

Association of Mathematics Teacher Educators Eighth Annual Conference

January 22-24, 2004

Marriott Mission Valley Hotel San Diego, California

PROGRAM BOOK

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AMTE Thanks...

All speakers who contributed their time and expertise to make this conference a success. All publishers who donated materials for the AMTE Browsing Room. The National Council of Teachers of Mathematics for furnishing dessert at Friday's lunch. Students and staff from San Diego State University for their help with Registration and in the Browsing Room.

Association of Mathematics Teacher Educators is an affiliate of the National Council of Teachers of Mathematics.

NOTES



AMTE Pre-Conference Program Thursday, January 22, 2004

Thursday, 1:30–4:30 p.m. Pre-Conference Technology Workshop

Session 1

Balboa 1-2

Multimedia Case Studies

Two teams of teacher educators report on their research and experiences using multimedia cases with preservice and inservice teachers. Participants will be invited to discuss ways in which they might use these resources, as well as issues related to their use.

Prospective Teacher Educators' Developing Perspectives on Teacher Education through the Creation of Multimedia Case Studies

Joanna O. Masingila, Syracuse University Bulent Cetinkaya, Syracuse University Levi Molenje, Syracuse University

In this symposium, we report on our research investigating the knowledge development of prospective teacher educators as they created multimedia case studies of practice for use with preservice and inservice teachers. This session is intended to provide information as well as raise issues regarding the development of teacher educators.

Using Multimedia Case Studies to Help Teachers Learn about Inclusion in the Elementary Mathematics Classroom

Babette Moeller, EDC/Center for Children and Technology

Barbara Dubitsky, Bank Street College of Education

Learn how we are developing and using digital resources to help broaden the preparation of teachers to teach mathematics in K-6 inclusion classrooms. We will demonstrate multimedia case studies and learning activities that we have incorporated into methods courses at Bank Street College and share findings from our formative research.

NOTE: Preregistration is required for this event.

Thursday, 5:30–8:30 p.m. Pre-Conference Symposium and Dinner

Session 2

Salon E

The Role of Teacher Educators as Leaders

Cathy Seeley, University of Texas at Austin President-Elect, National Council of Teachers of Mathematics

Teacher educators play a critical role in the future of mathematics education. Come think about what you can do as a leader to support the improvement of mathematics teaching and learning in your community and beyond.

5:30-7:00 p.m., Presentation

7:00-8:30 p.m., Dinner, Rio Vista Pavilion

NOTE: Preregistration, including an additional fee, is required for this event.

NOTES



Eighth Annual AMTE Conference Friday, January 23 – Saturday, January 24, 2004

Friday, January 23, 2004

7:00-8:00 a.m.	Continental Breakfast	Ballroom Foyer
8:00-9:30 a.m.	Sessions	·
9:30-9:50 a.m.	Break	
9:50-10:20 a.m.	Sessions	
10:20-10:30 a.m.	Break	
10:30-11:00 a.m.	Sessions	
11:00-11:15 a.m.	Break	
11:15 a.m. – 12:15 p.m.	Sessions	
12:15-1:30 p.m.	Lunch	Rio Vista Pavilion
1:30-1:40 p.m.	Break	
1:40-3:10 p.m.	Sessions	
3:10-3:30 pm.	Break	Ballroom Foyer
3:30-4:30 p.m.	Sessions	
4:30-5:00 p.m.	Break	
5:00-6:30 p.m.	Judith E. Jacobs Lecture	Salon E
6:30-8:00 p.m.	Dinner	Rio Vista Pavilion

Saturday, January 24, 2004

7:00-8:00 a.m. 8:00-9:30 a.m. 9:30-9:50 a.m. 9:50-10:20 a.m. 10:20-10:30 a.m. 10:30-11:00 a.m. 11:00-11:15 a.m.	Continental Breakfast Sessions Break Sessions Break Sessions Break	Ballroom Foyer
11:15 a.m. – 12:15 p.m. 12:15-1:30 p.m. 1:30-1:40 p.m.	Sessions Lunch Break	Rio Vista Pavilion
1:40-2:40 p.m. 2:40-3:00 p.m. 3:00-4:45 p.m.	Sessions Break Closing Session Business Meeting	Salon E

Browsing Room - Santa Fe 3-4

Throughout the conference, materials and software will be available for review in Santa Fe 3-4. Selected materials will be distributed to participants at the conclusion of the AMTE Business Meeting on Saturday. The Browsing Room will be open at the following times:

Friday, January 23	7:30 a.m.–5:00 p.m.
Saturday, January 24	7:30 a.m.–12:15 p.m

NOTES

Overview of Friday Morning

	8:00-9:30 a.m.	9:50-10:20 a.m.	10:30-11:00 a.m.	11:15 a.m12:15 p.m.
Balboa 1-2	Using Videotape Case Studies of Classroom Instruction to Encourage Thoughtful Reflection on TeachingKline, Grant	IMAGES (Improving Measurement and Geometry in Elementary Schools)Dowshen	High-Tech Support for Preservice and Inservice K-8 Teachers of Mathematics Fraivillig, Bulgar, Wish	Promoting Successful Mathematics Reform Teaching Via the Internet: Mathematics Online Support for Teachers (MOST)Strutchens, Martin
Salon A	The Role of Mathematics in Teacher Preparation: Cross Categories of Content and MethodsFindell, Lott	Where's the Math? Pre- service Teachers' Identification of Content in School Curricula Glass, Kincaid	Improving Preservice Mathematics Teachers' Understanding of Fundamental Concepts in the Secondary Mathematics CurriculumLorch, Bremigan	Linking Student Performance to Graduate StudiesLewis, Hynes, Lowry
Salon B	Listening to Children: The Private Universe Project in MathematicsFinkelstein, Lewis	"Departing On-Time": A Worthwhile Task for Students and Teachers Chamberlin, Zawojewski	Researching the Teaching and Learning of Measurement in the Middle GradesPreston, Thompson	Meeting the Challenges: Designing and Implementing a Post-Baccalaureate Program for Mathematics and Science TeachersLannin, Arbaugh
Salon C	Using Teacher-Produced Videotapes of Problem- Solving Interviews as a Professional Development ToolJacobs, Ambrose, Clement	P-16 Education Partnership: No Child Left BehindPinchback, Williams	Responsive Interactions: A Framework for Analyzing and Supporting Teachers' GrowthAmbrose, Gibson, Jacobs	Collaboration Around Lesson Study: Guiding Preservice Mathematics Teachers Toward Student Higher-level Thinking and Conceptual Understanding- -Erickson, Beauchman, Niess
Salon E	Do Your Students Understand That They Don't Understand? Developing Deep Understanding of Math Concepts with Preservice Secondary TeachersRusch, Herrera, Nicol	When Is a Teacher Educator a Mathematician and Vice Versa?Lott	Teachers Thinking About Students' ThinkingBulgar, Schorr	Teachers for a New Era at Michigan State University King, Senk
Salon F	What is an Application on a Graphing Calculator? How Can Cell Sheet Bridge the Gulf Between Computers and Calculators?Fiedler	Learning to Teach Standards-Based Mathematics: The Impact of Collaborative Inquiry Groups on Interns' Teaching Beliefs Henning	Using the History of Mathematics in the Classroom: A Meaningful Addition or Fanciful Fluff? Clark	Coaching Teachers in Their Classrooms to Implement Reform MathematicsOlson, Barrett, Williams
Salon G	Adapting Professional Development Materials for PreserviceSeago, Branca, Elliott, Mumme, Romagnano, Smith	Professional Development for Teacher Educators: Practicing What We PreachCwikla	Using Audio-analysis Reveals Ineffective Practice to TeachersTaylor, O'Donnell	Establishing AMTE Affiliates to Promote Professional Networks of Mathematics EducatorsBohlin, Beal
Salon H	No Teacher Left Behind: Conquering Credential ConfusionKriegler, Calahan, Gamelin, Iskin	Integrating Knowledge of How Children Learn and Understand Mathematics into Mathematical Content Courses for Elementary TeachersFeikes	Identifying, Developing and Assessing Mathematics Education Content Knowledge for K-8 TeachersTartre, Machit, Rondinone	Spending Time in Elementary Schools: Lessons Learned and Impact on Content/Methods Courses TaughtWells, Coffey
Sierra 5-6	NAEP Student Responses: How Can We Use Them In Teacher Education?Brown, Lambdin, Lynch, McGraw	Using Instant Reaction Scenarios and Learning Episodes in Teaching Mathematics Methods CoursesBrahier	Development of an Assessment Task and Rubric to Measure Secondary School Preservice Teacher Candidates' Content, Pedagogical, and Professional Knowledge Koirala	Hand-held Technology Use: It's Not Just for Inservice Workshops Anymore Browning, Demana, Owens

Please see session descriptions on following pages.

Lunch 12:15-1:30 p.m., Rio Vista Pavilion

Friday, 8:00-9:30 a.m.

