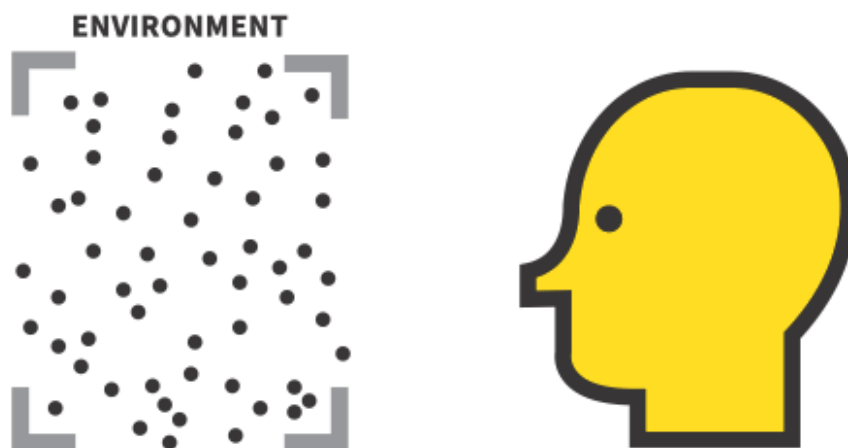


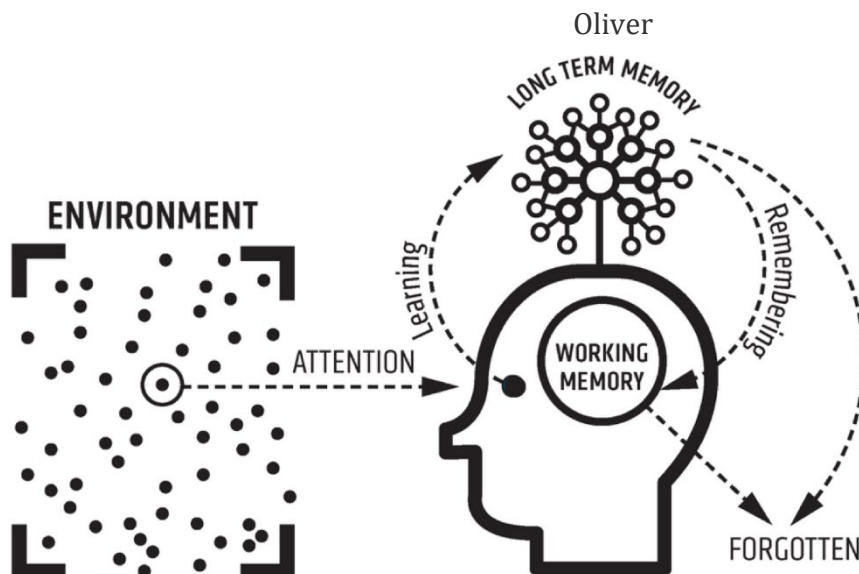
A model for the learning process. And why it helps to have one.

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One of the most powerful ideas I've engaged with recently is using a diagram to visualise a shared model of the learning process; using it to get a feel for how learning works in general but also to identify reasons for why it can sometimes not happen. This is the diagram I have in my Rosenshine Principles book, courtesy of [Oliver Caviglioli](#):

