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 – 12:00	Supporting Access to Rigorous Courses: Creating Success ~ Janet Johnson Queen Anne A
12:00 – 1:00	Lunch
1:00 – 1:30	DPI Updates Queen Anne A
1:30 – 2:30	Concurrent Sessions 1: (*Select One*) 1. Using Scientific Thinking to Build a Research-Based Classroom ~ Benita Tipton and Ragan Spain Queen Anne C 2. Tales of Horror and Non – Congruence: Grades and Homework ~ Steve Unruhe Queen Anne D 3. Using the TI-Navigator in the Mathematics Classroom ~ Becky Caison Queen Anne B 4. Deconstructing Mathematical Literacy ~ Marty Sugerik Provincial
2:30 – 2:45	Break
2:45 – 3:45	Concurrent Sessions 2: (*Select One*) 1. Using Scientific Thinking to Build a Research-Based Classroom ~ Benita Tipton and Ragan Spain Queen Anne C 2. Tales of Horror and Non – Congruence: Grades and Homework ~ Steve Unruhe Queen Anne D 3. An Introduction to the TI – Nspire ~ Becky Caison Queen Anne B 4. Deconstructing Math Projects ~ Marty Sugerik Provincial
3:45 – 4:00	Questions / Comments / Preview ~ DPI Staff

Wednesday, July 23, 2008

7:30 – 8:45	Breakfast
8:50 – 10:15	Deconstructing Standards / Vertical Alignment ~ DPI Staff Queen Anne A
10:15 – 10:30	Break
10:30 – 11:45	Deconstructing Standards / Vertical Alignment ~ DPI Staff Queen Anne A
11:45 – 12:45	Lunch
12:45 – 2:15	6 – 8: Planning for Instruction: The What, the How, the Why and the When ~ Pat Sickles and Elizabeth Murray Queen Anne B 9 – 12: Creating an Instructional Framework: Method and Materials ~ Eleanor Pusey and Cindy Gulledge Queen Anne C
2:15 – 2:45	Break
2:45 – 4:00	<u>Concurrent Sessions 3:</u> (*Select One*) 1. Motivating and Engaging Students Using Web-Based Technology ~ Sara Hinsley Provincial 2. Transforming Learning Through Computational Thinking ~ Lauren Riggs Queen Anne C 3. Enhancing Instruction and Learning through the Use of Appropriate Technology ~ Ouida Myers Queen Anne D 4. Nspiring Students with the Technology Toolkit for Success ~ Barbara Simpson Queen Anne B
4:00 – 4:15	Questions / Comments / Preview ~ DPI Staff
7:30 – 8:30	The Board Room will be available for individuals / groups to work as needed.

Thursday, July 24, 2008

7:30 – 8:45	Breakfast
9:00 – 10:30	Concurrent Sessions 4: (*Select One*) 1. Formative Assessment / Differentiation ~ Sarah McManus Queen Anne C 2. Test Security + (x) = Valid Information**:** Implementing the Test Security Equation Yields Valid Information ~ Iris Garner Queen Anne D 3. NC Early Math Placement Testing: An EYE-OPENING EXPERIENCE as Students Prepare to Make the LEAP to College-Level Mathematics ~ Ellen Hilgoe Queen Anne B 4. Using Assesment to Promote Learning~ David Holdzkom Provincial
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 without 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.

11:00 – 12:00
Supporting Access to Rigorous Courses: Creating Success

EDSTAR has pioneered the use of research-based practices in using data to align educational services across NC. By creating easily understandable materials, and a concrete, logical method for using achievement data, EDSTAR empowers educators to promote success for all students.

In this process, EDSTAR has discovered that remedial intervention programs frequently serve high-achieving students who fit certain demographic descriptions. Simultaneously, high-scoring, low-income minority students are commonly not recommended for rigorous math classes. By using achievement data to align services and promote opportunities, minority enrollment in rigorous math and science courses increases, and course failures are reduced for students who are actually at-risk academically. Come learn what questions to ask about your school data (and course enrollment patterns) to promote success and use existing resources effectively**.**

Presenter: Janet Johnson

Janet is the president of EDSTAR, Inc. and has a Ph.D. in Mathematics Education with a minor in statistics. Janet has hands on experience as a former middle school math and reading teacher, and now specializes in making data use simple for educators. She has designed a straightforward approach to

assist educators in serving students based on achievement data and research-based practices. Most recently, Janet's innovative research design and effective communication style earned her team the American Educational Research Association (AERA) Division H First Place Award for Outstanding Publications (2008).

