

AMTE 5th Annual Conference Program Committee

Francis (Skip) Fennell, Western Maryland College; Program Chair

Tom Bassarear, Keene State (NH) College

Joe Garofalo, University of Virginia

Tom Rowan, University of Maryland – College Park

Anna Suarez, National Science Foundation

The 5th Annual AMTE Conference

Pre-Conference Sessions

Thursday

January 18, 2001

Registration	West Galleria
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Pre-Conference Workshop

1:00-5:30 PM

Executive Board Room

A Beginner's Guide to Incorporating Technology into Secondary Methods Courses

Joe Garofalo, University of Virginia

Suzanne R. Harper, University of Virginia

Hollylynne Drier, North Carolina State University

This workshop is for mathematics educators with little or no experience with technology who wish to learn some “bread and butter” technologies to incorporate into secondary methods courses. It will include introductions to *Geometer's Sketchpad*, *Excel*, and *graphing calculators*, and a discussion of ways to use them in methods courses.

Pre-Conference Symposium

6:00-9:00 PM

Lido

Principles and Standards for School Mathematics – What to do about Public Relations, Communication Avenues, etc.

Joan Ferrini-Mundy, Michigan State University
W. Gary Martin, Auburn University
Shelley Ferguson, San Diego City (CA) Public Schools

PSSM is here. Now what? Do people know about this centerpiece in mathematics education reform? Does the public understand what we are doing here? What can we all do to spread a message that is powerful, accurate, and compelling. (note: dinner break will be at 7:15 PM)

Dinner Mesa Verde

Followed by panel discussion Lido

**Friday
January 19, 2001**

Registration	West Galleria
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Continental Breakfast

7:00-8:00 AM East Galleria

Computer Room

All Day Executive Board Room

Browsing Room

All Day Monarch Bay

Conference Sessions

8:00-9:00 AM

Session 1 Executive Board Room

Increasing the Depth of Preservice Teacher Understanding of
Mathematics

Jean Marie Grant, Bradley University
Bob Wolffe, Bradley University

In this session, the presenters will demonstrate and explain the use of a CD-ROM developed for the Math for Teachers course within a preservice

elementary education program. The CD-ROM enhances the mathematical activities presented through the use of visuals and video clips.

Session 2

Mesa Verde

Cohort Models for the Preparation of Secondary Mathematics Teachers

William Fisher, California State University - Chico

Eliza Berry, California State University - Chico

Alice Artzt, Queens College of the City University of New York

Cohort models for preparing future secondary teachers of mathematics have been developed at both of these institutions. The models will be shared amid a discussion of some sample activities.

Session 3

Lido

VCR needed here

Interviewing As Assessment: Prospective Elementary Teachers Listening to Children's Mathematical Thinking

Maria A. Timmerman, University of Virginia

Cindia Stewart, Shenandoah University

This session will describe how interviewing as assessment is implemented to develop prospective elementary teachers' understanding of children's mathematical thinking. Prospective teachers' videotaped interviews and analyses of children's explanations will be discussed, and participants will experience the process of interviewing.

Listening to Interns: Using Audio-Journals to Promote Reflectivity

Jeffrey P. Smith

Otterbein College

This session will describe the use of audiojournals with preservice secondary mathematics interns. An analysis of the benefits and drawbacks of using this approach for promoting reflection will be discussed. Implications for redesigning field experiences and the projected utility for inservice teachers'

professional development will be important aspects of this session's discussion.

Session 4

China Cove

Establishing A Summative Portfolio Requirement for Preservice
Secondary Mathematics Teachers: Progress Made, Lessons Learned

Roger Day, Illinois State University
Tami S. Martin, Illinois State University

Situated within the larger picture of performance assessment of teacher candidates, this presentation will focus on the use of portfolios as summative evaluations in teacher development programs.

Session 5

Santa Ana

School Partnerships/Field Experience Focus

Constructing Performance-Based Teacher Preparation Programs with
Student Performance Criteria and Rubrics

Henry S. Kepner, Jr., University of Wisconsin – Milwaukee
Craig A. Berg, University of Wisconsin – Milwaukee
DeeAnn Huinker, University of Wisconsin – Milwaukee
Ray Scolavino, University of Wisconsin – Milwaukee

An interactive presentation and reflection on building performance-based secondary and elementary teacher preparation curricula in mathematics and science. The presenters will describe selected program elements and highlight specific student tasks, performance criteria, and evolving rubrics. Connections to field-based settings will be described. Participant engagement is required.

