NATIONAL CONFERENCE 2015

Los Angeles, CA

June 25-27, 2015

Centinela Valley Center for the Arts and Lawndale High School

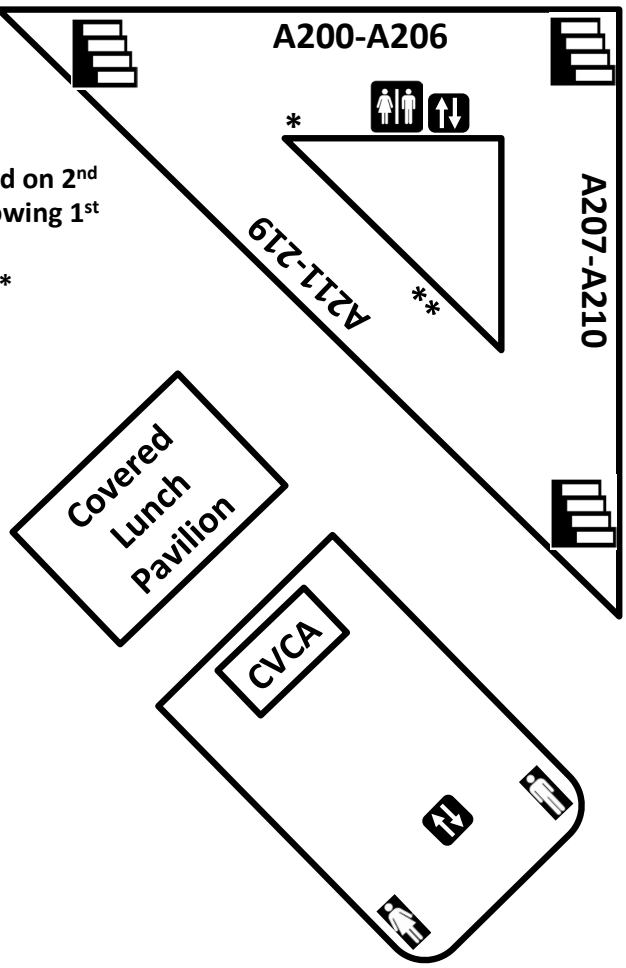
14901 Inglewood Avenue

Lawndale, CA 90260

Venue Map

All Session Rooms Located on 2nd Floor, except for the following 1st Floor Rooms:

- **Digital Media Center ***
- **A131/A132****



Welcome

Equity, Access, and Students' Identities in the Teaching and Learning of Mathematics

Cognitively Guided Instruction (CGI)
Eighth Biennial National Conference

June 25-27, 2015
Los Angeles, California

Providing opportunity for all students to learn with understanding is a necessary but not sufficient condition for addressing equity in the teaching and learning of mathematics. Working toward equity in mathematics learning requires attention to not only how a student thinks about mathematics but also all aspects of who the student is and the resources a student brings to learning as well as how school and societal structures shape a student's opportunities to learn (Children's Mathematics 2nd Ed., p. 191).

Welcome to sunny southern California! We are delighted that you have joined us to be a part of the largest CGI conference to date! Now celebrating its 30th year, Cognitively Guided Instruction continues to grow by leaps and bounds. We are grateful to all who have graciously agreed to present, coordinate, and otherwise devote their time, expertise, and resources to make this conference possible. A special thank you to Vicki Jacobs and Megan Franke for their continuing guidance and encouragement – we could not have done this without you!

Enjoy the conference everyone!

Melissa Canham, Joan Case, Jody Guarino,
Carolee Koehn Hurtado, Nick Johnson, and Angela Chan Turrou
2015 Conference Planning Committee

@cgi2015 #cgi2015la

Cognitively Guided Instruction

Submit conference photos for use in our closing session to CGI2015conference@gmail.com

Keynotes

Megan Franke & Tyrone Howard

Productive Struggle and the Complexity of Culture

As CGI teachers we are eliciting students' thinking and inviting and supporting them to engage together in productive mathematical struggle. We want to explore together how the cultural ways of knowing, thinking, and expressing that students bring to the classroom shape their participation. We will engage in conversation around what this means for how we consider school/classroom structures that shape participation and the moves we make as teachers to engage and support each student.

Elham Kazemi & Allison Hintz

Intentional Talk: How to Structure and Lead Productive Mathematical Discussions

Leading productive discussions requires careful thinking about the mathematical goal and how to support children to participate meaningfully. We will describe how thinking about different goals for math talk, from open strategy sharing to targeted sharing, can help teachers better design discussions to meet those goals. We will focus on four principles at the heart of creating classrooms where children can participate equitably: supporting students to know what and how to share, orienting students to each other and the mathematics, and communicating that students are sense-makers and their ideas are valued.

Vicki Jacobs & Susan Empson

They've gotten the right answer! Now what?

Mathematical conversations do not have to end after the correct answer is given! Continuing the conversation helps students to deepen understanding and make connections to other mathematical ideas. However, these conversations happen infrequently in many classrooms. Using video and written student work drawn from K – 5 students' thinking about whole numbers and fractions, we will explore categories of teaching moves that can help teachers and students get the most out of post-answer discussions during problem solving.

Schedule Overview

Thursday, June 25, 2015

3:00 p.m.	5:00 p.m.	Registration and Gourmet Food Trucks
5:00 p.m.	7:00 p.m.	Welcome and Opening Keynote from Megan Franke & Tyrone Howard
7:00 p.m.	8:00 p.m.	Evening Dessert Reception

Friday, June 26, 2015

8:00 a.m.	9:00 a.m.	Breakfast
9:00 a.m.	10:30 a.m.	Keynote - Elham Kazemi & Allison Hintz
10:30 a.m.	10:45 p.m.	Morning Break
10:45 a.m.	12:15 p.m.	Sessions
12:15 p.m.	1:30 p.m.	Lunch
1:30 p.m.	3:00 p.m.	Keynote - Vicki Jacobs & Susan Empson
3:00 p.m.	3:30 p.m.	Afternoon Break
3:30 p.m.	5:00 p.m.	Sessions

Saturday, June 27, 2015

7:30 a.m.	8:30 a.m.	Breakfast
8:30 a.m.	10:00 a.m.	Sessions
10:00 a.m.	10:30 a.m.	Morning Break
10:30 a.m.	12:00 p.m.	Sessions
12:00 p.m.	1:30 p.m.	Lunch
1:30 p.m.	3:00 p.m.	Sessions
3:00 p.m.	3:30 p.m.	Afternoon Break
3:30 p.m.	5:00 p.m.	Interactive Closing Session: 30 Years of CGI

All Keynotes and Interactive Closing Session will be held in the CVCA (main auditorium). Attendance to all sessions will be first-come, first-served basis. Doors to session rooms will be closed when sessions reach capacity.

Breakfast will be served in the CVCA (main auditorium), in the second floor foyer. Lunch will be served in the Covered Lunch Pavilion.

