

Summer Mathematics Leadership Institute

"Packing a Toolkit for Student Success"

High Point, North Carolina

July 22 – 24, 2008



North Carolina Department of Public Instruction

Outline of Institute

~ Descriptions are found on the following pages ~

Tuesday, July 22, 2008

8:30 – 9:30	Check-in and Registration
9:30 – 10:45	Welcome and Keynote Address ~ Steve Leinwand Queen Anne A
10:45 – 11:00	Break
11:00 – 1:00	Session 1*
1:00 – 2:00	Lunch
2:00 – 2:45	Session 2*
2:45 – 3:00	Break
3:00 – 4:00	Session 3*

* All K – 5 Sessions will be held in the Victorian Room and led by Dr. Cathy Fosnot

Wednesday, July 23, 2008

7:30 – 8:30	Breakfast
8:30 – 10:30	Session 4*
10:30 – 10:45	Break
10:45 – 12:45	Session 5*
12:45 – 1:45	Lunch
1:45 – 2:45	Session 6*
2:45 – 3:00	Break
3:00 – 4:00	Session 7*

* All K – 5 Sessions will be held in the Victorian Room and led by Dr. Cathy Fosnot

7:30 – 8:30 The Board Room will be available for teachers to meet and work as needed.

Thursday, July 24, 2008

7:30 – 8:30	Breakfast
8:30 – 10:30	Session 8*
10:30 – 10:45	Break (Check-out if needed)
10:45 – 12:00	Closing Session ~ Mike Collins Queen Anne A
12:00 – 1:15	Lunch (on-site or boxed to go) Queen Anne A

Have a safe trip home!!

Tuesday, July 22, 2008

9:30 – 10:45

Welcome

Keynote Address ~ Steve Leinwand

Practical Strategies for Ensuring that No Teacher of Math is Left Behind

Too often teachers are professionally isolated and under-supported, despite ever increasing expectations for higher levels of student achievement. Little change or improvement is likely to take root and be sustained until and unless we attend to the professional culture within our schools and departments. This session will explore a range of no-cost, practical strategies for changing this culture and reducing isolation so that common problems are solved collaboratively and professional sharing and interaction become school norms.

Presenter: Steve Leinwand

Steve Leinwand is a Principal Research Analyst at the American Institutes for Research (AIR) and is currently working on a range of projects involving K-12 mathematics, including Ohio and Hawaii high-stakes assessments, a major Professional Development Impact Study, the Microsoft Middle School Mathematics Initiative, and the GE Foundation's College Bound District Program. Steve formerly served for 22 years as mathematics supervisor with the Connecticut Department of Education where he was responsible for a broad array of activities, including curriculum development, professional development, program evaluation, and student and teacher assessment, as they relate to the improvement of school mathematics.

Steve is a former member of the Mathematical Sciences Education Board of the National Research Council and is a past president of the 2,600-member National Council of Supervisors of Mathematics. In addition, Steve has served on the NCTM Board of Directors, during which time he helped review *Principles and Standards for School Mathematics*.

Steve is also a senior author of several K-12 mathematics textbooks, has written numerous articles and *Sensible Mathematics: A Guide for School Leaders*, published by Heinemann.

K-5 Sessions ~ Dr. Cathy Fosnot

Catherine Twomey Fosnot is Professor Emeritus at the City College of New York and Director of Mathematics in the City, a national center for professional development located at the college. She has authored or co-authored many books and articles on mathematics education, most recently the *Contexts for Learning Mathematics* series (K-6) and the *Young Mathematicians at Work* series with the accompanying professional development materials funded by NSF and distributed by Heinemann. The AERA SIG on Constructivism has twice awarded her their “significant contribution” award and in 2005 she was the recipient of the Teacher of the Year award from CCNY.

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Participants will be immersed as learners in this active math workshop. On day 1, we'll be learning a new number system and using it to construct a number line model to: build an early sense of number space comprised of landmark numbers; represent addition and subtraction strategies; and analyze and build a strong understanding of equivalence and equations in early algebra. The second part of the day will be used to explore the development of early number sense in K-1.

Reflecting on the Day and Beginning a Landscape of Learning: The whole experience is then used for analysis and reflection as we begin the building of a learning trajectory (a landscape of learning) for early number sense, addition, and subtraction, which as the institute progresses will be developed further.

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To deepen their understanding of mathematics and the development of it with 3-6 learners, participants will be learners in a mathematics environment where math is seen as the posing and solving of problems, the searching for patterns, and the construction of ideas, models, and strategies. The focus will be on careful scaffolding to progressively develop more formal strategies and to build conceptual connections across the various representations and solutions.

The second part begins with an overview of what it means to calculate with number sense—how mathematicians look to the numbers first before they decide on a strategy. We will take the approach that efficient computation should be the goal of computation work, meaning that children should develop a deep sense of number, landmarks, and operations resulting in the use of a repertoire of strategies, rather than the employment of the standard algorithm across all problems.

Reflecting on the Day and Continuing with a Landscape of Learning: The whole experience is then used for analysis and reflection as we begin the building of a learning trajectory (a landscape of learning) for multiplication, division and fractions. The two landscapes, from day one and day two, will be merged to produce a developmental trajectory for K-5. Implications for curriculum and teaching will be explored in relation to the trajectory.

Thursday, July 24, 2008

10:45 – 12:00

Closing Session ~ Mike Collins

Fun Is Not a 4-Letter Word!

In “FUN IS NOT A 4-LETTER WORD!,” we will discuss a stress-management strategy called The FUN/ENERGY Connection. Research shows that managers and workers who look for “a lighter heart” each day have lower blood pressure and fewer bouts with depression.

In the program we will:

- Quickly emphasize the basics of how stress effects us physically, mentally and emotionally
- Look at how other people can cause much of our stress
- Find the 5 times to look for The FUN/ENERGY Connection
- Discover what we would do if we did have time for fun
- Understand how to use humor as a management tool

In “FUN IS NOT A 4-LETTER WORD,” Mike Collins uses a wide range of humor to show that stress doesn’t have to kill you.

Presenter: Mike Collins

Mike Collins is the president of The Perfect Workday Company, an information company based in the Research Triangle region of North Carolina. Mike presents over 100 programs a year for organizations such as IBM, American Express, Pepsi-Cola and the Duke University Medical Center. He is a guest lecturer in the nationally-ranked Executive Masters Program at the University of North Carolina at Chapel Hill’s School of Public Health. Mike’s programs are consistently rated "Excellent."