Building Thinking Classrooms in Mathematics with Peter Liljedahl
[Schoolutions Podcast with Olivia Wahl](#)

How do we change the reality that students are not thinking?
- We can't change education just through the tasks that students engage in. It's necessary, but we also have to work on the "how." It's not good enough to have great curriculum. It's also how we teach.
- Classrooms look more alike than different and haven't changed much in the last 170 years.
- We have to change the environment where students do the thinking.
- We have to get students to think collaboratively, and it has to be random. It's not good enough to leave students sitting at their desks.

Tasks
- Tasks are inert. It's the students that bring a life. What constitutes a thinking task for one student would not be for another.
- What makes a task a mimicking task is all about what the teacher does, not the student. It's a thinking task until the teacher tells students how to do it.

Random Groups
- In strategic grouping and self-selected groupings, students are highly unlikely to offer an idea. They enter the groups being passive followers.
- In random groups, students are likely to offer an idea even if it doesn't lead to a solution.
- Cards work the best. With digital randomizers, Peter is noticing the public "ugh"and its effect on others. It's micro-bullying. It cuts deep and is deeply traumatizing to students. He hears it in 50% of K-5 classes and 100% of high school classes. It's almost impossible to stop even when teachers are working hard to stop it. Even if the verbal expressions stop, there are still glances and hand signals. Peter no longer supports digital randomizers.

Scaffolding
- What is the minimum thing I can say to get them started?
- What is the minimum thing I can do to keep them going if they're stuck?
- We can never undo the damage of too much scaffolding.
- None of our teacher craft is invalidated by thinking classrooms. We still need all of that knowledge and skill to manage the diversity in the room.
- Don't overpresume what students need in terms of support. Let's see what they need and then respond to that. React to what you see. Step in. Give the minimum. Step back and see if it works.

Vertical Boards
- Everyone is oriented to the work in the same way. No one has a privileged position.
- They can see everyone else's work which promotes knowledge mobility. The smartest person in the room is the room.

- I'm a better teacher. I don't have to wait for the Friday quiz. I can see the work and respond right now. I can be much more responsive in the moment.
- It's not that standing is so good. It's that sitting is so bad. When students are sitting, they feel anonymous. They then disengage. Standing removes anonymity. They no longer disengage.

Fidelity
- Peter doesn't use the word fidelity with Building Thinking Classrooms. It's a framework. You still have to hang all of who you are on the frame.
- It will look different for every teacher. There are things that will make it work better and things that will make it work worse.
- One thing that doesn't work:
  - Doing Building Thinking Classrooms on Thursdays — Thinking Thursdays. Kids will have a good time, but you won't reap the benefits of the thinking classroom. It won't transform the culture of the classroom.
- Your program or curriculum is your "what." The thinking classroom is the "how." There is no contradiction here. These things can integrate. The only time that doesn't work well is when teachers work in a setting where fidelity to the program is demanded to the point where there is no room for teachers to think about the "how."
- Create space for your professional autonomy. One of the best ways to create space for your professional autonomy is to stop asking what it is administration wants you to do and ask them what they want you to achieve.
- The more practices teachers implement and the greater fidelity (teacher's choices, not Peter's demand) to building thinking classrooms (practices 1 - 10) the greater improvement in test scores. It's never been Peter's intent to improve test scores. It's always been his interest to increase thinking and improve the experience of learners. Test scores are bi-products of that.