Program at a Glance
Friday, June 26, 2015

Location	*10:45 am - 12:15 pm*	*3:30 pm - 5:00 pm*
Digital Media Center	**A1** **Megan Franke** *(1-5) Engaging CGI Students in Each Other's Mathematical Ideas*	**B1** **Elham Kazemi/Alison Fox/Julie Anderson** *(K-6) Getting a Picture of What your Kids Can Do and Know Mathematically*
A131 & A132	**A2** **Jae M. Baek** *(3-6) Children's Strategies for Multidigit Multiplication*	**B2** **Jeanie Behrend/Laura Delmas** *(K-6 Sp Ed) Special Education Success With CGI*
A202	**A3** **Cheryl Lubinski/Al Otto** *(PreK/TK-8) Reflecting on Our Own Mathematical Reasoning*	**B3** **Rachel Lambert/Sara Lev** *(K-5) Number Strings and Number Sets: Integrating CGI with a Routine to Develop Computational Fluency*
A203		**B4** **Shari Kaku/Chizuko Morimoto** *(PreK/TK-1) Getting Kindergarten Students to Share Their Mathematical Thinking*
A204	**A4** **Cherise Jones** *(3-5) Building Number Sense Around Fractions*	**B5** **Debbie Gates** *(K-5) Developing an Understanding of Fractions Through Equal Share Problems*
A205	**A5** **Laura Mohs/Jeanie Behrend** *(1-6) CGI is Not Just Story Problems: The Power of Math Warm-Ups*	**B6** **Filiberto Barajas-López** *(3-8) Attending to the Intersections of Mathematical and Racial Identity Development*
A208	**A6** **Kim Morchower/Shernice Lazare** *(K-6) Relational Thinking in a CGI Classroom*	**B7** **Jody Guarino/Cathery Yeh** *(PreK/TK-5) Orchestrating Powerful Discussions: Building a Discourse Community*
A209	**A7** **Theodore Chao** *(K-5) Problem Solving Interviews Using Your Phone*	**B8** **Laura B. Kent** *(4-8) Fraction Problems and Student's Sense Making Strategies*
A211	**A8** **Lynsey Gibbons/Teresa Lind** *(PreK-5) Coaching Teachers Through Focusing on Student Thinking*	**B9** **Cathy Nguyen/Nicole Moscoso** *(PreK/TK-5) Math Warm-Ups That engage Students in Deep Mathematical Thinking*
A212	**A9** **Jennifer Toledo/Heather Nash/Lisa Mitchener** *(K-6) Managing the CGI Elementary Classroom*	**B10** **Rosangela Vierra/Kelly Serrano/Rebecca Heneise** *(3-5) Writing Cross-Curricular CGI Differentiated Word Problems*
A213	***A10*** ***Lynne Nielsen*** *(3-6) Classroom Discourse-More Than Show-and-Tell*	**B11** **Luz A. Maldonado** *(K-3) Exploring the Posing and Sequencing of Problems: A Collaborative Approach*
A214	**A11** **Rosa Starke** *(K-2) CGI Addition and Subtraction Problem Types*	**B12** **Lisa Lamb/Kristin Gibson** *(1-6) Children's Ideas About Negative Numbers*
A215	**A12** **Dinah Brown/Shelley Petersen/Kristin Gibson/Rachel Matteson (***K-6) Lessons Learned: Districtwide CGI Implementation*	**B13** **Dinah Brown/Dyanne Van Den Heuvel** *(1-3) Supporting and Extending Student Thinking Through Questioning*
A216	**A13** **Olof Steinthorsdottir** *(5-8) Students' Strategies on Missing Value Proportion Problems*	***B14*** ***Leslie Whitaker/Lori Simpson*** *(3-6) Developing Number Sense in the Upper Grades*
A217	**A14** **Wendy Moulton/Trish Morrissey** *(PreK/TK-2) Building Number Sense With Counting Collections*	**B15** **Melissa Canham/Glenda Martinez** *(K-6) Let's Talk About Talk*
A219	**A15** **Debra Plowman Junk** *(Leaders) Are We There Yet?*	**B16** **Angela Chan Turrou** *(2-5) Leveraging "Counting Collections" to Build Mathematical Ideas in the Intermediate Grades*

Friday, June 26, 2015
10:45 a.m. - 12:15 p.m.

Session presenters have indicated a target audience for their sessions, based on grade level and CGI experience:

All - Participants with any level of CGI experience are welcome.
Begin - This session will be particularly useful to people who are relatively new to CGI.
Exp - This session will be most useful to people who have been using CGI for 2 or more years.
PD - This session will be specifically targeted for professional developers who are helping teachers learn about CGI.
Admin - This session will be specifically targeted for administrators.

Engaging CGI Students in Each Other's Mathematical Ideas
Megan Franke, *University of California, Los Angeles*

Location • Digital Media Center
Target Audience • 1-5
CGI Experience • All

Engaging students in each other's mathematical ideas requires more than an initial invitation, it requires teacher support. While CGI classrooms are rich with students explaining, it is often difficult to know how to support students to take up the invitation and engage with other's ideas. This session draws on research evidence and uses video to engage participants in what we have learned about the range of potential moves that can be made in interaction with students to support student engagement with each other's ideas.

Children's Strategies for Multidigit Multiplication
Jae M. Baek, *Illinois State University*

Location • A131 & A132
Target Audience • 3-6
CGI Experience • Exp, PD

In this session, participants will investigate different types of strategies that children in grades 3-6 construct for multidigit multiplication problems as well as properties of operations embedded in the strategies. Instructional strategies and CCSS implications will be discussed.

Are We There Yet?
Debra Plowman Junk, *University of Texas*

Location • A219
Target Audience • Leaders
CGI Experience • All

This session will tell the story of CGI since its beginnings in the 1980's from one teacher-facilitator's perspective. Included in the talk will be connections to current research on effective professional development and international assessments of math achievement. The presentation will also provide an opportunity for participants to share their own history of their involvement in CGI.

Friday, June 26, 2015
10:45 a.m. - 12:15 p.m.

Coaching Teachers Through Focusing on Student Thinking
Lynsey Gibbons, *University of Washington*
Teresa Lind, *Renton School District*

Location • A211
Target Audience • PreK-5
CGI Experience • PD, Admin

What do effective coaching conversations sound like? Coaches are charged with the task of improving student learning through providing ongoing, job-embedded support to teachers. In this session we discuss how mathematics coaches can use CGI frameworks in their coaching conversations with teachers. We will also explore coaching routines that support rich conversations about teaching and learning mathematics.

Managing the CGI Elementary Classroom
Jennifer Toledo, *Downey Unified School District*
Heather Nash, *Downey Unified School District*
Lisa Mitchener, *Downey Unified School District*

Location • A212
Target Audience • K-6
CGI Experience • All

Are you interested in learning ideas about how to manage your math block in the elementary classroom? Would you like to walk away with some strategies that you can implement in your classroom right away? In our session we will show you different ways of organizing and implementing Common Core State Standards using CGI practices. We will look at routines that consist of number talks, choral counting, partner interaction, questioning strategies and more.

Classroom Discourse-More Than Show-and-Tell
Lynne Nielsen, Ed.D., *Louisiana Tech University*

Location • A213
Target Audience • 3-6
CGI Experience • All

Teachers will participate in a problem-solving activity involving computation of fractions. Their strategies will be strategically shared with discussion surrounding how to conduct the share-out of similar problems in their own classrooms. Participants will leave with a framework by which to categorize their students' thinking and a plan for choosing strategies to be shared.

CGI Addition and Subtraction Problem Types
Rosa Starke, *University of California, Los Angeles Math Project*

Location • A214
Target Audience • K-2
CGI Experience • Begin

In this session, we will explore how CGI encourages children's thinking and strategies to evolve in solving addition and subtraction problems. Participants will have the opportunity to work collaboratively as we work through various problem types.

Friday, June 26, 2015
10:45 a.m. - 12:15 p.m.

Lessons Learned: Districtwide CGI Implementation
Dinah Brown, Shelley Petersen, Kristin Gibson, Rachel Matteson
Del Mar Union School District/TDG

Location • A215
Target Audience • K-6,
CGI Experience • All, PD, Admin, Parents

To meet the needs of students and teachers during the implementation of the Common Core, our district invested resources in CGI Professional Learning. In this session, we will be sharing our plan including the involvement of all stakeholders, including parents, teachers and administrators. We will discuss modifications to our model along the way, lessons learned, and our continued vision.

Students' Strategies on Missing Value Proportion Problems
Olof Steinthorsdottir, *University of Northern Iowa*

Location • A216
Target Audience • 5-8
CGI Experience • All

We will address students' proportional reasoning by exploring how their solution strategies vary on missing value proportion problems. We will share data from over 400 students (grades 5-8). Activities will include analyzing student work to recognize common strategies. This will engage teachers in conversations regarding critical components of proportional reasoning tasks. An awareness of these critical components will help teachers predict the difficulty level of tasks and better sequence them. Participants with any level of CGI experience are welcome.

Building Number Sense With Counting Collections
Wendy Moulton, *Lucille Smith Elementary,*
Lawndale Elementary School District
Trish Morrissey, *Lucille Smith Elementary,*
Lawndale Elementary School District

Location • A217
Target Audience • PreK/TK-2
CGI Experience • Begin

Find out how to get started with this easily differentiated math task. Help your students learn how and when to use appropriate tools while developing counting fluency through counting collections. See solutions for classroom management and collection organization. Learn how counting strategies will help your students become more efficient mathematicians and CGI problem solvers.

