STAFF ROOM POSTER

Three Loads, One Working Memory

Working memory holds a handful of new items at once. Lesson design decides what spends that budget.

THE TASK

Intrinsic load

The genuine complexity of the material. Managed by sequencing and chunking, never by dodging the content.

In class: Teach the parts before the system: phloem and xylem separately, transport as a whole after.

THE WASTE

Extraneous load

Load from poor design: split sources, decoration, unclear instructions. This is the budget thief you control.

In class: A diagram with its key on another page makes learners carry the key in their heads. Put labels ON the diagram.

THE POINT

Germane load

Effort spent building understanding: connecting, comparing, self-explaining. Protect budget for this.

In class: Why does step two come before step three? is productive load. Decoding cluttered slides is not.

FADE

Expertise changes everything

What overloads a novice underloads an expert. Supports that help in September can hinder by March.

In class: Once fluent, swap worked examples for problem-solving; the guidance that helped now gets in the way.

DESIGN CARDS: CUT AND KEEP

Load-Cutting Moves

Four reliable fixes for self-inflicted load. Apply to any slide, sheet or explanation.

Integrate, don't split

Words live on the diagram they describe; instructions live on the resource they govern.

Say: "Could a learner do this without flicking between two places? If not, merge them."

Cut the decoration

Anything that does not carry the idea competes with it.

Say: "Delete every image you cannot justify in one sentence of content."

One channel at a time

Do not read dense slides aloud while learners read them. Speak to visuals; show minimal text.

Say: "Slide: the diagram. Voice: the explanation. Never both as text."

Chunk and check

New material in small steps, working memory cleared by a check before the next step lands.

Say: "Teach one step, everyone tries one, then the next step."

QUICK REFERENCE POSTER

The Worked Example Ladder

The CLT-approved route from showing to solo: every rung lightens the guidance a little.

1. Full example, narrated

Complete solution, decisions explained aloud, learners attend rather than copy.

In class: Watch first. Your only job is to spot why I chose to multiply before adding.

2. Completion problems

Partially worked: learners finish the last steps, then the last two, then more.

In class: Steps one and two are done for you. You take it from step three.

3. Paired twin

A structurally identical problem solved with a partner, example still visible.

In class: Same method, new numbers. The example stays up; glance, don't copy.

4. Solo, example away

Independent practice from memory. If accuracy collapses, drop a rung, not a standard.

In class: Examples closed. Five questions. Below four right means back to completion problems.

TEACHER CHECKLIST

Load-Aware Lesson Check

Run on any lesson teaching genuinely new material. Most overload is designed in accidentally.

The material

- [ ] New content arrives in steps small enough to hold whole.
- [ ] Worked examples exist for every new procedure.
- [ ] Prerequisites were retrieved this week, so they are cheap to access.

The resources

- [ ] Labels and instructions are integrated, not split across sources.
- [ ] Slides carry visuals and minimal text; the voice carries the rest.
- [ ] Nothing decorative competes with the content.

The learners

- [ ] Checks confirm one step is secure before the next loads.
- [ ] Support fades as fluency grows: examples give way to problems.
- [ ] Struggling learners get a lighter load, not a lower goal.

CPD BRIEFING: STAFF ROOM COPY

Cognitive Load Theory: A 5-Minute Evidence Briefing

What CLT robustly predicts, and where its claims need handling with care.

The architecture argument is strong

Working memory is severely limited for novel information while long-term memory is vast: instruction that respects this (guidance first, examples first) consistently beats instruction that ignores it for novices.

The classic effects replicate

Worked examples, completion problems, split-attention and redundancy effects have decades of experimental support, with the expertise-reversal effect marking where each stops applying.

Design beats willpower

Most overload is built into materials: split sources, decorated slides, double-channel text. The fixes are cheap and benefit everyone, most of all novices and learners with weaker working memory.

The honest caveat

Load itself is hard to measure (self-report scales dominate), the three-load taxonomy keeps being revised, and germane load remains debated. Use CLT as a design discipline, not as a measurement science.

Evidence base

Kirschner, P.A., Sweller, J. and Clark, R.E. (2006). Why minimal guidance during instruction does not work. Educational Psychologist.
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Richter, J., Scheiter, K. and Eitel, A. (2016). Signaling text-picture relations in multimedia learning: a comprehensive meta-analysis. Educational Research Review.
Sweller, J. (1988). Cognitive load during problem solving: effects on learning. Cognitive Science.