Session 3

Adapting Professional Development Materials for Preservice

Nanette Seago, San Diego State University Nicholas Branca, San Diego State University Rebekah Elliott, University of Washington Judy Mumme, WestEd Lew Romagnano, The Metropolitan State College of Denver

Margaret S. (Peg) Smith, University of Pittsburgh How do teacher educators adapt inservice professional development materials for use in preservice courses? What

kinds of inservice materials are best suited? What is the nature of the adaptations? What are the challenges? This session will explore these issues, drawing on the experiences of four preservice teacher educators.

Session 4

Salon E

Salon G

Do Your Students Understand That They Don't Understand? Developing Deep Understanding of Math Concepts with Preservice Secondary Teachers

Tracy L. Rusch, Wright State University Terese A. Herrera, Eisenhower National Clearinghouse Marsha L. Nicol, Capital University

This session shares strategies for motivating preservice teachers to explore math concepts in depth. Presenters will share evidence from journals and video of students' experiences as they struggle to go from procedural to conceptual understanding.

Session 5

Salon B

Listening to Children: The Private Universe Project in Mathematics

Nancy Finkelstein, Harvard-Smithsonian Center for Astrophysics

Gordon Lewis, Annenberg/CPB

Come view video clips from The Private Universe Project in Mathematics, a teacher workshop and documentary that focuses attention on students' mathematical thinking. Discuss how this might be used in teacher educator programs.

Session 6

Sierra 5-6

NAEP Student Responses: How Can We Use Them In Teacher Education?

Catherine A. Brown, Indiana University, Bloomington Diana V. Lambdin, Indiana University, Bloomington Kathleen Lynch, Appalachian State University Rebecca McGraw, University of Arizona

This session focuses on the use of materials including student responses to NAEP constructed-response items by teacher educators. Participants will review materials developed by the Indiana University NAEP team and work together to suggest revisions of these materials and uses with teachers at any stage of the professional development continuum. Salon H

No Teacher Left Behind: Conquering Credential Confusion

Shelley Kriegler, University of California, Los Angeles Heather Calahan, Santa Monica-Malibu USD Ted Gamelin, University of California, Los Angeles Joann Iskin, Lennox School District

A mathematician, a program director, a teacher, and an administrator will share some successes and challenges surrounding the staffing of schools with "highly qualified math teachers". The presentation will provide time for an exchange of recent information about NCLB teacher credentialing issues, especially in California.

Session 8

Salon A

Salon C

The Role of Mathematics in Teacher Preparation: Cross Categories of Content and Methods

Bradford R. Findell, University of Georgia Johnny W. Lott, The University of Montana

What kind of mathematical knowledge do teachers need to draw on to teach secondary mathematics? Where do they learn this mathematical knowledge? Rich mathematical problems provide the opportunity to consider both mathematics and teaching. The session will look at some ways to design these opportunities into a mathematics education program.

Session 9

Using Teacher-Produced Videotapes of Problem-Solving Interviews as a Professional Development Tool

Victoria Jacobs, San Diego State University Rebecca Ambrose, University of California -- Davis Lisa Clement, San Diego State University

Teacher-produced videotapes of problem-solving interviews can help teachers improve their "in- the-moment" decision-making to be more responsive to children's mathematical thinking. Sample video clips will ground our conversation in the issues surrounding this professional development tool which we have used in workshops, masters courses, and school-based discussions among teachers.

Session 10

Balboa 1-2

Using Videotape Case Studies of Classroom Instruction to Encourage Thoughtful Reflection on Teaching

Kate Kline, Western Michigan University Theresa J. Grant, Western Michigan University

This session will introduce a format that uses videotaped lessons to provide a forum for teachers to thoughtfully consider and debate issues around teaching for understanding. We will engage attendees in a mini videotape case study of an elementary classroom and discuss the benefits of this kind of experience for teachers.

Session 11

Salon F

What is an Application on a Graphing Calculator? How Can Cell Sheet Bridge the Gulf Between Computers and Calculators?

Joseph R. Fiedler, CSU Bakersfield

Spreadsheets are the most used mathematical tool in the world. However, mathematics departments do not train students how to use them. Graphing calculators remain the most accessible classroom and personal student technology. Now Flash technology with applications such as CELL SHEET extends the power of calculators at bargain basement prices.

Friday, 9:50-10:20 a.m.

Session 12

Salon B

"Departing On-Time": A Worthwhile Task for Students and Teachers

Michelle T. Chamberlin, University of Northern Colorado Judith Zawojewski, Illinois Institute of Technology

Worthwhile mathematical tasks not only prompt students to learn mathematics; they also prompt teachers to learn about their teaching. This session describes a story of professional development in which teachers learned about "good teaching", as described in the Teaching Principle (NCTM, 2000), while implementing a worthwhile mathematical task for their students.

Session 13

Salon H

Integrating Knowledge of How Children Learn and Understand Mathematics into Mathematical Content Courses for Elementary Teachers

David Feikes, Purdue University North Central

This session will explore the integration of research on children's learning of mathematics with teachers' learning, focusing on the interweaving of content and pedagogy. The NSF funded project, Connecting Mathematics for Elementary Teachers, which developed supplementary materials for mathematical content courses for elementary teachers, will be described.

Session 14

Balboa 1-2

IMAGES (Improving Measurement and Geometry in Elementary Schools)

Arlene L. Dowshen, Widener University

IMAGES is a resource that addresses content; cognition; standards; instructional and assessment strategies; and resources of references, manipulatives, literature, videos, and Web sites. It includes a professional development component and a Web site. Participants will receive a CD of IMAGES and will explore its content and professional development aspects.

Session 15

Salon F

Learning to Teach Standards-Based Mathematics: The Impact of Collaborative Inquiry Groups on Interns' Teaching Beliefs

Cindy S. Henning, Auburn University

This presentation will report the findings of a study on the impact of a new model for teaching internships on the mathematics teaching beliefs of secondary preservice teachers. Participants will discuss the research's implications for providing support for implementing standards-based instruction.

Session 16

Salon C

P-16 Education Partnership: No Child Left Behind

Carolyn L. Pinchback, University of Central Arkansas Carolyn C. Williams, University of Central Arkansas

The speakers will discuss two modules: (1) designing action research on students and how they learn and (2) improving mathematics and science content knowledge; and share parts of videos for the third module, managing and monitoring student learning of mathematics and science, for this project. Session 17

Salon G

Professional Development for Teacher Educators: Practicing What We Preach

Julie Cwikla, The University of Southern Mississippi -- Gulf Park

The NSF funded group, the Professional Mathematics Educators (PME) consists of mathematics faculty from five institutions. The PME is improving mathematics teacher preparation by (1) defining learning goals, (2) aligning mathematics lessons across institutions, (3) making practice public through video, and (4) examining students' mathematical proficiency and attitudes about learning.

Session 18

Sierra 5-6

Salon A

Salon E

Using Instant Reaction Scenarios and Learning Episodes in Teaching Mathematics Methods Courses

Daniel Brahier, Bowling Green State University

Participants will examine two strategies used in a mathematics methods course to bring "real" classroom issues to light. The first is a strategy in which students are presented with a situation to which they have to react, and the second is an assignment where students write about classroom observations.

Session 19

Where's the Math? Pre-service Teachers' Identification of Content in School Curricula

Brad Glass, University of Delaware Laura Kincaid, University of Delaware

We will discuss elementary and middle school pre-service teachers' interpretations and evaluations of curricula in a methods course. Drawing upon insights from a semester-long study, we will discuss students' identification of school mathematics concepts in various curricula. Course activities built around mathematics standards and mathematical proficiency strands will be shared.

Session 20

When Is a Teacher Educator a Mathematician and Vice Versa?

Johnny W. Lott, The University of Montana

As we worry about "highly qualified teachers," there is also a need to worry about "highly qualified teachers of teachers." To do this, we need to think about when we need to be mathematicians and when we might not.

Friday, 10:30-11:00 a.m.

Session 21

Development of an Assessment Task and Rubric to Measure Secondary School Preservice Teacher Candidates' Content, Pedagogical, and Professional Knowledge

Hari P. Koirala, Eastern Connecticut State University

This session focuses on the complexity of designing an assessment task and rubric that assesses secondary school teacher candidates' content, pedagogical, and professional knowledge in a fair and consistent manner.

Session 22

Balboa 1-2

Sierra 5-6

High-Tech Support for Preservice and Inservice K-8 Teachers of Mathematics

Judith Fraivillig, Rider University Sylvia Bulgar, Rider University Amy Wish, Rider University

A Virtual Learning Community (VLC) of preservice teachers, inservice teachers, and university faculty is presented. The VLC uses web-based technologies to support prospective and novice teachers' understanding of inquiry mathematics teaching by allowing them to share videos of their own teaching and to discuss instructional issues with mentors and peers.

Session 23

Salon H

Identifying, Developing and Assessing Mathematics Education Content Knowledge for K-8 Teachers

Lindsay Tartre, California State University, Long Beach Sandi Machit, CSULB/Long Beach Unified School District Kathleen Miller Rondinone, California State University, Long Beach

We will describe the development of a plan for mathematics content identification and assessment designed to ensure that K-8 preservice teachers are prepared to meet teaching credential mathematics content standards. We will describe the process and samples of our assessment and present preliminary results from the initial test administrations.