Relational Thinking in a CGI Classroom
Kim Morchower, *University of California, Los Angeles Lab School*
Shernice Lazare, *University of California, Los Angeles Lab School*

Location • A208
Target Audience • K-6
CGI Experience • All

A look at how one classroom builds relational thinking with students. This session will focus on how to involve all students to engage in class discussions around the equal sign, true and false statements, and using prior knowledge to promote efficiency and mental computations. We will also discuss a variety of class activities and warm-ups that involve relational thinking.

Friday, June 26, 2015
10:45 a.m. - 12:15 p.m.

Problem Solving Interviews using Your Phone
Theodore Chao, *Ohio State University*

Location • A209
Target Audience • K-5
CGI Experience • All

Watching and listening to a child's strategy unveils how he or she thinks. We usually try to accomplish this through problem solving interviews. These interviews take a lot of time to do, and the children's strategy, in the heat of the moment, can be hard to unpack. We present ways to utilize mobile technology, mainly your phone, to engage students in problem solving interviews that help both teacher and students communicate through video and text messages. Teachers learn how to better attend to and respond to children's thinking. Students learn how to better explain and share their mathematical thinking.

Building Number Sense Around Fractions
Cherise Jones, *Mark Twain Elementary School,*
Lawndale Elementary School District

Location • A204
Target Audience • 3-5
CGI Experience • All

This session will explore using warm-up activities to build number sense around fractions that address common student misconceptions. Topics of discussion will include student talk during warm-ups, effective teacher questioning, and how to create warm-ups of your own. Participants will contribute to the discussion and creation of several examples of each type of warm-up that they can take back to their classrooms and use immediately.

CGI is Not Just Story Problems: The Power of Math Warm-Ups
Laura Mohs, *Visalia Unified School District*
Jeanie Behrend, *Fresno State University*

Location • A205
Target Audience • 1-6
CGI Experience • All

Quick math warm-ups provide teachers with an opportunity to explore big ideas in mathematics that don't always come up in discussions about the solutions of story problems. With minimal prep time and the right questions, these warm-ups can lead students to powerful connections and a deeper understanding of mathematics. In our session, we will share some classroom-tested tasks and examples of discussions, as well as brainstorm tasks, problems, and questions you can use in your own classroom.

Reflecting on Our Own Mathematical Reasoning
Cheryl Lubinski, *Professor of Mathematics Emerita,*
Illinois State University
Al Otto, *Professor of Mathematics Emeritus, Illinois State University*

Location • A202
Target Audience • PreK/TK - 8
CGI Experience • All

We believe that CGI teachers who have experiences learning mathematics, as they are expected to teach mathematics, improve their CGI decision-making processes in their own classrooms. CGI teachers are routinely assessing students' mathematical reasoning and planning instruction based on what they learn. In this session we will solve problems that can cause us to reflect on our own mathematical reasoning to better anticipate and help us to understand the mathematical reasoning of our students. We will use problems from our work with teachers that can be solved with pictures or symbols.

Friday, June 26, 2015
3:30 p.m. - 5:00 p.m.

Getting a Picture of What Your Kids Can Do and Know Mathematically
Elham Kazemi, *University of Washington*
Alison Fox, *University of Washington*
Julie Anderson, *University of Washington*

Location • Digital Media Center
Target Audience • K-6
CGI Experience • Exp, PD, Admin

In order to design school-wide professional development and support teachers to develop high-quality instructional practices, we created and implemented an approach to collecting data based on CGI to assess students' mathematical thinking across grades K-5. The assessment and approach to collecting data consists of counting, addition, multiplication, division, and relational thinking tasks appropriate for each grade level. Participants will look at examples of students' thinking and consider how teachers can make decisions about instructional activities that could be used to support students' thinking in the domain of number. This session will explain the 6-item assessment, and explore how the assessment was used across one school by teachers to make instructional decisions. Teachers, coaches and principals will find this session helpful in guiding data use by grade level teams across the school.

Special Education Success with CGI
Jeanie Behrend, *California State University, Fresno*
Laura Delmas, *Chowchilla Elementary School District*

Location • A131 & A132
Target Audience • K-6 Special Ed
CGI Experience • All

How does CGI work in a special education classroom? Success happens! Using data, student examples, and video segments, this session will document 5th and 6th grade students' growth in mathematics since CGI was implemented. Examples of how to get started, questioning techniques, struggles, and problem selection will be shared. Other benefits of CGI for the special education students and the teacher will be addressed. Participants with any level of CGI experience are welcome.

Leveraging "Counting Collections" to Build Mathematical Ideas in the Intermediate Grades
Angela Chan Turrou, *University of California, Los Angeles*

Location • A219
Target Audience • 2-5
CGI Experience • All

Counting "collections" of objects is common in primary grades, but less often implemented in intermediate/upper elementary. This session uses video, student work, and interactive tasks to explore the teacher's role in leveraging sophisticated mathematical work from student thinking (with a specific focus on symbolic notation and properties of operations) as students collaborate together around counting collections.

Math Warm-Ups That Engage Students in Deep Mathematical Thinking
Cathy Nguyen, *Lucille Smith Elementary*
Nicole Moscoso, *Lawndale Elementary School District*

Location • A211
Target Audience • PreK/TK-5
CGI Experience • All

Increase number sense and deep conceptual understanding to prepare your students for solving CGI problems through various number sense routines. Participants will have opportunities to engage and observe how these short "warm-up" activities address many of the Standards of Mathematical Practice (SMP's) and encourage deep mathematical thinking in students. Participants with any level of CGI experience are welcome.

Friday, June 26, 2015
3:30 p.m. - 5:00 p.m.

Writing Cross-Curricular CGI Differentiated Word Problems in a Dual-Language Classroom
Rosangela Viera, *University of California, Los Angeles Lab School*
Kelly Serrano, *University of California, Los Angeles Lab School*
Rebecca Heneise, *University of California, Los Angeles Lab School*

Location • A212
Target Audience • 3-5
CGI Experience • All

Participants will gain a better understanding of how to write differentiated, meaningful and relatable math problems that include cross curricular content. Participants will explore examples of such problems and write problems that can be immediately used in their own classroom. Participants with any level of CGI experience are welcome.

Exploring the Posing and Sequencing of Problems: A Collaborative Approach
Luz A. Maldonado, *Texas State University*

Location • A213
Target Audience • K-3
CGI Experience • Begin

Teaching with word problems allows students' mathematical thinking to be illuminated through the identification of student strategies. How does the classroom teacher both organize that rich information in a manageable way and decide what problems to pose next in order to meet learning goals? These questions and the findings of a collaborative effort between a first-grade teacher and university researcher will be shared.

Children's Ideas About Negative Numbers
Lisa Lamb, *San Diego State University*
Kristin Gibson, *Teachers Development Group*

Location • A214
Target Audience • 1-6
CGI Experience • All

Through watching several video examples, participants will observe grades K-4 students reason about negative numbers. Participants will categorize and then discuss ways to build on those ideas.

Supporting and Extending Student Thinking Through Questioning
Dinah Brown, *Del Mar Union School District,*
Teachers Development Group
Dyanne Van Den Heuvel, *Independent Math Consultant*

Location • A215
Target Audience • 1-3
CGI Experience • Begin

Participants in this session will examine student work samples and watch video of students solving problems for the purpose of examining and refining questioning skills.

Friday, June 26, 2015
3:30 p.m. - 5:00 p.m.

Developing Number Sense in the Upper Grades
Leslie Whitaker, *Capistrano Unified School District*
Lori Simpson, *Capistrano Unified School District*

Location • A216
Target Audience • 3-6
CGI Experience • All

What is number sense? What does it look like in the upper grades? In this session we will become familiar with big ideas, strategies, and models such as subitizing, unitizing, and part-whole thinking. We will determine how these ideas are connected to the Common Core Standards and the Mathematical Practices. We will experience classroom routines such as choral counting, strategy sharing, and number strings that will build conceptual understanding and lead to procedural fluency.

Let's Talk About Talk
Melissa Canham, *Downey Unified School District*
Glenda Martinez, *Downey Unified School District*

Location • A217
Target Audience • K-6
CGI Experience • All

Facilitating productive student to student conversations about mathematics is a difficult task. In this session we will discuss how to engage all students in a rich dialogue during a lesson share-out. We will examine classroom videos and participate in an activity to discuss how a teacher can guide students' mathematical thinking through student discourse.

