for you to ratify these changes. If approved, the changes will go into effect for the forthcoming election (President-elect, Treasurer, two Members-at-Large).

Constitution Changes

Section 8: Terms of Office - The terms of office for the elected offices of AMTE and Members-at-Large shall be **three** years, except for President-elect and Immediate Past President who shall serve one year terms**, and the President, who shall serve a two-year term.** The Immediate Past President will serve in the first year of the President's term and the President-Elect shall serve in the second year of the President's term. Elected officers of AMTE and the Members-at-Large shall assume office at the end of the annual meeting at which their election is announced. Officers or the Members-at-Large may serve only one term in a specific office.

Section 2: Elections - **The President-Elect shall be elected in even numbered years. The Secretary and Treasurer, shall be elected every three years. One Member-at-Large shall be elected each year.** (note for implementation: stagger the terms for Secretary and Treasurer, so they are elected in different years, but each for a 3-year term)

The officers and the three Members-at-Large of the Board of Directors will assume office at the end of the Annual Business Meeting at which their election is announced.

Illinois Mathematics Teacher Educators (IMTE) has become the very first AMTE affiliate!

AMTE offers the following benefits to its Affiliates:

- A connection to an established national organization.
- A link to the AMTE website from your website.
- Links to your website from an Affiliates' page on the AMTE website.
- A copy of the AMTE newsletter sent to Affiliate Presidents/Chairs.
- Access to the AMTE Listserv, if the listserv becomes limited to membership.

To find out how your regional group can become an AMTE affiliate, visit ***www.amte.net***!

At the NCTM Annual Conference in San Antonio

AMTE Reception and Meeting

Thursday, April 10, 5:30-7:00 p.m., in Room 204B of the Convention Center.
This will begin with a brief business meeting followed by a reception with light refreshments. All members and interested persons are invited to attend.

AMTE-sponsored Sessions at the NCTM Annual Conference

Thursday, April 10, 8:00 to 9:00 am, Astrida Cirulus and Susan Beal (Salon K - Marriott Rivercenter)
Geometric Software and the Elementary School Teacher: Elementary teachers need to experience the benefits of geometric software such as Geometer's Sketchpad to be convinced of its power in their own learning, and therefore the potential it has in their classrooms. Come share your experiences and discuss successes and challenges in engaging teachers and students.

Thursday, April 10, 2:00 - 3:00 pm, Susan Gay (Room 210A - Convention Center)
Helping Future Teachers Connect Vocabulary and Conceptual Understanding: Activities, resources, and examples will be presented that have helped pre-service teachers improve their mathematical vocabulary as well as develop their students' conceptual understanding.

Friday, April 11, 2:00-3:00 pm, Sylvia Taube (Room 212 B - Convention Center)
Supporting Pre-service Teachers' Use of On-line Resources Provided by NCTM: A series of activities will be described that helped Grades 3-5 pre-service teachers develop not only awareness of the on-line resources provided by NCTM but also strategies for integrating these valuable resources in teaching mathematics based on the standards.

Saturday, April 12, 11:00 am - 12:00 pm, Carol Fry Bohlin, Sharon Ross, and Rapti de Silva (Room 203 B – Convention Center)
Statewide Networks for Mathematics Educators: The 2002 "Face-to-Face and Cyberspace" initiative of the 23-campus California State University system resulted in a powerful statewide network of faculty devoted to innovative mathematics content and pedagogy courses for K-12 pre-service and in-service teachers. Highlights from the system-wide conference and elements from the interactive website will be shared.

Saturday, April 12, 12:00 – 1:30 pm, Laura Van Zoest (La Vista Room – Hilton Palacio del Rio)
Develop and Sustain Curiosity about Learning: An instance of classroom teaching will be used to discuss the process and the benefits of participation for each group involved. The challenges of developing and maintaining a mathematics teacher education community will be a primary focus.

The Teachers Teaching with Technology College Short Course Program (T3 CSC) Announces:

"Math Teacher Educator Short Course: Implementing TI Hand-held Technology Focused at the High School Level"

Duck, North Carolina
June 16 - June 19, 2003

Implementing Hand-held Technology in the Teacher Education Curriculum:
The short course is designed for mathematics teacher educators involved in the both content and methods courses for pre-service secondary mathematics teachers. We will investigate materials and activities for the mathematics teacher educator interested in integrating hand-held technology in the pre-service teacher educator program. The course consists of a series of modules designed to help college faculty implement technology enhanced lessons in their courses as well as presenting some concepts within a module in a developmental sequence. The current modules are: Number Relations, Dynamic Geometry, Algebra, Probability/Statistics/Data Analysis, and Calculator Apps. The Texas Instruments TI-83 Plus SE, TI-Voyage 200, CBL 2(tm), and CBR will be integrated into the teaching activities.

