



**POOJA AGARWAL  
& PATRICE BAIN**

## **Using Powerful Teaching to Remember and Thrive**

Websites: [Powerfulteaching.org](http://Powerfulteaching.org) and [Retrievalpractice.org](http://Retrievalpractice.org)

Twitter: [@RetrieveLearn](https://twitter.com/RetrieveLearn)

Facebook Group: [Facebook.com/groups/powerfulteaching](https://www.facebook.com/groups/powerfulteaching)

Weekly newsletter: [Retrievalpractice.org/subscribe](https://www.retrievalpractice.org/subscribe)

Book: [Powerful Teaching: Unleash the Science of Learning](#),

### **A little bit about Patrice and Pooja**

- ❑ Patrice has taught for over 25 years in K-12 schools. Co-authored “Powerful Teaching”
- ❑ Pooja is a teacher and cognitive scientist at the Berklee College of Music in Boston. Wrote “Make It Stick” and co-authored “Powerful Teaching”

### **How does the research affect teaching in the classroom?**

- Many of our students learn and we don’t know why.
- With the research, we can discover the “why” of learning and apply it to our teaching.

### **The four “power tools”**

- [Retrieval practice](#)
  - To pull information out of a student’s head.
    - Tools for pulling information out of a student’s head.
      - [Flipgrid](#)
      - [Kahoot](#)
      - [Quizlet](#)
- [Spacing](#)
  - Forgetting is necessary for learning.
  - What did you learn in class yesterday? Giving student’s a chance to struggle and forget. The opposite of cramming.
  - When we space things out it improves long term learning.

- [Interleaving](#)
  - Mix things up.
    - Examples:
      - When doing math problems mix up the types of problems like one multiplication problem then one subtraction then one addition and then one division.
      - A batter and a pitcher example. If the batter knows which pitches are coming they don't have to be as prepared as they would when they don't know what the next type of pitch will be.
      - Shuffle up flashcards after you run through the deck each time.
        - Click the shuffle button on Quizlet!
      - Teaching the French and Russian Revolutions at the same time and compare and contrast the two.
- [Feedback Driven Metacognition](#)
  - Students get formative feedback for themselves.
  - If the first time students retrieve is on the exam they don't know what they know and what they don't.
  - Feedback DOESN'T mean grading.
    - Think pair share
    - Tech tools
    - Quick class discussion
    - On a quiz try giving students the opportunity to share how confident they are about a question while taking a quiz. It's future feedback to themselves.
      - A simple checkbox "not sure about this" or "nailed it". For younger grades, a simple smiley face/sad face will work.

### **Effective and practical retrieval practices**

- Instead of homework devise strategies based on the power tools to help students retain information.
  - Mini quizzes
    - Take the information that would have been homework, cut it up into little papers and just pick a few to ask the class.
  - [Retrieval Cards](#)
    - A spin on flashcards
    - Have students use the [four steps of metacognition](#) on each retrieval card
      - Make a judgment of learning (star or question mark)

- Answer all that you starred
  - For the first time look up the ones you don't know
  - Verify
- Brain Dumps
  - Just ask students to write down everything they know.
  - Just two things
    - Write down two things you remember or two things that are still unclear.
  - Blog Post: [Sticky learning: Digital brain dumps with Flipgrid and Socrative](#)
- [Retrieval guides](#)
  - Ask students questions as you teach and have students write down a few things you just discussed.
  - Allow students to pause and retrieve.
    - By the time class is finished students have a clear view of what they have learned.
  - Post: [Turn study guides into retrieval guides](#)
- [Retrieve-taking \(vs notetaking\)](#)
  - Rather than having students take notes during the lesson, pause the lesson and have students retrieve what they have learned.
  - Or while reading a section of a book have students close the book and retrieve what they have learned by writing it down then verifying.
  - Post: [Boost note-taking. Try Retrieve-Taking!](#)
  - Once you're done retrieve-taking sit down and talk about it and go through what you learned.

### **So now what?**

- Start small and find a strategy you can use tomorrow.
- Join a book club, Facebook group or collaborate with a colleague around these practices.

### **Related posts on the Ditch That Textbook blog:**

- [Sticky learning: Digital brain dumps with Flipgrid and Socrative](#)
- [Using Kahoot and other ways your brain craves](#)
- [Why feedback is SO time consuming – and how to fix it](#)

### **Resources:**

- [Powerfulteaching.org/resources](https://powerfulteaching.org/resources)
- Subscribe to weekly emails at <https://www.retrievalpractice.org/subscribe>
- [Practice guides](#)