Session 6

Costa Mesa

Science and Mathematics Education Strand

A 5th Year Preservice Teacher Education Model: Benefits and
Problems in a Subject-Specific Secondary Teacher Education
Program

Dianne K. Erickson, Oregon State University
Margaret Niess, Oregon State University

Norman Lederman, Oregon State University
Lawrence Flick, Oregon State University

This session will explore the effects of an integrated subject specific mathematics and science preservice teacher education program and its advantages and disadvantages. The speakers will provide an overview of the technology and nature of science/mathematics themes as well as the integration of skill development, educational psychology, research, and internships.

AMTE Browsing Room	Monarch Bay
Review books, videos, and other materials for use in your courses.	

9:00-9:20 AM

Break	East Galleria
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9:20-10:20 AM

Session 7 Mesa Verde

Collaborating for Curricular Change

Daniel Brahier, Bowling Green State University

This session will explore the purposes, processes, and results of a collaboration between four institutions of higher education in Northwest Ohio that resulted in the revision of one course in Early Childhood mathematics and the development of two, new, inquiry-based courses in discrete and early childhood mathematics.

Session 8 Lido

VCR needed here

Engaging in Geometry Ideas Through an Examination of Elementary Students' Thinking

Virginia Bastable, SummerMath for Teachers, Mt. Holyoke College

In this interactive session we will examine the use of classroom artifacts (children’s work, video, print cases) as a means to engage with ideas about angle. We will also study the reflective writing of both preservice and inservice teachers to determine what it is they learned by working with these materials.

Session 9

China Cove

Responding to Classroom Episodes: Authentic Assessment of Preservice Teachers’ Mathematical Content Knowledge

Elizabeth George Bremigan, Ball State University

The use of *classroom episodes* to assess preservice elementary teachers’ mathematical content knowledge will be discussed. Responses to the mathematical ideas presented in two *classroom episodes*, involving equivalent fractions and area, will be presented. Analysis of these responses suggests the potential for using this type of authentic assessment in methods courses.

The Technology Teaching Lab – Integrating Technology into a Preservice Elementary Education Program

Terri Teal Bucci, Ohio State University – Mansfield

This session will provide participants with a workable option for integrating technology throughout the elementary education program. Implications, processes, and outcomes of providing preservice teachers opportunities, equipment, and instruction on the use of technology in the elementary school will be discussed.

Session 10

Santa Ana

International Perspective

Using a *Lesson Study Process* in a PDS Setting

Ann R. Taylor, Southern Illinois University – Edwardsville

The presentation shares preliminary findings from a PDS setting which uses an assignment based on the Japanese “lesson study” process. Comparison is

made with traditional campus-based methods courses. Participants will engage in a discussion of the following: How does this assignment respond to the challenges that arise when teaching methods courses?

Professional Development of Mathematics Teachers: Insights from Japan

Tad Watanabe, Towson University
Susan Beal, St. Xavier University
Denisse Thompson, University of South Florida

Japanese professional development activities known as kenkyuu jugyou (lesson study) and jugyou kenkyuu (research lesson) will be discussed. The presenters of this session attended the United States – Japan workshop on professional development in Tokyo, Japan. They will share insights gained from the workshop and visits to Japanese schools.

Session 11

Costa Mesa Room

Science and Mathematics Education Strand

Integrating Mathematics and Science: Issues in Preparing Teachers

Hari P. Koirala, Eastern Connecticut State University
Jacqueline K. Bowman, Eastern Connecticut State University

This session will identify some of the issues that middle school preservice teachers raise about learning how to integrate mathematics and science.

A Marriage of Mathematics and Science through the Eyes of Technology: A Simple Wedding

William R. Speer, University of Nevada – Las Vegas

This session will describe a program in which teacher education students are engaged in activities designed to examine the role of variables in simple experiments using CBR, spreadsheets, and software with a focus on observation, hypothesizing, experimenting, and modifying conjectures. Mathematics, science, and technology connections and relationships to the process standards are emphasized throughout this program.

AMTE Browsing Room

Monarch Bay

Review books, videos, and other materials for use in your courses.