Session 24

Salon A

Improving Preservice Mathematics Teachers' Understanding of Fundamental Concepts in the Secondary Mathematics Curriculum

John Lorch, Ball State University Elizabeth George Bremigan, Ball State University

This session provides an overview of an NSF-funded curriculum project which is intended to improve the mathematical content knowledge of preservice secondary mathematics teachers. We will discuss a textbook we are writing in which common topics in middle and high school curriculum are treated from an advanced viewpoint. We will also share our experiences using this text in an undergraduate course. Session 25

Salon B

Researching the Teaching and Learning of Measurement in the Middle Grades

Ron Preston, East Carolina University Tony Thompson, University of Alabama

Session describes research on teaching and learning of measurement, including textual treatment, teachers' notions, and student difficulty. Session looks at NAEP and TIMSS testing as a backdrop for examining the large black-white achievement gap in measurement. Participants will experience measurement tasks used to probe student and teacher knowledge and beliefs.

Session 26

Salon C

Responsive Interactions: A Framework for Analyzing and Supporting Teachers' Growth

Rebecca Ambrose, University of California -- Davis Kristin Gibson, Mesa/Spring Valley School District Victoria Jacobs, San Diego State University

One-on-one interactions with students require expertise including knowing when to ask the right question and how to extend children's mathematical thinking. We will use videotaped examples to illustrate our framework for analyzing these interactions and show how one teacher evolved in her approach to interacting with students.

Session 27

Salon E

Teachers Thinking About Students' Thinking

Sylvia Bulgar, Rider University Roberta Y. Schorr, Rutgers University

This session will use actual artifacts and video clips of teachers reflecting on their students work in an effort to uncover meaningful approaches to professional development. The overarching goal is to help teachers build a deeper understanding of their students' thinking and build instruction based upon that goal.

Session 28

Salon G

Salon F

Using Audio-analysis Reveals Ineffective Practice to Teachers

Ann R. Taylor, Southern Illinois University Edwardsville Barbara O'Donnell, Southern Illinois University Edwardsville

What if what you think you are doing, is not really what you are doing? If your practice is partially hidden by current beliefs and you are reflecting on perceived practice, then no amount of reflection works. How can teachers find their current practice, making their reflection effective? Audio analysis.

Session 29

Using the History of Mathematics in the Classroom: A Meaningful Addition or Fanciful Fluff?

Kathleen Clark, University of Maryland

I will present a preliminary research endeavor investigating the impact of a history of mathematics course on student attitudes. I will also share three other plans for investigating the use of biographical and cultural information, as well as authentic historical problems in the mathematics classroom. Participant feedback is appreciated!

Friday, 11:15 a.m.-12:15 p.m.

Session 30

Salon C

Collaboration Around Lesson Study: Guiding Preservice Mathematics Teachers Toward Student Higher-level Thinking and Conceptual Understanding

Dianne K. Erickson, Oregon State University Molly Taylor Beauchman, Oregon State University Margaret L. Niess, Oregon State University

Can lesson study be incorporated in a preservice teacher preparation program? How can peer collaboration around planning, implementing and reflecting on teaching mathematics lessons support student teacher development? This symposium highlights results and implications of engaging mathematics student teachers in teams during a field-based practicum.

Session 31

Salon F

Coaching Teachers in Their Classrooms to Implement Reform Mathematics

Jo Clay Olson, University of Colorado-Denver Jeffrey E. Barrett, Illinois State University Nicole Williams, Illinois State University

Within a systemic change project focused on developing children's mathematical thinking, teachers struggled to implement an investigative curriculum (TERC). Coaching teachers to evoke their pedagogical curiosity prompted teachers to predict students' responses to rich tasks. Using their predictions, teachers extended students' mathematical reasoning.

Session 32

Salon G

Establishing AMTE Affiliates to Promote Professional Networks of Mathematics Educators

Carol Fry Bohlin, California State University, Fresno Susan Beal, Saint Xavier University

Last year, Illinois became the first state to establish an affiliate of AMTE. Have you considered the possibility of establishing an affiliate for your state? Come learn about the advantages of being an affiliate, the procedure for doing so, and the power and potential of statewide networks of mathematics educators.

Session 33

Sierra 5-6

Hand-held Technology Use: It's Not Just for Inservice Workshops Anymore

Christine A. Browning, Western Michigan University Franklin D. Demana, The Ohio State University Doug Owens, The Ohio State University

Panel members will present a case for why modeling and reflecting on the appropriate use of hand-held technology in both content and methods courses is a necessary component of all preservice mathematics education programs, K-12. Session 34

Linking Student Performance to Graduate Studies

Nancy S. Lewis, University of Central Florida Michael Hynes, University of Central Florida Kim Lowry, University of Central Florida

This interactive working group will focus on different models that were used to track the student performance of Lockheed Martin/UCF Academy graduates in an evaluation funded by the National Science Foundation. Special attention will be given to National Science Foundation indicators of student performance.

Session 35

Salon B

Salon A

Meeting the Challenges: Designing and Implementing a Post-Baccalaureate Program for Mathematics and Science Teachers

John Lannin, University of Missouri-Columbia Fran Arbaugh, University of Missouri-Columbia

This session focuses on the challenges faced as alternative certification programs attempt to meet teacher shortages when recruiting candidates, satisfying licensure requirements, and achieving quality teacher preparation.

Session 36

Balboa 1-2 Baform Teaching Via th

Promoting Successful Mathematics Reform Teaching Via the Internet: Mathematics Online Support for Teachers (MOST)

Marilyn Strutchens, Auburn University W. Gary Martin, Auburn University

A distance learning professional development system designed to improve high school mathematics teachers' pedagogical practices for implementation of standards-based mathematics programs will be discussed. Participants will analyze vignettes and sessions from the system.

Session 37

Salon H

Spending Time in Elementary Schools: Lessons Learned and Impact on Content/Methods Courses Taught

Pamela J. Wells, Grand Valley State University David Coffey, Grand Valley State University

Speakers will describe how continuing interaction with elementary school students and practicing teachers at a variety of grade levels enriches their theoretical understanding and leads to improved teaching and improved student learning in combined content and methods courses for prospective elementary teachers.

Session 38

Salon E

Teachers for a New Era at Michigan State University

Karen D. King, Michigan State University Sharon Senk, Michigan State University

During this working session, participants will learn about the Carnegie Corporation program Teachers for a New Era as being implemented at Michigan State University. As part of this project, the speakers will present a draft of teacher knowledge standards organized around the mathematical habits of mind that prospective teachers should develop during their five-year teacher preparation program.

Lunch, 12:15-1:30 p.m. in the Rio Vista Pavilion

NOTES

Overview of Friday Afternoon

	1:40-3:10 p.m.	3:30-4:30 p.m.
Balboa 1-2	Incorporating Digital Cameras into Mathematics	Implementing Performance-Based Technology Standards in
	Education Courses and K-12 ClassroomsSharp, Cory,	Mathematics Education CoursesHarper, Driskell
	Sharp	
Salon A	Professional Development through Examination of	Preservice Elementary Teachers' Beliefs About Mathematics
	Student Work on Performance AssessmentsBecker	Lester, Kapusuz, Kloosterman, McCormick
Salon B	Mathematician and Mathematics Teacher Educators	Talking the Talk: Focusing on VocabularyGay, Lucas
	Working Together to Improve K-12 Mathematics	
	EducationJacobs, Novak, Price, Swift	
Salon C	What are the Big Ideas of Early Algebra? What We	What Implications Do Standards-based Middle Grades Math
	Have Learned by Examining Cases of Children's	Curricula Have for Teacher Training?Billstein
	Mathematical ThinkingBastable	
Salon E	Thinking Through a Lesson: Collaborative Lesson	Diagnostic Teacher Assessments for Middle Grades Mathematics
	Planning as a Means for Improving the Quality of	TeachersBush, Karp, McGatha, Ronau, Thompson
	TeachingSmith, Bill	
Salon F	The Mathematical Tasks Framework: A Guideline for	Enhancing Pre-service Teachers' Knowledge of Abstract Algebra
	Lesson Planning and ReflectionHughes, Boston	through Peer Collaboration: Does This Impact Their Teaching of
		Secondary Mathematics?Fukawa-Connelly, Howell, Marshall
Salon G	Cabri Geometry Invades the World of the TI-83 Plus	Involving Preservice and Inservice Teachers in Professional
	West	Development School-based Professional Development - The
		LINKAGES ProjectFennell, Rowan
Salon H	Professional Development Activities for an Integrated	Experiences of Mathematicians Trying to Become More
	Group of Preservice, Middle and High School Teachers,	Knowledgeable about The Mathematical Education of Teachers
	and College and University FacultyMitchell, Klein	Oliver, McGrath, Myers, Warfield
Sierra 5-6	Learning From Each Other: Syllabus Exchange	Lesson Study through a Mathematics LensHood, Easterday
	Watanabe, Taylor	

Please see session descriptions on following pages.

