



2019 CURRICULUM LEADERS' CONFERENCE NUMERACY AND THE WHOLE CHILD



SEPTEMBER 25, 2019 | THE CLASSIC CENTER | ATHENS, GEORGIA

WELCOME

NUMERACY AND THE WHOLE CHILD

The Curriculum and Instruction team, part of the Office of Teaching and Learning at the Georgia Department of Education, is pleased to host this day of learning. We are happy to provide this conference as an opportunity for curriculum and instructional leaders to learn more about how we can improve numeracy across Georgia.

Numeracy is often defined as the ability to access, use, interpret, and communicate mathematical information and concepts. It also includes the ability to decipher problems, reasoning, and analyzing information.

The ability to understand the “language” of mathematics, use numbers to help solve real-world problems, recognize patterns, and generalize pattern recognition to various contexts are vital for a student’s future success. The stronger that students’ numerical comprehension skills are, the greater their chances of achieving success. This is becoming increasingly important in today’s information-rich society.

This year, our conference will emphasize numeracy and the whole child. The keynote

speaker, Ann Dominick (Ed.D.), is a nationally recognized expert in the area of mathematics education. She brings a wealth of knowledge about evidence-based practices for improving numeracy instruction and learning. Dominick will discuss how to improve numeracy instruction across the content areas, so all learners can be successful.

Our conference topics are focused on numeracy integration across all content areas. We will demonstrate that integration within the following areas of focus: English language arts, social studies, STEM/STEAM, Georgia’s tiered system of supports for students, science, health and physical education, computer science, fine arts, and advanced placement.

Thank you for your support, leadership, and collaboration in “Educating Georgia’s Future.”

Sincerely,

Justin D. Hill, Ed.S.

Director of Curriculum and Instruction
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KEYNOTE SPEAKER

ANN DOMINICK

Ann Dominick (Ed.D) received her undergraduate degree in education from Auburn University, a master's in education from the University of Alabama at Birmingham, a doctorate from Vanderbilt University, and a Certificate of Advanced Studies in Curriculum and Instruction at Harvard University. She was awarded the National Science Foundation's Presidential Award for Excellence in Teaching Elementary Mathematics and is a former Alabama State Teacher of the Year. She is currently an Assistant Professor at the University of Alabama at Birmingham teaching mathematics and education courses and preparing undergraduates to be secondary mathematics and science teachers. Dominick is the co-author of "Number Talks: Fractions, Decimals, & Percentages."



HOW CAN TEACHING NUMERICAL REASONING BENEFIT THE WHOLE CHILD?

Numerical reasoning means being able to make sense of numbers and operations and quantitative situations. How does teaching numerical reasoning benefit the whole child and what does teaching math in an environment where students are safe, engaged, supported, and challenged look like? Number Talks are a 5 to 15-minute classroom conversation around carefully crafted problems that are solved mentally and can serve as an important tool for developing numerical reasoning. Come learn about the effects Number Talks have on the whole child.

WEDNESDAY, SEPTEMBER 25

7:30-8:30 a.m.	Conference Check-in Continental Breakfast	Athena D Pre-Function Athena Pre-Function
8:30-9:00 a.m.	Welcome Introduction of Richard Woods, State School Superintendent, by Caitlin McMann Dooley (Ph.D.), Deputy Superintendent	Athena Ballroom A-J
9:00-10:15 a.m.	Keynote Speaker Ann Dominick (Ed.D) <i>How Can Teaching Numerical Reasoning Benefit the Whole Child?</i>	Athena Ballroom A-J
10:15-10:30 a.m.	Break	Athena Pre-Function
10:30-11:00 a.m.	<i>Mapping the State of Teaching and Learning in Georgia: You are Here</i> Caitlin McMann Dooley (Ph.D.), Deputy Superintendent Georgia's educational outcomes continue to rise as teachers, students, and families put their very best into teaching and learning. This presentation will show statewide data improvements and demonstrate how some schools are reaching their highest outcomes ever.	Athena Ballroom A-J
11:10 a.m.-12:10 p.m.	Lunch	Grand Hall 8
Breakout Sessions A-G		
12:20-1:10 p.m.	Session A Number Talks: A Tool for Building Mathematical Confidence Ann Dominick (Ed.D.)	Olympia 1
	Session B Numeracy in Social Studies: It all Adds Up Joy Hatcher, Social Studies Program Manager JoAnn Wood, Social Studies Program Specialist Jennifer Zumberis, Social Studies Program Specialist Becky Ryckley (Ph.D.), Coordinator for Social Studies, Gifted, and Advanced Placement, Fayette County Schools Sally Meyer (Ph.D.), Instructional Content Coach for Social Studies, Fayette County Public Schools	Olympia 2

Session C

Parthenon 1

Integrating Numeracy in your STEM/STEAM School/Program

Meghan McFerrin, STEM/STEAM Program Specialist
Rontra Brown, STEM/STEAM Program Specialist, Southwest Georgia RESA
Allyson Morgan, STEM/STEAM Program Specialist, First District RESA