Orchestrating Powerful Discussions: Building a Discourse Community
Jody Guarino, *Orange County Department of Education*
Cathery Yeh, *University of California, Irvine*

Location • A208
Target Audience • PreK/TK - 5
CGI Experience • All

Engage in productive discussion that moves beyond showing and telling of student strategies. Unpack goals for math talk and discuss how to plan and orchestrate discussions that help students participate in and learn from strategy sharing. From setting clear learning goals and consideration of sequencing of strategies within the discussion to the use of public recording spaces and who we ask questions of and why. Learn strategies to support students to attend and respond to each other's thinking.

Fraction Problems and Student's Sense Making Strategies
Laura B. Kent, *University of Arkansas*

Location • A209
Target Audience • 4-8
CGI Experience • All

This session will explore students' sense making and invented strategies for solving multiple groups problems (Empson & Levi, 2011). Participants will examine the structure of multiple groups problems and ways in which students represent fraction quantities and use them to interpret and interact with fraction multiplication and division situations. Ideas for selecting, sequencing and posing contextualized fraction problems in upper elementary and middle school classrooms will be shared.

Friday, June 26, 2015
3:30 p.m. - 5:00 p.m.

Developing an Understanding of Fractions Through Equal Share Problems
Debbie Gates, *Fairfax County Public Schools, Alexandria, VA*

Location • A204
Target Audience • K-5
CGI Experience • All

This session is for those beginning to explore equal share problems with students. In this session, you will be put to work solving equal share problems, giving you the firsthand opportunity to experience how you can facilitate all students to work at their own level of understanding and at their developmental level. We will explore equal share problems and examine strategies children use as they begin to solve these problems.

Attending to the Instersection of Mathematical and Racial Identity Development
Filiberto Barajas-López, *University of Washington-Seattle*

Location • A205
Target Audience • 3-8
CGI Experience • All

Given the emergence of linguistically and racially diverse children throughout the nation, a great premium has been placed on strong examples of mathematics instruction for all. This session attends to understanding the relationship between disciplinary and racial identities. More specifically, a practice-based framework on mathematical identity development and racial identity development during the early years of schooling will be discussed.

Number Strings and Number Sets: Integrating CGI with a Routine to Develop Computational Fluency
Rachel Lambert, *Chapman University*
Sara Lev, *Citizens of the World, Mar Vista*

Location • A202
Target Audience • K-5
CGI Experience • All

Number strings are a powerful daily computational routine in which a teacher presents a carefully sequenced set of problems, facilitates discussion of multiple strategies and represents student thinking using mathematical models. This presentation will include the chance to experience a number string, as well as a discussion of their use in CGI classrooms.

Getting Kindergarten Students to Share Their Mathematical Thinking
Shari Kaku, *Independent Mathematics Education Consultant*
Chizuko Morimoto, *Torrance Unified School District*

Location • A203
Target Audience • PreK/TK-1
CGI Experience • All

Can kindergarteners talk about mathematics and record their mathematical thinking? Yes they can! Can we support them to articulate more clearly? Yes we can! Come join us as we share ways to make this happen through daily math routines and story problems.

Program at a Glance
Saturday, June 27, 2015

Location	8:30 am - 10:00 am	10:30 am - 12:00 pm	1:30 pm - 3:00 pm
Digital Media Center	**C/D1 Linda Jaslow/Linda Levi** *(2-6) Relational Thinking Strategies-Whole Number and Fraction Computation*		**E1 Luz A. Maldonado** *(K-4) Engaging English Learners in the CGI Classroom*
A131 & A132	**C/D2 Jae M. Baek** *(3-8) Children's Strategies for Multidigit Division*		**E2 Nick Johnson** (PreK/TK-5) *Number Choice Matters: Maximizing the Potential of Problems*
A202	**C3 Robert C. Schoen/Walter Secada/Amanda Tazaz** *(K-3) Results After the First Year of a Randomized-Controlled Trial of CGI*	**D3 Kelly Serrano/Rebecca Heneise** *(3-5) How to Preserve Math Identities in a Highly Differentiated CGI Classroom With Flexible Grouping (3rd-5th)*	**E3 James Christman** *(K-1) Problem Solving to Foster the Standards for Mathematical Practice*
A203	**C4 Jeff Shih/Cynthia Giorgis** *(PreK/TK-8) A Framework for Integrating Math with Children's Literature*	**D4 Kristine Ho** *(PreK/TK-8) CGI Coaching and Professional Developer Roundtable*	
A204	**C5 Megan Kelley-Petersen** *(K-5) Supporting Students' Algebraic Reasoning Through Math Games*	**D5 Tara Sanders** *(K-4) Plotting Your Course and Packing Your Suitcase: Beginning Your CGI Journey*	**E4 Ruth Balf/Kendra Lomax/Sarah Condreay** *(PreK/TK-8) Math Labs: Designing High Quality Job-Embedded Math Professional Development*
A205	***C6 Danielle Moore*** *(K-5) Problem Solving Structures*	**D6 Kendra Bookout/Cheryl Scott** *(1-5) The Distributive and Associative Nature of Base Ten*	**E5 Melissa Soto** *(1-5) Documenting Children's Mathematical Thinking with Screencasts*
A208	**C7 Carolee Koehn Hurtado** *(3-8) Investigating the World Around Us: Math, Social Justice, and CGI*	**D7 Brandon McMillan/Karen Recinos/Carolee Koehn Hurtado** *(PreK/TK-8) Transforming: Changing Parent Involvement to Parent Engagement*	***E6 Melanie Wenrick/Ben Avila*** *(3-6) Fractions: Building Number Sense Using Benchmarks*
A209	**C8 Gabrielle Sims** *(PreK/TK-2) Multiplication and Division in K/1*	**D8 Dinah Brown/Joan Case** *(3-5) Exploring Children's Strategies for Equal Sharing Fraction Problems*	***E7 Jo Ann Isken/Carolee Koehn Hurtado*** (1-3) Supporting CGI Schoolwide Success-A Session for Principals and Implementation Leaders
A211	**C9 Amy Hewitt/Naomi Jessup/ Vicki Jacobs** *(3-5) Exploring Children's Strategies for Equal Sharing Fraction Problems*	**D9 Leslie Banes/Rachel Restani** *(1-6) More Than Words Can Say: Third Graders' Understanding of Mathematical Word Problems*	**E8 Kim Romain/Patricia Goodman** *(K-5) CGI is More Than Presenting Word Problems*
A212	**C10 Monica Acosta/Noelani Morris** *(K-3) Warm-Ups Inspired by CGI Practices*	**D10 Rebecca Ambrose/Chelsea Le** *(K-5) Sharing Artifacts to Explore Students' Thinking*	**E9 Gladys Krause/D'Anna Pynes/Susan Empson** *(3-5) Notating the Mathematics In Children's Strategies for Fraction Problems*
A213	**C11 Kathleen Bird/Linda Picht** *(PreK/TK-2) Notating Student's Thinking*	**D11 Teri Malpass** *(PreK/TK-8) CGI Through and Through*	**E10 James Brickwedde** *(3-8) Transitioning From Additive to Multiplicative Thinking Grades 3-5*
A214	**C12 Debra Plowman Junk** *(Leaders) Successes and Challenges of the Embedded Classroom*	**D12 Corey Drake, et al.** *(K-5) Creating Problems that Connect to Children's Out-of-School Experiences*	**E11 Kassia Omohundro Wedekind** *(K-5) "We Are Mathematicians": Transforming Intervention Through Community, Problem Solving and Joy*
A215	**C13 Susan Tate/Melissa Canham** *(PreK/TK-2) Prep Less, Think More-CGI in the Primary Classroom*	***D13 Kendra Lomax/Stephanie Latimer*** *(K-5) Designing K-5 Math Intervention Based on Student Thinking*	**E12 Kristine Ho** *(K-6) Understanding the Heart of Division*
A216	**C14 Becca Lewis/Teresa Lind** *(3-5) Supporting Students to Develop an Understanding of Fractions*	**D14 Lio Moscardini/Chiara Moscardini** *(PreK/TK-8) Developing Inclusive Practice with CGI*	**D13 Mike Fredenberg** *(K-4) Number Choices: Rather Important When Designing or Adapting a Task*
A217	**C15 Adrian Cunard/Elizabeth Hartmann** *(1-5) Using "Compare and Connect" to Structure Strategy Sharing*	***D15 Ben Avila/Laura Bolton/Kelly Mahoney*** *(1-4) Incredible Equations: Developing Operations and Number Sense in Primary Grades*	**E14 Anita Wager/Renae DeBarbieri** *(PreK/TK-1) CGI in PreK: Imagine the Possibilities*
A219	**C16 Allison Hintz/Stephanie Latimer** *(PreK-TK-5) Counting Matters: Expanding Our Vision of Counting*	**D16 Darlene Fish Doto/Shernice Lazare** *(K-5) Counting, Counting, Counting*	**E15 Shernice Lazare/Darlene Fish Doto** *(2-5) Warm-Ups for the CGI Classroom*

Saturday, June 27, 2015
8:30 a.m. - 12:00 p.m. (Double Session)

These sessions are designed to span two conference session lengths, with a scheduled break, so that participants may go in-depth into the material being presented. Please plan accordingly to attend the full duration of the double session. Attendance at these sessions will be first-come, first-served.

