The Art of Thin Slicing
Mathodology Roundtable

What is thin slicing?
- It's a carefully sequenced set of tasks that moves a student cognitively and experientially from one place of understanding to a different place of understanding.
- It's a guided discovery. I'm going to ask a question that will lead you to think a certain way. I'll ask another question that will continue to nudge you to think a certain way, etc. Before you know it, the kids are figuring things out.
- We keep pushing and pushing and pushing and they come out of the lesson with a much more advanced knowledge and understanding than they did at the beginning and none of that happened from me telling them directly.

How do you pull them along without pulling too fast? How do you give enough repetition before increasing the load?
- Redundancy - four to six tasks that are very similar and not every group will need to do every one of them.
- This is real time differentiation based on real time data.
- Sequenced tasks that get progressively harder with parallel tasks.
- The journey of an individual group will depend on how quickly they're catching on to this.
- It's not self-directed in that regard. The teacher is leading this.

How do you make sure the individuals in the group are moving along?
- There's way more harmony in a group than we think there is.
- Kids learn very effectively from each other especially when empathy is present. Building Thinking Classrooms builds community and empathy is unlocked. They care that they each understand.
- The human mind does not work like math works. Mathematics is very logical. It's perfect in many ways. When thin slicing, all the students are in a state of discovery. Some are doing it faster, but they're all meaning making. There's greater equity in this space.
- Absolute knowledge is when I tell you something. Tentative knowledge is inviting. The students are engaged and talking to each other. There's synergy in that space.
- We still have to react to the diversity, though there is less than we think there is. Teachers have to react but we have a whole career's worth of experience that's relevant and helps us respond. Teacherly craft is still necessary.

How do you build the thin sliced list?
- Phase one - What's something the kids know how to do from last week? Start with familiar territory. Back up and then move forward. This is our starting point.
- Phase two - What's an example of a problem you want students to be able to solve by the end of this week? That's our end point.
- Phase three - What are all the different types of tasks that fit between these two?
- Phase four - Group the tasks into three groups and put them in the right order.

- Phase five - Fill in with redundant questions so students can encounter multiple examples if they need to until they're confident and can move them up.
- We have way more than one lesson plan. Thin slicing is not bound to a lesson. Start here. See how far you get today. Then tomorrow go back to the beginning, skip, skip, then go further. The next day, go back, skip, skip, and go further.
- A nice byproduct is that every time you learn more about the topic you're teaching than you knew going in.

How do you balance how often you do thin slicing vs. rich problem solving tasks?
- Thin slicing looks like practice but it's actually concept development.
- Thinking tasks help students understand curriculum.
- Non-curricular tasks build a culture of thinking.

Are there certain types of tasks that are better for thin slicing?
- You can thin slice pretty much anything. Learning happens through exploration thinking.
- Word problems - Peter is not a big fan.
    - Our goal is to take complex things and bring them to students so they can understand them. Word problems do the exact opposite. They take things that are already easy to understand and they make them more complex by adding words.
    - Word problems actually live in the same category as an essay. They were created for the purpose of seeing if students can do them.
    - Verbalize word problems as much as possible. Thin slice into the word problem. Later extensions could be in written form.

How do you manage the pacing of all groups at once?
- Use slips of paper when it's word problems or geometry problems.
- When using slips, give every group the first one. Designate a spot in the room where the next three are in piles in order. When kids are ready, they go get the next one from that spot. When a pile is gone, add the next pile. There are always three piles so they're not overwhelmed by the number of going ahead too far. If a group is racing ahead, just hand them the next task. It's important they don't see all of them because they start racing. Don't number them either so they don't race each other.
- Banner - The task goes in the banner. Do the work below the banner. When done, find a new task from another banner. If a group is really far ahead, give them the task but they don't put it in the banner. If a group is way behind, give them the next task as well.
- If they keep erasing their work, they might miss the patterns.
- There's a huge difference between students having the answer and knowing they have an answer. We want them to self-evaluate if they think they have the answer and then move on.