10:20-10:40 AM

Break

East Galleria

10:40-11:40 AM

Session 12

Executive Board Room

Visit with Texas Instruments and Share your Ideas for New Resources

Lenda Hill, Texas Instruments

Eren Koont, Texas Instruments

Come explore new calculator software applications (TI 83 Plus and TI 73), computer software, and more! Activities will cover activities for teachers of middle school mathematics, algebra, and other high school mathematics courses. Participants will leave with activities and a CD-ROM full of resources for preservice and inservice teachers.

Session 13

Mesa Verde

Principles and Standards for School Mathematics – Implications for Mathematics Teacher Educators

Judith Jacobs, California State Polytechnic University - Pomona

This session is a discussion relative to the NCTM Principles and Standards for School Mathematics and proposals for providing outreach activities to mathematics teacher educators.

Session 14

Lido

VCR Needed Here

Assessing and Changing Pre-Service Elementary Teachers' Mathematics Beliefs

Lisa Clement, San Diego State University

Rebecca Ambrose, San Diego State University
Shannon Curl, San Diego State University
Randolph Phillipp, San Diego State University
Tom Bennett, Discussant, California State University – San Marcos
Neil Portnoy, Discussant, California State University – Chico

Efforts to both assess and change pre-service teachers' beliefs about mathematics and mathematics teaching and learning will be discussed. The presenters are engaging pre-service teachers in doing mathematics with K-6 children so they can make connections between mathematics content and children's thinking.

Session 15

China Cove

Capstone Courses in Problem Solving for Prospective Secondary Teachers

Cheryl Roddick, San Jose State University
Joanne Rossi Becker, San Jose State University
Barbara J. Pence, San Jose State University

Two capstone courses on problem solving for prospective secondary mathematics teachers will be the focus of this session. The presentation will include the goals, content, and relevant materials for the courses as well as results from a study of the courses' effects on beliefs and teaching practices.

Session 16

Santa Ana

Distinguished Teachers in Residence: A Dynamic Link Between School Districts and Universities

Vickie Jacobs, San Diego State University
Cathy Bullock, Encinitas Union School District and California State University - San Marcos

This presentation describes a program, which employs practicing K-12 teachers as university faculty for two years and provides time for university faculty to work with schools. As a participating K-12 teacher and a university mathematics educator, respectively, the presenters will describe the program's benefits and challenges for methods courses, student teaching supervision, and district projects.

Session 17

Costa Mesa

Science and Mathematics Education Strand

An Integrated Mathematics, Science, and Technology Teacher
Education Program: Formative Evaluation

Donna Berlin, Ohio State University
Arthur White, Ohio State University

A one-year post-baccalaureate program leading to a master's degree and certification to teach mathematics or science(s) in grades 7-12 and technology education in grades K-12 will be described. Formative evaluation, including qualitative and quantitative analyses will be discussed. Participants will share their experiences with similar teacher education courses or programs.

11:50 AM-1:10 PM

Lunch

Terrace (2nd Floor)

1:20-2:20 PM

Session 18

Executive Board Room

Technology Focus

Dynamic Tracking and Analysis of Preservice Teachers' Use of
Computer-Based Resources Using Digital Video and
Telecommunications Technology

Stephen R. Campbell, University of California – Irvine

Recent advances in digital video and telecommunications technology allow new methods for dynamic, real-time monitoring, recording, and analysis of students' behaviors using computer-based resources. This session focuses on applications and implications of these methods for research and practice in preservice mathematics teacher education settings, both classroom and clinical.

Session 19

Mesa Verde

Developing Teachers' Capacity to Reason Proportionally: An Innovative Approach to Preparing Middle School Teachers

Margaret Smith, University of Pittsburgh
Deborah Ball, University of Michigan
Edward Silver, University of Michigan

This session will focus on the potential of “practiced-based” materials (i.e. mathematical tasks drawn from innovative curricula, student work, classroom episodes) for developing teachers’ capacity to reason proportionally and to develop effective pedagogical techniques related to proportional reasoning.

Session 20

Lido

Technology Focus

Intelligent Television

Nancy Finklestein, Harvard – Smithsonian Center for Astrophysics
Karen Sensenig – Annenberg/CPB

Attend this session to find out about the ANNENBERG/CPB CHANNEL, carrying professional development programs and workshops for K-12 educators with an emphasis on mathematics and science, and a variety of programs from popular PBS series. This free, satellite/web service for schools, colleges, and communities broadcasts award winning, educational television 24 hours a day, 7 days a week.