Relational Thinking Strategies - Whole Number and Fraction Computation
Linda Jaslow, *Northwest Arkansas Education Services Cooperative*
Linda Levi, *Teachers Development Group*

Location • Digital Media Center
Target Audience • 2-6
CGI Experience • Exp

Students in CGI classrooms naturally engage with the properties of operation when they add, subtract, multiply and divide. We refer to abstract strategies that engage students with the properties of operations as Relational Thinking Strategies. Relational Thinking Strategies enhance the learning of arithmetic and provide a foundation for learning algebra. In this session we will examine how students apply Relational Thinking Strategies for fraction computation that are parallel to the Relational Thinking Strategies they use for whole number computation.

Children's Strategies for Multidigit Division
Jae M. Baek, *Illinois State University*

Location • A131 & A132
Target Audience • 3-8
CGI Experience • Exp, PD

In this session, participants will focus on children's strategies for multidigit division and instructional strategies. We will investigate what strategies children develop over time if they are encouraged to construct strategies based on their understanding of multiplicative concepts and contexts. Participants will explore how to classify different types of strategies, and to investigate underlying mathematics of the strategies, how to help children develop more sophisticated and fluent strategies, and how to help children to connect their division strategies to multiplication strategies.

Saturday, June 27, 2015
8:30 a.m. - 10:00 a.m.

Counting Matters: Expanding our Vision of Counting
Allison Hintz, *University of Washington, Bothell*
Stephanie Latimer, *Renton School District*

Location • A219
Target Audience • PreK-TK-5
CGI Experience • All

Counting is a vital skill in developing number sense. Children need lots of experience with counting to learn the number sequence and how to understand quantity and number composition. This session explores an important concept in early number counting. Participants will explore number routines and instructional conversations that they can implement in their classrooms to support students' counting abilities. We will explore the richness of mathematical work that teachers can pursue to deepen children's understanding of number.

Exploring Children's Strategies for Equal Sharing Fraction Problems
Amy Hewitt, *University of North Carolina at Greensboro*
Naomi Jessup, *University of North Carolina at Greensboro*
Vicki Jacobs, *University of North Carolina at Greensboro*

Location • A211
Target Audience • 3-5
CGI Experience • Begin

Based on *Extending Children's Mathematics: Fractions and Decimals*, we will explore students' strategies for solving equal sharing fraction problems. We will introduce a summary chart that teachers have found helpful when learning about and working with ideas from the book. Consistency between a traditional textbook perspective and a children's-thinking perspective on these strategies will also be discussed. This session is targeted for people relatively new to CGI. Session D8 addresses similar ideas for professional developers and experienced CGI teachers.

Warm-Ups Inspired by CGI Practices
Monica Acosta, *University of California, Los Angeles Lab School*
Noelani Morris, *University of California, Los Angeles Lab School*

Location • A212
Target Audience • K-3
CGI Experience • All

In this session participants will engage in and learn a variety of warm-up activities used to differentiate instruction, engage children in deep mathematical thinking, and provide multiple entry points for all of your mathematicians.

Notating Student's Thinking
Kathleen Bird, *Hesperia Unified School District*
Linda Picht, *Hesperia Unified School District*

Location • A213
Target Audience • PreK/TK-2
CGI Experience • All

In this session, participants will examine student work to discuss how to support and extend student learning. We will discuss how to encourage students to notate mathematically from their modeling and/or thought process.

Saturday, June 27, 2015
8:30 a.m. - 10:00 a.m.

Successes and Challenges of the Embedded Classroom
Debra Plowman Junk, *University of Texas*

Location • A214
Target Audience • Leaders
CGI Experience • Exp, PD

The embedded classroom involves real-time classroom lesson observations coupled with detailed information on students' strategies and detailed planning, followed-up by intense debriefing. In this session, related research demonstrating this type of PD activity as effective will be shared. CGI leaders and coaches who have not yet conducted an embedded classroom session are welcome as well as leaders who are experienced with the embedded classroom. The session will end with time for sharing experiences, challenges, and ideas with other CGI leaders so we can make use of the opportunities that arise when conducting embedded classroom lessons.

Prep Less, Think More - CGI in the Primary Classroom
Susan Tate, *Downey Unified School District*
Melissa Canham, *Downey Unified School District*

Location • A215
Target Audience • PreK/TK-2
CGI Experience • All

What does CGI look like in the primary classroom? Easy ways to to implement the CGI philosophy in your classroom will be discussed. We will show how to cover all the Common Core State Standards and the Standards for Mathematical Practices without ever opening a textbook. Routines, word problems, counting collections, and more will be showcased.

Supporting Students to Develop an Understanding of Fractions
Becca Lewis, *University of Washington*
Teresa Lind, *Renton School District*

Location • A216
Target Audience • 3-5
CGI Experience • All

In this session, we will look at how the math coach and teachers at one elementary school used the ideas in *Extending Children's Mathematics: Fractions and Decimals (Innovations in Cognitively Guided Instruction)*. Participants will be introduced to a school-wide formative assessment task used by teachers to design lessons and inform instructional decisions. Participants will also learn about the instructional approaches used by teachers to support student understanding of the meaning of fractions.

Using "Compare and Connect" to Structure Strategy Sharing
Adrian Cunard, *University of Washington*
Elizabeth Hartmann, *University of Washington*

Location • A217
Target Audience • 1-5
CGI Experience • All

In this session, we will consider what can be accomplished by asking children to investigate mathematical similarities and differences among problem solving strategies. We will think together about using a "compare and connect" structure to target particular mathematical ideas, consider what we can plan for in advance of a "compare and connect" session, and think about the kinds of questions that we can ask to advance children's thinking. We will look at student work and watch video of classroom examples.

Saturday, June 27, 2015
8:30 a.m. - 10:00 a.m.

Investigating the World Around Us: Math, Social Justice, and CGI
Carolee Koehn Hurtado, *University of California, Los Angeles Math Project and Parent Project*

Location • A208
Target Audience • 3-8
CGI Experience • All

Come to this session to do some math! Participants will engage in a social-justice oriented mathematics task, consider culturally relevant pedagogy, and make connections to the CGI classroom.

Multiplication and Division in K/1
Gabrielle Sims, *Hesperia Unified School District*

Location • A209
Target Audience • PreK/TK-2
CGI Experience • All

This session will discuss how multiplication and division problems help kindergarten and first grade students strengthen their problem solving while building a deeper understanding of mathematical ideas and base ten understanding.

Problem Solving Structures
Danielle Moore, *University of California, Los Angeles Math Project*

Location • A205
Target Audience • K-5
CGI Experience • Begin, Admin

Independent problem solving can be rigorous work; we can facilitate student success by providing structures that allow students to make connections to real world mathematics, reason about the mathematics involved, and clearly communicate their thinking.

Supporting Students' Algebraic Reasoning Through Math Games
Megan Kelley-Petersen, *University of Washington*

Location • A204
Target Audience • K-5
CGI Experience • All

Many math curricula include games as a means for students' continued practice. Students find these activities engaging, but it's often difficult for them to connect their game-play to greater math lessons, even as they reason algebraically as they develop strategies and become more efficient at playing the games. In this session, we'll consider how to use games more productively in our classrooms by thinking critically about how to highlight the algebraic reasoning students use as they play.

Saturday, June 27, 2015
8:30 a.m. - 10:00 a.m.