1:30 – 2:30 Concurrent Sessions 1

*Please select one of the four sessions described below to attend during this time. If the session has reached the allowed capacity when you arrive, please attend another session. Sessions with * will repeat from 2:45 – 3:45. Thank you!*

I. Using Scientific Thinking to Build a Research-Based Classroom*

Tired of swimming upstream? Have you had those days where digging ditches seems a viable option to dealing with your fourth period class? Scientific approaches to planning and classroom management can help! Find out practical research-based strategies to use in your mathematics classroom that work with how your students' brains work. Life is more interesting; students are more engaged; and learning is the norm.

Presenter: Ragan Spain

Ragan S. Spain is a High School Science Education Consultant with the NC Department of Public Instruction and a former chemistry teacher, most recently at Southeast Raleigh Magnet High School in the Wake County Public School System. He holds a Masters degree in Science Education and Bachelors degrees in Chemistry, Psychology, and Science Education, all from East Carolina University. Ragan also holds Brain-Based Certification from Jensen Learning Corporation. He is a veteran professional developer and has worked extensively with curriculum. He resides in Raleigh.

Presenter: Benita Tipton

Benita Brewer Tipton is a High School Science Education Consultant with the NC Department of Public Instruction and a former biology teacher at Scotland High School in Laurinburg, NC. She also taught biology at the community college level. She holds a Masters in Science Education and a BS in Biology Education from UNC – Pembroke. During her five-year tenure with DPI, she has helped to revise the curriculum for all the high school science courses and develop support documents for each course. She has conducted numerous workshops for science teacher and community members across NC. Benita and her husband, Danny, reside in Fuquay-Varina, but still call Pembroke, NC home.

II. Tales of Horror and Non – Congruence: Grades and Homework*

A discussion of the lack of harmony between our goals and our practices for grading policies and homework, interspersed with personal tales of educational foreboding and woe.

Presenter: Steven Unruhe

Steven Unruhe has taught math, journalism, and computer science in Durham for 22 years. He hopes to get good at it one day. He is nationally board certified and a recipient of the Presidential Award for the Teaching of Mathematics. His article "How Estelle Failed Lunch Duty" was recently published in the Mathematics Teacher. He writes a blog at http://www.riverside.dpsnc.net/teacherpages/sunruhe/. He has just returned from a month studying Spanish in Ecuador. He is married and is the father of two wonderful daughters.

III. Using the TI-Navigator in the Mathematics Classroom

The session will demonstrate the use of the TI-Navigator to increase student participation and student understanding of mathematical concepts. Lessons used in the classroom will be shared.

Presenter: Becky Caison

Becky Caison has been a math teacher at Williams High School in Burlington for 34 years. Currently, she is working at Cedar Ridge High School in Orange County. Becky is a T^3 Regional Instructor, National Board Certified teacher, and a 2003 Presidential Award Winner. She has used the TI-Navigator for four years.

IV. Deconstructing Mathematical Literacy

What does it mean to be mathematically literate? This session provides a model for addressing this question by looking at different types of literacy and the translation from one to another. Instructional strategies will be modeled to demonstrate the deconstruction process. A Functional and Relational Cubism Project will be shared to provide a relevant project that specifically addresses the literacy model.

Presenter: Marty Sugerik

Marty Sugerik is an instructional facilitator for NCDPI comprehensive support group. He is an 11 year secondary mathematics teacher from Ohio and New Hanover County via the Nuclear Engineering Program of the U.S. Navy. He is currently part-time faculty in the Watson School of Education teaching classroom management, methods, and pedagogy. He is working on Doctorate in Educational Leadership at UNCW focusing on literacy in secondary mathematics. Over his teaching career, he has focused on alternative assessment and project-based learning.

2:45 – 3:45 Concurrent Sessions 2

Please select one of the four sessions described below to attend during this time. If the session has reached the allowed capacity when you arrive, please attend another session. Presenters are the same. Thank you.

I. Using Scientific Thinking to Build a Research-Based Classroom

A discussion of research-based strategies to use in the mathematics classroom that work with how your students' brains work.

II. Tales of Horror and Non – Congruence: Grades and Homework

A discussion of the lack of harmony between our goals and our practices for grading policies and homework, interspersed with personal tales of educational foreboding and woe.

III. An Introduction to the TI-Nspire

A brief overview of the TI-Nspire including a short student lesson to demonstrate the use in the classroom.

IV. Deconstructing Math Projects

This session provides a process for designing math projects that are aligned and motivational. The process will be modeled through a The Financial Literacy Project that is adaptable to any course and provides the flexibility for teachers to integrate it into their instructional style without jeopardizing time.

