

Solving the Physical Problems of Teaching: Squeaky Chalk, Eye Contact, and Other Common Challenges

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Objectives: This 2017 Teaching Conference session is intended to help participants:

- Identify common physical challenges of teaching and which ones you want to practice/improve
- Select strategies to help with common challenges that are most important and relevant to you
- Practice those strategies so that you feel more comfortable incorporating them into your actual teaching practice.

Teaching includes many practical challenges; some of them, like writing on the board while still connecting with students, figuring out where to position yourself in the classroom and deciding how and when to interrupt a small group of students to help or ask a question, are also physical skills we can learn and practice. In this session, we'll identify some of the most common and vexing "classroom choreography" challenges, learn solutions to help you move through the teaching with more confidence and skill, and do some drills to practice implementing them. Get ready for fun, supportive, and lighthearted environment where it's ok to try new moves for both familiar and novel teaching settings.

ALL PRACTICE EXERCISES are in groups of THREE.

One “teacher” + two “students.”

Take turns and rotate through roles for each practice.

Part 1: At the Board

ACTION: Draw a simple diagram of your home OR write an equation you know VERY well.

Practice #1:

Write without blocking your writing (stand to one side). Try standing to the left and to the right. See what works better for you. You can write silently this time.

Practice #2:

Write without blocking + explain at the same time. Use whichever posture you liked best in Practice #1. Now, add a verbal explanation of what you're writing while you write it.

Practice #3:

Use your diagram or equation. Indicate elements while making eye contact and asking your “students” a question (any question is fine—it doesn't need to make a lot of sense for now).

Part 2: Q&A/interaction

Practice #1: Wait time

Ask a question to your students.

Practice waiting – try 5 seconds, 10 seconds, 15 seconds.

Practice #2: Think-Pair-Share

Think of an OPEN-ENDED question.

Walk your students through a BRIEF think-pair-share on this question.

- Give a set amount of time (10 seconds) and instruct them to think/write on their own.
- Get their attention and instruct them to discuss with a neighbor. Give them a clear task (e.g., convince your neighbor, find similarities, find differences, come to consensus...)
- Get their attention and ask your pair to share with the class (since you're a group of three, they don't actually have to share – but try out how you would ask them to do so).

Part 3: Moving around

Practice #1: Interrupt / Intervene

Team up with another group of three (new group: six people or fewer).

“Teacher” – distance yourself from the group (go a few feet away).

“Students” – start a conversation. Here are some topics:

- Which scientific or technological invention would you most like to have invented and why?
- Have computers changed society for the better or for the worse?
- If you could copy your brain for future generations, would you?
- Why is the myth of the “mad” and/or “genius” scientist so pervasive? What negative consequences does this stereotype have?
- How do you think science will improve the world in the next century?

“Teacher” – come back and practice interrupting/intervening, helping, and leaving. Here are some ideas:

- Have a “student” recap the group’s thoughts so far.
- Ask them a follow-up question or offer a possible new direction.
- Give some encouragement.
- Leave and let them get back to work.