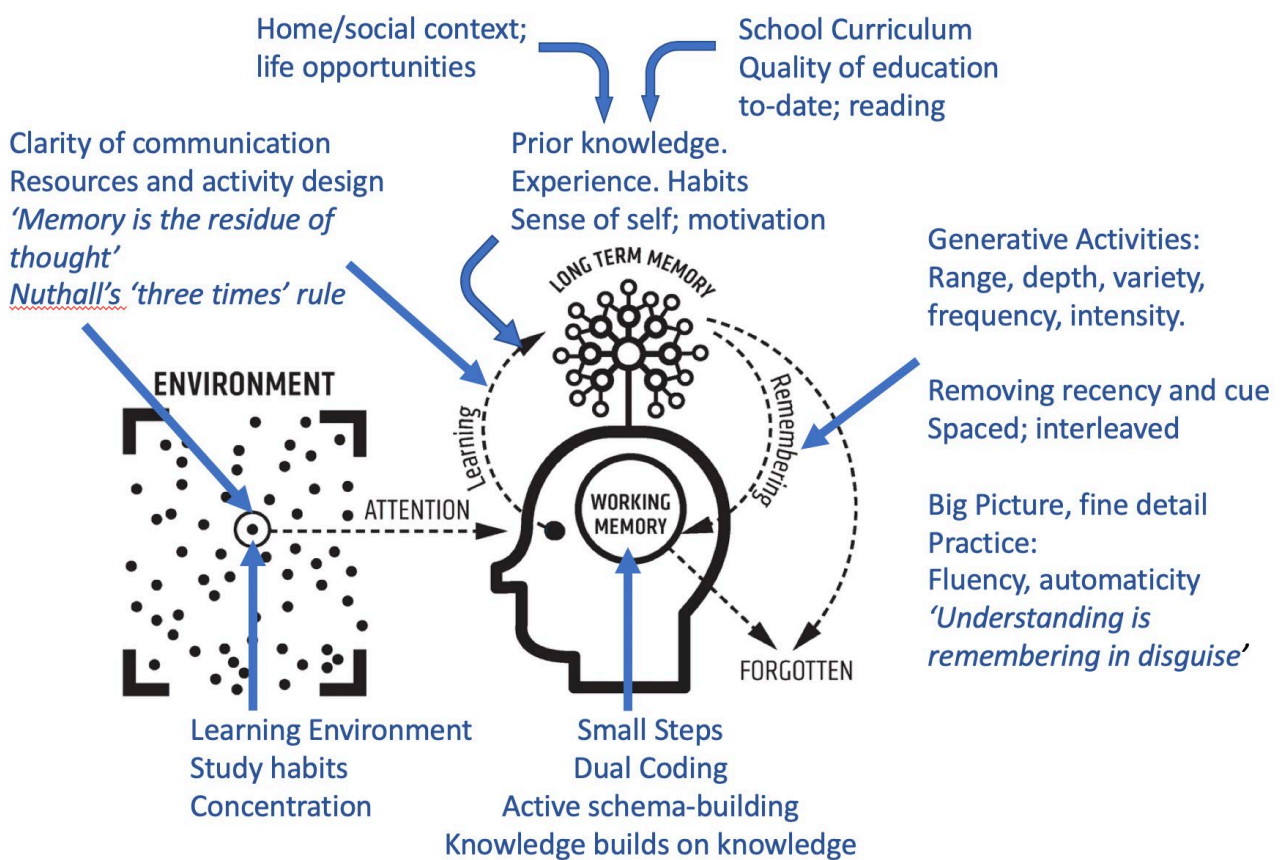


I've found it massively helpful as a focus during CPD as we've explored a range of interlocking, overlapping ideas:

- Willingham's 'memory is the residue of thought' and various ideas in the classic 'Why do students forget everything I say?' chapter.

- **Rosenshine's Principles:** the value of practice, the use of daily review to activate prior learning; weekly and monthly review to enact retrieval practice; the need to break learning down into small steps.
- **Nuthall's observations from Hidden Lives of Learners:** the importance of prior knowledge; his 'three times rule'
- **Shimamura's MARGE:** A: Attend – the need to secure attention and the challenge of mind-wandering; R: teachers' opportunities to build relational models for areas of knowledge; G-E: the generate-evaluate cycle whereby learners bring ideas into working memory (learning is generative), evaluate for accuracy, add to or adjust their schema and then reconsolidate.

The near inevitability of forgetting, the role of retrieval, the need to connect new learning to prior knowledge and a whole host of other issues can be explored in some depth where we have a shared focus for framing the discussion:



(NB: The coloured labels here represent the discussion and thinking we might have around the diagram. They're not meant to complicate the simple diagram itself. I would hesitate to share the labels until I'd had the discussion first in any CPD scenario.)