Session D

Parthenon 2

Developing Foundational Numeracy Using the Georgia Numeracy Project

Lya Snell (Ph.D.), Mathematics Program Manager
Brooke Kline, Secondary Mathematics Program Manager
Michael Wiernicki, Elementary Mathematics Program Specialist
Michelle Clay, Numeracy Project Lead Teacher, Floyd County Schools

Session E

Grand Hall 1

Mathtivity: Integrating Numeracy in Health and Physical Education

Christi Kay, President, HealthMPowers

Session F

Grand Hall 2

Science and Numeracy: Engaging in the Practices

Amanda Buice, Science Program Manager
Keith Crandall, Science Program Specialist
Renee Shirley-Stevens, Science/Special Ed Program Specialist
Donald White, Science Content Specialist, Coweta County Schools

Session G

Grand Hall 3

Numeracy Strategies for Advanced Students

Gail Humble, College Readiness/Talent Development Program Manager
Mary Jean Banter, College Readiness/Talent Development Program Specialist
Martha Cantrell, Gifted Program and College Planning Coordinator, Habersham County Schools

1:10-2:05 p.m.

Repeat Breakout Sessions A-G

2:05-2:15 p.m.

Break

Athena Pre-Function
Olympia Pre-Function

Breakout Sessions H-M

Session H

2:20-3:10 p.m.

A Professional Learning Model to Develop Strong Instructional Practices

Olympia 1

Juan-Carlos Aguilar (Ph.D.), Director of Innovative Programs and Research
William Harn, High School Science Teacher, Vidalia City Schools

WEDNESDAY, SEPTEMBER 25

Session I

Olympia 2

Frenemies: Bringing Numbers and Words Together for Harmony

Stephanie Sanders, Program Manager for ELA
Breanne Houston, Program Specialist for ELA
Anisha Donald, Program Specialist for ELA
Franeka Colley, Program Specialist for ELA

Session J

Parthenon 1

Integrating Numeracy in Computer Science

Bryan Cox, Computer Science Program Specialist

Session K

Parthenon 2

Numeracy and the Arts: Integration Works!

Jessica Booth, Fine Arts Program Manager
Paul McClain, Fine Arts Program Specialist

Session L

Grand Hall 1

Let Students Play: Improving Numeracy Skills with Sports Data

Laura Evans, Director of Education, Georgia Public Broadcasting
Brad Fountain, Director, Teaching and Learning Team, Discovery Education

Session M

Grand Hall 2

“Tiered” Up to Support Numeracy through Effective MTSS Practices

Karen Suddeth, Program Manager, Georgia’s Tiered System of Supports
Deshonda Stringer, Regional Specialist, Georgia’s Tiered System of Supports
Jenise Sexton, Mathematics Program Specialist
Sam Sabaka, Coordinator, RTI/SST, Section 504, PBIS, and Psychological Services, Paulding County School District

3:10-4:00 p.m.

Repeat Breakout Sessions H-M

SESSION DESCRIPTIONS

SESSION A | OLYMPIA 1 **NUMBER TALKS: A TOOL FOR BUILDING MATHEMATICAL CONFIDENCE**

Number Talks are a 5-15-minute classroom conversation around carefully crafted problems that are solved mentally. This session will focus on the power of using Number Talks to help students gain a better understanding of numbers and how they work. Participants will engage in Number Talks, view videos of students engaged in Number Talks, and learn how to help teachers plan and implement effective Number Talks for use in their classrooms.

SESSION B | OLYMPIA 2 **NUMERACY IN SOCIAL STUDIES: IT ALL ADDS UP**

Numeracy and social studies might sound like the old saying about politics (strange bedfellows); however, the two subjects actually help promote relevance and critical thinking for students. Integrating numeracy into social studies helps students contextualize knowledge and improve their reasoning skills to mirror the work of social scientists. This session will provide connections to research and examples of social studies lessons with embedded mathematical skills practice used in Fayette County. We will share activities that utilize the census or other data sources that require students to practice and extend the skills they have already learned in math class asking students to make connections between math and the real world.

SESSION C | PARTHENON 1 **INTEGRATING NUMERACY IN YOUR STEM/STEAM SCHOOL/PROGRAM**

STEM and STEAM provide context for and hands-on application of standards. Join this session to learn ways that schools across Georgia are using STEM and STEAM teaching and learning to bring numeracy to life. This session will explore examples of how educators have partnered with business and industry to develop real-world scenarios that engage students with mathematics content.

SESSION D | PARTHENON 2 **DEVELOPING FOUNDATIONAL NUMERACY USING THE GEORGIA NUMERACY PROJECT**

This presentation will focus on using Georgia's Numeracy Project Framework which is a free intervention resource provided for all learners. This session will briefly discuss the assessments used to support teachers and students on their quest to develop the numeracy skills needed to be proficient in their core mathematics instruction. The majority of the session will lead educators through the process of using the intervention and progress monitoring tools to discover activities needed to fill gaps in students' mathematical learning and then chart the students' progress. This will be a hands-on learning experience. Participants will leave with the knowledge needed to implement this resource in their school district, school, or classroom immediately.

