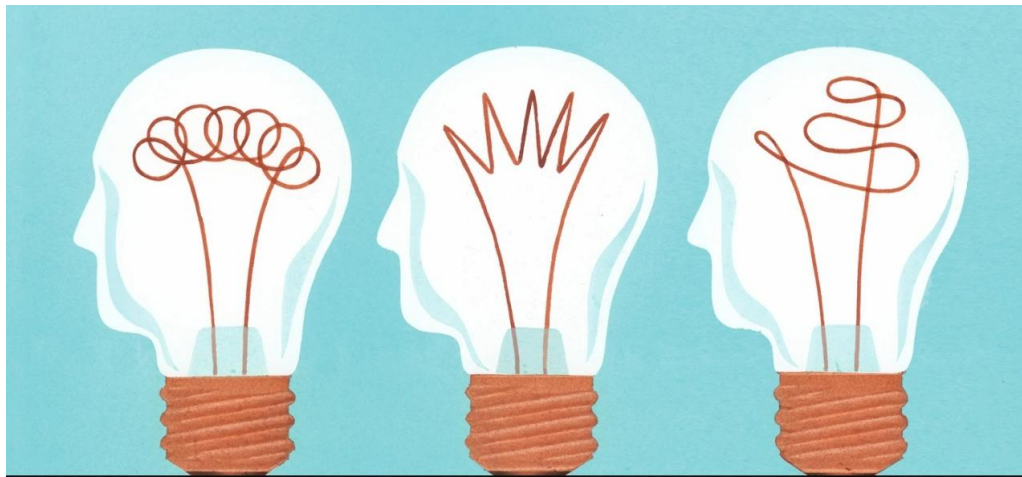# The Ways To Remember:
The Role of AI in Our Classrooms

Philippe Ernewein, MA
Director of Education, Denver Academy
www.rememberit.org/ai

POP Quiz

You need:
Blank sheet of paper or notebook & something to write with.

In the Age of AI Where Answers Are Instant…

Our students' greatest vulnerability is not access to information, but overload on working memory and fragile long-term retention.

Our goal is to design learning experiences that intentionally moves ideas from short-term exposure through supported working memory into durable long-term memory.

We help students build understanding and critical thinking skills that no tool can replace.

In the Age of AI

The Challenge

Our students' greatest risk is not access, but overload on working memory and learning that never consolidates.

AI can retrieve, summarize, & generate content,

AI cannot build durable understanding, judgment, or creative
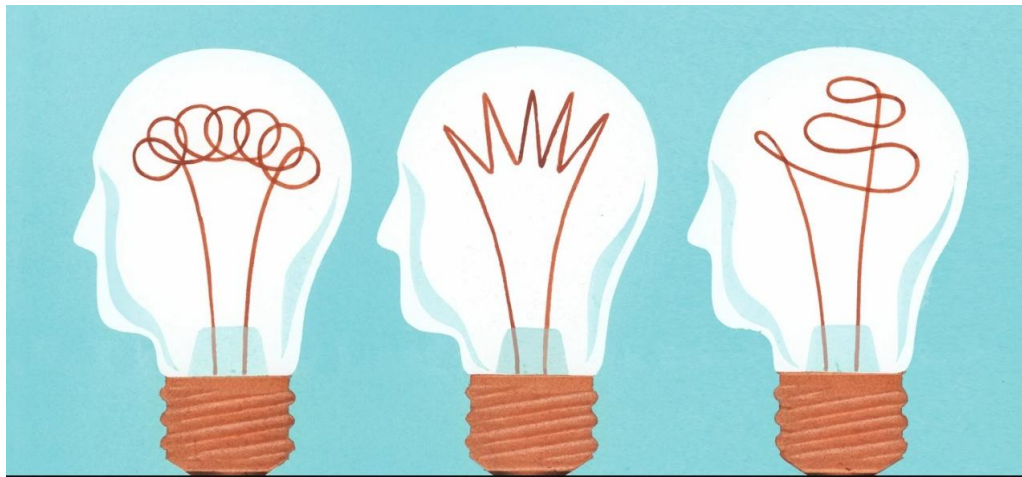
The Design Imperative

Memory is not automatic.