The course is a cooperative effort between the T3 Teachers Teaching with Technology College Short Course Program and Texas Instruments Inc. *Each of the first 25 participants will receive a free TI-83 Plus SE VS unit and a CBL2.*

Tentative Schedule:
Monday, 12:30 - 4:30, FRF classroom.
Dinner while taking a cruise of the Albemarle Sound.
Tuesday, 8:30 am - 12:00 PM, FRF classroom.
1:00 4:30, FRF field activities.
Wednesday, 8:30 4:30, FRF classroom,
8:00 PM "The Lost Colony" outdoor drama
(not covered in registration fee)
Thursday, 8:30 - 2:00, FRF classroom.

Further Information:
For further information contact Ed Laughbaum,
The Ohio State University,
Department of Mathematics, 231 West 18th Avenue,
Columbus, OH 43210.
(614) 292-7223
F (614) 292-0694
elaughba@math.ohio-state.edu

The registration fee $225. For a registration form, please see www.math.ohio-state.edu/shortcourse/ or http://education.ti.com/us/global/promo/pte.html

Principles to Guide Doctoral Programs in Mathematics Education

A joint position statement of the Association of Mathematics Teacher Educators and The National Council of Teachers of Mathematics

The National Council of Teachers of Mathematics and the Association of Mathematics Teacher Educators affirm that a core base of knowledge and related experiences are the essential foundations for doctoral programs in mathematics education. As programs are developed, reviewed, and revised, attention should be focused on ensuring that doctoral candidates have opportunities to acquire such knowledge and experiences.

Recommendations: The following statements briefly outline the core knowledge for the work undertaken by most graduates of doctoral programs in mathematics education. Such work could include coursework, seminars, clinical experiences, internships, assistantships, and independent study.

Mathematics Content. Mathematics educators need broad and deep mathematical knowledge both to identify the big ideas in, at least, the pre-K-14 mathematics curriculum and to examine how those ideas develop throughout the curriculum.

Research. Doctoral programs must prepare graduates to conceptualize and conduct research that advances the field's understanding of mathematics learning and teaching and to communicate such results clearly to a variety of audiences.

Educational Contexts. The mathematics educator needs to understand the historical, social, political, psychological, and economic forces shaping education.

Learning. Mathematics educators need to understand fundamental theories of learning mathematics and the distinctions among them concerning the kind of learning they are trying to explain and the theoretical constructs that have proven useful over time.

Teaching and Teacher Education. For those students who are preparing to become teacher educators, doctoral programs should provide mentored clinical experiences that develop expertise in designing and teaching preservice mathematics content and methods courses and organizing professional development experiences for in-service teachers.

Technology. Graduates of doctoral programs in mathematics education should understand and be able to use technology as a tool of inquiry that has implications for teaching and learning mathematics and curriculum development. Graduates must understand the role of technology as an agent of curriculum change.

Curriculum and Assessment. Doctoral students need experiences in curriculum analysis, design, and evaluation, and they should know the major influences assessment practices have on the intended, implemented, and achieved curricula in mathematics instruction.

A high-quality doctoral program comprises more than a set of courses and a dissertation. Doctoral programs in mathematics education must have a critical mass of faculty with expertise in mathematics education to provide program leadership; research opportunities; and supervised experiences in collegiate teaching, proposal writing, and publication preparation.

Equally important is the environment fostered within an institution where students and faculty learn, work, and interact to create support and respect for diverse identities related to culture, ethnicity, race, religion, gender, sexual orientation, and exceptionalities. Finally, adequate physical and technological facilities should be available that support an active learning community of students and faculty.

Call for Manuscripts: CITE Contemporary Issues in Technology and Teacher Education

The CITE Journal (www.citejournal.org) provides a forum for a dialog about best practice in preparation of mathematics teachers who use technology. This *call for papers* encourages AMTE members and mathematics teachers to submit articles addressing this topic.

Articles may address any area of technology and teacher education. Articles dealing with both preservice and inservice issues are welcomed. A wide range of formats and approaches to scholarship are accepted, including qualitative research, quantitative studies, conceptual and theoretical pieces, case studies, and professional practice papers. Articles will be published in electronic format, as well as in corresponding versions (PDF) suitable for print. Technology is a rapidly evolving medium. An electronic format allows articles to be published in a timely fashion and permits inclusion of color graphics, photographs, and other media. Manuscripts may be submitted online through the journal web site. Inquiries about potential manuscript topics are welcomed.

