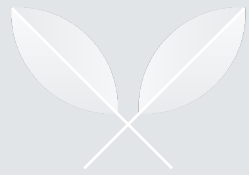


Centering Student Voice and Discourse



Claire M. Riddell

Zachary Champagne

June 16, 2023

FCTM Annual Conference



Where do you find joy in the teaching
and/or learning of mathematics?



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Why student voice and discourse?



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The Progression of Our Thinking and Learning

How do we make math class less teacher driven?

How do we ask the right questions?

How do we get kids to talk?

How do we help teachers listen?

How do we help kids talk and listen to each other?



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Questions We've Been Asking Ourselves

Is it worth talking about?

Who has mathematical authority?

What structural routines are in place to support conversation?

What type of communication is valued or privileged?

How is the room and/or students organized?



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Is it Worth Talking About?

Rich Tasks

(Three Act Tasks, Estimation 180, Estimysteries, etc.)

Pedagogical Routines

(Which One Doesn't Belong, Notice/Wonder, How Many?, Number Talks, etc.)

Is it Interesting?

(the math, the context, the image, etc.)

Comparing Solution Strategies



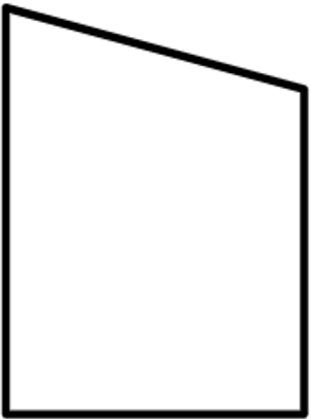
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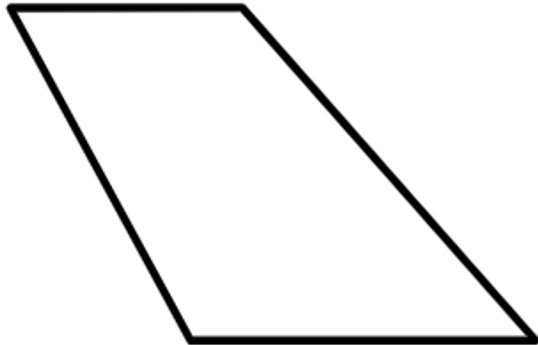
@zakchamp

Which One Doesn't Belong?

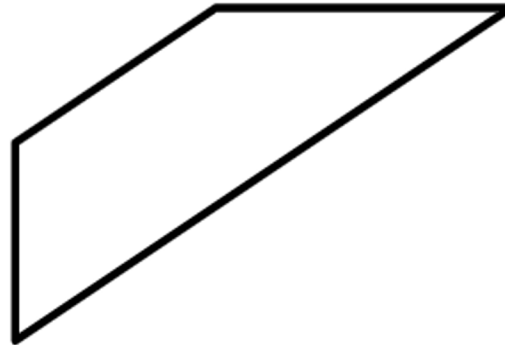
A



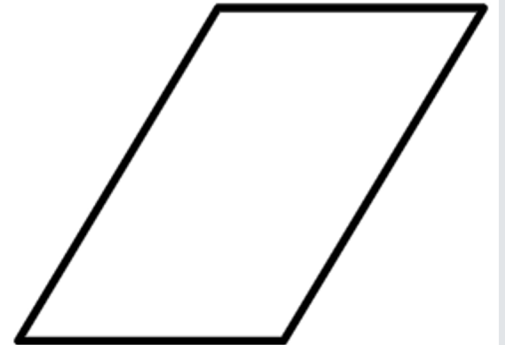
B



C



D



Which One Doesn't Belong?

The image shows four hand-drawn quadrilaterals on a blue background, each with handwritten annotations:

- Diagram A:** A right trapezoid with a right angle at the bottom-left corner. Annotations include "Not a flat top" and "only one with a right angle".
- Diagram B:** A parallelogram slanted to the left. Annotations include "titled to the left" and "right more slanted than left".
- Diagram C:** A parallelogram slanted to the right. Annotations include "if they lined" and "were all upon a table...".
- Diagram D:** A parallelogram with both diagonals drawn. Annotations include "not on side" and "More slanted least rectangularish".

Additional handwritten notes on the right side of the page include:

- "They are like 1, 1, 2, 2"
- "only one with opposite sides equal and parallel"



Comparing Two Strategies

5 x 102



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Comparing Two Strategies

5×102

Clara (510)

$$100 \times 5 = 500$$
$$5 \times 2 = 10$$

510

Declan (510)

$$5 \times 101 = 505$$
$$505 + 5 = 510$$



Who Has Mathematical Authority?