Judith E. Jacobs Lecture 5:00-6:30 p.m., Salon E

Dinner	
Dimici	
6:30-8:00 p.m., Rio Vista Pavilion	

Friday, 1:40-3:10 p.m.

Session 39

Cabri Geometry Invades the World of the TI-83 Plus

Stephen F. West, SUNY College at Geneseo

Cabri JuniorTM, Cabri GeometryTM's younger sibling, makes the power of interactive geometry available on the TI-83 Plus. Beginning with simple applications and progressing towards more advanced techniques, this hands-on workshop will illustrate the use of this tool to explore and discover theorems of Euclidean and analytic geometry.

Session 40

Balboa 1-2

Salon G

Incorporating Digital Cameras into Mathematics Education Courses and K-12 Classrooms

Brian Sharp, University of Virginia Beth Cory, University of Virginia Denesa Sharp, Greer Elementary School

Digital cameras offer an exciting, affordable method for incorporating pictures into the mathematics classroom. During this hands-on session, participants will acquire, download, and manipulate digital images. We will also describe how we use digital cameras in our mathematics education courses and discuss lessons conducted with elementary students.

Session 41

Sierra 5-6

Learning From Each Other: Syllabus Exchange

Tad Watanabe, Penn State University P. Mark Taylor, University of Tennessee

This session provides an opportunity for the participants to share and discuss syllabi from their own courses. We will discuss the goals of the course, assignments, class activities, assessments, and any challenges and difficulties we face. Participants are encouraged to bring several copies of syllabi to share with others.

Session 42

Salon B

Mathematician and Mathematics Teacher Educators Working Together to Improve K-12 Mathematics Education

Judith E. Jacobs, California State Polytechnic University, Pomona

Jodie Novak, University of Northern Colorado

Jack Price, California State Polytechnic University, Pomona Randall J. Swift, California State Polytechnic University, Pomona

This team of two mathematics teacher educators and two research mathematicians has been working together to improve the mathematics education of teachers. In the spirit of the MET document, we will describe how each has benefited from being a part of this team. Among the topics related to this partnership that will be explored with the audience are the first steps for a research mathematician, the increasing responsibilities for a mathematicians, and appropriate field experiences for mathematicians.

Session 43

Salon H

Professional Development Activities for an Integrated Group of Preservice, Middle and High School Teachers, and College and University Faculty

Karen Mitchell, Marshall University Thomas J. Klein, Marshall University

This workshop will examine the ways that conferences, workshops, short courses, and professional development teams can be used to provide integrated professional development for preservice, middle and high school mathematics teachers and university and college faculty involved with mathematics teacher preparation.

Session 44

Salon A

Salon F

Salon E

Professional Development through Examination of Student Work on Performance Assessments

Joanne Rossi Becker, San Jose State University

We are using examination of student work on performance-based assessments for professional development in low-performing high schools. Participants will experience the process of examining 9th grade student work to determine what students do and do not understand and to make suggestions for instructional and curricular changes to improve performance.

Session 45

The Mathematical Tasks Framework: A Guideline for Lesson Planning and Reflection

Elizabeth K. Hughes, University of Pittsburgh Melissa Boston, University of Pittsburgh

The Mathematical Tasks Framework (MTF) models the progression of a task through an instructional episode. This session will engage participants in activities we have used with pre-service teachers that are designed to identify how the MTF provides a guideline for thinking about both the planning of and reflection on lessons.

Session 46

Thinking Through a Lesson: Collaborative Lesson Planning as a Means for Improving the Quality of Teaching

Margaret S. (Peg) Smith, University of Pittsburgh Victoria Bill, University of Pittsburgh

This session will focus specifically on lesson planning as a means for helping teachers develop knowledge central for teaching – knowledge of mathematics, pedagogy, and students as learners of mathematics. Videotapes of planning sessions and lesson plans produced by teachers who participated in planning sessions will be shared and discussed.

Session 47

Salon C

What are the Big Ideas of Early Algebra? What We Have Learned by Examining Cases of Children's Mathematical Thinking

Virginia Bastable, Mount Holyoke College

In this interactive session, we will examine video and print cases of elementary-aged students' mathematical thinking to develop an understanding of key ideas of early algebra, discuss teacher roles that support such algebraic thinking, and examine what pre- and in-service teachers need to understand in order to enact such roles.

Friday, 3:30-4:30 p.m.

Session 48

Diagnostic Teacher Assessments for Middle Grades Mathematics Teachers

William S. Bush, University of Louisville Karen Karp, University of Louisville Maggie McGatha, Northern Kentucky University Robert Ronau, University of Louisville Charles Thompson, University of Louisville

The University of Louisville Center for Research in Mathematics and Science Teacher Development developed four diagnostic assessments for middle school mathematics teachers. Speakers will describe how the assessments were developed, share sample assessment items, and explain how they might be used for research and in teacher education and professional development.

Session 49

Salon F

Salon E

Enhancing Pre-service Teachers' Knowledge of Abstract Algebra through Peer Collaboration: Does This Impact Their Teaching of Secondary Mathematics?

Timothy P. Fukawa-Connelly, The University of Maryland Kadian Howell, The University of Maryland Anne Marie Marshall, The University of Maryland

The presenters will discuss experiences in preparing and participating in an undergraduate Abstract Algebra course (intended for pre-service teachers) from the perspectives of both teachers and students. The course was presented in a Standards-oriented style. The presenters believe this pedagogy will have implications for secondary teaching and learning of mathematics.

Session 50

Salon H

Experiences of Mathematicians Trying to Become More Knowledgeable about The Mathematical Education of Teachers

Dale Oliver, Humboldt State University Lynn McGrath, University of San Diego Perla Myers, University of San Diego Ginger Warfield, University of Washington

PMET (Preparing Mathematicians to Educate Teachers) is a nationwide project of the Mathematical Association of America. The panelists will discuss ways in which their participation in the project workshops has helped them in their teaching and in their thinking more deeply about issues in the mathematical education of teachers.

Session 51

Balboa 1-2

Implementing Performance-Based Technology Standards in Mathematics Education Courses

Suzanne R. Harper, Miami University Shannon Driskell, University of Dayton

We want preservice teachers to select software for its relevance, effectiveness, alignment with the NCTM standards; as well as, plan and design effective learning environments. In this session, we would like to share some of our tasks/projects that are aligned with national technology standards, and show examples of students' work. Session 52

Salon G

Sierra 5-6

Salon A

Salon B

Salon C

Involving Preservice and Inservice Teachers in Professional Development School-based Professional Development - The LINKAGES Project

Francis (Skip) Fennell, McDaniel College Tom Rowan, University of Maryland

This session presents a description and an analysis of a project that involved mathematics teams from four Professional Development Schools. Each team, guided by mathematics leaders, conducted a needs assessment, developed a blueprint for meeting school-based needs, implemented its plan, and completed a building based assessment of its blueprint. Pre-service teachers were involved in the professional development aspect of the project and assisted in implementing school-based blueprints.

Session 53

Lesson Study through a Mathematics Lens

Gail Hood, LessonLab

Joan Easterday, Sonoma County Office of Education

Lesson study brings teachers together to improve student learning. The authors have developed an online, video-based, interactive course to guide teachers through the lesson study journey. The session includes hands-on activities, clips of teachers engaging in lesson study, and discussions on using the course to start a lesson study group.

Session 54

Preservice Elementary Teachers' Beliefs About Mathematics

Frank Lester, Indiana University, Bloomington Ayfer Kapusuz, Indiana University, Bloomington Peter Kloosterman, Indiana University, Bloomington Kelly McCormick, Indiana University, Bloomington

During this session, we focus on three questions: What conceptions of mathematics and of mathematics teaching and learning do elementary preservice teachers bring to teacher education programs? What mathematics beliefs do nontraditional students bring? What does taking more mathematics mean for preservice teachers' beliefs about mathematics and teaching mathematics?

Session 55

Talking the Talk: Focusing on Vocabulary

Susan Gay, University of Kansas Carol Lucas, University of Central Oklahoma

Strategies, resources, and examples will be presented that have helped preservice teachers in methods courses improve their mathematical vocabulary as well as develop their students' conceptual understanding. Participants will share experiences of misuses of mathematics vocabulary and explore how strategies and other techniques could help overcome these misunderstandings.

Session 56

What Implications Do Standards-based Middle Grades Math Curricula Have for Teacher Training?

Rick Billstein, The University of Montana

This session will discuss how a new NSF-funded middle school curriculum is different from a traditional middle-grades math curriculum and in turn how the preparation of future teachers must be changed to prepare teachers to teach this type of curriculum.

Friday, 5:00-6:30 p.m. Judith E. Jacobs Lecture

Session 57

Salon E

The Role of Mathematics Teacher Education: Reform or Enculturation?