If you have queries about potential articles or are interested in reviewing articles for the journal, feel free to contact one of the co-editors for CITE-Mathematics. Denisse Thompson & Gladis Kersaint [Thompson (or Kersaint) @tempest.coedu.usf.edu.]

Call for Manuscripts: AMTE Monograph
The Work of Mathematics Teacher Educators: Exchanging Ideas for Effective Practice

Background: The Association of Mathematics Teacher Educators (AMTE) is an organization designed to bring together individuals interested in mathematics teacher education in order to promote and improve the education of preservice and inservice teachers of mathematics. Two of its goals are to facilitate communication and to promote collaboration among mathematics teacher educators, including those in Colleges of Education, in Departments of Mathematics, and in non-college or university settings. In an effort to support these goals, AMTE will publish its first monograph as a forum for mathematics teacher educators to exchange ideas about their work with preservice and inservice teachers and about their collaborative efforts with others who play significant roles in mathematics teacher education (e.g., content faculty, clinical faculty responsible for mentoring student teachers).

Anticipated Audience: The anticipated audience for this monograph includes individuals responsible for the professional development of mathematics teachers, such as college or university faculty, community college faculty, or professional development specialists. Hence, the focus of the monograph is on issues related to the development of mathematics teachers, practices in post-secondary classrooms (content or pedagogy) for mathematics teachers, or practices that help individuals responsible for the preparation of mathematics teachers gain knowledge they need to be more effective in their work.

Possible Topics: The monograph aims to include a range of manuscripts addressing all aspects of the work of mathematics teacher educators, including manuscripts in the following broad categories:

- effective instructional approaches used in mathematics content or mathematics pedagogy courses for teachers, or in courses that blend the two areas;
- effective approaches used during inservice projects with teachers; and
- effective approaches for engaging other professionals who play a significant role in mathematics teacher education in dialogue regarding issues or practices that impact the preparation of K-12 mathematics teachers (e.g., use of technological tools, awareness of NSF-reform curriculum materials in mathematics).

As authors prepare their manuscripts, they are encouraged to reflect on lessons that other mathematics teacher educators can draw from the reported work to strengthen their own practice.

Submission Due Date: **June 15, 2003**

Anticipated Publication Date: **2004**

Visit http://www.amte.net for the full call for manuscripts
including details on manuscript preparation and contact information.

A new web site for Mathematics Teacher Educators interested in technology:

http://education.ti.com/us/educatorms/hilight/teacherprep.html

MET SUMMIT II

A National Conference on the Mathematical Education of Teachers

The Benjamin Banneker Association (BBA) and the National Association of Mathematicians (NAM) in cooperation with the other member societies of the Conference Board of the Mathematical Sciences (CBMS) are pleased to announce MET Summit II - a second National Conference on the Mathematical Education of Teachers. MET Summit II will be held October 11-12, 2003 at the Hilton Crystal City at National Airport in Arlington, VA. The Conference will emphasize participation of Historical Black Colleges and Universities (HBCU's) and other minority serving institutions involved in the mathematical education of teachers.
MET Summit II will feature working sessions on cooperative programs, courses, activities and materials that will engage the participants in planning local implementation of the ideas and recommendations in the CBMS publication "The Mathematical Education of Teachers." Invited speakers and session leaders include Lee Stiff, Freeman Hrabowski III, Judy Sowder, Robert Devaney, Barbara Franklin, Carol Malloy, Kenneth Millett, Paul Sally, Karen King, Sue Parsons, Henry Gore, Jim Lewis and Ruth Heaton.

Participants should apply in teams. Preference will be given to teams that include a mathematician, a mathematics educator, a college or university administrator with responsibility for teacher preparation programs, a community college mathematics faculty member, and a K-12 school system person involved in mathematics teacher preparation or in-service activities. There will be a nominal team registration fee of $100. We expect to be able to cover housing and meal costs for participants. We also expect to offer ten $3000 ExxonMobil innovation grants which are intended to help participant teams plan local improvements in teacher education and to prepare proposals for more substantial support from local, state or national agencies. MET Summit II is contingent on grants from the National Science Foundation, ExxonMobil Foundation, and Texas Instruments, Inc.