Results After the First Year of a Randomized-Controlled Trial of CGI
Robert C. Schoen, *FCR-STEM at Florida State University*
Walter Secada, *FCR-STEM at Florida State University*
Amanda Tazaz, *FCR-STEM at Florida State University*

Location • A202
Target Audience • K-3
CGI Experience • All

We will present an overview of a study designed to enable causal inference about the impact of teacher participation in a multi-year CGI program. We will describe the frameworks we are using to measure teacher knowledge and beliefs, classroom instruction, and student mathematics knowledge. We will present the observed outcomes of the first year of the program with respect to these factors. After presenting the overview and results, we will solicit feedback and discussion on the measurement strategies and interpretation of results.

A Framework for Integrating Math with Children's Literature
Jeff Shih, *University of Nevada, Las Vegas*
Cynthia Giorgis, *University of Texas, El Paso*

Location • A203
Target Audience • PreK/TK-8
CGI Experience • All

We will present a framework that examines the role of the mathematics (math as the story, math integral to the story, and connections to math drawn from the story) within various books and offer our initial thinking about the integration across content areas using the lens of Common Core. We will bring as many books as possible!

Saturday, June 27, 2015
10:30 a.m. - 12:00 p.m.

Counting, Counting, Counting
Darlene Fish Doto, *University of California, Los Angeles Lab School*
Shernice Lazare, *University of California, Los Angeles Lab School*

Location • A219
Target Audience • K-5
CGI Experience • All

Counting with students K - 5. In this session, we will watch both primary and upper elementary students count collections, organize and document their counting, choral count, skip count, and make common counting errors. We will practice counting warm-ups and games and you will leave with practical counting tasks for your classroom.

More Than Words Can Say:
Third Graders' Understandings of Mathematical Word Problems
Leslie Banes, *University of California, Davis*
Rachel Restani, *University of California, Davis*

Location • A211
Target Audience • 1-6
CGI Experience • All

This study analyzes 20 interviews with linguistically diverse students to explore their understanding and beliefs about the word problem genre. A genre approach allows us to gain a more complex understanding of word problem comprehension that includes key features of the genre and student assumptions about them. Results suggest many students make inaccurate assumptions that lead them to use an incorrect operation or only solve part of the problem. The evolving nature of the word problem genre with Common Core and classroom implications will be explored.

Sharing Artifacts to Explore Students' Thinking
Rebecca Ambrose, *University of California, Davis*
Chelsea Le, *University of California, Davis*

Location • A212
Target Audience • K-5
CGI Experience • Exp, PD

The Strategic Alliance, a group of teachers in the Sacramento area, convenes once a month to share their students' thinking and to talk about their teaching. Members have been creative in collecting artifacts to share with one another using technology in a variety of ways including video, photo and screencasts. We will show some examples, talk about them and then share what the Alliance teachers had to say about them.

CGI Through and Through
Teri Malpass, *Los Alamitos Unified School District*

Location • A213
Target Audience • PreK/TK-8
CGI Experience • Exp

During this session participants will see three key aspects of CGI - questioning, multiple strategies, and mathematical discourse incorporated in 100's board warm-ups, questions of the day (content review), vocabulary development, math wall/ frontloading and a problem solving frame using depth and complexity icons.

Saturday, June 27, 2015
10:30 a.m. - 12:00 p.m.

Creating Problems That Connect to Children's Out-of-School Experiences
Corey Drake, *Michigan State University*
Mary Q. Foote, *Queens College, CUNY*
Julia Aguirre, Tonya Bartell, Amy Roth McDuffie, and Erin Turner

Location • A214
Target Audience • K-5
CGI Experience • All

Participants will examine children's out-of-school experiences to use them as contexts for CGI problems. First, participants will examine a "getting-to-know-you" interview protocol developed to access information about children's competencies, interests, and experiences. They will then use vignettes developed from these interviews as the basis for developing contexts for CGI problems. Next, participants will engage in examining and understanding resources in the communities where children live and discuss how to draw on those resources for CGI problems.

Designing K-5 Math Intervention Based on Student Thinking
Kendra Lomax, *University of Washington*
Stephanie Latimer, *Renton School District*

Location • A215
Target Audience • K-5
CGI Experience • All, Admin

How can we design math intervention that honors and builds on what students already know? In this session we will look at how one elementary school has used learning trajectories from CGI and early number frameworks to better understand students' ideas about number and operation. We will share how we have leveraged understanding of children's mathematical thinking to assess students' learning needs, create innovative math intervention opportunities, and keep track of learning over time.

Developing Inclusive Practice with CGI
Lio Moscardini, *University of Strathclyde, Scotland UK*
Chiara Moscardini, *East Ayrshire Council*

Location • A216
Target Audience • PreK/TK-8
CGI Experience • All

We recognize CGI as a principled approach to mathematics teaching which is about all learners. This session will be an interactive workshop exploring ideas of diversity and difference by using a Framework for Inclusion to consider what it is that teachers need to know, believe and do to support inclusive practice. We will relate this to CGI and explore how it supports the development of inclusive classrooms. The workshop draws from research and classroom experiences of working with CGI with children with significant learning difficulties and children from a wide range of social and cultural backgrounds.

Saturday, June 27, 2015
10:30 a.m. - 12:00 p.m.

Incredible Equations: Developing Operation and Number Sense in Primary Grades
Ben Avila, *Central Unified School District*
Laura Bolton, *Central Unified School District*
Kelly Mahoney, *Central Unified School District*

Location • A217
Target Audience • 1-4
CGI Experience • All

Incredible equations can be a great way for students to develop number sense. Find out how three primary teachers used Incredible Equations and story problems to develop their students' operation and number sense over the course of a school year. These activities also lent to exploration of fundamental mathematical properties used to build students' algebraic reasoning and become better problem solvers.

Transformation: Changing Parent Involvement to Parent Engagement
Brandon McMillan, *UCLA Mathematics Project, UCLA Parent Project*
Karen Recinos, *UCLA Mathematics Project, UCLA Parent Project*
Carolee Koehn Hurtado, *UCLA Mathematics Project, UCLA Parent Project*

Location • A208
Target Audience • PreK/TK-8
CGI Experience • All, PD, Admin

Parents in mathematics education? What does that look like and what benefits can come from those efforts? Based on two years of sustained parent collaboration, we will share ways we have engaged parents around children's mathematical thinking, leading to a co-creation of a space for them to grow as leaders. In addition, participants will be able to develop ideas for authentic family engagement in supporting mathematics learning at their own schools.

Exploring Children's Strategies for Equal Sharing Fraction Problems
Dinah Brown, *Teachers Development Group*
Joan Case, *Teachers Development Group*

Location • A209
Target Audience • 3 - 5
CGI Experience • Exp, PD

Based on *Extending Children's Mathematics: Fractions and Decimals*, we will explore students' strategies for solving equal sharing fraction problems. We will introduce a summary chart that teachers have found helpful when learning about and working with ideas from the book. Consistency between a traditional textbook perspective and a children's-thinking perspective on these strategies will also be discussed. This session is targeted for professional developers and experienced CGI teachers. Session C9 addresses similar ideas for people relatively new to CGI.

Saturday, June 27, 2015
10:30 a.m. - 12:00 p.m.

Plotting Your Course and Packing Your Suitcase: Beginning Your CGI Journey
Tara Sanders, *Danville School District*

Location • A204
Target Audience • K-4
CGI Experience • Begin

The first thing you do when starting a journey is packing the things you will need and planning the route you will take to get you to your destination. In this session we will do just that in preparation for your CGI journey. We will examine a multitude of tips and strategies that will help make your implementation of CGI organized and purposeful. Some of the topics we will discuss are: evidence collection, sharing session strategies, student work organization, tool storage options, and math block planning. By the end of our time together, you will have a roadmap for the logistics of implementing CGI in your classroom so that you can detour around any roadblocks to your success.

The Distributive and Associative Nature of Base Ten
Kendra Bookout, *Eastside Elementary/ Rogers Public Schools/ Math Facilitator*
Cheryl Scott, *Rogers Public School*

Location • A205
Target Audience • 1-5
CGI Experience • Exp

This session will explore what it looks like when students start to extend their understanding of base 10. Multiplication and Measurement Division problems centered around ten have always been a great tool for developing base 10 reasoning. This session will provide a new lens for teachers to see the opportunities that base 10 problems provide for reasoning about the distributive and associative properties. Participants will practice identifying these properties in student work and engage in conversations about posing purposeful problems that will not only build base 10 understanding, but will also engage students in reasoning about the properties of operations.

