

CLIME CONCLUSION! INTRO TO COGNITIVE SCIENCE

UW Medicine
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Center for Learning and Innovation in Medical Education ([CLIME](#)).

All interested in growing as educators in the health professions welcome!

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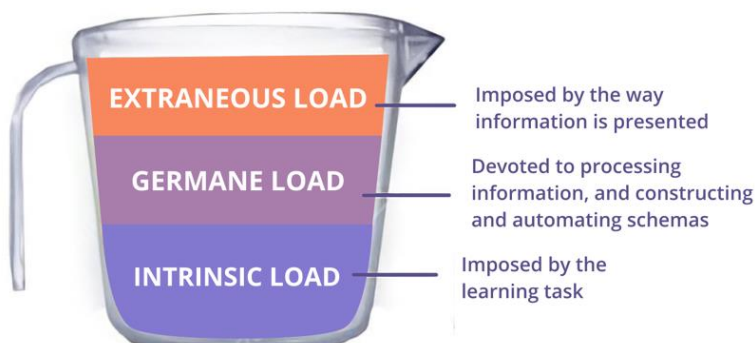
Developed in collaboration with the UW School of Medicine Academic & Learning Technologies ([SOMALT](#)) for the Innovations in Curriculum Design & Delivery workgroup.

WHAT IS COGNITIVE SCIENCE?

Cognitive science is the interdisciplinary scientific study of the mind and its processes. It has led to advances in understanding how we process and retain information – how we learn. It has generated a set of evidence-based principles to encourage deep learning by giving learners time to think about, reflect upon, and apply new learning. Key principles include retrieval practice, spaced repetition, interleaving, and reflection and metacognition.

COGNITIVE SCIENCE IN ACTION!

1. Start the session by asking “What did we talk about last week?”
2. Ask questions to stimulate retrieval of information.
3. Pause your session at multiple time points to allow learners time to think.
4. Have learners write down or summarize learning at any point in your session.
5. Use active learning strategies such as “think-pair-share” or “1-2-4-more.”
6. Use assignments to combine different topics from the course.
7. Pay attention to cognitive load, focusing on germane load and reducing extraneous load.



SUMMARY

1. Learning for understanding requires active and deep processing.
2. Embrace opportunities to stimulate retrieval.
3. Review important concepts over multiple course sessions or activities.
4. Mix your content and help learners compare old and new material.
5. Offer as much feedback as possible to support connection between concepts over time.