Session 21

China Cove

School Partnerships/Field Experience Focus

Designing and Implementing Meaningful Field-Based Experiences for Mathematics Methods Courses

Amy Roth McDuffie, Washington State University Tri-Cities
Valarie Akerson, Washington State University Tri-Cities

This session will explore field-based learning opportunities for both preservice and inservice teachers. The presenters will describe a program in which preservice teachers are paired with inservice teachers to develop and

field test performance assessment tasks as part of the preservice teachers' mathematics methods course. Session participants will examine this program and generate ideas to better situate professional development opportunities for preservice and inservice teachers.

Session 22

Santa Ana

The Professional Reading, Writing, and Research Habits of
Mathematics Educators

Ronald A. Ward, Western Washington University

Following a brief presentation of survey results, session participants will form a working group to produce recommendations toward increasing effectiveness of mathematics educators as readers, writers, and researchers.

Session 23

Costa Mesa

Science and Mathematics Education Strand

Implementing Technology in Mathematics and Science Classrooms:
Are There Commonalities and Differences?

Gregory Chamblee, Georgia Southern University
Scott Slough, University of Houston – Downtown

This session will initiate a discussion involving the similarities and differences between the mathematics and science standards' emphases on technology and how these philosophies influence implementation strategies.

AMTE Browsing Room

Monarch Bay

Review books, videos, and other materials for use in your courses.

2:20-2:40 PM

Break

East Galleria

2:40-3:40 PM

Session 24

Executive Board Room

Infusing Technology into an Elementary Mathematics Methods Course

Carol Fry Bohlin, California State University – Fresno

This session will provide a detailed examination of the development of a restructured elementary mathematics methods course designed to provide preservice teachers with experiences and skills in using the internet as a tool for lesson planning/enhancement, as a means for community building, and as a professional development resource.

Session 25

Mesa Verde

Science and Mathematics Education Strand

Measurement as a Vehicle for Integrating Mathematics and Science

George Bright, University of North Carolina – Greensboro
Willis J. Horak, University of Arizona

Measurement will be discussed from the perspectives of mathematics and science; applications will be highlighted. The audience will help outline how measurement can help connect content, what knowledge would help teachers teach measurement effectively, and how preservice teacher education programs can focus on measurement as a part of mathematics and science instruction.

Session 26

Lido

VCR Needed Here
Technology Focus

Using Videos and the Web to Enhance Teacher Preparation

L. Carey Bolster, Modeling Middle School Math

Merging technologies including videos and the web can be used to provide effective preservice experiences for your students. This session will provide you with ideas that you can use NOW!

Session 27

China Cove

What Being an *Expert* Does for Learning Mathematics and Science

Diane B. Erchick, Ohio State University
Christine D. Warner, Ohio State University
Christopher Andersen, Ohio State University

This session examines an interdisciplinary lesson used by three teacher educators of mathematics, science, and literacy methods where students as “experts” confronted probability and ethics. Participants will be introduced to instructional strategies, experience a simulation of the activity, study artifacts from student engagement, and discuss implications for student content learning.

Session 28

Santa Ana

A Few of Our Favorite Things

Jack Price, California State Polytechnic University - Pomona
Judith Jacobs, California State Polytechnic University - Pomona

Get involved. Experience some mathematical favorites from a collection that is treasured, valued, and ?. Bring your own ideas and be prepared to share.

Session 29

Costa Mesa

Integrating Standards into Elementary Mathematics Methods Courses

Nadine Bezuk, San Diego State University
Lisa Clement, San Diego State University

This session will explore issues related to integrating national, state, and local standards into elementary mathematics methods courses. We will share assignments and course activities we have developed aimed at integrating such standards.

AMTE Browsing Room

Monarch Bay

Review books, videos, and other materials for use in your courses.

4:15 PM

Session 30

General Session

Santa Ana

Welcome

Francis (Skip) Fennell, Western Maryland College
AMTE Conference Program Chair

Doctoral Programs in Mathematics Education – Should There Be Guidelines? If So, What Forms Might They Take?

Robert Reys, University of Missouri
Doug Aichele, Oklahoma State University
Tom Carpenter, University of Wisconsin – Madison
Bob Glasgow, Southwest Baptist University
Karen Schultz, Georgia State University
Judy Sowder, San Diego State University

Doctoral programs in mathematics education vary greatly. Are there core elements for all doctorates in mathematics education? Would guidelines or recommendations strengthen or curtail the growth of mathematics education?

