

From Research to Practice: Teaching Math to Students with Significant Disabilities

Kate Fanelli
kate.fanelli@altshift.education

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kate.fanelli@altshift.education

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1. Communication
2. Analog v. Digital
3. Learning Trajectories
4. Direct Instruction


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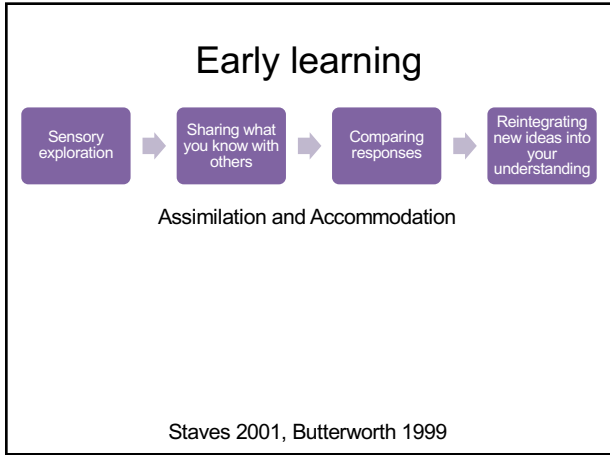
FOUNDATIONS OF MATH
Teaching Students with Significant Disabilities

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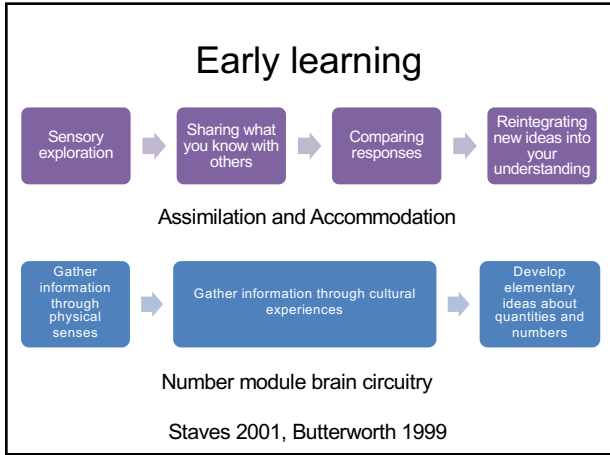
Communication



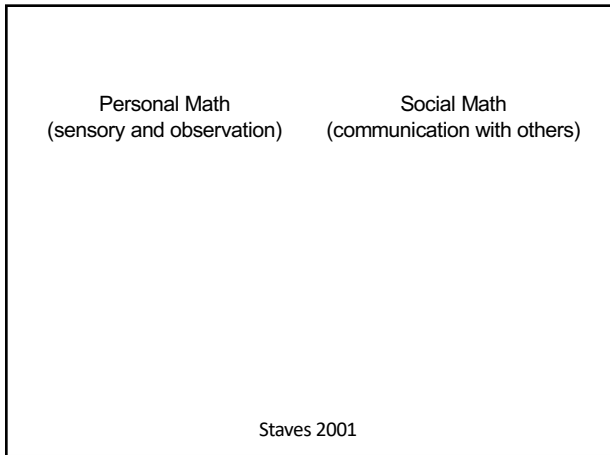
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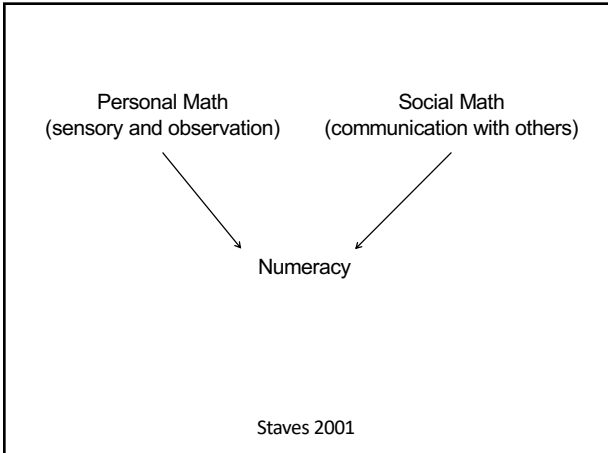
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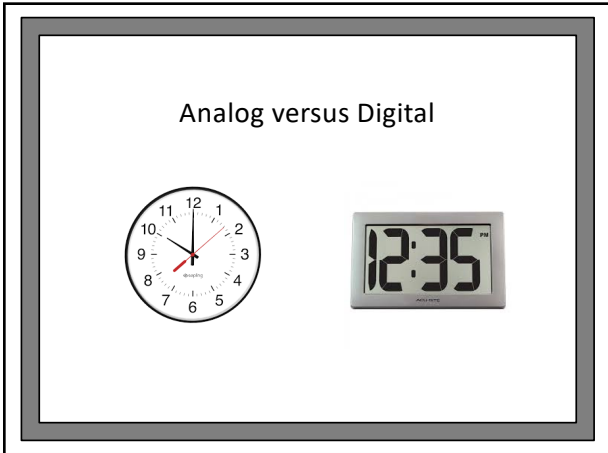
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Without communication,
there is no teaching or learning.

