



# The Active Math Classroom: Using Movement to Deepen Math Learning

# Webinar Tips



**Close all programs & browsers** to maximize bandwidth



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The **recording, slide deck & certificate** will be sent by email

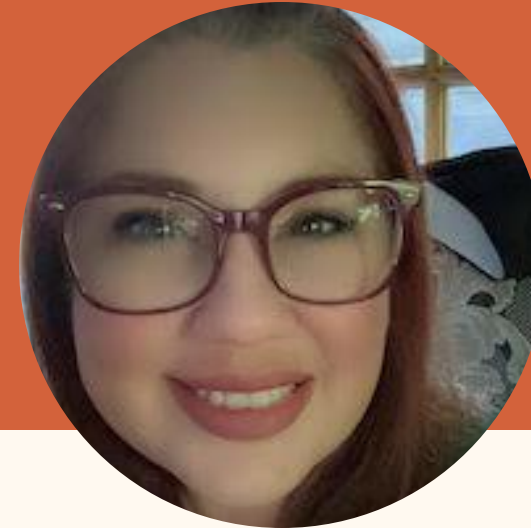
# Meet Your Presenters



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California Mathematics Project Statewide Office  
University of California, Los Angeles



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Director of Mathematics  
iLEAD California

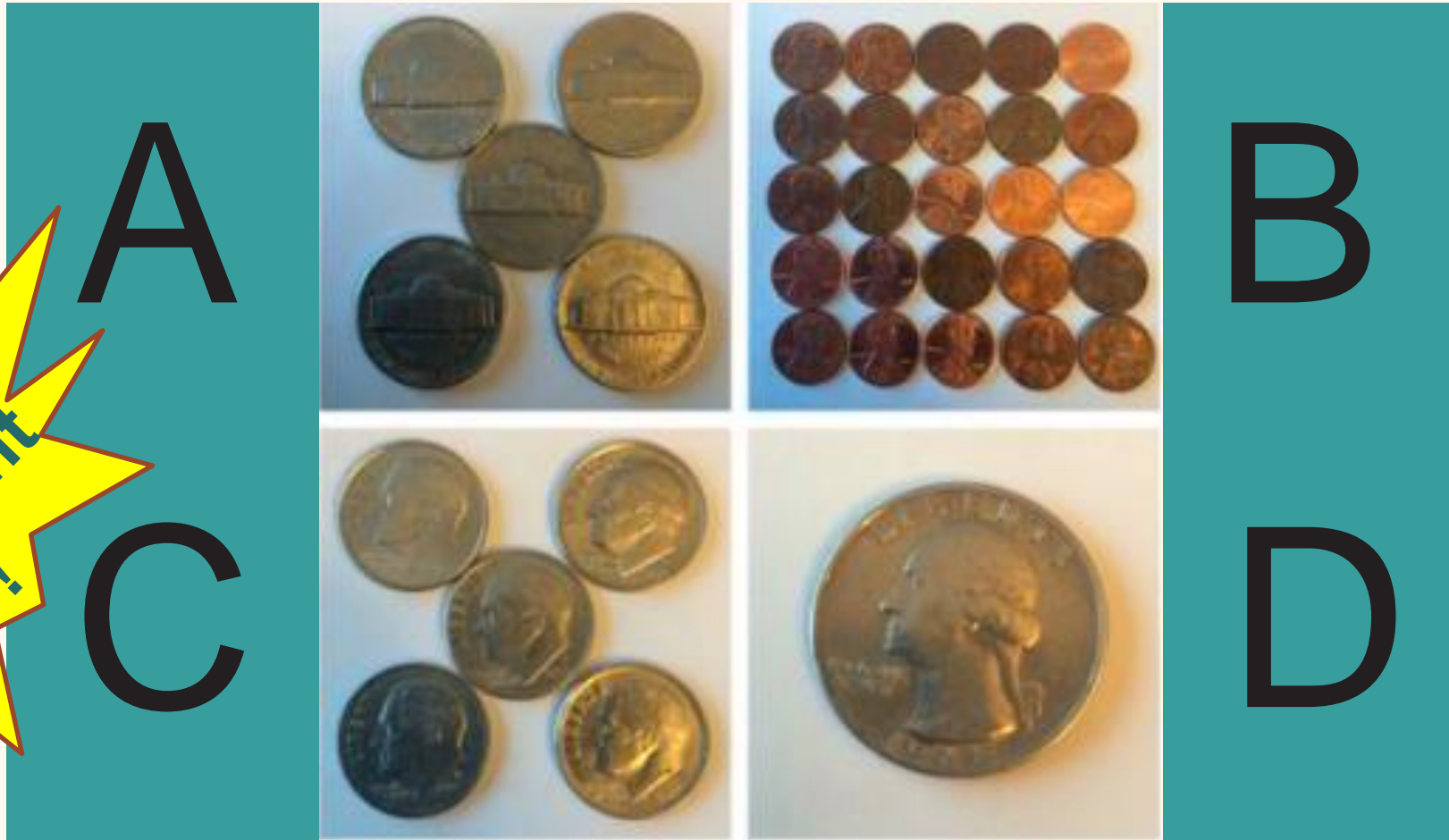
# What You'll Learn

- How movement improves cognition and learning
- How movement can make abstract math concepts concrete
- Examples of math activities that require little prep and no extra materials



# Starter: Which One Is Unique?

(AKA: Which One Doesn't Belong?)



A

B

C

D

With a  
Movement  
TWIST!

# Starters:

- **Starters engage learners early on, and set the tone for the lesson!**
  - **No more than 5 minutes!**
  - **Should be fun and encourage participation from all learners**
- **Great Resources can be found at:**  