5:45 PM

Dinner

Lido

**Saturday
January 20, 2001**

Registration	West Galleria
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Continental Breakfast

7:00-8:00 AM

East Galleria

All Day

Computer Room

Executive Board Room

8:00-12:00

Browsing Room

Monarch Bay

Conference Sessions

8:00-9:00 AM

Session 31

Executive Board Room

Science and Mathematics Education Strand

Online Manipulatives: A Valid Role for the Internet in Mathematics and Science Classrooms

Terese A. Herrera, Eisenhower National Clearinghouse

Participants will explore “live” examples of virtual manipulatives for math and science topics. Questions open to discussion: How do virtual manipulatives compare to hands on? Do these online experiences contribute to deeper learning, or waste of classroom time? What is the place of this innovative technology in methods classes?

Making Connections: Curricular Innovations in Elementary Mathematics, Science, and Technology Education

Jeff Frykholm, University of Colorado

This session introduces an innovative curriculum development program (integrated mathematics, science, and technology for K-5) recently funded by NASA. Participants will explore prototype activities, view live satellite imagery, and discuss the theoretical and conceptual underpinnings that support the curriculum project. Research implications will also be addressed.

Session 32

Mesa Verde

Technology Focus

Incorporating Distance Delivery in Preservice and Inservice Mathematics Teacher Education

Margaret Niess, Oregon State University
Edith Gummer, Oregon State University
Dianne K. Erickson, Oregon State University

Capabilities of distance delivery techniques and critical research needs for implementation are derived through an investigation of a consideration of the overlap of empirically-supported distance (web, television) methods with

empirically-supported methods for initial and enhanced professional development for mathematics teachers.

Session 33

Lido

Project COLME: Coalition of Language and Mathematics Educators

Mark Klespis, Sam Houston State University

Project COLME is a Department of Education supported initiative designed to prepare thirty-five mathematics/ESL or bilingual teachers over the next five years. This session is a report of the first two years of the project's implementation.

Session 34

China Cove

Proportional Reasoning: Preservice Teachers' Strategies

Kathryn Reinke, Oklahoma State University

Juliana Utley, Oklahoma State University

This session will focus on a study which examined the solution strategies used by 71 preservice elementary teachers when solving a proportional reasoning problem. The study revealed a variety of strategies used to solve the problem, including a proportional algorithm, diagrams, and arithmetic reasoning. Results and implications of the study will be discussed.

Session 35

Santa Ana

Analyzing Children's Mathematical Thinking – The Impact on Pre-Service Teachers' Ideas about Teaching Mathematics

Karen Schweitzer, University of Massachusetts – Amherst

Susan Smith, University of Massachusetts – Amherst

This session will examine the impact of focusing the work of a mathematics methods course on understanding the mathematical thinking of elementary school children. Participants will examine the written work of preservice teachers who have participated in a mathematics methods course which uses,

as its core, teacher written narratives and videotapes which capture student thinking about number and operations.

Session 36

Costa Mesa

Algebra for Preservice Elementary and Middle School Teachers:
What are the Essentials?

Sheryl Stump, Ball State University
Joyce Bishop, Ball State University

What experiences are appropriate to prepare preservice elementary and middle school teachers to address the increased emphasis on algebra in grades K-8? This session will address this issue and examine a framework and materials for an algebra content and pedagogy course.

AMTE Browsing Room	Monarch Bay
Review books, videos, and other materials for use in your courses.	

9:00-9:20 AM

Break	East Galleria
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9:20-10:20 AM

Session 37

Executive Board Room

Technology Focus

Constructing Mathematical Understanding Using Technology to
Develop Pre-Service Elementary Teachers' Conceptualizations of
Rational Number Operations

Thea K. Dunn, Educational Ventures International Foundation

This session will present a study which explored preservice elementary teachers' use of general-purpose software to build models for rational number operations. Three interrelated issues are addressed: teachers' conceptualizations of rational number operations; responses to the use of technology to build models for mathematical concepts; and, the role of computer models in constructing mathematical understanding.

Session 38

Mesa Verde

Data Analysis in Elementary School: Supporting Teachers as they Implement an Inquiry-Based Approach to Mathematics

Margaret Riddle, Northhampton (MA) Public Schools
Janice Szymaszek, Smith College

Standards-based curricula require that teachers listen carefully to their students' mathematical thinking and base instruction on it. The Principles and Standards for School Mathematics places increasing emphasis on data analysis beginning early in the elementary grades. The presenters will analyze student thinking through teacher written narratives and student work samples.