Additional information and application forms will be available by March 15 , 2003 on the BBA website at www.math.msu.edu/banneker and the NAM website at http://www.jewel.morgan.edu/~ nam. *The Mathematical Education of Teachers* is on the CBMS website at www.cbmsweb.org

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COMPASS/Show-Me Curriculum Conference

June 27-29, 2003 - Chicago Wyndham Hotel
Showcasing Middle and High School Standards-Based Mathematics Curricula

Who: Teachers, teacher leaders, school district administrators, state education department personnel, and teacher educators who are interested in improving middle and/or high school mathematics opportunities and experiences for students.

What: The conference will include program-specific workshops (focused on initial awareness of the materials) featuring core curriculum highlights, hands-on activities, student achievement data, district implementation strategies, and professional development opportunities. Presenters will include experienced mathematics teachers and curriculum developers. There will be keynote sessions on topics related to transitions and articulation between middle and high school as well as exhibits of all the materials, sample materials, and opportunities for participants to interact with curriculum developers and expert teachers.

How: Registration of $150 covers the cost of all conference meals (except Saturday dinner) and materials. Participants are responsible for travel and lodging (reduced rates have been secured at the conference hotel). For questions, contact us at: 800-688-1829 or compass@ithaca.edu. A registration form and draft conference program is available at both the COMPASS and Show-Me web sites:

http://www.ithaca.edu/compass/
http://showmecenter.missouri.edu

Dates to Remember

2003

April 7-9	NCSM Annual Conference
April 7-9	NCTM Research Presession
April 9-12	NCTM Annual Conference
April 9-12	Benjamin Banneker Association Meeting
April 21-25	AERA Annual Meeting
May 30	Proposal deadline 2004 AMTE Conference
October 2-4	NCTM Regional – Salt Lake City
November 6-8	NCTM Regional – Charleston
November 13-16	AMATYC Annual Meeting
November 20-22	NCTM Regional – Edmonton

2004

January 7-10	MAA-AMS Joint Meeting
January 22-24	8th Annual AMTE Conference

2003 AMTE Conference in Atlanta had Record Attendance

Nearly 300 people gathered in Atlanta, Georgia from January 30-Febuary 1, 2003 for the Seventh Annual AMTE Conference to join in the celebration of AMTE's 10-year Anniversary. The conference featured the first *Judith E. Jacobs Lecture* delivered by Judith herself on "Improving Mathematics Education: Mathematics Teacher Educators Lead the Way." Every year, hereafter, a presenter will be selected as the Judith E. Jacobs Lecturer. Johnny Lott, President of the National Council of Teachers of Mathematics, brought greetings to the organization prior to the Lecture.

The conference included 80 sessions on Friday and Saturday along with pre-conference sessions on Thursday. Conference highlights included the pre-conference symposium on "Studying Teacher learning from Cases and Other Practice-Based Materials" with Peg Smith and Ed Silver and panel presentations on "Adding It Up" with Jeremy Kilpatrick, Deborah Ball, Jane Swafford, and Bradford Findell and "How Much Should and Can We Cover in Elementary Mathematics Content Courses?" with Mark Klespis, Tom Bassarear, Christine Browning, Henry Kepner, and Patricia Stone. Other notable sessions were conducted by Randy Phillip, Jennifer Chavot, Tom Cooney, Zalman Usiskin, Gail Burrill, Joan Ferrini-Mundy, Gary Martin, Steve Rasmussen, Kathryn Chval, and many more. The conference also included strands on NCATE and technology. The computer room (thanks to Joe Garofalo) was a busy location of interactive sessions.

Greg Chamblee, Georgia Southern University, was in charge of local arrangements, and DeAnn Huinker, University of Wisconsin-Milwaukee, was the Program Chair. The program committee included Sandra Cooper (Texas Tech University), Joe Garofalo (University of Virginia), Karen King (Michigan State University), W. Gary Martin (Auburn University), Suzanne Matthews (Wright State University) and David Slavit (Washington State University). Susan Gay, University of Kansas, is the AMTE conference coordinator.

PowerPoint presentations and handouts from many of the sessions are available on the AMTE web site (http://www.amte.net).

8th Annual Conference of the Association of Mathematics Teacher Educators

Announcement and Call for Proposals

January 22-24, 2004
San Diego Marriott Mission Valley Hotel
San Diego, CA

Recommended Formats for Presentations

The AMTE Board of Directors believes that the AMTE annual conference should provide participants with an opportunity to examine and discuss current issues in mathematics teacher education and professional development and share related ideas and information. Therefore, all sessions must provide opportunities for all participants to be actively engaged. The details on how you will involve participants in your session must be included in your proposal.