**[sites.google.com/view/mathemagicalmindset](https://sites.google.com/view/mathemagicalmindset)**



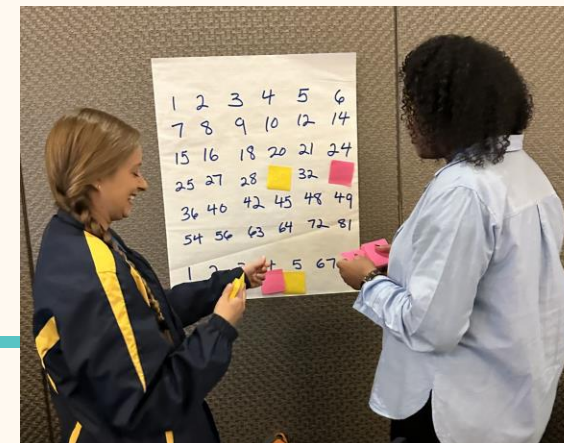
# Agenda:

- **Starter: Which One Is Unique**
- **Fact Fluency: The Product Game**
- **Grounding This All To Research**
- **Movement Activity: Answer is, Question is**
- **Station Variations**
- **Checking for Understanding: Stamp Game**
- **Reflection: How can YOU apply this?**



# Fact Fluency: The Product Game

- **How to play:**
  - Take turns moving one of the two “markers” to a number
  - **Multiply the two numbers to place your color on the product**
  - **First one with 4 in a row wins! (Like Connect 4)**
- **This activity is generally done in pairs...**  
...but today we will play...KYNDALL VS. THE COMMENTS!!
- **You can play virtually at:**  
<https://www.nctm.org/Classroom-Resources/Illuminations/Interactives/Product-Game/>
- **Make it a Movement Experience!**
  - **Vertical posters hung around the room**
  - **Two different colored post-its as markers!**
  - **This could be a station!**





# Fact Fluency: An Essential Element

- **Finding a Balance → Conceptual Understanding AND Fact Fluency**
- **Addressing the “Gaps” with regards to basic operations**
- **How to Engage Learners**