Thomas J. Cooney, University of Georgia (emeritus)

What do different stakeholders such as teachers, parents, students, and administrators bring to the enterprise of mathematics teacher education? These perspectives combined with professional statements such as the NCTM Standards, society's expectations for education more generally, and past scholars' views on education contribute to a climate that also helps define the role of mathematics teacher education. Do these various perspectives define a role that leads to reform or to enculturation? Issues and tensions in defining the role of mathematics teacher education will be addressed.

Dinner, 6:30-8:00 p.m. Rio Vista Pavilion

Browsing Room Santa Fe 3-4

Open Friday and Until Noon on Saturday

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Overview of Saturday Morning

	8:00-9:30 a.m.	9:50-10:20 a.m.	10:30-11:00 a.m.	11:15 a.m12:15 p.m.
Balboa 1-2	Using Video Examples of Children's Mathematical Thinking to Explicate, Compare, and Critique Processes and Goals of Content and Pedagogy InstructorsPhilipp, Bezuk, Clement, Justeson, Thanheiser, Wiles	Guiding Preservice Teachers' Development of a Technology- enhanced Pedagogical Content Knowledge for Teaching Mathematics Niess	Mathemagica: K-8 Online Professional Development in Mathematics Using Web- based Interactive Tools Masalski	International Perspectives: TIMSS Video Studies, Exploring Algebra TeachingKuni, Seago
Salon A	Using Mathematical Modeling in the Methods ClassWard, McCrone, Van Cleave	Capturing the Complexity of Teacher Development: Two CasesNickerson, Moriarty	Assessing Geometric Reasoning in a Mathematics Content Course for Preservice Elementary Teachers Spencer, Flowers, Krebs	Integrating the Thinking of Middle Grades Students into a Mathematics Methods CourseRubenstein, Beckmann, Chappell, Preston, Thompson
Salon B	Algebra Knowledge for Teaching at the Secondary Level: Implications for Teacher PreparationSenk, Romagnano, Sowder	Lessons Learned From a Three-year Statewide Mathematics and Science Professional Development Program Dixon	A Virtual Field Experience: Your Students and Real Kids Working Together on Problem Solving PracticeLavelle	Designing and Implementing a Conceptual Calculus Course for In- service TeachersPayne, Morris, Nickerson, Valencia
Salon C	The National Science Foundation's Directorate for Education and Human Resources Mathematics Education Portfolio Review Project: Implications for Mathematics Teacher EducationFerrini-Mundy, Earle, Floden	Supporting Change in Secondary Mathematics Classrooms: An Environment for New Teachers to Grow Mikusa, Melillo	Professional Development and Curriculum Alignment Impacts Student Achievement and Preservice Courses McGehee	Lessons Learned from a Three-Year Secondary Mathematics Lesson Study ProjectMcGraw, Brown, Lynch
Salon E	How Can We Do It All? The Dilemmas of Preparing Preservice Mathematics Teachers to Work in Diverse SettingsMasarik, Elliott, Lenges, Stimpson	Reading in the Content Area: A Mathematics Specific Course ExampleThompson	Integrated Mathematics and Science Teacher Education Courses: A Modeling Perspective Zawojewski	Back in the Classroom Again! Math Educators Hit the K-12 TrailBassarear, Bohlin, Brahier
Salon F	Developing and Supporting Teachers to Take Leadership in Mathematics Professional DevelopmentMumme, Carroll	Reflections of a Professional Development Journey: Learning From the Potholes We Encountered	Preparing Experienced Teachers, Certified in an Area Other than Mathematics, to Teach Mathematics in the Middle GradesWolff, Munakata	Helping Prospective Elementary Teachers Use Whole-class and Individual Assessments to Enhance Children's Mathematics UnderstandingFeiler, Bezuk
Salon G	Performance Assessment Models for Teacher PreparationSchrock, O'Neal	Connecting Teaching Preparation and Practice Through a Virtual Mentoring Program Bowers	A Collaborative Redesign of Mathematics and Methods Courses for Preservice Elementary TeachersSmith, Harrell	Assessing Pedagogical Content Knowledge of Preservice / Inservice K-8 Teachers: Implications for InstructionLubinski, Fox, Jaberg
Salon H	Approaches to Teaching Mathematics Content for Elementary TeachersWarfield, Hutchison, Mau, Otto	Incongruities and Constraints: Reconciling University and K-12 Classroom Practices Atkins, Perry	Creating a Doctoral Program in Mathematics Education from Scratch (With the Help of AMTE!)Klespis, Scott	Starting a NCTM Student Affiliate: The Power of CommunityWilliams, Henn, Speer
Sierra 5-6	Integrating Handheld Technology into the Elementary/Middle School Mathematics Classroom: Concerns and SuggestionsOlson, Olson	Research and Instruction in Dialogue: Exploring the Use of Reform- Oriented Curriculum Materials with Prospective Elementary TeachersLloyd	Comparing Face-to-face and WebCT Delivery of a Math Methods Course Menon	Bringing a Problem Solving View to the Mathematical Preparation of K-12 Teachers and the Work of Collaborative Design TeamsHuinker, Kepner, O'Malley

Please see session descriptions on following pages.

Lunch 12:15-1:30 p.m., Rio Vista Pavilion

Saturday, 8:00-9:30 a.m.

Session 58

Algebra Knowledge for Teaching at the Secondary Level: Implications for Teacher Preparation

Sharon Senk, Michigan State University

Lew Romagnano, The Metropolitan State College of Denver Judy Sowder, Center for Research in Mathematics & Science Education

What knowledge of algebra for teaching do secondary school teachers of algebra draw upon to support their instruction? The session will present the work of a research project focused on this question including a framework for thinking about the answer and some examples to illustrate possible assessment items.

Session 59

Salon H

Salon B

Approaches to Teaching Mathematics Content for Elementary Teachers

Janet Warfield, Illinois State University Elaine Hutchison, UW-Stevens Point Sue Mau, Indiana University-Purdue University Fort Wayne Albert Otto, Illinois State University

Speakers will describe three innovative mathematics content courses for pre-service elementary teachers. Ample time will be allowed for audience members to share information about their content courses and to interact with the presenters.

Session 60

Salon F

Developing and Supporting Teachers to Take Leadership in Mathematics Professional Development

Judy Mumme, WestEd Cathy Carroll, WestEd

Many of us are called upon to help support the development of teachers in leadership roles. What are the skills and sensibilities these leaders require? What principles guide our work in helping leaders acquire these? Using videocases of professional development as stimuli, we will consider the issues and challenges involved.

Session 61

Salon E

How Can We Do It All? The Dilemmas of Preparing Preservice Mathematics Teachers to Work in Diverse Settings

Kate Masarik, San Diego State University Rebekah Elliott, University of Washington Anita Lenges, University of Washington Virginia Stimpson, University of Washington

Incorporating the experiences of the presenters and participants, and incorporating research, we will conceptualize a set of principles that capture the complexities of teaching (content knowledge, pedagogy, sociological) and discuss criteria used to support preservice teachers' development. We will examine how these ideas influence the learning experiences in methods courses.

Session 62

Sierra 5-6

Integrating Handheld Technology into the Elementary/Middle School Mathematics Classroom: Concerns and Suggestions

Judith Olson, Western Illinois University Melfried Olson, Western Illinois University

Many elementary and middle school preservice and inservice teachers are reluctant to fully integrate handheld technology into their mathematics classrooms. Surveys and conversations with teachers present us with possible reasons for this. This session will provide ideas, activities, issues, and discussion related to integrating handheld technology into the elementary/middle school classroom.

Session 63

Performance Assessment Models for Teacher Preparation

Connie S. Schrock, Emporia State University Judy O'Neal, North Georgia College & State University

This session focuses on performance assessment components of two methods/pedagogy models for pre-service and in-service teachers. The pre-service component outlines a university campus PDS that engages secondary and middle grades methods students in teaching trigonometry and algebra. The inservice component describes a yearlong, sustained contact model for 7-12 mathematics teachers.

Session 64

Salon C

Salon G

The National Science Foundation's Directorate for Education and Human Resources Mathematics Education Portfolio Review Project: Implications for Mathematics Teacher Education

Joan Ferrini-Mundy, Michigan State University Janice Earle, National Science Foundation Robert Floden, Michigan State University

NSF has convened a panel to undertake a review of the EHR mathematics education "portfolio" for relevance, quality, and performance over the past eight years, and to provide recommendations for the future. Panel members will describe the goals, methodologies, and findings. Professional organizations have formed "external resource groups" (ERGs); we will discuss ERG questions related to mathematics teacher education.

Session 65

Salon A

Using Mathematical Modeling in the Methods Class

Ronald A. Ward, Western Washington University Sharon McCrone, Illinois State University Martha Van Cleave, Linfield College

Speakers will share examples of mathematical modeling problems they have utilized with prospective elementary, middle school, and secondary teachers. There will also be discussion of the appropriate role of modeling within the methods class, as well as feedback from several of the MAA's PREP Workshops on mathematical modeling.