Session 39

Lido

Science and Mathematics Education Strand Keynote

NSF Initiatives in Mathematics and Science Teacher Enhancement and Instructional Materials Development

Jane Butler Kahle, Division Director, Elementary Secondary and Informal Education, National Science Foundation
John (Spud) Bradley, Section Head, Elementary Secondary and Informal Education, National Science Foundation
Anna Suarez, Elementary Secondary and Informal Education, National Science Foundation

Program officers from the National Science Foundation will present an overview of current programs that have implications for teacher preparation in mathematics and science.

Session 40

China Cove

Another Avenue of Reflection? What Do On-Line Threaded Discussions Reveal About Students' Beliefs?

Andrea I. Prejean, American University

This session will describe the use of student-led on-line discussions in three elementary mathematics methods classes. The goal of the activity was to provide an alternative avenue for reflection and provide a situation in which the students could take the lead in the reflective process. The presentation will reveal the topics chosen by students for discussion and beliefs about these mathematics learning and teaching topics.

Using a Curriculum Research Model to Develop Mathematics Courses
for Preservice Teachers

Ron Preston, East Carolina University

This session will describe a research model for curriculum development that involves task-based interviews, classroom observations, shadow classes, reflections, videotape analysis, a computer-based hint system, student-instructor-researcher interaction, and a diverse research team. This model is used to develop courses for preparing middle grade mathematics teachers at East Carolina University.

Session 41

Santa Ana

Using Myers-Briggs Temperament Types to Understand Differences
in Teaching and Learning Preferences

Todd Johnson, Eastern Washington University

This session summarizes the use of the Myers-Briggs Type Indicator in mathematics methods courses to discuss individual differences and how teachers can utilize their own temperament in establishing and maintaining productive relationships with the differing temperaments of students.

High School Students' Perceptions of Best Learning Moments

Ron Woggon

The results of a recent phenomenological study will be presented. A summary of the research will be provided to all participants.

School Partnerships/Field Experience Focus

Portfolio Assessment for Preservice Teachers

Julita G. Lambating, California State University – Sacramento
 Claire J. Graham, Framingham (MA) State College
 Isabel N. Quita, San Francisco State University

The process of using portfolio assessment with preservice teachers in mathematics methods courses will be described. The session will also include some students’ feedback to the use of the portfolio as an assessment tool. The pros and cons of portfolio use will also be explored in the discussion portion of the session.

AMTE Browsing Room	Monarch Bay
Review books, videos, and other materials for use in your courses.	

10:20-10:40 AM

Break	East Galleria
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10:40-11:40 AM

Session 43

Executive Board Room

Technology Focus

Rethinking Proof with The Geometer’s Sketchpad®

Steve Rasmussen, Key Curriculum Press
 Patrick Callahan, Discussant, University of Texas at Austin

Using the Geometer’s Sketchpad®, students can illustrate geometric theorems with engaging dynamic models in ways that lead directly to deductive arguments. Based on the work of Michael de Villiers, this session will discuss how Sketchpad can help us rethink the functions of proof in mathematics.

Session 44

Mesa Verde

Innovative K-12 Curriculum Materials in Preservice Teacher Education: How and Why?

Gwen Lloyd, Virginia Tech
Jeff Frykholm, University of Colorado
Skip Wilson, Virginia Tech

Participants will explore and discuss strategies for engaging preservice teachers in mathematical and pedagogical investigations using reform-oriented K-12 curriculum materials. Presenters will share their experiences using K-12 curriculum materials in mathematics and methods courses for preservice elementary and secondary teachers.

Session 45

Lido

Science and Mathematics Education Strand

Making Connections in Mathematics and Science: A Two-Year Elementary Teacher Inservice Education Program

Thomas O'Shea, Simon Fraser University

This session describes a non-traditional 2-year 30-credit inservice program consisting of courses, implementation projects, and action research supported by mentors. The program provides opportunities for teachers to critically examine current issues in mathematics and science education, and to create a learning community that values inquiry and self-directed learning.

Session 46

China Cove

Preparing Middle School Teachers of Mathematics and Science

Vena Long, University of Tennessee
Kristin Rearden, University of Tennessee

This presentation will discuss ways to develop the knowledge base and disposition needed by middle school teachers of mathematics and science to prepare and deliver interdisciplinary lessons.