It always frustrates me when people see a simplified model and jump to the assumption that the thinking is simplistic. Of course it's not. As I've explored before – schema-building is a rich and complex business; 'remembering' and 'learning' as labels encompass nearly anything we can be said to have learned. They're broad terms, not reductive and confining. I also find it frustrating – and fruitless – when people simply suggest that, 'it's a bit more complicated than that' – almost as a kind of free pass not to have to pose an alternative.

If someone suggests, rather pejoratively, that school has been reduced to 'memorising knowledge', I think there's a discussion to be had where, if we re-frame knowledge and memory as broad terms – actually, **building schema** (formed of knowledge, beliefs, memories, preferences.... of many kinds) **in our memory** (hence memorised?) is actually good enough as a concept to deal with quite a lot of the things we want to achieve in the field of education. If someone doesn't agree with that, then I'd want them to present a better model – not just tell me this one doesn't work. That way we have competing models to reference and debate, rather than the nebulosity of 'there's more to it than that'.

In a teacher CPD context, the most important reason for exploring a model is that, if the model is any good, it can help to explain things we observe and help suggest solutions to problems. In my experience the model above does exactly that – time and time again. For example, students don't learn what you're trying to teach for all kinds of reasons. It helps to understand why:

Attention deficits: they don't absorb ideas from lesson interactions because their attention is not given to the specific learning points in question; it might be elsewhere. You can't just learn stuff because of a discussion other people are having in the same room. **Solution:** strategies around securing attention, using narrative structures, inclusive questioning, attention-focusing stimuli.

Memory overload: working memory is finite; often students are dealing with too many ideas and pieces of information; they can't process it all and things don't make sense or stick. **Solution:** break concepts and tasks into smaller practisable steps and elements.

Lack of prior knowledge: the big hidden variable across the class: students will often not have a schema for the concepts being taught sufficiently well developed to make sense of or retain the new knowledge. **Solution:** develop a broad curriculum packed with knowledge and experiences across multiple interlocking domains that allow students to fill in knowledge gaps and broaden their schema. Check students' prior knowledge as a routine element of teaching rather than making assumptions.

Insufficient fluency of recall: very often a learning issue is simply a question of practice. Students haven't yet had or taken the opportunity to practise retrieving and applying their knowledge with enough frequency, intensity or variety to have developed the fluency and confidence expected or needed to move to the next stage. **Solution:** increase the range, intensity and frequency of practice tasks so that students gain confidence and fluency.

Task completion is poor proxy for learning: we can do all kinds of things immediately after being shown or simply by accessing information presented to us, without it forming part of long-term memory or leading to any fluency of recall for use at a later date. **Solution:** engage in more checking for understanding and more generative activity with supports removed; space practice so that long-term memory and recall are strengthened away from the illusion of knowing through recency.

That's just a sub-set of all kinds of issues that the model deals with. It makes sense of the problems that occur in very many lesson scenarios and provides solutions.

Of course there's a layer of this that is very much related to the everyday business of school subjects: maths, writing, history, creativity in art; understanding science There's another layer of how we think and how teaching affects us related to social and emotional development and, very possibly, a more elaborate model

could show these things both as separate and then interacting to add further clarity to our understanding. Motivation and our complex responses to feedback would come into this as would other deeper existential elements of who we are: self-image and sense of purpose, for example. It would become a stretch to force everything into a deliberately simple learning and remembering, schema-building cycle.

But the point isn't to have a universal model for all things, burying itself under the weight of complexities it seeks to simplify. The point is to develop useful versatile models that give us insights and offer solutions – within whatever boundaries are needed to maintain their validity and usefulness.

On a very practical level, I can only say that, since introducing the schema-building model into my work, I've found it massively powerful and, given how many areas of teaching and learning it helps with and how much mileage for improvement there is within those areas, I'm not sure I'll need a different one any time soon.