Session 66

Balboa 1-2

Using Video Examples of Children's Mathematical Thinking to Explicate, Compare, and Critique Processes and Goals of Content and Pedagogy Instructors

Randy Philipp, San Diego State University Nadine Bezuk, San Diego State University Lisa Clement, San Diego State University Debbie Justeson, Grossmont Community College Eva Thanheiser, San Diego State University Peter Wiles, University of Arizona

In this working session, video examples of children's mathematical thinking will be the focus for discussion of processes and goals of instructors of mathematics content courses, mathematics methodology courses, and other education courses for prospective elementary school teachers. These instructors will share data from using video clips with their students.

Saturday, 9:50-10:20 a.m.

Session 67

Salon A

Capturing the Complexity of Teacher Development: Two Cases

Susan Nickerson, San Diego State University Gail Moriarty, San Diego State University

We report on a three-year longitudinal case study of two teachers' changing instructional practice. The teachers participated in intensive professional development, including 12 units of coursework, shared daily professional development time, and coaching. Both teachers developed better understanding of mathematics, but their practiced developed through different lenses.

Session 68

Salon G

Connecting Teaching Preparation and Practice Through a Virtual Mentoring Program

Janet Bowers, San Diego State University

This session will describe an Internet-based mentoring program that placed prospective teachers and master's level teacher educators in the role of mathematics mentors for a class of sixthgrade students. Implications for teacher education (i.e., the intellectual growth of the mentors) will be discussed.

Session 69

Balboa 1-2

Guiding Preservice Teachers' Development of a Technologyenhanced Pedagogical Content Knowledge for Teaching Mathematics

Margaret L. Niess, Oregon State University

What are important features for guiding the development of a pedagogical content knowledge structure that integrates mathematics, technology, and teaching/learning mathematics with technology? Examine specific teacher preparation instructional activities and expectations that integrate preparation with teaching and learning with preparation for teaching mathematics with technology.

Session 70

Salon H

Incongruities and Constraints: Reconciling University and K-12 Classroom Practices

Sandra L. Atkins, West Virginia University Jill A. Perry, Rowan University

A close examination of our K-12 and university classroom practices revealed incongruities in the ways in which we model what we encourage pre-service teachers to do in their future classrooms. In this session, participants will examine a framework for identifying constraints and corresponding rationales that lead to incongruities in practice.

Session 71

Salon B

Lessons Learned From a Three-year Statewide Mathematics and Science Professional Development Program

Juli K. Dixon, University of Central Florida

The Mathematics and Science Professional Development Program (MSPD), funded through the Florida Legislature in 2000, has provided professional development focused on content growth through appropriate pedagogy to approximately 2,500 grades 3-6 teachers each summer with follow-up during the school year. Lessons learned from this large-scale, collaborative effort will be shared. Session 72

Salon E

Salon F

Reading in the Content Area: A Mathematics Specific Course Example

Denisse R. Thompson, University of South Florida

Many states require prospective teachers to take a course on reading in the content area. This session will describe one university's experience at providing a mathematics-specific course for secondary (6-12) teachers. Samples from the course will be provided.

Session 73

Reflections of a Professional Development Journey: Learning From the Potholes We Encountered

Grace M. Benigno, University of Maryland Kathleen Clark, University of Maryland Anne Marie Marshall, The University of Maryland

We will share our journey of a professional development project involving 6th grade mathematics teachers. Reflecting on the detours and reality potholes we faced, participants will embark on a discussion on designing research based routes to professional development while yielding to the realities of classroom teaching.

Session 74

Sierra 5-6

Research and Instruction in Dialogue: Exploring the Use of Reform-Oriented Curriculum Materials with Prospective Elementary Teachers

Gwendolyn Lloyd, Virginia Tech

This session reports about recent empirical and instructional activities in a teacher education project that focuses on the use of innovative K-12 curriculum materials in mathematics content courses for prospective elementary teachers. Focus will be on the ongoing dialogue between research results and course design in this project.

Session 75

Salon C

Supporting Change in Secondary Mathematics Classrooms: An Environment for New Teachers to Grow

Michael Mikusa, Kent State University Judie Melillo, Kent State University

As secondary math educators we are always concerned with the placement of our student teachers as well as the growth of our recent graduates. Because of this concern we developed a model for mentor/novice teacher pairs. We will share the purpose, activities, and conclusions from two recent professional development grants.

Saturday, 10:30-11:00 a.m.

Session 76

A Collaborative Redesign of Mathematics and Methods Courses for Preservice Elementary Teachers

Nancy Smith, Emporia State University Marvin Harrell, Emporia State University

In this session, the speakers will share their experiences in redesigning courses for preservice elementary teachers. This redesign included alignment with state and national standards, the use of hands-on activities, and a portfolio containing performance-based assessments in content and methods courses. Samples of this work will be shared and discussed.

Session 77

Salon B

Salon G

A Virtual Field Experience: Your Students and Real Kids Working Together on Problem Solving Practice

Lisa Lavelle, The Math Forum @ Drexel

The virtual field experience allows preservice teachers to develop and enhance their teaching skills. While typical classroom interactions take place with minimal time for reflecting on mathematics and student-teacher interactions, this asynchronous environment lets students refine questioning skills, receive advice, and examine diverse problem solving responses from K-12 students.

Session 78

Salon A

Assessing Geometric Reasoning in a Mathematics Content Course for Preservice Elementary Teachers

Joseph Spencer, Aquinas College Judith Flowers, University of Michigan-Dearborn Angela S. Krebs, University of Michigan-Dearborn

The presenters, mathematics educators and a mathematician, will discuss their collaborative work in developing, teaching, and assessing courses for preservice elementary teachers. The courses use Standards-based elementary and middle school texts. Classroom video examples and longitudinal assessment plans will be shared.

Session 79

Sierra 5-6

Comparing Face-to-face and WebCT Delivery of a Math Methods Course

Ramakrishnan Menon, California State University Los Angeles

Five middle school math methods sections were taught by the same instructor, using different modes of delivery: 3 were faceto-face, and 2 were via WebCT (1 being 90% online, and the other, 50% online). Feedback from students and their performance on an identical final exam will be discussed.

Session 80

Salon H

Creating a Doctoral Program in Mathematics Education from Scratch (With the Help of AMTE!)

Mark Klespis, Sam Houston State University Jan Scott, Sam Houston State University

This session will describe the (somewhat rocky) process by which the Department of Mathematics and Statistics at Sam Houston State University created, and received approval for, a doctoral program in mathematics education. The design of the program was heavily influenced by AMTE's guidelines for doctoral programs. Session 81

Salon E

Balboa 1-2

Integrated Mathematics and Science Teacher Education Courses: A Modeling Perspective

Judith Zawojewski, Illinois Institute of Technology

Modeling is an approach to integrated mathematics and science education courses that transcends the differences in beliefs and ideas about teaching and learning in the two disciplines preparing prospective teacher to make important decisions related to teaching mathematics and science for the 21st century.

Session 82

Mathemagica: K-8 Online Professional Development in Mathematics Using Web-based Interactive Tools

William J. Masalski, University of Massachusetts

Mathemagica, a USDoE-funded initiative by the Jason Foundation for Education, is changing teaching/learning practices in elementary and middle schools through online professional development with Web-based interactive tools for exploring mathematics. Mathemagica's goals include deepening teachers' understanding of mathematics and encouraging and supporting classroom uses of technology for mathematics learning.

Session 83

Salon F

Salon C

Preparing Experienced Teachers, Certified in an Area Other than Mathematics, to Teach Mathematics in the Middle Grades

Kenneth C. Wolff, Montclair State University Mika Munakata, Montclair State University

A partnership between Montclair State University and several urban school districts is described. Experienced teachers complete a series of five NCTM standards based courses that may be applied to a new master's degree. Seventy-five teachers are participating in the program, which is funded through a \$2.5 million state grant.

Session 84

Professional Development and Curriculum Alignment Impacts Student Achievement and Preservice Courses

Jean McGehee, University of Central Arkansas

When the ultimate goal of a professional development project is student learning and achievement, the results are a comprehensive project that not only changes teacher practice and knowledge, but also affects the way teacher educators organize preservice courses. See how the documented results impact both the inservice and preservice teachers.

Saturday, 11:15 a.m.-12:15 p.m.

Session 85

Assessing Pedagogical Content Knowledge of Preservice / Inservice K-8 Teachers: Implications for Instruction

Cheryl A. Lubinski, Illinois State University Thomas Fox, University of Houston-Clear Lake Patricia A. Jaberg, Mount Mary College

We will describe how we developed and utilized an instrument for assessing preservice / inservice teachers' knowledge about pedagogy, content, and curriculum as connected to mathematics instruction in grades K-8.

Session 86

Salon E

Salon G

Back in the Classroom Again! Math Educators Hit the K-12 Trail

Tom Bassarear, Keene State College Carol Fry Bohlin, California State University, Fresno Daniel Brahier, Bowling Green State University

The speakers have recently taught mathematics in K-12 classrooms and look forward to sharing their experiences, the reactions of the students, positive outcomes, challenges faced, and ways to initiate such an experience. The speakers will engage the audience in a discussion of this valuable professional development experience for professors.