Who is responsible for making mathematical contributions?

Whose voice(s) are heard most often?

Who gets to share?

Who gets to respond?

Who has the last word?



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What do you notice about the mathematical authority in this classroom?



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What do you notice about the mathematical authority in this classroom?



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What Structural Routines are in Place to Support Conversation?

Random and Sustained Partnerships

Sentence Stems

Wait Times 1 and 2

Quiet Think Time

Turn and Talk

Gallery Walks

Problem Card/Data Card

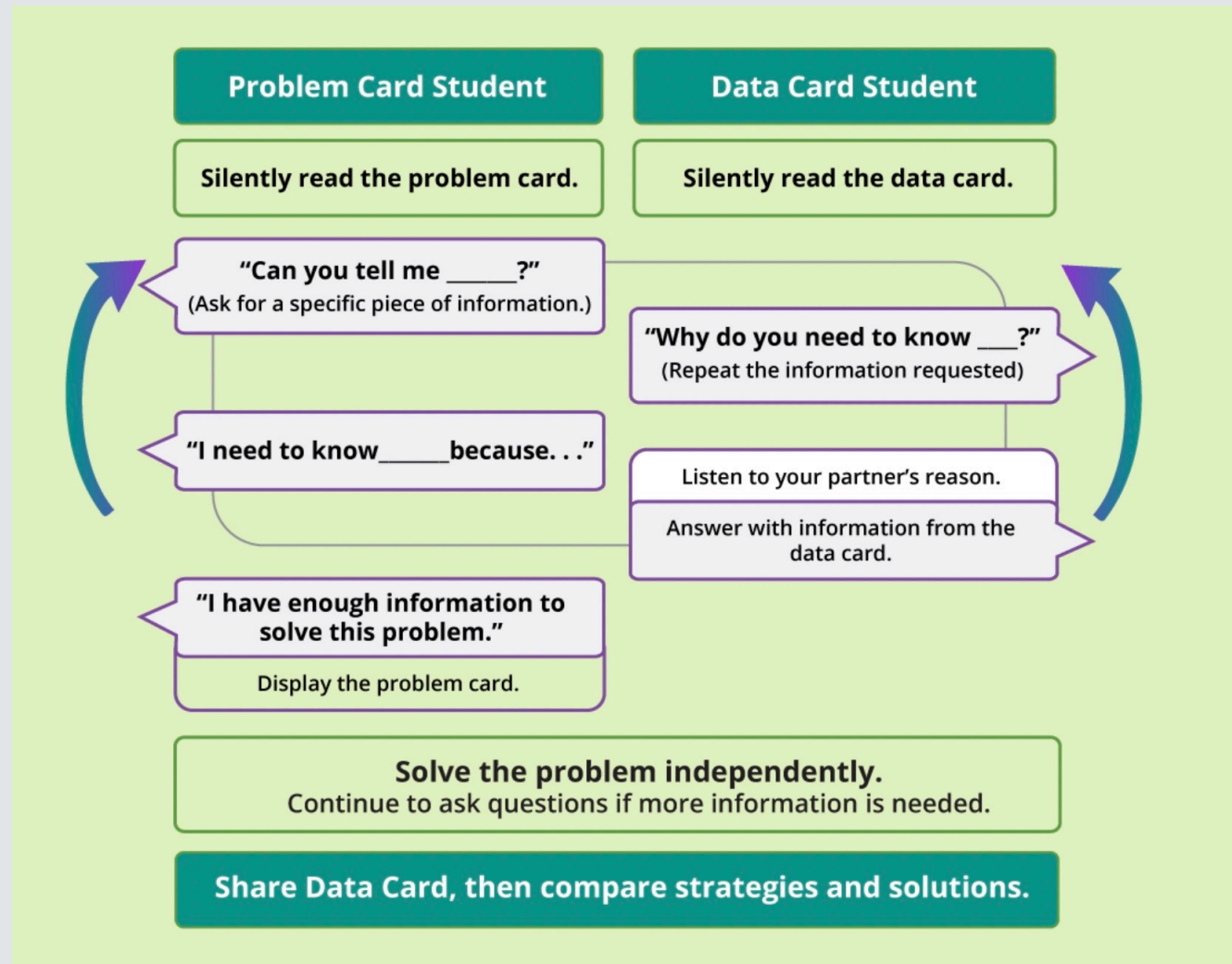


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Problem Card/Data Card





What's resonating
with you?



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Thank you!



clairemarieriddell@gmail.com

 [@clairemridell](https://twitter.com/clairemridell)

zacharychampagne@gmail.com

 [@zakchamp](https://twitter.com/zakchamp)

www.zakchamp.com