Lasting learning happens when instructional design intentionally moves ideas, concepts, & skills from working memory to long term memory through practice, spacing, retrieval, & reflection

The Ways To Remember:
The Role of AI in Our Classrooms

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We are at a critical crossroads around the role of memory. How we respond, manage, and design for it matters. This workshop will provide an overview of the three significant parts of memory, highlight memory strategies, and how we can partner with artificial intelligence to support our organic memory systems.

Agenda

Pop Quiz

Memory Foundations

Learning in the Age of AI

What some research tells us

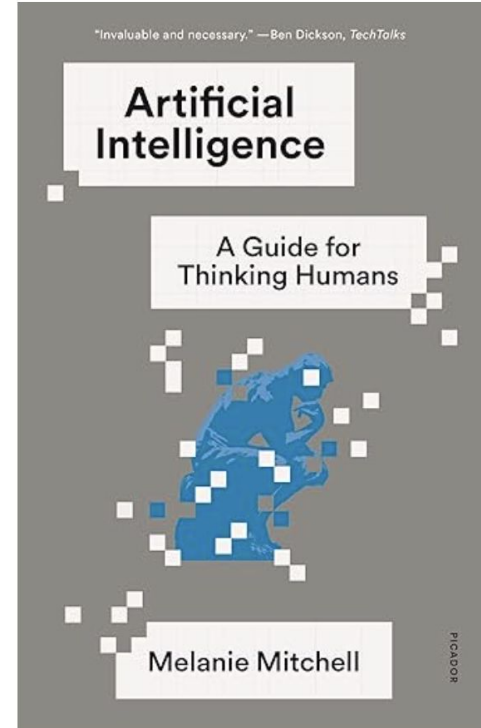Classroom Strategies That Support Memory
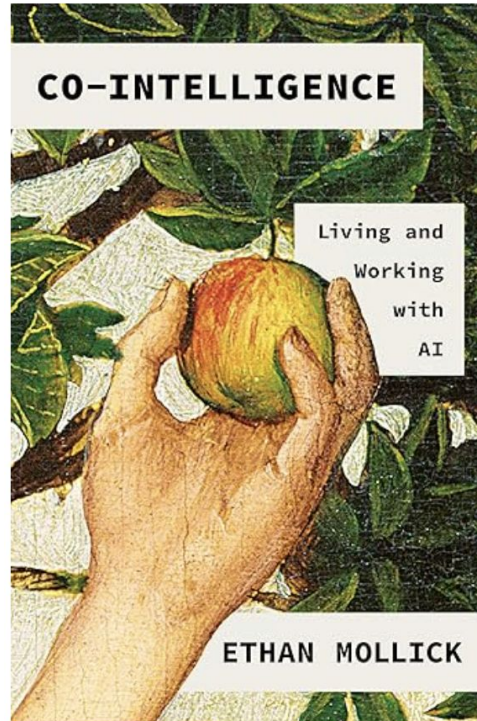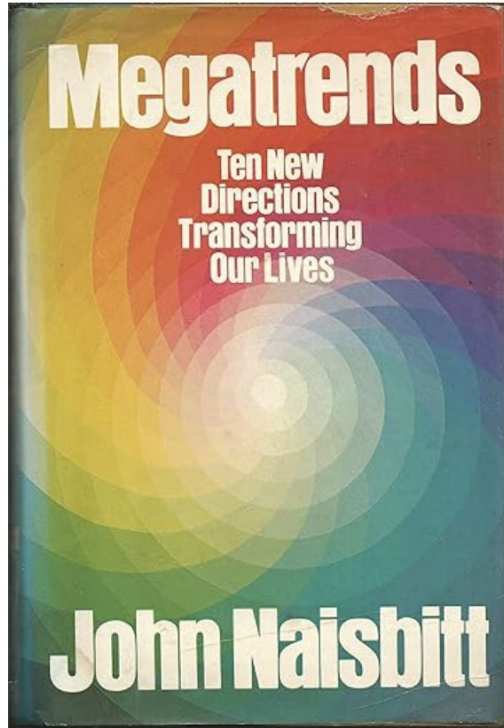
Four Futures of AI

Objectives

1. Differentiate between short-term, working, and long-term memory; and explain why working memory overload is a central learning risk in the age of AI.

