



PARAMOUNT UNIFIED SCHOOL DISTRICT

GREAT THINGS ARE HAPPENING IN PARAMOUNT SCHOOLS



LCAP Highlight: Cognitively Guided Instruction in Math

Board of Education Meeting

October 8, 2018

Dr. Ruth Pérez, Superintendent

Deborah Stark, Assistant Superintendent

Kelly Morales, Facilitator of Instructional Improvement



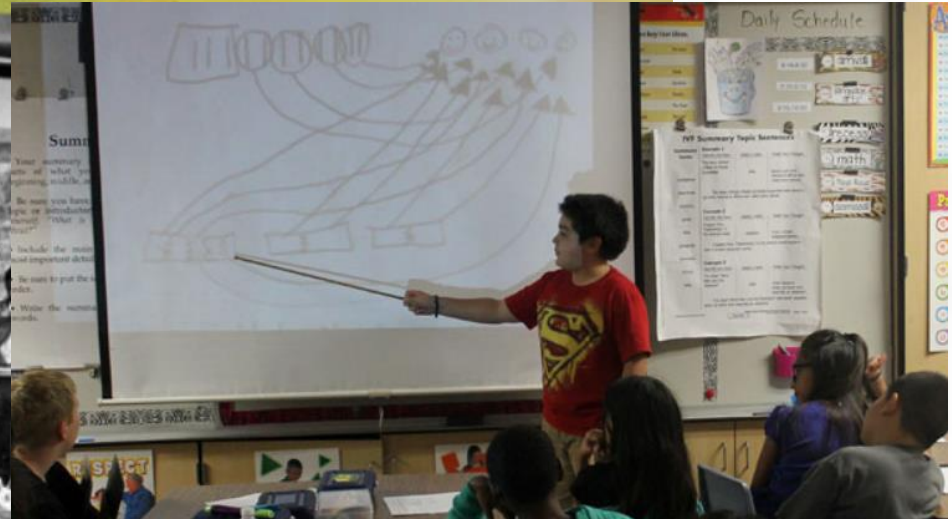
Today's Highlight

- Describe how the LCAP provides services to improve student achievement in math.
- Provide an update on the implementation of Cognitively Guided Instruction (CGI) in K-5 mathematics classrooms.



How is CGI different from traditional math instruction?

Traditional classroom





How is CGI different from traditional math instruction?

Progression (

Direct modeling



Counting strategy



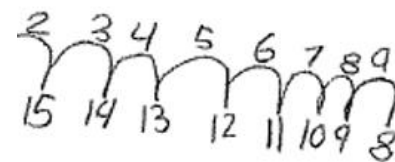
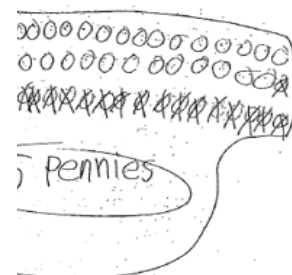
Relational thinking



Standard algorithm

$$\begin{array}{r}
 75 \\
 4860 \\
 \times \quad 9 \\
 \hline
 43740
 \end{array}$$

es



$$7 = 8$$

CO letter

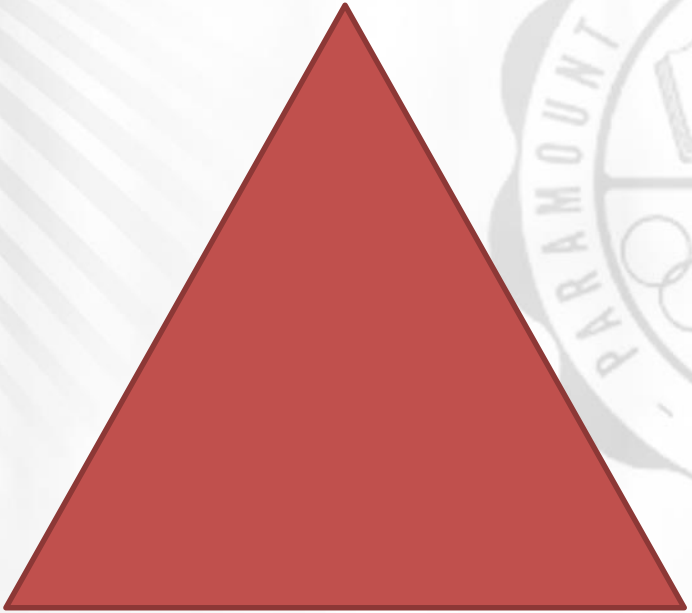
$$\begin{array}{r}
 75 \\
 4860 \\
 \times \quad 9 \\
 \hline
 43740
 \end{array}$$