Session 87

Sierra 5-6

Bringing a Problem Solving View to the Mathematical Preparation of K-12 Teachers and the Work of Collaborative Design Teams

DeAnn Huinker, University of Wisconsin-Milwaukee Henry Kepner, University of Wisconsin-Milwaukee Richard O'Malley, University of Wisconsin-Milwaukee

What do future teachers learn by attacking a problem? How do they develop the habits of a mathematical thinker? We will examine characteristics and use of problems in content courses for preservice teachers and describe the work of collaborative design teams comprised of mathematicians, mathematics educators, and teachers.

Session 88

Salon B

Designing and Implementing a Conceptual Calculus Course for In-service Teachers

Karen Payne, San Diego State University Kim Morris, San Diego Unified School District Susan Nickerson, San Diego State University Jocelyn Valencia, San Diego Unified School District

Overview of a 3-unit course focusing on conceptual understanding of fundamental calculus ideas will be shared from instructor, teacher as student, and university math department perspectives. Participants will engage in class activities dealing with instantaneous rate of change and area under a curve. Session 89

Salon F

Helping Prospective Elementary Teachers Use Whole-class and Individual Assessments to Enhance Children's Mathematics Understanding

Rachelle Feiler, San Diego State University Nadine Bezuk, San Diego State University

This session will describe components of an elementary mathematics methods course designed to help prospective elementary teachers use a variety of techniques to assess children's mathematics understanding. Sample course assignments and assessments will be distributed, and selected samples of prospective teachers' work will be shared.

Session 90

Salon A

Balboa 1-2

Salon C

Salon H

Integrating the Thinking of Middle Grades Students into a Mathematics Methods Course

Rheta N. Rubenstein, University of Michigan-Dearborn Charlene Beckmann, Grand Valley State University Michaele Chappell, Middle Tennessee State University Ron Preston, East Carolina University Denisse R. Thompson, University of South Florida

Presenters will provide a rationale for the inclusion of the thinking of students in a methods course and three strategies for doing so: interviews, samples of student work showing multiple representations and strategies, and samples of student work showing misconceptions. Discussants will reflect on how these worked in their classes.

Session 91

International Perspectives: TIMSS Video Studies, Exploring Algebra Teaching

Paige Kuni, Intel® Innovation in Education Nanette Seago, San Diego State University

What can be learned by looking into classrooms around the world? Explore key teaching strategies from a unique online course that pulls lessons from the TIMSS Video Studies to help improve algebra instruction and student learning. This course can be used by preservice teachers to help prepare prospective teachers with pedagogical content strategies from other countries.

Session 92

Lessons Learned from a Three-Year Secondary Mathematics Lesson Study Project

Rebecca McGraw, University of Arizona Catherine A. Brown, Indiana University, Bloomington Kathleen Lynch, Appalachian State University

Presenters will discuss their experiences as participants in a 3-year long effort to implement lesson study as a form of professional development for secondary mathematics teachers. Participants in this session will analyze the benefits and the difficulties of lesson studies that involve both teachers and university faculty and students.

Session 93

Starting a NCTM Student Affiliate: The Power of Community

W. Virginia Williams, National Council of Teachers of Mathematics Joan Henn, Eastern Illinois University William Speer, University of Nevada, Las Vegas

The session will highlight the benefits to be gained by all stakeholders (student, university, community, and profession) by establishing a student Affiliate of NCTM. Important tips for forming a new student Affiliate and for supporting an existing Affiliate will be shared.

Lunch, 12:15-1:30 p.m. in the Rio Vista Pavilion

NOTES

Overview of Saturday Afternoon

	1:40-2:40 p.m.
Balboa 1-2	Using Cases to Prepare Secondary Mathematics TeachersEnderson, Manouchehri
Salon A	Changing Practice Through AssessmentKlass, Moriarty
Salon B	Designing and Assessing Mathematical ProjectsAddressing the NCATE
	Performance StandardsWanko, Harper, Johnson
Salon C	Assigning Preservice Teachers in Field Experiences to Share Findings from
	Mathematics Task-Based Interviews With the Children's TeachersLambdin,
	Essex, McCormick, Oster
Salon E	Expanding the Role of Technology: Enhancing Teaching, Learning, and
	Assessment With TechnologyDemana, Bellman, Zbiek
Salon F	An Introduction to Korean Mathematics Through Geometry, Grades 1-6Beal,
	Grow-Maienza
Salon G	Effective Assessment of Field Experiences: Frameworks and Tools for Supporting
	Pre-service Teachers' PerformanceBay-Williams, Allen, Hancock
Salon H	Ranking Doctoral Programs in Mathematics Education: A Worthwhile or
	Worthless EnterpriseReys, Ferrini-Mundy, Kilpatrick
Sierra 5-6	Learning Through Teaching Practice in a Secondary Methods ClassHembree,
	Findell

Please see session descriptions on following pages.

CLOSING SESSION 3:00-3:45 p.m., Salon E

AMTE Business Meeting 3:45-4:30 p.m., Salon E

Saturday, 1:40-2:40 p.m.

Session 94

Salon F

An Introduction to Korean Mathematics Through Geometry, Grades 1-6

Susan Beal, Saint Xavier University Janice Grow-Maienza, Truman State University

The Korean Mathematics curriculum is concise, coherent and focused on the conceptualization of a few important constructs. It makes explicit connections to fundamental mathematical principles. The presenters will discuss some of the highlights of the geometry curriculum, grades 1-6, and how it has been used with in-service teachers in Missouri and with pre-service teachers in Illinois.

Session 95

Salon C

Assigning Preservice Teachers in Field Experiences to Share Findings from Mathematics Task-Based Interviews With the Children's Teachers

Diana V. Lambdin, Indiana University, Bloomington Kathy Essex, Indiana University, Bloomington Kelly McCormick, Indiana University, Bloomington Christine Oster, Childs Elementary School and Indiana University

University field-experience students gain insights into children's mathematical thinking through task-based interviews and cooperating teachers appreciate the resulting case studies of their pupils' strengths and weaknesses. This work session will introduce participants to interviewing protocols developed by Kathy Richardson (2002) and encourage discussion about these sorts of field experience assignments.

Session 96

Salon A

Changing Practice Through Assessment

Steve Klass, San Diego State University Gail Moriarty, San Diego State University

San Diego State University, in collaboration with San Diego City Schools, offers an Elementary Mathematics Specialist Certificate program. Some results of work with teachers show that as teachers think more deeply about student math content understanding, they must also look more deeply at their own understanding.

Session 97

Salon B

Designing and Assessing Mathematical Projects--Addressing the NCATE Performance Standards

Jeffrey J. Wanko, Miami University Suzanne R. Harper, Miami University Iris DeLoach Johnson, Miami University

With NCATE and ISTE standards asking for evidence of student performance and portfolio-type entries, teacher educators are having to create and assess new meaningful mathematical tasks. We will share our ideas for content, pedagogy, and technology projects; show examples of student work; and discuss appropriate assessment techniques. Session 98

Salon G

Effective Assessment of Field Experiences: Frameworks and Tools for Supporting Pre-service Teachers' Performance

Jennifer M. Bay-Williams, Kansas State University David Allen, Kansas State University Melisa Hancock, Manhattan/Ogden School District

Session presenters will briefly share frameworks and tools they have successfully used to assess and promote self-assessment of pre-service teacher field experiences. Working groups will exchange additional techniques they have developed and will develop new ideas. All strategies will later be compiled and sent to participants.

Session 99

Salon E

Sierra 5-6

Salon H

Balboa 1-2

Expanding the Role of Technology: Enhancing Teaching, Learning, and Assessment With Technology

Franklin D. Demana, The Ohio State University Allan Bellman, University of California at Davis Rose Mary Zbiek, Penn State University

New emerging technologies permit classrooms of graphing handhelds to be networked and used to provide students with immediate feedback on their work. In addition, Applications designed for handhelds allow teachers to control the use of computer algebra by their students and practice techniques important on standardized examinations.

Session 100

Learning Through Teaching Practice in a Secondary Methods Class

Dennis Hembree, University of Georgia Bradford R. Findell, University of Georgia

The session will engage participants in grounded discussions of the following questions: What knowledge do secondary mathematics teachers need? And how might they come to know it? The discussions will center around activities used with preservice and inservice teachers and their responses to those activities.

Session 101

Ranking Doctoral Programs in Mathematics Education: A Worthwhile or Worthless Enterprise

Robert Reys, University of Missouri Joan Ferrini-Mundy, Michigan State University Jeremy Kilpatrick, University of Georgia

This session will be devoted to discussing the changing nature of doctoral programs and the challenges of ranking doctoral programs in mathematics education, including some pros and cons for engaging in such an activity. Consensus on the issue is not expected.

Session 102

Using Cases to Prepare Secondary Mathematics Teachers

Mary C. Enderson, Middle Tennessee State University Azita Manouchehri, Central Michigan University

This session will present examples of work from real teaching episodes and will involve the audience in mathematical and pedagogical analysis of the cases used with preservice secondary mathematics teachers. We will discuss challenges that emerged in involving future teachers in examining case studies of learning mathematics.