Format One: Thematic Presentation (60 minutes). Thematic presentations are designed to include either one substantive presentation or a panel discussion. With one main presentation, there should be two prepared critiques or responses. Panel discussions should formulate the salient points related to an issue of current concern to mathematics teacher educators with a moderator to foster interaction among the panelists. A total of at least 20 minutes must be allocated for participant interaction.

Format Two: Symposium or Working Group (60 or 90 minutes). Symposia include several presentations focusing on the same issue from different perspectives or related aspects with a minimum of 30 minutes allocated for participant interaction. Working group sessions are designed to permit significant interaction among session organizers and participants on a particular topic of interest to AMTE members. Indicate the preferred time length for the session with a brief outline of how the time will be used. Note, however, that the program committee reserves the right to adjust session lengths to fit the confines of the program.

Format Three: Individual Session (30 minutes). Individual sessions allow for project overviews and updates, local and state initiatives, and brief research reports that would be of interest to mathematics teacher educators. The program committee will group individual presentations, where possible, into a thematic presentation.

Note that a **Computer Room** will be available for sessions that wish to include interactive activities. (However, you cannot count on having a live internet connection for all computers.) Please indicate your interest in presenting in the Computer Room under *Equipment Needs* on the *Proposal Form*, and describe how it would be utilized in your *Abstract*.

Proposals must be received by Friday, May 30, 2003

For detailed information about proposals for presentations and contact information, please visit http://www.amte.net

A Word of Appreciation from the AMTE Project NExT Fellow

Greetings! My name is Tim Hendrix, and I am serving this year as an AMTE Project NExT Fellow. I want to take this opportunity both to share with you my appreciation for AMTE's sponsorship of a Project NExT Fellow and some information about the Project NExT program.

Project NExT (New Experiences in Teaching) is a professional development program of the Mathematical Association of America for new or recent Ph.D.'s in the mathematical sciences who are interested in improving the teaching and learning of undergraduate mathematics. Each year, approximately 60 new Fellows are selected from all areas of the mathematical sciences—pure and applied mathematics, statistics, operations research, and mathematics education. NExT Fellows begin their appointment year with an intense workshop preceding the summer MAA meeting (known as the MathFest), participate in special sessions at the Joint Mathematics Meetings in January, and close their fellowship year with a workshop the at next summer's Mathfest.

Major funding for Project NExT has come from the ExxonMobil Foundation, with additional funding from The Dolciani-Halloran Foundation, The American Mathematical Society, The Educational Advancement Foundation, the Greater MAA Fund – and now The Association of Mathematics Teacher Educators. In 2003-04, two additional organizations, The American Statistical Association and The National Council of Teachers of Mathematics, will sponsor Project NExT Fellows. Project NExT was founded in 1994 by Christine Stevens and the late Jim Leitzel. Now in its ninth year, it is led by Chris, Joe Gallian, Aparna Higgins, Judith Covington, and Gavin LaRose.

NExT Fellows are new faculty struggling to balance all of the demands of teaching in a mathematics department. The program addresses all aspects of beginning an academic career: teaching undergraduate mathematics, engaging in research and scholarship, and contributing to professional activities. Each class of fellows becomes a tightly connected network of friendship, collegial advice, and support. Moreover, each fellow is matched with a mentor—a senior faculty member from another institution who serves as a consultant for the fellow and gives a more experienced perspective.

I am a first-year faculty member in the Department of Mathematics & Computer Science at Meredith College in Raleigh, NC. A women's college, Meredith has a strong tradition in promoting women to excel in mathematics & science. I am a mathematics teacher educator, and teach courses from Calculus to Non-Euclidean Geometry to Methods for Secondary Mathematics Teachers. I completed my doctoral work at the University of Illinois at Urbana-Champaign in the areas of advanced mathematical thinking and undergraduate mathematics education. Research-wise, I am interested in curriculum development, the integration of technology to promote teaching & learning mathematics, and how mathematics students make the transition to more connected understanding.