$$6 + 4 \rightarrow 10 + 3 \rightarrow \textcircled{13}$$



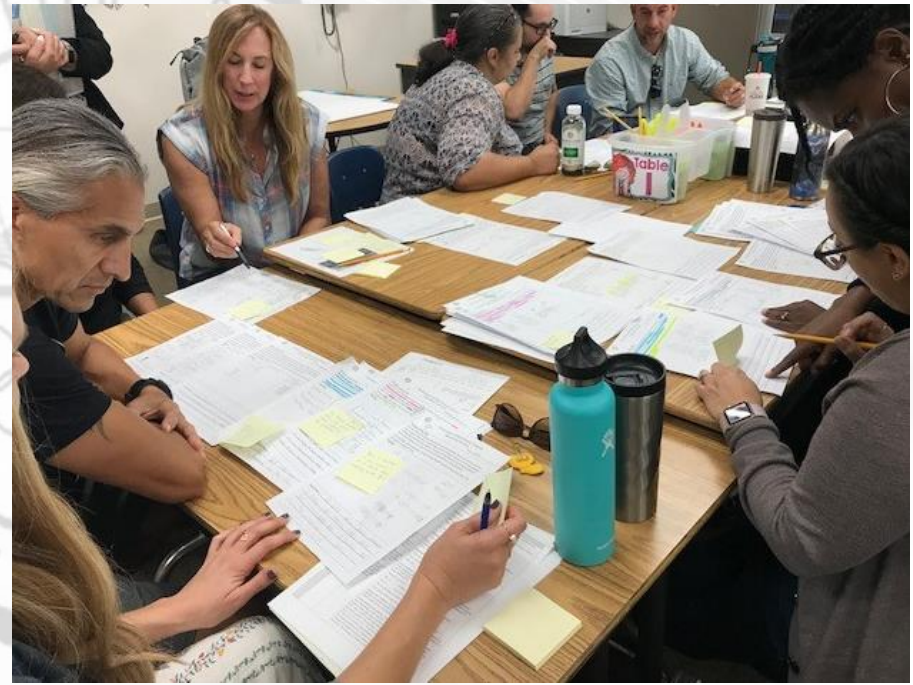
Teachers in Action!

Content



Pedagogy

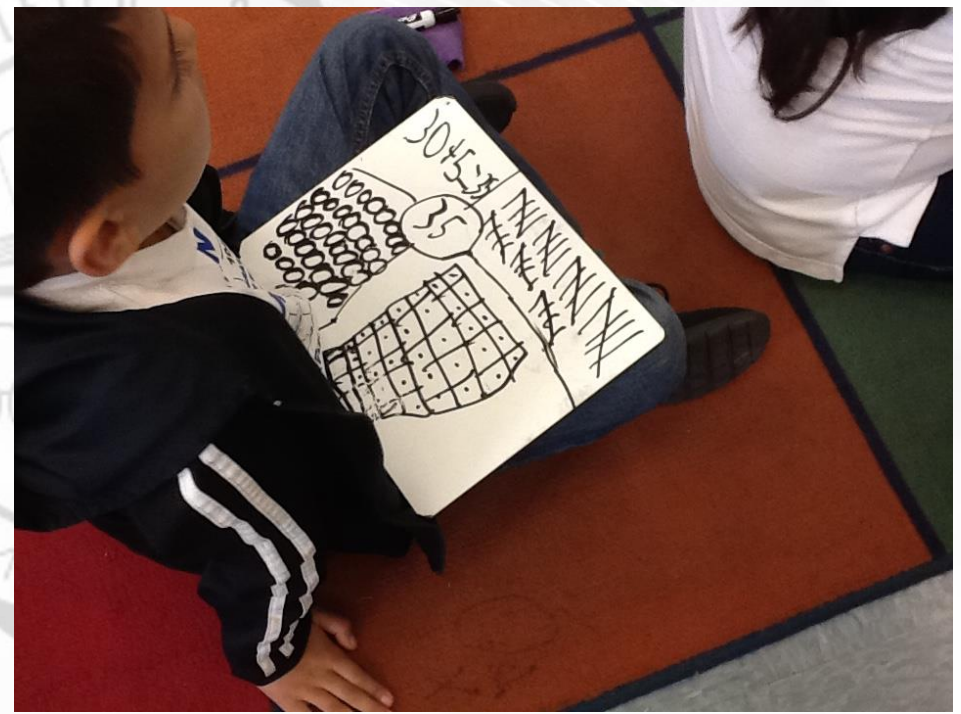
**Student
Thinking**





Students in Action!

Students use multiple strategies to problem solve and communicate their mathematical thinking.





Students in Action!

Students engage in mathematical practices such as making sense of problems, persevering in solving them, and using appropriate tools strategically.





CGI addresses the Standards of Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.



Teacher Reflection

CGI unlocks the mystery of math for students. They are able to learn and discover why math works at their own level through problem solving and invented strategies.

Amber Bronder, 1st grade teacher, Wirtz Elementary School



CGI Implementation Timeline

2016-17

13 teachers and coaches implement at three K-5 schools.

3 days of professional development and follow up.

2017-18

56 teachers and coaches implement across all K-5 schools.

3 days of professional development and follow up.

2018-19

100 teachers and coaches implement across all K-5 schools.

3 days of professional development and follow up.

2019-20

200 teachers and coaches will implement across all K-5 schools.

3 days of professional development and follow up.

By 2021-22, all K-5 PUSD teachers will be trained in CGI Math.



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PREPARING STUDENTS FOR COLLEGE AND CAREERS

"WHAT IS IMPORTANT IS TO DEEPLY UNDERSTAND THINGS AND THEIR RELATIONS TO EACH OTHER. THIS IS WHERE INTELLIGENCE LIES. THE FACT OF BEING QUICK OR SLOW ISN'T REALLY RELEVANT."

Ana Redmond, founder of infinut.com