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What does communication look like in your setting? How can it be improved?

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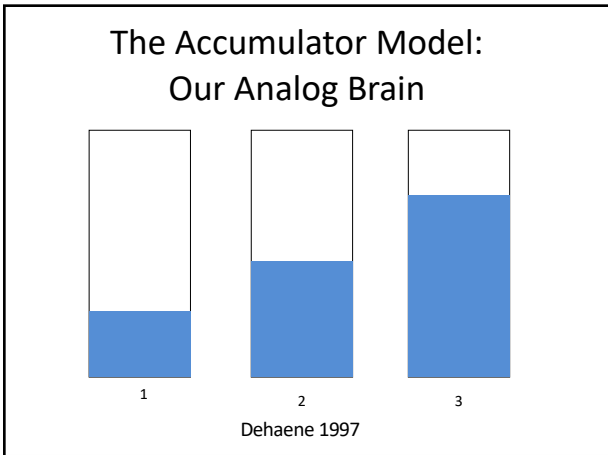


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We teach *digitally*
but we ALL have
analog brains!

Dehaene 1997

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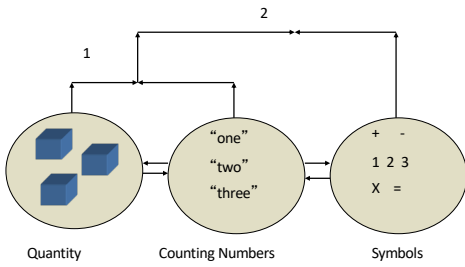
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Teaching to the Analog Brain

- Start with quantities
- Use manipulatives
- Talk about "How many?"
- Counting for a purpose

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Sharon Griffin Core Image of Mathematics



V. Faulkner and DPI Task Force adapted from Griffin, 2003

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What is this...

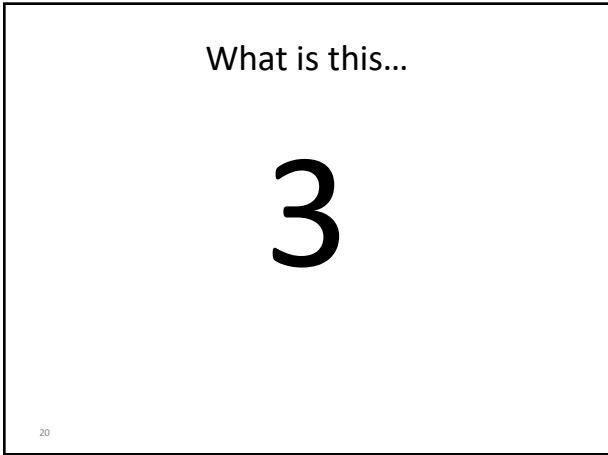
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Adapted from Faulkner, 2012

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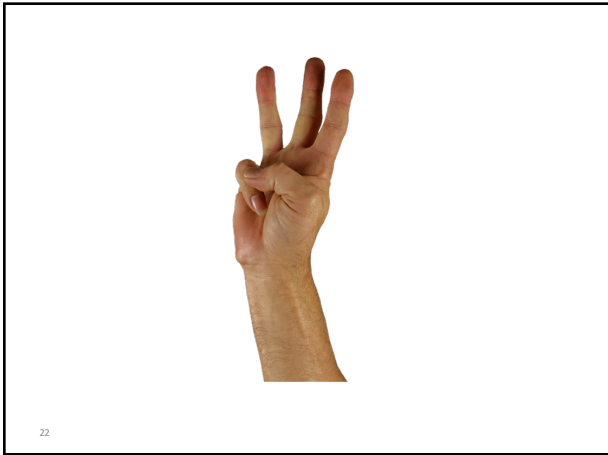
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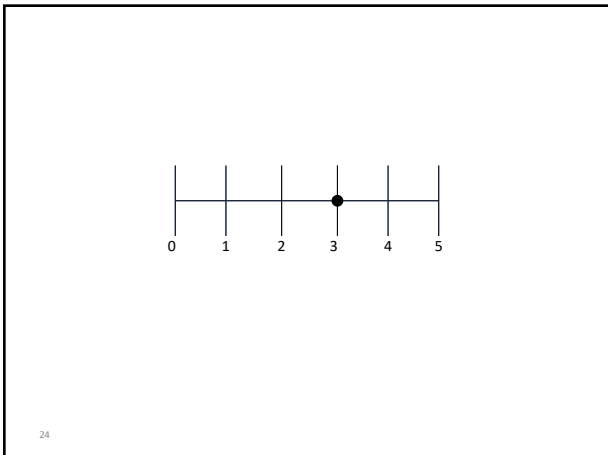
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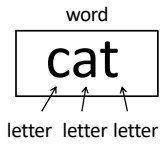
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Clap, Clap, Clap

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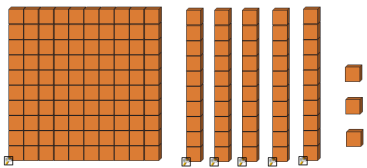
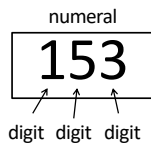
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actual cat

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Do you think your staff and students understand quantity? Why or why not?