2. Identify strategies that strengthen long-term memory retention.

3. Apply classroom ready memory support strategies/tools.

4. Evaluate how AI tools can play the role of cognitive partners (rehearsal, visualization, feedback), not be a replacement for human learning & memory.

5. Plan at least one instructional strategy that intentionally moves learning from working memory to long term memory in your own classroom/ context.
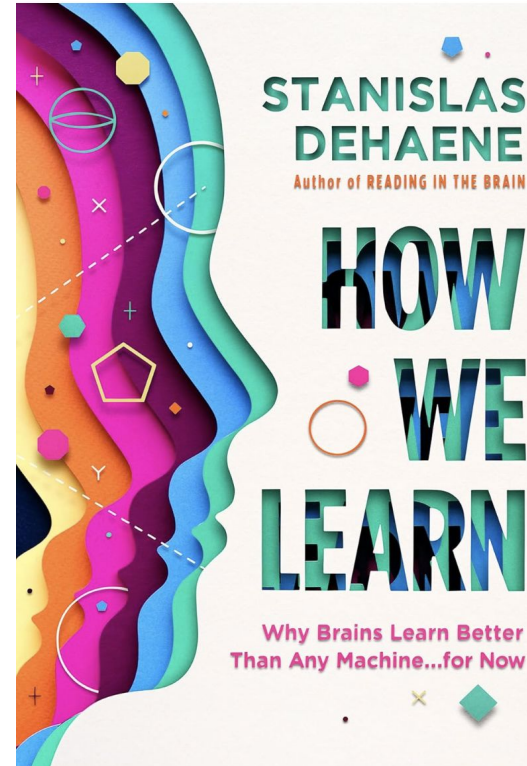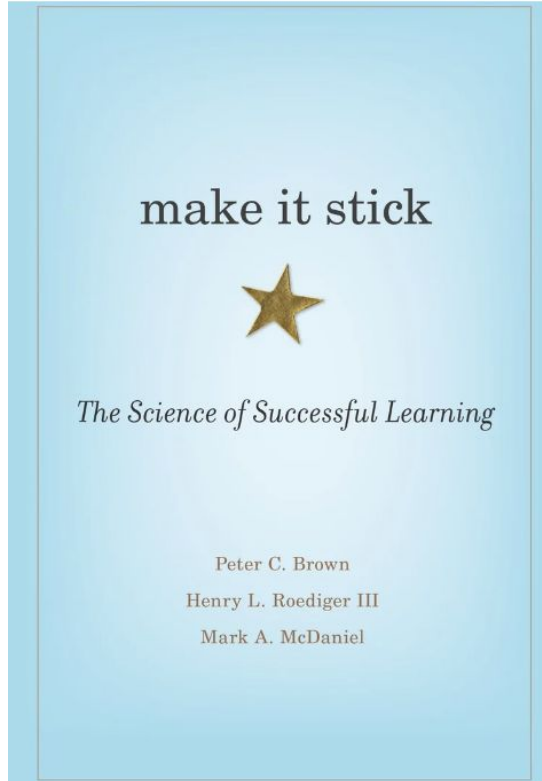
"Our brains function differently, not because they are defective but because they're organized to display different strengths."

-Brock L. Eide, M.D., M.A. and Fernette F. Eide, M.D., The Dyslexic Advantage

Primary Sources

The Best 2 Books on Memory & Learning

make it stick

The Science of Successful Learning

Peter C. Brown

Henry L. Roediger III

Mark A. McDaniel

STANISLAS DEHAENE

Author of READING IN THE BRAIN

HOW WE LEARN

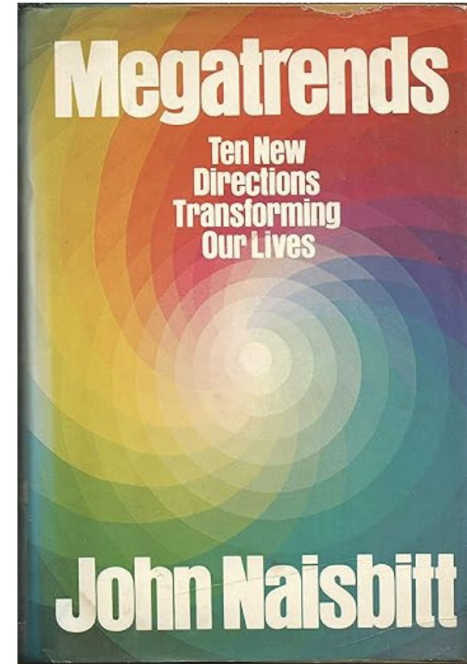Why Brains Learn Better Than Any Machine...for Now