How to Preserve Math Identities in a Highly Differentiated CGI Classroom With Flexible Grouping (3rd-5th)
Kelly Serrano, *University of California, Los Angeles Lab School*
Rebecca Heneise, *University of California, Los Angeles Lab School*
Rosangela Viera, *University of California, Los Angeles Lab School*

Location • A202
Target Audience • 3-5
CGI Experience • All

In this session, participants will explore ways to differentiate in their CGI classroom through flexible groupings. We will also discuss research around math identity and ways that students learn best. Participants will leave the session with an array of grouping possibilities to be applied immediately.

CGI Coaching and Professional Developer Roundtable
Kristine Ho, *University of Southern California*

Location • A203
Target Audience • PreK/TK-8
CGI Experience • PD, Admin

This roundtable is an opportunity for teacher leaders, CGI coaches, and Professional Developers to collaborate and discuss ongoing issues and successes of supporting CGI work.

Saturday, June 27, 2015
1:30 p.m. - 3:00 p.m.

Engaging English Learners in the CGI Classroom
Luz A. Maldonado, *Texas State University*

Location • Digital Media Center
Target Audience • K-4
CGI Experience • All

Engaging all students in problem solving, when some of the students are English Learners, requires reflection on what it means to facilitate problem solving in the classroom. For example: How do you pose problems? How do students explain their thinking? How do you encourage strategy sharing? Important aspects of language acquisition and developing mathematical thinking will be presented. Suggestions for including ELL students in mathematical discussions will be shared.

Number Choice Matters: Maximizing the Potential of Problems
Nick Johnson, *University of California, Los Angeles*
Orange County Department of Education

Location • A131 - A132
Target Audience • PreK/TK-5
CGI Experience • All

Experienced CGI teachers recognize that the numbers in a given problem often influence the strategies that students may use, providing opportunities for students to participate in different ways. This session will explore the ways that number choice matters - how strategically selecting numbers can encourage particular strategies and promote specific learning goals.

Warm-Ups for the CGI Classroom
Shernice Lazare, *University of California, Los Angeles Lab School*
Darlene Fish Doto, *University of California, Los Angeles Lab School*

Location • A219
Target Audience • 2-5
CGI Experience • All

In this session participants will engage in a variety of warm-ups that provide access to all learners and cover various mathematical domains. Warms-ups will be fun and allow participants to interact with each others' ideas while building positive mathematical identities.

CGI is More Than Presenting Word Problems
Kim Romain, *Gibbs Elementary*
Patricia Goodman, *Washington Elementary, Little Rock School District*

Location • A211
Target Audience • K-5
CGI Experience • All, PD

This session highlights the many avenues by which CGI can be incorporated into a math classroom. This includes the use of number talks, workstations, counting collections, math games and word problems. This session will exhibit how students' conversations and math discourse in each of those areas can be utilized to guide math instruction based on the students' cognition, in any classroom from Kindergarten through 5th grade.

Saturday, June 27, 2015
1:30 p.m. - 3:00 p.m.

Notating the Mathematics in Children's Strategies for Fraction Problems
Gladys Krause, *University of Texas at Austin*
D'Anna Pynes, *University of Texas at Austin*
Susan Empson, *University of Texas at Austin*

Location • A212
Target Audience • 3-5
CGI Experience • All

Having conversations with children about their strategies and working together to notate the mathematics in their strategies builds children's understanding of fractions. In this session, we share several examples of third through fifth graders' strategies for fraction story problems. Participants are invited to think about the conversations we can have with children about their strategies, the role of notation in representing their thinking, and the mathematical relationships they understand.

Transitioning From Additive to Multiplicative Thinking Grades 3-5
James Brickwedde, *Hamline University*

Location • A213
Target Audience • 3-8
CGI Experience • All

My research the last few years has focused on third through fifth graders' transitions from additive to multiplicative ways of thinking when solving multiplication and division tasks. This presentation follows the case of Salli with whom I have been working over two years as well as findings from a larger preceding classroom study. Attention will focus on instructional tasks used to scaffold this type of thinking, the role of language, unit coordination/ confusion, and the capacity to scale.

"We Are Mathematicians": Transforming Intervention Through Community, Problem Solving and Joy
Kassia Omohundro Wedekind, *Fairfax County Public Schools*

Location • A214
Target Audience • K-5
CGI Experience • All

While math intervention time has traditionally focused on reteaching and remediation, this session explores the idea of reframing the deficit model of intervention. This session explores how students' thinking around questions like "What is math?" and "Who is a mathematician?" can provide a powerful springboard for building strong communities within intervention time in which students and teachers work together to construct identity, ownership and agency as mathematicians through problem-solving. Video case studies will deepen participants understanding of how to begin making these shifts in classrooms.

Understanding the Heart of Division
Kristine Ho, *University of Southern California*

Location • A215
Target Audience • K-6
CGI Experience • All

This session will focus on investigating the conceptual foundations of division. We will position division work by making connections with multiplication and then look forward to how division leads to fractions. This session will utilize base ten blocks to articulate conceptual underpinnings of division. Building upon this conceptual understanding, we will expose why the Standard Algorithm for long division works. Ultimately, we will discover how to help students make meaning of division and help them formalize this process.

Saturday, June 27, 2015
1:30 p.m. - 3:00 p.m.

Number Choices:
Rather Important When Designing or Adapting a Task
Mike Fredenberg, *San Diego State University*

Location • A216
Target Audience • K-4
CGI Experience • Exp

It is no secret that number choices matter when we present a CGI type task to children. For some kids the numbers might act as a hurdle towards finding access to the problem. For others, the numbers may make the problem trivial. In my dissertation study, I asked the two questions: (a) What factors do exemplary elementary teachers consider when designing a mathematical task for a lesson? and (b) What factors do they consider when adapting a task for students during the enactment of a lesson? What emerged is a framework that offers insight for teachers that design their own problems, and support for those that want to incorporate the practice into their own teaching. This session explores the objectives one might have when designing (or adapting) a problem, and the means through which the objectives may be reached. Of particular importance are the roles that number choice and number structure play in the design and enactment of a task.

CGI in PreK: Imagine the Possibilities
Anita Wager, *University of Wisconsin-Madison*
Renae DeBarbieri, *Madison Metropolitan School District*

Location • A217
Target Audience • PreK/TK-1
CGI Experience • All

In this session we will share practices for engaging four-year-olds in solving story problems. By situating the problems in culturally relevant stories that children act out, we found they were meaningfully engaged in the problems, shared multiple strategies for solving problems, and later re-enacted the problems during free play. We will share videos and planning for CGI theatre.

Fractions: Building Number Sense Using Benchmarks
Melanie Wenrick, *Fresno State University*
Ben Avila, *Central Unified School District*

Location • A208
Target Audience • 3-6
CGI Experience • All

Students who have number sense use benchmarks, and students who use benchmarks develop number sense. Explore a variety of classroom activities related to benchmark fractions that engage students in meaningful discussions about relationships in fractions. Find out what students and teachers learned from using some of these activities in elementary classrooms.

Supporting CGI Schoolwide Success –
A Session for Principals and Implementation Leaders
Jo Ann Isken, *University of California, Los Angeles Center X*
Carolee Koehn Hurtado, *University of California, Los Angeles Center X*

Location • A209
Target Audience • 1-3
CGI Experience • Admin

The key to CGI schoolwide success is an understanding of the infrastructure needed to support implementation. This session will address the pillars that will support successful schoolwide implementation of CGI. Sustainable implementation requires leaders to be knowledgeable observers and coaches, to resolve the “marriage” of CGI and mandated district textbook programs, and to build teacher collaborative infrastructure to sustain professional learning. This session will provide school leaders with time to engage with these and other issues to support sustainable successful CGI implementation.

Saturday, June 27, 2015
1:30 p.m. - 3:00 p.m.