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Learning Trajectories



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Strategy #3:
Teach the BIG Ideas

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Burning Question

Where do I start?

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Learning and Teaching Early Math
The Learning Trajectories Approach
Douglas H. Clements and Julie Sarama

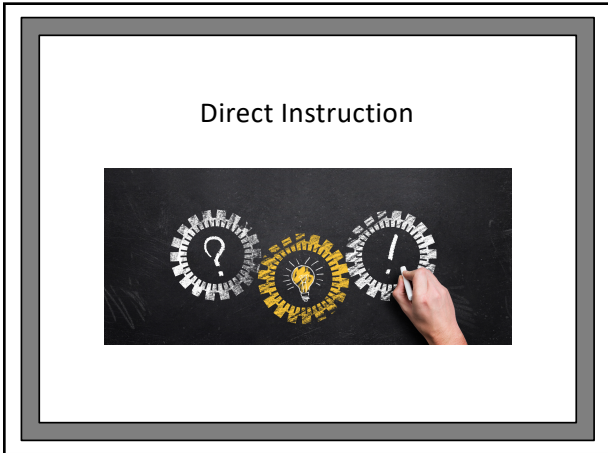
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Trajectories

Learning Trajectories for Primary Grades Mathematics

[tinyurl.MathTrajectory](http://tinyurl.com/MathTrajectory)

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Strategy #4:
Direct Instruction
a.k.a.
Putting it All Together

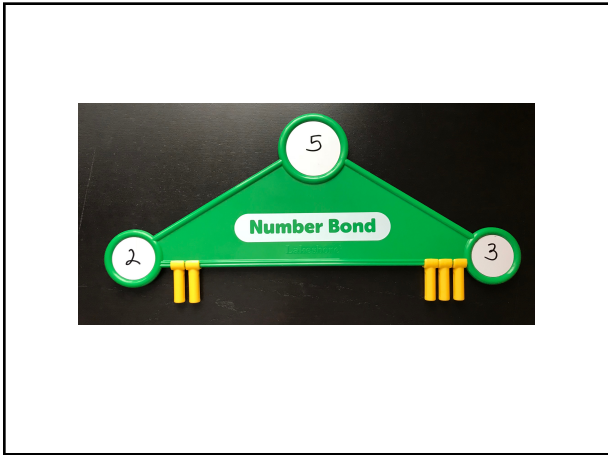
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Direct Instruction

- Clear and direct presentation of concepts and skills
- Clear goals (description and demonstration)
- Advanced organizer links to already acquired knowledge
- Monitor student performance throughout the lesson
- Give feedback

Fennell 2011

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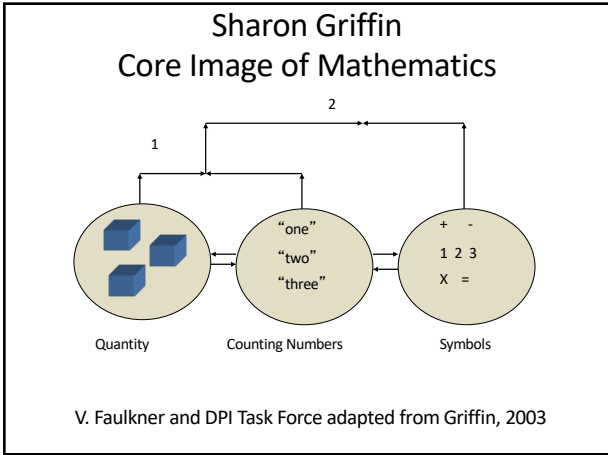
3 Major Takeaways

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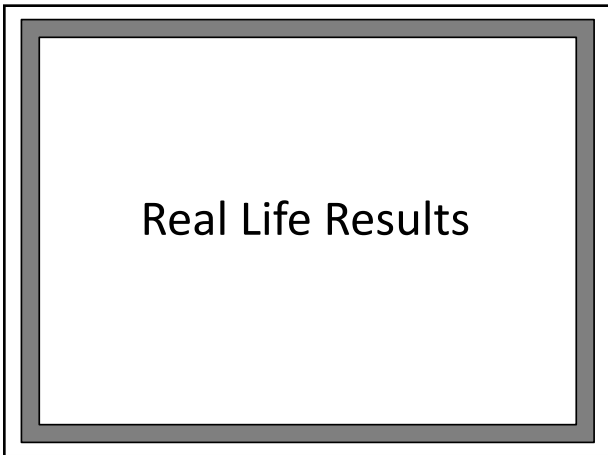
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Student Changes

- Look over the student changes.
- Star 2 or 3 that you would want to see happen for your students.
- Share with someone near you.

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Adult Changes

- Look over the adult changes.
- Use the QR code to see classroom examples.
- Star 2 or 3 items on the handout that you could try implementing immediately.
- Share with someone near you.

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kate.fanelli@altshift.education



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References

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