If you have trouble with memory

Keeping up with multistep directions, especially when they are only presented verbally:

• Basic math calculation and learning math facts

• Reading comprehension

• Note-taking in class

• Remembering to write down assignments, complete them, and turn them in

• Proneness to becoming easily overwhelmed by large homework loads

Barkley, Russell A. *Executive Functions: What They Are, How They Work, and Why They Evolved*. Guilford Press, 2012.

Megatrends (1982)

"Whenever a new technology is introduced into society, it requires a counterbalancing human response - or technology will fail."

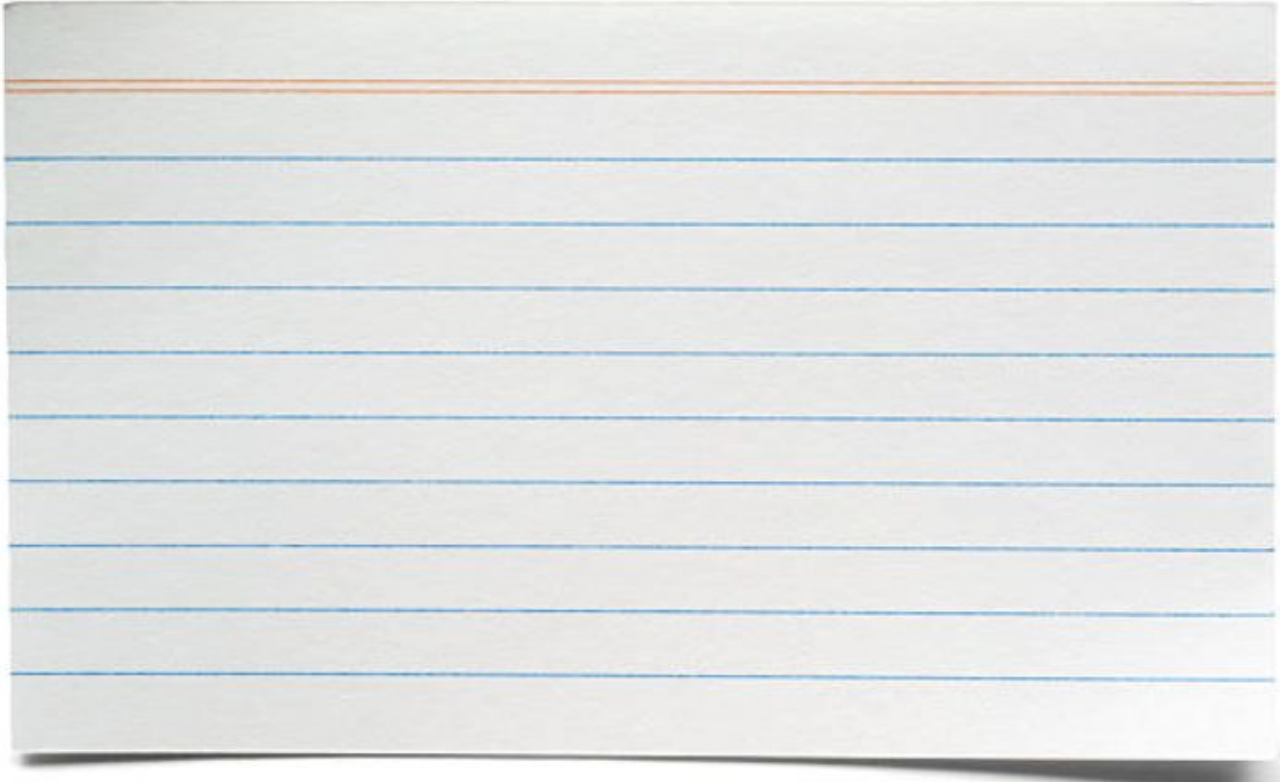# "High tech requires high touch."

Megatrends (1982)

"The faster and more powerful our tools become, the more intentionally human choices must be."