Saturday, 3:00–3:45 p.m. CLOSING SESSION

Session 103

Salon E

MathematicallySane.com: Promoting Rational Discourse About Mathematics Education Reform

Ralph Connelly, Brock University W. Gary Martin, Auburn University Judy Sowder, San Diego State University Marilyn Strutchens, Auburn University

In today's frequently highly-charged climate, it is important to be able to readily share resources appropriate for a wide range of audiences. The MathematicallySane.com website seeks to serve as a central clearinghouse for information on mathematics education reform issues, such as teaching and learning, assessment, and other controversial topics. An overview of the website will be provided. Participants will also be invited to discuss possible uses for the site and potential directions for continued development.

Saturday, 3:45-4:30 p.m. AMTE Business Meeting

Session 104

Salon E

Presiding: Karen Karp, University of Louisville President, AMTE

Learn more about what AMTE is doing and how you can get involved.

Valuable door prizes will be distributed at the end of the business meeting.

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Speaker Directory

Allen, David98
Ambrose, Rebecca9, 26
Arbaugh, Fran35
Atkins, Sandra L70
Barrett, Jeffrey E
Bassarear, Tom
Bastable, Virginia
Bay-Williams, Jennifer M
2
Beal, Susan
Beauchman, Molly Taylor31
Becker, Joanne Rossi44
Beckmann, Charlene90
Bellman, Allan99
Benigno, Grace M73
Bezuk, Nadine
Bill, Victoria46
Billstein, Rick56
Bohlin, Carol Fry
Boston, Melissa
Bowers, Janet
Brahier, Daniel
Branca, Nicholas
Bremigan, Elizabeth George
Brown, Catherine A
Browning, Christine A
Bulgar, Sylvia22, 27
Bush, William S48
Calahan, Heather7
Carroll, Cathy60
Cetinkaya, Bulent1
Chamberlin, Michelle T12
Chappell, Michaele90
Clark, Kathleen
Clement, Lisa9, 66
Coffey, David
Connelly, Ralph103
Cooney, Thomas J57
Cory, Beth
Cwikla, Julie
Demana, Franklin D
Dixon, Juli K
Dowshen, Arlene L
Driskell, Shannon
Dubitsky, Barbara1
Earle, Janice64
Easterday, Joan53
Elliott, Rebekah3, 61
Enderson, Mary C102
Erickson, Dianne K
Essex, Kathy95
Feikes, David14
Feiler, Rachelle
Fennell, Francis (Skip)
Ferrini-Mundy, Joan
Fiedler, Joseph R11
Findell, Bradford R
т шасп, Бтацюта К

Finkelstein, Nancy5	
Floden, Robert64	
Flowers, Judith78	
Fox, Thomas85	
Fraivillig, Judith	
Fukawa-Connelly, Timothy49	
Gamelin, Ted7	
Gay, Susan	
Gibson, Kristin	
Glass, Brad20	
Grant, Theresa J10	
Grow-Maienza, Janice94	
Hancock, Melisa98	
Harper, Suzanne R51, 97	
Harrell, Marvin76	
Hembree, Dennis100	
Henn, Joan	
Henning, Cindy S	
Herrera, Terese A	
Hood, Gail	
-	
Howell, Kadian	
Hughes, Elizabeth K45	
Huinker, DeAnn	
Hutchison, Elaine	
Hynes, Michael	
Iskin, Joann7	
Jaberg, Patricia A85	
Jacobs, Judith E42	
Jacobs, Victoria9, 26	
Jacobs. victoria	
Johnson, Iris DeLoach97	
Johnson, Iris DeLoach97 Justeson, Debbie66	
Johnson, Iris DeLoach97 Justeson, Debbie66 Kapusuz, Ayfer54	
Johnson, Iris DeLoach	

Lowry, Kim
Lubinski, Cheryl A85
Lucas, Carol
Lynch, Kathleen
Machit, Sandi
Manouchehri, Azita
-
Marshall, Anne Marie
Martin, W. Gary
Masalski, William J82
Masarik, Kate61
Masingila, Joanna O1
Mau, Sue
McCormick, Kelly54, 95
McCrone, Sharon
McGatha, Maggie48
McGehee, Jean
McGrath, Lynn
McGraw, Rebecca
Melillo, Judie
Menon, Ramakrishnan
Mikusa, Michael75
Mitchell, Karen43
Moeller, Babette1
Molenje, Levi1
Moriarty, Gail67, 96
Morris, Kim
Mumme, Judy3, 60
Munakata, Mika
Myers, Perla50
Nickerson, Susan
Nicol, Marsha L
Niess, Margaret L
Novak, Jodie
O'Donnell, Barbara
O'Malley, Richard87
O'Neal, Judy63
Oliver, Dale50
Olson, Jo Clay30
Olson, Judith
Olson, Melfried
Oster, Christine95
Otto, Albert
Owens, Doug
Payne, Karen
Perry, Jill A70
Philipp, Randy
Pinchback, Carolyn L
Preston, Ron
Price, Jack
Reys, Robert101
Romagnano, Lew
Ronau, Robert48
Rondinone, Kathleen Miller23
Rowan, Tom52
Rubenstein, Rheta N90
Rusch, Tracy L4
- ,

AMTE Annual Meeting 2004

Schorr, Roberta Y	27
Schrock, Connie S	63
Scott, Jan	80
Seago, Nanette	3, 91
Seeley, Cathy	2
Senk, Sharon	38, 58
Sharp, Brian	40
Sharp, Denesa	40
Smith, Margaret S. (Peg)	3, 46
Smith, Nancy	76
Sowder, Judy	58, 103
Speer, William	93
Spencer, Joseph	78
Stimpson, Virginia	

Strutchens, Marilyn
Swift, Randall J42
Tartre, Lindsay23
Taylor, Ann R28
Taylor, P. Mark41
Thanheiser, Eva66
Thompson, Charles
Thompson, Denisse R72, 90
Thompson, Tony25
Valencia, Jocelyn
Van Cleave, Martha65
Wanko, Jeffrey J97
Ward, Ronald A65
Warfield, Ginger50

Warfield, Janet	59
Watanabe, Tad	41
Wells, Pamela J.	
West, Stephen F.	
Wiles, Peter	66
Williams, Carolyn C	16
Williams, Nicole	30
Williams, W. Virginia	93
Wish, Amy	22
Wolff, Kenneth C.	83
Zawojewski, Judith	12, 81
Zbiek, Rose Mary	
-	

CALL FOR PROPOSALS GOES ONLINE

Association of Mathematics Teacher Educators (AMTE) Ninth Annual Conference • January 27 - 29, 2005 Dallas Marriott Las Colinas Hotel • Dallas, TX

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: Mini-Sessions (15 minutes — repeated three times). Presenters are responsible for displaying a poster and distributing handouts detailing project overviews and updates, local and state initiatives, new courses or programs recently developed, or brief research reports of interest to mathematics teacher educators. Each mini-session will be presented in a room with 6-8 posters. During a 60-minute period, participants will have an opportunity to join in three mini-sessions.

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*.

Materials to Submit with a Proposal

Submit the following for each proposed session using the *Proposal Form* online. Refer to the *Proposal Form* for additional details.

Presenter Information: Provide information for the session contact person and all presenters (name, affiliation and position, mailing address, phone numbers, fax number, and e-mail address.)

Session Information: Indicate type of proposed format, length of session, strand, level of teacher education addressed, and equipment needs, including interest in holding your session in the Computer Room.

Session Description: Provide a descriptive title, a list of the presenters along with role (e.g., speaker, moderator, discussant, or a combination of the above), and a 30-50 word description of the session to be used in the program.

Abstract: Provide a one-page abstract of your proposed session. The abstract should describe background information on the proposed topic, evidence of its educational significance, how the session will be organized and how it will promote participant interaction (question-oriented, short presentations and discussion, position statements), and the desired outcomes of the session. Include a rationale for the type of format selected. Be sure to address the implications of the session for teacher education.

Limits on Participation

Each individual may serve as lead speaker for no more than one session and can appear no more than twice on the program.

The lead speaker/contact must personally certify that all listed presenters have confirmed their willingness to participate in the session.

ALL PRESENTERS (including speakers, moderators, and discussants) MUST BE REGISTERED FOR THE CONFERENCE.

Proposals must be submitted electronically by Tuesday, June 1, 2004

All proposals will be submitted online. The registration link will be available on the AMTE website (<u>http://www.amte.net</u>) on or before March 15.

Questions

If you have questions regarding proposal topic, format, or submission, contact the Program Chair:

Sid Rachlin, AMTE Program Chair 404 Silver Creek Trail Chapel Hill, NC 27514 Telephone: 252-328-1899 or 919-843-4119 Email: <u>rachlins@northcarolina.edu</u>

Please note that this Call for Proposals is also available on the AMTE website: www.amte.net.

Map here