Metacognition Is Not a Buzzword

Session handout · Teachers, specialists, and leaders | Caroline Miller, EdD

How to use these tools

Four tools from the session, in the order you'll use them: vet a claim, help students monitor, plan the task, then check the lesson. You don't need all four at once. Pick the one that fits the problem in front of you.

A note on sources: much of my self-regulated learning (SRL) work comes from, or was inspired by, Timothy J. Cleary's research and his book *The Self-Regulated Learning Guide* (2018). If these tools help you, his book is the best next read.

Every tool and checklist item carries an evidence tag, so you know how much weight it can bear:

Tag	What it means
Strong evidence	Replicated findings, often across many studies
Promising	Solid but limited: one study, a small sample, or college students
Debated	Researchers actively disagree
My interpretation	My read on what the research means for your classroom

Tool 1 · The vetting card

MY INTERPRETATION A synthesis of the research, not a published instrument.

Use it before you adopt any brain-based claim from a workshop, product, or handout.

1. **What is the claim, plainly?** Strip out the brain words. What would students actually do differently?
2. **Compared to what?** Better than what my students do now, or just better than nothing?
3. **Where is the classroom evidence?** Studies with real learners on real tasks, not only a brain scan.
4. **For whom, for which task?** Which ages, which subjects, which kind of learning?

The check: does the brain part change what I would do? If not, judge it on the classroom evidence alone.

Try it on these three claims. Decide: adopt, adapt, or avoid? Which question decided it?

Claim	Source	My call
"Cross-lateral brain breaks wake up both hemispheres so students are ready to learn."	A PD workshop	
"Our brain-training app builds working memory, so focus and grades go up."	A product pitch	
"Quiz yourself before you reread your notes. Retrieval makes learning stick."	A study skills handout	

Claims written for this activity, in the style of what teachers commonly hear.

Tool 2 · Predict, check, adjust

MY INTERPRETATION built from the calibration research. In one classroom study, lower-performing students stayed overconfident all semester and feedback alone did not fix it (Hacker et al., 2000; Promising).

Use it with any quiz or test, starting with low-stakes ones so the stakes don't distort predictions. Use it repeatedly, not once.

Predict (before)	Check (after)	Adjust (next time)
My score will be _____ / _____	My score was _____ / _____	Next time I will _____
Star the items you're unsure of.	Which starred items were right? Which unstarred ones were wrong?	because _____

Why the Adjust box matters: noticing how you did (monitoring) only helps if it changes what you do next (control). The items a student didn't star but got wrong are the most useful: that's overconfidence they can see.

Tool 3 · Task analysis planner

MY INTERPRETATION Adapted from Cleary's *The Self-Regulated Learning Guide* (2018), which separates task strategies (how to do this task) from SRL strategies (how students manage their own learning during it), and shaped by teachers' task analysis practice at my school.

Start with the task and end with the self-regulated learning (SRL) move you'll make visible. Tip: fill box 4 before box 3. Predicting where it will break makes the strategy choice sharper.

1 The task

What will students actually produce or do?

2 Academic skills it needs

Structure, vocabulary, background knowledge

4 Where it will go wrong

Who stalls, who skips the reading, who never asks? Fill this before box 3.

3 Task strategies I'll teach

Name it, model it aloud, practice it on varied examples. Use this when _____, because _____.

5 The SRL move I'll make visible

Circle one, then describe how you'll model it.

Help seeking · Time management · Motivation · Goal setting · Monitoring

How I'll know it worked

One observable sign, such as fewer blank starts or more students checking notes before asking.

Tool 4 · Lesson planning checklist

You don't need every box. One move from each column turns a buzzword into a lesson.

Before the lesson

☐	Move	Evidence	Source
☐	Name the task and the thinking it takes	My interpretation	Cleary (2018); task analysis practice
☐	Predict where it will break	My interpretation	Cleary (2018); task analysis practice
☐	Teach one strategy inside your content	Strong evidence	EEF (2025), Rec 2
☐	Plan the when and why: “Use this when ____, because ____”	Strong evidence	Donker et al. (2014)
☐	Match practice to the target thinking	Promising	Agarwal (2019)
☐	Write your think-aloud	Strong evidence	EEF (2025), Rec 3

During the lesson

☐	Move	Evidence	Source
☐	Think aloud, then fade	Strong evidence	EEF (2025)
☐	Ask, “Can you explain what you did?”	Strong evidence	Bisra et al. (2018)
☐	One checkpoint: keywords after a delay, then rate understanding 1 to 5	Promising	Thiede et al. (2003)
☐	Help-seeking routine: try, check notes, ask a peer	My interpretation	Table Neighbor poster
☐	Partners compare answers and methods	My interpretation	Table Neighbor poster

After the lesson

☐	Move	Evidence	Source
☐	Predict, check, adjust	My interpretation, built on Promising research	Hacker et al. (2000)
☐	Name the strategy in feedback and wins	My interpretation, built on Strong research	Usher & Pajares (2008)
☐	Bring it back later on a new kind of task	Strong evidence	Barnett & Ceci (2002); Donker et al. (2014)
☐	Your own check: one sign it worked	My interpretation	

Key sources

Agarwal, P. K. (2019). Retrieval practice and Bloom’s taxonomy: Do students need fact knowledge before higher order learning? *Journal of Educational Psychology, 111*(2), 189–209.

Barnett, S. M., & Ceci, S. J. (2002). When and where do we apply what we learn? A taxonomy for far transfer. *Psychological Bulletin, 128*(4), 612–637.

Bisra, K., Liu, Q., Nesbit, J. C., Salimi, F., & Winne, P. H. (2018). Inducing self-explanation: A meta-analysis. *Educational Psychology Review, 30*, 703–725.

Cleary, T. J. (2018). *The self-regulated learning guide: Teaching students to think in the language of strategies*. Routledge.

Donker, A. S., de Boer, H., Kostons, D., Dignath-van Ewijk, C. C., & van der Werf, M. P. C. (2014). Effectiveness of learning strategy instruction on academic performance: A meta-analysis. *Educational Research Review, 11*, 1–26.

Education Endowment Foundation. (2025). *Metacognition and self-regulated learning: Guidance report* (2nd ed.).

Fleming, S. M. (2026). Towards an integrative neuroscience of metacognition. *Nature Reviews Neuroscience, 27*(11), 789–806. https://doi.org/10.1038/s41583-026-01081-x

Hacker, D. J., Bol, L., Horgan, D. D., & Rakow, E. A. (2000). Test prediction and performance in a classroom context. *Journal of Educational Psychology, 92*(1), 160–170.

Nelson, T. O., & Narens, L. (1990). Metamemory: A theoretical framework and new findings. *Psychology of Learning and Motivation, 26*, 125–173.

Thiede, K. W., Anderson, M. C. M., & Therriault, D. (2003). Accuracy of metacognitive monitoring affects learning of texts. *Journal of Educational Psychology, 95*(1), 66–73.

Usher, E. L., & Pajares, F. (2008). Sources of self-efficacy in school: Critical review of the literature and future directions. *Review of Educational Research, 78*(4), 751–796.

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