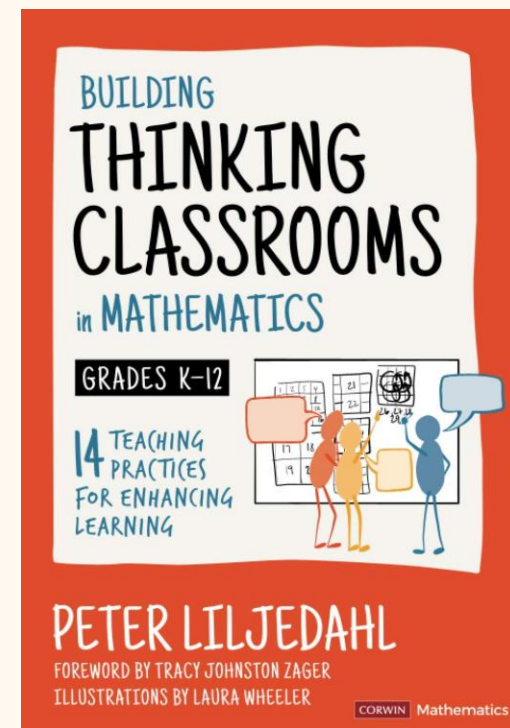
# Connecting to Research:

Building Thinking Classrooms- Peter Liljedahl (2021)

“This (standing) almost completely eliminated the stalling and faking behavior and had a huge effect on the amount of time students were willing to spend thinking when working on ...tasks”

“ Standing also afforded an increase in knowledge mobility. Having students work vertically makes their work visible to everyone in the room...which heightens the possibility that ideas will move between groups”

“ Having students standing immediately takes away that sense of anonymity and, with it, the conscious and unconscious pull away from the task at hand.”



# Connecting to Research:

## TRU Math Framework

### The Five Dimensions of Powerful Mathematics Classrooms

The Mathematics

Cognitive  
Demand

Equitable Access  
to Mathematics

Agency,  
Ownership, and  
Identity

Formative  
Assessment

The extent to which every student has opportunities to explore, conjecture, reason, explain, and build on emerging ideas, contributing to the development of agency (the willingness to engage academically) and ownership over the content, resulting in positive mathematical identities.

Teachers need to employ a range of techniques that attribute ideas to students, to build student ownership and identity.



# Connecting to Research:

## ICUCARE Framework

Seven Principles of Equity Pedagogy

### ICUCARE Framework

**I**nclude others as experts

Create classroom environments that extend beyond the teacher as the sole authority to develop competence and confidence in others as experts, including the students themselves.

Be **C**ritically Conscious

Take the time to understand how negative stereotypes impact your students and actively work to erase the effects of those negative stereotypes on the educational outcomes of diverse learners.

**U**nderstand your students well

Learn about your students, their families and their communities for the purpose of improving instruction. (Not making assumptions)

Use **C**ulturally relevant curricula

Use instructional materials in ways that help students see themselves as doers of mathematics and help them to overcome the stereotypes and messages regarding who is mathematically smart.

**A**ssess, Activate and build on prior knowledge

Value the prior knowledge that students bring to the classroom, both personal and cultural, and use that knowledge as a resource for creating new knowledge.