11:50 AM-12:50 PM

Lunch

Terrace (2nd Floor)

1:00-2:00 PM

Session 47

Executive Board Room

Technology Focus

Interdisciplinary Connections: Activities that Integrate Technology into Mathematics and Science Classrooms

R. Elaine Carbone, Clarion University of Pennsylvania
Vickie Harry, Clarion University of Pennsylvania

The speakers will share activities that K-12 teachers have incorporated into their classrooms to make connections between mathematics and science through the use of different types of technology such as computers, graphing calculators, Calculator Based Rangers, and Calculator Based Laboratories. There will be time for participant discussion of their own experiences in incorporating technology into mathematics and science classes.

Session 48

San Marcos

Mathematics in the Elementary Classroom: Empowering Preservice and Inservice Teachers

Darryl Medders, Visalia (CA) Unified School District
Carol Fry Bohlin, California State University – Fresno
Richard Thiessen, Fresno Pacific University

Strategies for Teacher Excellence Promoting Student Success (STEPSS) is an NSF Local Systemic Change project designed to improve the mathematics content and pedagogical knowledge of elementary teachers. Successful preservice and master's programs in K-6 mathematics will be key topics of discussion.

Session 49

San Felipe

Increasing the Mathematics Content Knowledge of Teachers

Shelley Kriegler, UCLA

Jody Priselac, UCLA

Learn how a department of mathematics and a department of education have collaborated to develop a successful comprehensive mathematics content program for elementary and middle school teachers.

Session 50

San Gabriel

Understanding Secondary Teachers' Thinking and Practice

Sue Mau, Indiana University Purdue University Indianapolis
Linda Houser, Indiana University Purdue University Indianapolis
Janet Warfield, Purdue University

This session discusses a yearlong professional development program for secondary teachers. The speakers will address the program design, teachers' conceptions of mathematics, and the influences of their ways of knowing mathematics and their teaching practice.

Session 51

San Carlos

School Partnerships/Field Experience Focus

Changing the Mathematics Culture of an Elementary School

Jack Price, California State Polytechnic University - Pomona
Judy Devens-Seligman, California State Polytechnic University - Pomona
Jan Cowin, Principal, Baldy View Elementary School, Upland Unified School District
Sandra Hughes, Principal, Pepper Tree Elementary School, Upland Unified School District

For the past two years the principals and teachers of two elementary schools have been working with the CEEMaST (California State Polytechnic University - Pomona) faculty to provide on-site professional development in mathematics. As a result, mathematics has become part of the culture of these schools. This transformation had an impact on the mathematics education of the children as well as on the standardized achievement profile of the school.

Connections: Methods and the Field

Thomas E. Rowan, University of Maryland – College Park

What are the various dimensions of the relationship between methods courses and the field? How can we open the lines of communication along all of these dimensions? Let's share ideas.

Session 52

San Juan

Preservice and Inservice Teachers – Partners in Examining Children's Mathematical Ideas

Jill Bodner Lester, SummerMath for Teachers, Mt. Holyoke College

This session will examine documents generated by a school based/university partnership. The first will be case studies of a mathematics lesson – one written by a preservice teacher and one by a classroom teacher. The second pair will be writings reflecting on the cases, addressing the question, What did you learn from working in this partnership?

Session 53

San Pedro

Professional Development: Facilitating Inservice and Preservice Teachers' and University Faculty Members' Implementation of Instructional Change

Stephen J. Pape, Ohio State University
Sigrid Wagner, Ohio State University
Hea-Jin Lee, Ohio State University
Beth D. Greene, Ohio State University
Jeffrey P. Mills, Ohio State University

In this interactive symposium, a professional development program will be examined in light of research on effective components of professional development programs. Participants' self-identified professional development needs and expectations will be discussed. Implications for professional development will be drawn from university faculty members' attitudes and beliefs toward reform mathematics.

Session 54

San Diego

Science and Mathematics Education Strand

Design of an Integrated Mathematics and Science Professional
Development Program

Susann Mathews, Wright State University
Beth Basista, Wright State University

Participants will be led through the design of an integrated mathematics and science professional development program. They will discuss the goals and content, organization, and how to build in subject integration in such a program.

2:00-2:20 PM

Break

East Galleria

2:20-4:20 PM

Session 55

Lido

AMTE Business Meeting

Susan Gay, University of Kansas
AMTE President