Supporting Memory & Remembering in our Classes

1. Concept Cards
2. Games Series
3. Total Physical Response (TPR)

1. ChatGPT: Deliberate Practice
2. Visualization & Comprehension
3. Goblin Tools

1. Concept Cards

2. TPR (Total Physical Response)

2. What is TPR?

- Research showed that students remember language more effectively when learning is paired with physical movement, engaging the body as well as the brain.
- By linking words and concepts to actions, TPR reduces cognitive load, strengthens comprehension, and supports long-term memory through embodied learning.
- Supports retention of information longer because students experience learning rather than just hearing or seeing it.

Source: Asher, John J. Learning Another Language Through Actions. 6th ed., Sky Oaks Productions, 2009.

3. Games Series

1. Pictionary
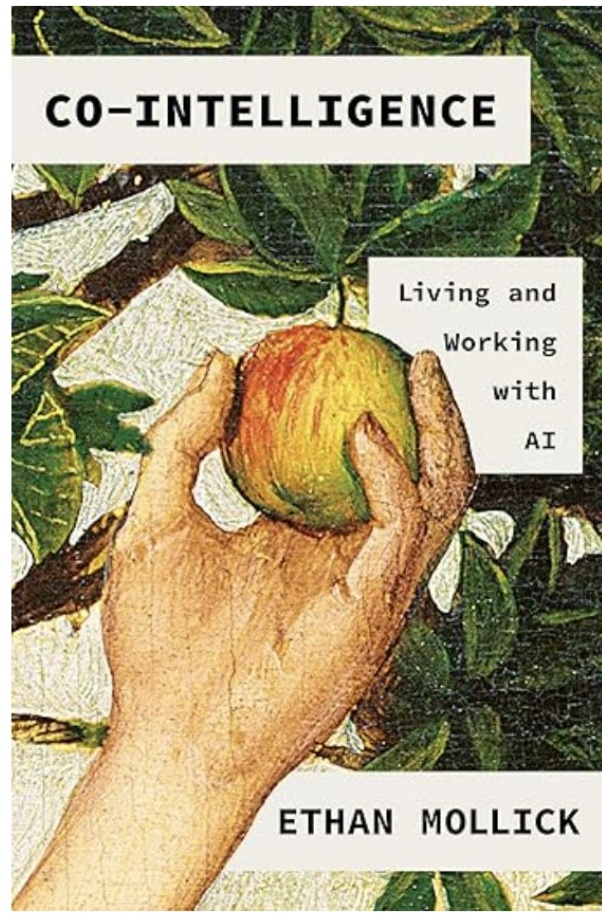2. Charades
3. Jeopardy

Supporting Memory & Remembering in our Classes

1. Concept Cards
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3. Game Series

1. ChatGPT: Deliberate Practice
2. Visualization & Comprehension
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School is a gym for your mind.

"Deskilling is already happening with doctors and other professionals, not just students. Just as sending a robot defeats the purpose of a workout, sending in an AI to do your intellectual work (ie. cognitive unloading) defeats the purpose of education."

Lin, Patrick. "Why We're Not Using AI in This Course, Despite Its Obvious Benefits." Emerging Ethics with Patrick Lin, 7 Aug. 2025, emergingethics.substack.com/p/why-were-not-using-ai-in-this-course

(Mollick, Ethan. Co-Intelligence: Living and Working with AI. Portfolio, an imprint of Penguin Random House, 2024)

Four Futures of AI: Which One Should We Plan For?

1. **As Good As It Gets**

   AI reaches a plateau where progress stalls due to technological limits, regulation, or other constraints, and doesn't improve significantly beyond where it currently is. Humanity adapts to that level of capability.

2. **Slow Growth**

   AI continues to develop steadily and incrementally, giving society more time to adapt, regulate, and prepare for changes in work, education, and daily life, with mostly manageable disruptions.

3. **Exponential Growth**

   AI capabilities accelerate rapidly beyond current expectations, creating massive gains and challenges alike: dramatic productivity increases, societal upheavals, and potentially powerful actors using advanced AI in unpredictable ways.

4. **The Machine God**

   A more extreme future in which AI reaches or surpasses artificial general intelligence (AGI), machines that outthink humans across domains, fundamentally altering human supremacy and the structure of society.