I am especially honored and humbled to be the first Project NExT Fellow sponsored by AMTE. At the Joint Mathematics Meetings, I had the pleasure to meet both Skip Fennell and Susan Gay, who introduced me to AMTE and just exactly how wonderful a group of people AMTE is. The Annual Meeting of AMTE only confirmed that impression in my mind. I am pleased that AMTE has decided to continue its sponsorship of Project NExT Fellows. Many Project NExT Fellows find themselves (sometimes, for the first time) integrally involved with teacher education, and AMTE can be a positive influence in their development as mathematicians, teachers of mathematics, and mathematics teacher educators. I encourage you to find out more about Project NExT and to recommend it to new faculty members. More information can be found at: http://archives.math.utk.edu/projnext/. Again, I would like to express my gratitude to both the leadership and the membership of AMTE for making possible my participation in this invaluable program—I will endeavor to represent AMTE well in this joint venture. Thank you.

Preparing Highly Qualified Mathematics Teachers

(continued from page 1)

To follow up on key pieces of the NCLB Act, on February 6th a Math Summit was convened by U.S. Secretary of Education, Rod Paige, in Washington, D.C. There he initiated a formal conversation focused on conducting a broad-based public engagement campaign that draws attention to the need for better mathematics in our nation's schools, initiating a major campaign to recruit, prepare, train, and retain teachers with strong backgrounds in mathematics, and developing a major academic research base to improve our knowledge of what boosts student learning in mathematics in the classroom. The audience included representatives from business, academia, professional organizations, foundations, the mathematics and science community and the government. Fortunately, several AMTE members were also present.

Although there were presentations addressing a variety of topics related to international and corporate perspectives and the development of a research base, one presentation will particularly resonate with AMTE members. AMTE member, Deborah Lowenberg Ball, gave a presentation entitled, "What Mathematical Knowledge is Needed for Teaching Mathematics?" It can be found in its entirety at www.ed.gov/inits/mathscience/ball.html. As you explore this website, please investigate the other presentations and consider how you might respond to the Secretary's Initiative. Clearly, the AMTE membership is a key group in tackling this agenda. ☺

From the Mathematics Teacher Educator's Bookshelf

Adding it Up: Helping Children Learn Mathematics
Jeremy Kilpatrick, Jane Swafford and Bradford Findell, editors. National Academy Press,Washington, DC, 2001
Chapter four is the essence; all else is commentary. J. E. J.

Adding It Up is a synthesis of the relevant research on mathematics learning from pre-kindergarten through grade 8. It begins with an Executive Summary that outlines its major tenets and ends with a chapter on conclusions and recommendations that could guide policy decisions related to mathematics learning for children and their teachers. These recommendations, if implemented, would transform the teaching of mathematics and the preparation and professional development of teachers of mathematics. The Mathematics Learning Study Committee of the National Research Council undertook their work to provide a research-based blueprint for addressing the public concerns and political pressures concerning the mathematics education of children in the elementary and middle grades in the schools in the United States. They selected number as a focus of their work because of its centrality to the mathematics curriculum in these grades. They do, though, provide limited discussion of content areas of algebra, geometry and measurement, and statistics and probability.

From the Mathematics Teacher Educator's Bookshelf is a column of ***AMTE Connections.*** In it we will offer reviews of important books, reports, articles, or multimedia materials that serve as resources for mathematics teacher educators as well as material to inform their practices. We welcome your contributions to this column. If you want to prepare a review, you can use this inaugural column as a model. If there is material that you have heard about and think we should review, let me know and I will work on getting it reviewed. - *J. E. J.*

The first two chapters of the book detail the current state of mathematics learning. The third chapter analyzes the domain of number. A rationale is provided for considering the system of the finite decimals as a subset of the rational numbers before studying the rational number system. Though I understood the rationale, I found a disconnect between the discussion of the common fractions including 1/3 and the focus on finite decimals. This distinction, though, is returned to in a later chapter. The essence of this book is chapter four. *Mathematical proficiency* is presented as a construct that embodies all that is necessary to learn mathematics successfully. Its five components – conceptual understanding, procedural fluency, strategy competence, adaptive reasoning, and productive disposition – are conceived as interdependent and interwoven and is imaged as a piece of wool or rope with five strands. The goal of school mathematics is to prepare mathematically proficient students. The first three components are based on the traditional aspects of mathematics learning, mathematical understanding, computational skills, and problem solving. Adaptive reasoning refers to the ability to explain and justify one's thinking. This leads to the idea of formal proof. Productive disposition goes beyond the usual "attitude towards mathematics." It refers to seeing mathematics as sensible, useful, and worthwhile while recognizing that hard work and one's own ability will lead to successful learning in mathematics.