SESSION E | GRAND HALL 1 **MATHTIVITY: INTEGRATING NUMERACY IN HEALTH AND PHYSICAL EDUCATION**

Mathtivity is a program that integrates math concepts with physical activity at the elementary school level (K-5). The program was developed through a joint effort between the Georgia Department of Education and HealthMPowers. In this session, participants will actively explore how health, physical education, and numeracy are more aligned than many might imagine.

SESSION F | GRAND HALL 2 **SCIENCE AND NUMERACY: ENGAGING IN THE PRACTICES**

In both the standards for mathematical practices and science and engineering practices, we ask students to develop and use models and construct arguments. In science, students need to analyze and interpret data and use mathematics and computational thinking. Join us as we navigate this intersection of numeracy and science. Engage in a real-world phenomenon involving bee decline and pollination. We'll explore how students in Coweta County School System integrate their math and science skills to design robo-pollinators.

SESSION DESCRIPTIONS

SESSION G | GRAND HALL 3 **NUMERACY STRATEGIES FOR ADVANCED STUDENTS**

In this session, you will learn about the strategies math teachers successfully implement to further develop numeracy skills and mathematical talent in Georgia classrooms for students scoring at grade level or above. Come discuss strategies employed to ensure students gain the numeracy skills and concept development needed to be successful in high school and college. See and discuss the strategies that will make your district's students competent, confident, and ready to take on the challenge of higher mathematical thinking.

SESSION H | OLYMPIA 1 **A PROFESSIONAL LEARNING MODEL TO DEVELOP STRONG INSTRUCTIONAL PRACTICES**

This session will highlight a professional learning model titled, "I can Deconstruct, Test, and Teach to the Standards" being implemented in Vidalia City Schools to support fidelity of alignment between taught curriculum and the standards. Vidalia City Schools have used the Georgia Standards of Excellence to develop learning targets, using "I Can" statements and associated success criteria derived from the standards. Vidalia City Schools' teachers have modified and/or created instructional lessons using the 5E model that support these learning targets and assessment items aligned to their success criteria statements.

SESSION I | OLYMPIA 2 **FRENEMIES: BRINGING NUMBERS AND WORDS TOGETHER FOR HARMONY**

Often, students (and teachers) may view literacy and numeracy as two direct opposites; however, both are crucial for accessing the broader curriculum and are often used together in many aspects of our lives. In this session, we want to dispel the notion that words and numbers do not get along. This session will focus on the use of diverse strategies to stimulate students' interest in meaningful literacy and numeracy experiences.

SESSION J | PARTHENON 1 **INTEGRATING NUMERACY IN COMPUTER SCIENCE**

Computer science, as defined in Georgia, is "the study of computational thinking, computing devices, and their impact on society." Computational thinking is the problem-solving approach a computer scientist would use to address a challenge. This strategy is also employed by non-computer scientists as an evolution of previous

problem-solving strategies (e.g., critical thinking, deductive reasoning, engineering design process, etc.) and includes characteristics of each. Abstraction, decomposition, pattern recognition, and algorithmic thinking are among the more commonly agreed upon components of computational thinking and, incidentally, are also characteristics of people with strong numeracy skills. This session will explore these characteristics, look at how strong math skills are used to gauge success in computer science experiences, and discuss how engaging in computer science education could improve student efficacy and ability in math classes.

SESSION K | PARTHENON 2 **NUMERACY AND THE ARTS: INTEGRATION WORKS!**

Instead of teaching math as a stand-alone subject, learn how teachers are using dance, drama, music, and visual arts to teach numeracy in an engaging way both in and out of the arts classroom.

SESSION L | GRAND HALL 1 **LET STUDENTS PLAY: IMPROVING NUMERACY SKILLS WITH SPORTS DATA**

Many students we struggle to reach in the classroom will spend hours debating who is the best basketball, football, or soccer player and use statistics and data to support their argument. Join GPB Education and Discovery Education to learn how we can channel that passion to engage students in everyday math skills that not only address our curriculum, but also build excitement around math. In this session, we will look at practical ways to use data from innovative, free resources to teach math concepts.

SESSION M | GRAND HALL 2 **"TIERED" UP TO SUPPORT NUMERACY THROUGH EFFECTIVE MTSS PRACTICES**

This session will provide information to support numeracy skills for the whole child through an effective tiered system of supports. An emphasis on ensuring the infrastructure component is solid to support instruction and strengthen numeracy skills in students within Tier I core instruction of the multi-level prevention system will be a focus. Additionally, information will be shared regarding Paulding County School District's role in providing school supports for the multi-tiered system of supports for students in mathematics. Participants will identify next steps to support continued instruction in mathematics.