Math Labs: Designing High Quality Job-Embedded Math Professional Development
Ruth Balf, *University of Washington*
Kendra Lomax, *University of Washington*
Sarah Condreay, *Nooksack Valley School District*

Location • A204
Target Audience • PreK/TK-8
CGI Experience • All, PD, Admin

How can we create coherence in mathematics instruction across an entire school? How can we make schools sites for teacher learning as well as student learning? This presentation focuses on one way of transforming how teachers work together. We will share a framework for engaging teachers in learning about, planning, and collaboratively enacting a set of Instructional Activities that elicit children's thinking and encourage rich mathematical discourse. We will share experiences from schools trying out Math Labs and resources for supporting this form of professional development.

Documenting Children's Mathematical Thinking with Screencasts
Melissa Soto, *San Diego State University*

Location • A205
Target Audience • 1-5
CGI Experience • All

This session will discuss how screencasts, screen captures of digital devices with audio, can be used to document students mathematical thinking and explanations as they solve story problems. Screencasts provide windows into students' mathematical thinking as their entire problem solving processes are documented, including false starts and mistakes, which are often missing in students' written work. As their thought processes are recorded, students have the ability to review their work and reflect on their solution strategies. This could provide opportunities for revision and generating more robust explanations as students are aware of a potential audience.

Problem Solving to Foster the Standards for Mathematical Practice
James Christman, *Davis Magnet School/ Newport-Mesa Unified School District*

Location • A202
Target Audience • K-1
CGI Experience • Begin

Children learn mathematics with understanding by building connections between their natural problem-solving strategies and new concepts and skills. This session will explore tasks, lesson design, and classroom practices to support the development of students' identity as problem solvers.

Presenters

Acosta, Monica	macosta@labschool.ucla.edu		Latimer, Stephanie	stephanie.latimer@rentonschools.us
Ambrose, Rebecca	rcambrose@ucdavis.edu		Lazare, Shernice	slazare@labschool.ucla.edu
Anderson, Julie	julank@hotmail.com		Le, Chelsea	clle@ucdavis.edu
Avila, Ben	bafsu73@yahoo.com		Lev, Sara	saramlev@gmail.com
Baek, Jae M.	jbaek@ilstu.edu		Levi, Linda	linda.levi@teachersdg.org
Balf, Ruth	rbalf1@gmail.com		Lewis, Becca	blewis42@uw.edu
Banes, Leslie	lcbanes@ucdavis.edu		Lind, Teresa	teresa.lind@rentonschools.us
Barajas-López, Filiberto	barajasf@uw.edu		Lomax, Kendra	klomax@uw.edu
Behrend, Jeanie	jeanb@csufresno.edu		Lubinski, Cheryl	calubinski@mac.com
Bird, Kathleen	kathleen.bird@hesperiausd.org		Mahoney, Kelly	kmahoney@centralusd.k12.ca.us
Bolton, Laura	lbolton@centralusd.k12.ca.us		Maldonado, Luz A.	lm65@txstate.edu
Bookout, Kendra	kbookout@rps.k12.ar.us		Malpass, Teri	tmalpass@losal.org
Brickwedde, James	jbrickwedde@hamline.edu		Martinez, Glenda	gmartinez@dusd.net
Brown, Dinah	dbrown@dmusd.org		Matteson, Rachel	RMatteson@dmusd.org
Brown, Dinah	dinah.brown57@gmail.com		McMillan, Brandon	brandon.g.mcmillan@gmail.com
Canham, Melissa	mcanham@dusd.net		Mitchener, Lisa	lmitchener@dusd.net
Case, Joan	jmcase3@aol.com		Mohs, Laura	lcmohs@prodigy.net
Chan Turrou, Angela	achan@gseis.ucla.edu		Moore, Danielle	Teachingonemoore@gmail.com
Chao, Theodore	chao.160@osu.edu		Morchower, Kim	kmorchower@labschool.ucla.edu
Christman, James	jchristman@nmusd.us		Morimoto, Chizuko	morimoto.chizuko@tusd.org
Condreay, Sarah	sarahcondreay@gmail.com		Morris, Noelani	nmorris@labschool.ucla.edu
Cunard, Adrian	acunard@uw.edu		Morrissey, Trish	trish_morrissey@lawndalesd.net
DeBarbieri, Renae	rdebarbieri@madison.k12.wi.us		Moscardini, Chiara	chiara_moscardini@hotmail.com
Delmas, Laura	delmasl@chowkids.com		Moscardini, Lio	l.moscardini@strath.ac.uk
Doto, Darlene Fish	dfish@labschool.ucla.edu		Moscoso, Nicole	nmoscoso4@hotmail.com
Drake, Corey	cdrake@msu.edu		Moulton, Wendy	wendy_moulton@lawndalesd.net
Empson, Susan	empson@austin.utexas.edu		Nash, Heather	Hnash@dusd.net
Fish, Darlene	dfish@labschool.ucla.edu		Nguyen, Cathy	cathynguyen21@gmail.com
Foote, Mary Q.	mary.foote@qc.cuny.edu		Nielsen, Ed.D., Lynne	nielsen@latech.edu
Fox, Alison	foxla@uw.edu		Omohundro Wedekind,Kassia	omohundro@gmail.com
Franke, Megan	mfranke@ucla.edu		Otto, Al	alotto@mac.com
Fredenberg, Mike	mikefredenberg@yahoo.com		Petersen, Shelley	spetersen@dmusd.org
Gates, Debbie	debbiemath@gmail.com		Picht, Linda	linda.picht@hesperiausd.org
Gibbons, Lynsey	lgibbons@uw.edu		Pynes, D'Anna	dannapynes@utexas.edu
Gibson, Kristin	kgibson@dmusd.org		Recinos, Karen	recinossuly@gmail.com
Goodman, Patricia	patricia.goodman@lrsd.org		Restani, Rachel	rmrestani@ucdavis.edu
Guarino, Jody	jguarino@ocde.us		Romain, Kim	willosmom@gmail.com
Hartmann, Elizabeth	lizhart@uw.edu		Sanders, Tara	tarasanders311@gmail.com
Heneise, Rebecca	rheneise@labschool.ucla.edu		Schoen, Robert C.	rschoen@lsi.fsu.edu
Hewitt, Amy	alhewitt@uncg.edu		Scott, Cheryl	cscott@rps.k12.ar.us
Hintz, Allison	ahintz@uw.edu		Secada, Walter	wsecada@miami.edu
Ho, Kristine	kristineho@gmail.com		Serrano, Kelly	kserrano@labschool.ucla.edu
Hurtado, Carolee Koehn	koehn@gseis.ucla.edu		Shih, Jeff	jshih@unlv.nevada.edu
Isken, Jo Ann	jisken1@gmail.com		Simpson, Lori	llsimpson@capousd.org
Jacobs, Vicki	vrjacobs@uncg.edu		Sims, Gabrielle	gabrielle.sims@hesperiausd.org
Jaslow, Linda	msjasman@yahoo.com		Soto, Melissa	melissa.soto@mail.sdsu.edu
Jessup, Naomi	njallen@uncg.edu		Starke, Rosa	starke@gseis.ucla.edu
Johnson, Nick	ncjohnson@ocde.us		Steinthorsdottir, Olof	olly.steintho@uni.edu
Jones, Cherise	cherise.s.j@gmail.com		Tate, Susan	state@dusd.net
Junk, Debra Plowman	junkdeb@utexas.edu		Tazaz, Amanda	atazaz@lsi.fsu.edu
Kaku, Shari	shari@matrix-systems.com		Toledo, Jennifer	jtoledo@dusd.net
Kazemi, Elham	ekazemi@uw.edu		Van Den Heuvel, Dyanne	dyannevdh@charter.net
Kelley-Petersen, Megan	meg199@uw.edu		Viera, Rosangela	rviera@labschool.ucla.edu
Kent, Laura B.	lkent@uark.edu		Wager, Anita	awager@wisc.edu
Krause, Gladys	gladyshrueda@gmail.com		Wenrick, Melanie	mwenrick@csufresno.edu
Lamb, Lisa	Lisa.Lamb@sdsu.edu		Whitaker, Leslie	lcwhitaker@capousd.org
Lambert, Rachel	rpetunial@gmail.com		Yeh, Cathery	catheryy@uci.edu

Notes

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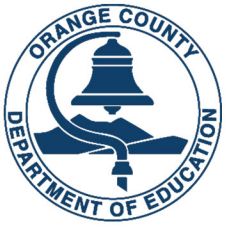

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