The subsequent four chapters trace the mathematics that children bring to school through the content of middle grade mathematics in terms of the construct of mathematical proficiency. Chapter eight has a thorough analysis of algebra with briefer discussions of geometry and measurement and statistics and probability. In chapter nine, instruction is presented as the interactions among teachers, students, and the mathematical content. In four vignettes, different teachers' use of the mathematics the students are to learn as anchors in their lessons are analyzed. The discussions emphasize that teachers need to be clear as to all of their goals for their instruction. Only in carefully and consciously addressing all five components of mathematical proficiency will teachers enable their students to become mathematically proficient. There also are discussions of various aspects of classroom practices such as grouping, cooperative learning, homework, managing discourse, and the role and types of practice students need.

Chapter ten addresses proficiency in teaching mathematics and provides a parallel construct to mathematical proficiency for students to frame its discussion. To be proficient in teaching mathematics one needs to have co*nceptual understanding* of the core knowledge of the practice of teaching, *fluency* in carrying out instructional routines, *strategic competence* in designing instruction and adapting it to address problems as they arrive, *adaptive reasoning* in justifying and explaining one's instructional decisions, and a *productive disposition* regarding mathematics, teaching, learning, and improvement of practice.

Adding It Up is a valuable resource for all mathematics teacher educators. It can serve as an overview for novices to the complexity of the issues related to mathematics teaching and learning. For more experienced faculty, it provides extensive research references to much of the traditional wisdom that is often espoused. It also documents the lack of research evidence for the long held belief that the more mathematics a teacher knows the more their students would know.

As I read the book, I found paragraph after paragraph that could serve as the basis for a three-hour course session on that topic. There are so many ideas in this book that it could be overwhelming for pre-service teachers or others who are not familiar with using research as a stepping-stone to ideas. My own plan is to use the book to stimulate discussion among mathematics teacher leaders and some key administrators with whom I have been working. I envision spending several weeks on analyzing the mathematical proficiency model and intend to read across chapters on the various components of that construct.

A web-based version of *Adding It Up: Helping Children Learn Mathematics*, is available at http://www.nap.edu/catalog/9822.html. From here you can send students to particular sections of the book. This enables the use of the text as a supplement to other course materials.

Do let me know how you use *Adding It Up: Helping Children Learn Mathematics.* I would like to share that with other AMTErs. The next column will review the CBMS report on the *Mathematical Education of Teachers*. Let me hear from you.

Judith E. Jacobs, California State Polytechnic University, Pomona, jejacobs@csupomona.edu

AMTE Committees 2003-04

Electronic Communications
Tasks: Recommends policy related to the AMTE website and discussion group

Board Liaison: Susan Friel

2002-2004
Terese Herrara, Eisenhower National Clearinghouse
Marty Larkin, Southern Utah University
Doug Owens, Ohio State University

2003 - 2005
Maggie Niess, Oregon State University, Chair
Oscar Chavez, University of Missouri
Virgil Fredenberg, Eastern Washington University

Membership
Tasks: Works on issues associated with AMTE membership, including benefits of membership and increasing the number of members.

Board Liaison: Peg Smith
2002-2004
Joanne Powers, College of Saint Rose, Albany, NY, Chair
Fran Arbaugh, University of Missouri
Hollylynne Stohl, North Carolina State University

2003 - 2005
Tim Hendrix, Meredith College
Iris Johnson, Miami University, Ohio
Bob Wolffe, Bradley University, Illinois

CONFERENCE COMMITTEE

Susan Gay, University of Kansas, Conference Coordinator;

2004 Annual Conference – San Diego
Nadine Bezuk, San Diego State University,
Local Arrangements Chair

W. Gary Martin, Auburn University, Program Chair
Deborah Ball, University of Michigan
Ralph Connelly, Brock University
Joe Garofalo, University of Virginia
Gwen Lloyd, Virginia Tech
Carolyn Pinchback, Central Arkansas University
Sid Rachlin, East Carolina State University
Nanette Seago, San Diego State University Foundation
Marilyn Strutchens, Auburn University

2005 Annual Conference

Sid Rachlin, East Carolina State University, Program Chair

Related Conferences
Tasks: Formalizes relationships with the NCTM Annual's program committee and explores relationships with other appropriate professional societies

Board Liaison: David Pugalee

2002-2004
Tom Rowan, University of Maryland –College Park, Chair
Hank Kepner, University of Wisconsin – Milwaukee
Rheta Rubenstein, Schoolcraft College, Michigan

2003 - 2005
Kathryn Chval, National Science Foundation
Barbara Dougherty, University of Hawaii
Carol Malloy, University of North Carolina – Chapel Hill

Nominations and Elections
Tasks: Solicits nominations and compiles a slate of nominees; prepares the ballot

Board Liaison Francis (Skip) Fennell

March 2003- March 2004
Randy Philipp, San Diego State University, Chair
Gail Burrill, Michigan State University
Charles Dietz, College of Southern Maryland

Constitution and Bylaws
Tasks: Revisits the constitution and by-laws making suggestions and changes as needed.