**R**elease control

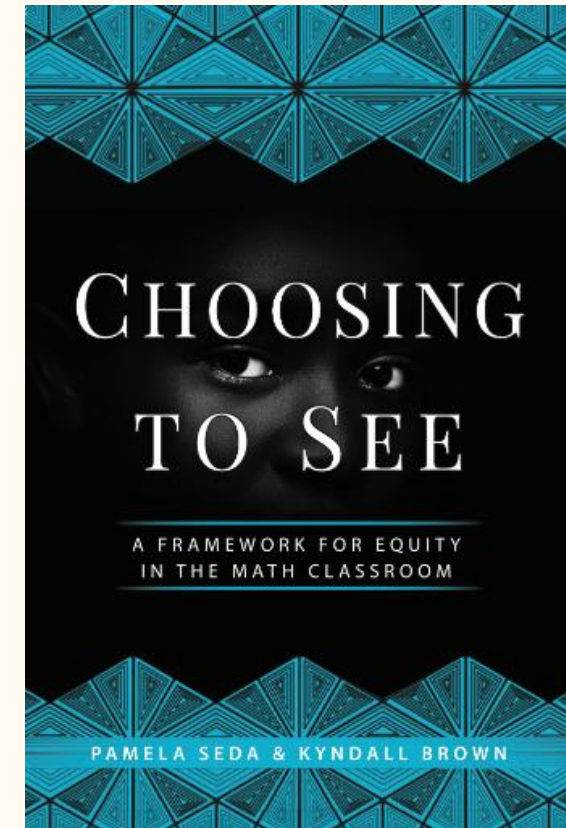
Empower your students to take ownership of their own learning by focusing on sensemaking and allow them to make choices about things that are important to them in the classroom.

**E**xpect more

Hold high expectations for all students and avoid deficit views of diverse learners.

## Release Control

Empower your students to take ownership of their learning by focusing on sensemaking and allow them to make choices about things that are important to them in the classroom.



# The Answer Is, The Question Is

- **Adopting and Adapting can be POWERFUL! - This idea originally came from the “I Have, Who Has” Cards**
- **Great Activity to find where support is most needed, and to challenge those that are ready to “fly” - easy to check for understanding!**



# The Answer Is, The Question Is

- **Frontload:**
  - **Expectations (Working together, Noise Level, Etc)**
  - **Assigning “starting points”**
  - **How it Works: Recording your responses/work**
  - **Cover the first Answer, and then solve**
- **Checking Answers**
- **Challenge Problems**



# Stations:

- How to label groups (Transparency is always best)
- Always “slow-release” when introducing stations
- Variations of Rotations
- Giving Answers to Focus on Process



# Stations:

- **Station A: Activity**
- **Station B: Practicing Past Standards Based on Needs**
- **Station C: Practicing Current Standards**
- **Station D: Technology**





# Checking For Understanding: Stamp Game

- **Immediate (Gentle) Feedback** for both you and the learner
- **For ALL AGES** (sometimes surprisingly...older kids love stamps too!)
- **Some important things:**
  - Make sure to frontload expectations (like where and how to line up)
  - Cheat Speech
  - Will be graded based on digging in rather than number of stamps
  - If you need to varyiate (is that a word?)...**VARIATE!** (# of problems at a time, for example)
- **What if you have no idea where to start?**
- **Differentiating questions (structure) - they choose the order**



# Checking For Understanding: Stamp Game



# Reflection:

- **Importance of allowing time to reflect**
- **Write it Down!**
- **Your opportunity to reflect on today's session:**
  - How much time in your classroom is generally spent in movement?
  - What is something from today's session that had an impact on you?
  - What is one activity that you have learned today that you would like to take back to your classroom?
  - What are questions you still have?  
(These can be asked during the upcoming Q&A Portion of this session)



# Contact Us:

**Think of a question  
after the webinar?**

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**Want easy  
access to  
the links  
used in  
today's  
session?**

**Use the QR code below to  
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# Active Math Learning with CORE

**CORE supports schools and districts in creating active learning experiences for all students and educators**

- Curriculum adoption & implementation guidance
- Math academies to build educators' knowledge to strengthen teaching and learning
- Math coaching to support instructional effectiveness with active math learning



[www.corelearn.com/active-math-learning/](http://www.corelearn.com/active-math-learning/)



# Questions?



# Join Us in April!

## Misconceptions about the Science of Reading

April 10, 4:00 p.m. ET

With Sharon Vaughn, Ph.D.

Executive Director, The Meadows Center  
for Preventing Educational Risk &  
Manuel J. Justiz Endowed Chair In Education  
The University of Texas at Austin



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