Wednesday, July 23, 2008

8:50 – 11:45 Deconstructing Standards / Vertical Alignment

12:45 – 2:15

Please attend the appropriate grade level band.

6 – 8: Planning for Instruction: The What, the How, the Why and the When

This session will examine an organized approach for planning mathematics instruction in the middle grades and will incorporate the major components that help it come together in a coherent manner. There will also be a focus on the big ideas in the middle school curriculum and how the objectives in each strand are connected across grade levels.

Presenter: Pat Sickles

Pat received a BA from UNC-G and an M.Ed from UNC-CH. Her experience includes teaching at all grade levels from preschool to 8th grade. Since retiring in October from the Durham Public Schools as the Director of 6-12 Mathematics for Durham Public Schools, she has been working with the Partners grant and is a part-time instructor in the middle grades program at UNC-CH and the MAT program at Duke University.

Presenter: Elizabeth Murray

Elizabeth Murray is the K-12 Math Curriculum Specialist for New Hanover County Schools. Her classroom teaching experiences include 6th, 7th, and 8th grade math as well as Algebra I. Elizabeth is a National Board Certified teacher in the area of Early Adolescent Math. She has also served as the Middle Grades Mathematics consultant for the North Carolina Department of Public Instruction.

9 – 12: Creating an Instructional Framework: Method and Materials

Presenter: Eleanor Pusey

Eleanor Pusey is currently employed by one of North Carolina's state-level MSP initiatives serving Columbus County Schools as a mathematics facilitator for middle and high school teachers. In this role, she provides professional development and one-on-one coaching for teachers of mathematics. Eleanor's previous work in professional development began as a secondary mathematics facilitator for a larger MSP initiative, the NC-PIMS project. She is a former public high school teacher with 11 years experience in education and is currently completing doctoral course work in mathematics education, motivated by a strong desire to continue training and supporting the work of classroom teachers

Presenter: Cindy Gulledge

Cindy Gulledge is currently the Brunswick County 9-12 Instructional Math Coach. She taught math for 29 years. She was also a district and regional lead teacher for NCPIMS (North Carolina Partnership for Improving Mathematics). Cindy was selected as Brunswick County's NCCTM Outstanding Secondary Mathematics Teacher in 2004 and 2006 and selected as South Brunswick High School teacher of the year for 2003-2004. She has also in Guilford County, Richmond County, Scotland County and Brunswick County.

2:45 – 4:00 Concurrent Sessions 3

Please select one of the four sessions described below to attend during this time. If the session has reached the allowed capacity when you arrive, please attend another session. None of these sessions will be repeated. Thank you!

I. Motivating and Engaging Students Using Web-Based Technology

Learn how SAS® Curriculum Pathways® – available free to all NC middle and high schools – can enhance your curriculum, increasing student engagement and achievement through multimedia, interactive resources. An overview of Curriculum Pathways will familiarize teachers with the math resources so they can utilize the materials immediately in their classrooms. The emphasis will be on Algebra and Geometry.

Additional information about SAS® Curriculum Pathways® can be found at:
http://www.sasinschool.com/products/pathways/
Complete listing of available resources:
http://www.sasinschool.com/products/pages/pdfs/math_web_pag.pdf

Presenter: Sara Hinsley

Sara Hinsley, mathematics curriculum specialist with SAS® Curriculum Pathways® taught high school and community college in North Carolina – from algebra through calculus – for 6 years, also serving as department chair. She holds a Masters of Arts in Teaching from the University of North Carolina at Chapel Hill and bachelor's degree in mathematics from Point Loma Nazarene University in San Diego, CA.

II. Transforming Learning Through Computational Thinking

Shodor is a non-profit organization located in Durham, NC, dedicated to integrating computational thinking and quantitative reasoning through the use of technology into science and mathematics education. Interactivate is Shodor's online math resource tool containing over 100 interactive activities and supporting materials such as lessons and discussions. I will be presenting about leveraging technology to support learning of mathematics by providing examples through the many features of Interactivate and other modeling tools that are readily accessible to teachers.

Presenter: Lauren Riggs

Lauren Riggs is an intern with Shodor. She has been working on Interactivate aligning its materials to NCTM and North Carolina Standards and curriculum development to be used in Shodor's summer workshops for high school students. She graduated from NC State in the spring with degrees in both science education and physics and will be licensed to teach both secondary science and math. She will be teaching Earth/Environmental Science at Page High School in Greensboro this fall.