Board Liaison: Jenny Bay Williams

2002-2004
Bill Speer, University of Nevada, Las Vegas, Chair

Corporate Sponsorship Task Force
Purpose: Examines corporate sponsorship of AMTE events and publications, considers costs and income related to advertisements on the AMTE website, and in print materials.

Board Liaison: Francis (Skip) Fennell

Anthony Piccolino, Montclair State University, Chair
Carol Lucas, University of Central Oklahoma
Marilyn Hala, NCTM Headquarters
Bob Wolffe, Bradley University
Denisse Thompson, University of South Florida

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Marilyn Hala, NCTM Headquarters
Bob Wolffe, Bradley University
Denisse Thompson, University of South Florida

Essential Readings Task Force
Purpose: To identify essential readings in the field of mathematics teacher education and to communicate these critical books, journals and documents to the membership and other interested individuals.

Board Liaison: Susan Friel, sfriel@email.unc.edu

Judith Jacobs, California State Polytechnic University,
Joanne Rossi-Becker, San Jose State University
Marilyn Strutchens, Auburn University

Technology Task Force
Purpose: To evaluate the guidelines presented in the inaugural issue of the CITE Journal, select the NTLI award winner, and to explore ways to provide technology training for mathematics teacher educators.

Chair and Board Liaison David Pugalee,

Donna Berlin, Ohio State University
Carol Fry Bohlin, California State University – Fresno
Elaine Carbone, Clarion University of Pennsylvania
Jeff Frykholm, University of Colorado
Joe Garofalo, University of Virginia
Amy McDuffie, Washington State University – Tri-Cities
Rose Zbiek, University of Iowa

AMTE Presidents at the 2003 Meeting: Nadine Bezuk, Judith Jacobs, Susan Gay, Skip Fennell, Karen Karp, and Hank Kepner.

Submitting Proposals for AMTE-Sponsored Sessions at NCTM 2004

The related conferences committee encourages all members to consider submitting a proposal to NCTM for the 2004 annual meeting in Philadelphia in support of teacher education. If you submit and would like to have your proposal considered to be indicated in the program as an AMTE-arranged presentation, you must follow the following procedure. This is because NCTM has had to change its method of handling arranged sessions:

To ensure a session receives consideration as a possible AMTE arranged session, please follow the guidelines below:

1. Submit the proposal to NCTM and AMTE electronically.
2. Submit the proposal to NCTM by the posted deadline. (May 1, 2003)
3. In the presenter field ***LAST NAME***, start the last name with three asterisks.
4. In the description field, put the name of the organization, committee, or publication at the start of the description. (This would be AMTE.)
5. The person submitting the request must be the main presenter and must furnish all contact information. NCTM can no longer accept placeholders and later substitute names.
6. If a group or a committee is proposing co-presenters, all names must be listed. The tracking program that is being used does not allow easy searches on all presenters when the program is being built. If there are duplicate speakers that appear later in the process, we will drop one of the speaker's sessions depending on the needs of the program.

Simultaneously with your submission to NCTM, or earlier if possible, submit the proposal to AMTE. It should be sent electronically to Tom Rowan at trowan7@comcast.net. AMTE will then work with NCTM to confirm those proposals that are selected to be designated as arranged by AMTE. Your submission to NCTM and AMTE will serve to indicate your interest in having AMTE sponsorship. Those proposals that are selected will have their authors notified as soon as possible following receipt and review of the proposal by AMTE and NCTM.

If you have any questions, contact Tom Rowan at trowan7@comcast.net.

*What's on the Web at **AMTE.NET**?*

Committees - Discussion Forum - Calls for Manuscripts

Newsletters – Articles - Position Papers and Publications

Employment Listings - Professional Development Opportunities

Grant Opportunities - Other Professional Resources

Membership Renewal Form

Association of Mathematics Teacher Educators
Dr. Janet Warfield – AMTE Treasurer
Illinois State University
Mathematics Department
Campus Box 4520
Normal, IL 61790-4520
http://www.amte.net

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Reminder: The date on the label indicates the month that your membership is due to expire!