III. Enhancing Instruction and Learning through the Use of Appropriate Technology

Participants will be provided ways to enhance instruction and learning by exploring appropriate use of technology in the mathematics classroom. Participants will have opportunities to share effective best practices and be introduced, as well as, free online technology tools. Participants may use their own laptops or smartphones to access resources during the session.

Presenter: Ouida Myers
A native of Birmingham, Alabama, Ouida completed her undergraduate education at Jefferson State Junior College and at the University of West Florida in Pensacola. She received an M.Ed from the University of Montevallo and a Certificate of Advanced Study in Education from the University of Alabama at Birmingham. She recently completed hours for licensure in Instructional Technology supervision from East Carolina University.

Her prior work experience includes high school health education and physical education, public health adolescent pregnancy prevention project, and working as an Education Specialist with the Alabama Department of Education. Ouida moved to North Carolina in 2004 to work with Instructional Technology as grant administrator for Enhancing Technology Through Education, the federally funding educational technology component of No Child Left Behind.

In her spare time, Ouida is an active member of St. Giles Presbyterian Church. She sings alto in the church choir and works with the Young Adult program there. She has 2 sons and 2 grandsons.

IV. Nspiring Students with the Technology Toolkit for Success

Ever wonder how to increase your students' understanding of mathematical concepts and problem solving? One answer is to pack their toolkit with a technology resource that connects the algebraic, written, graphical, and geometric representations of a problem situation. Come and explore the "technology toolkit for success" with the new Texas Instruments TI-Nspire technology. Lots of hands-on excitement and resources and no experience necessary!

Presenter: Barbara Simpson
Barbara Simpson is the Educational Technology Consultant for Texas Instruments in the Carolinas. She has over 25 years of experience in supporting educators to be successful with instructional technology. Barbara began her professional career as a middle school classroom teacher. Originally from the "buckeye state" of Ohio, Barbara now lives in Pinehurst, NC.

Thursday, July 24, 2008

9:00 – 10:30 Concurrent Sessions 4

Please select one of the four sessions described below to attend during this time. If the session has reached the allowed capacity when you arrive, please attend another session. None of these sessions will be repeated. Thank you!

I. Formative Assessment / Differentiation

When you think of assessment, do you immediately think of EOGs and EOCs? Although these types of assessments are very important, there is much more to assessing students than a snapshot approach at the end of the year or the end of a course. Learn how assessment used during instruction can increase results on standardized tests, prepare students to be self-directed learners for the 21st century, and create a comprehensive balanced assessment system.

Presenter: Sarah McManus

Sarah McManus, Ph.D. serves as the Section Chief of the Testing Policy and Operations section within the Accountability Services Division at the North Carolina Department of Public Instruction.

II. Test Security + (x) = Valid Information
Implementing the Test Security Equation Yields Valid Information

The Test Security training is crafted to create awareness of security policies, procedures, and preventative measures that will aid in North Carolina standardized tests being properly administered and interpreted as well as the results being valid.

Presenter: Iris Garner

Iris L. Garner, Ph.D. works at the North Carolina Department of Instruction, in the Accountability Services Division as a high school Education Research and Evaluation Consultant in the Testing Policy and Operation section. She facilitates the NC Testing Security Advisory Committee.

III. NC Early Math Placement Testing: An EYE-OPENING EXPERIENCE as Students Prepare to Make the LEAP to College-Level Mathematics

The North Carolina EMPT Program provided a reality check of readiness to nearly 45,000 students during the last school year alone! Will all of your eligible students be on board during the upcoming 2008-2009 school year? See where the program's been, where it's headed, and what it can do for teachers and parents too! Take a guided tour of www.ncempt.org and discover a wealth of information at your fingertips!!

Presenter: Ellen Hilgoe

Ellen Hilgoe received her BS in Secondary Mathematics Education from Longwood College (VA) and her MAEd from East Carolina University. She has more than thirty years experience teaching mathematics at the high school and college levels. Ellen has been program manager of the NC EMPT Program since 1997. NC EMPT is now the largest EMPT program in the nation!

IV. Using Assessment to Promote Learning

What does assessment have to do with learning? Are assessments an art or a science? We will discuss practical strategies for using assessments appropriately.

Presenter: David Holdzkom

David Holdzkom joined Wake County Public Schools in May 2005 as the assistant superintendent for evaluation and research. His department is responsible for administering the state testing program, conducting program and policy evaluations, and conducting research related to the practices of highly effective teachers and schools. He also teaches assessment and accountability in the Masters program for experienced teachers at UNC-CH.

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."