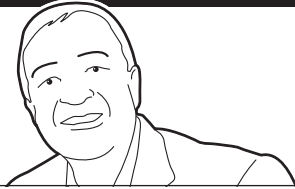


Schemas and Memory

HOW2

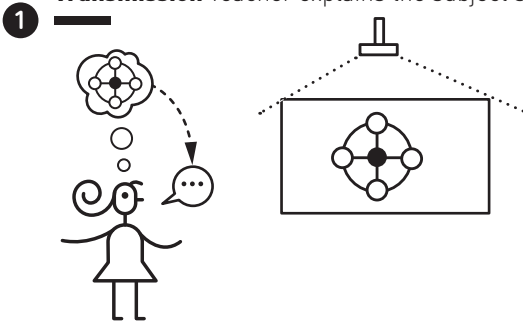
PINPOINT



Where the information being learned has a framework or structure that can be used to organise both the learning and the retrieval then memory is often considerably improved.

MICHAEL EYSENCK [ED] | THE BLACKWELL DICTIONARY OF COGNITIVE PSYCHOLOGY | 1994

1 Transmission Teacher explains the subject schema



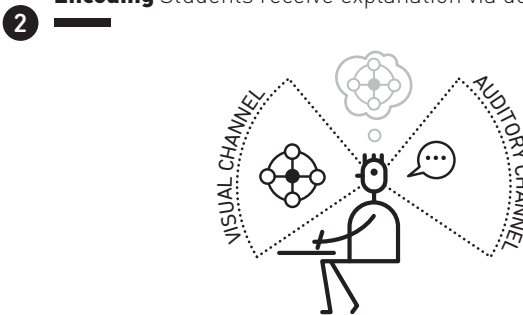
The packets that organise information and make sense of experience are 'schemas', the building blocks of cognition.

Daniel Goleman
Vital Lies, Simple Truths,
Bloomsbury, 1985



If knowledge is more than a mere collection of isolated facts, and if teachers have these facts neatly connected into a schema ...then why hide them from students? Now that teacher explanation is being recognised for its premier role in teaching, the transmission of subject schema is a pedagogy whose time has come.

2 Encoding Students receive explanation via dual channels



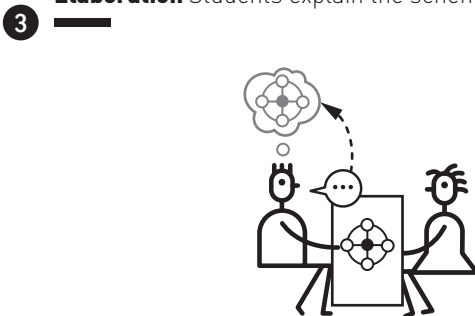
People learn better from graphics and words than from words alone.

Richard E Mayer
Graphics for Learning
Clark, R. & Lyons, C., 2004



The original research by Allan Paivio on dual encoding has been replicated again and again since the 1970s. Simultaneous processing in the two channels means more information can be absorbed without causing any cognitive load. The message for teachers is clear: support your explanations with relevant conceptual images.

3 Elaboration Students explain the schema to one another



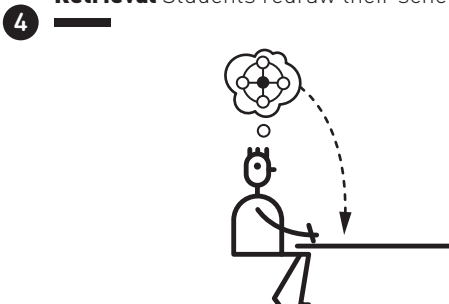
Elaboration strengthens learning and memory.

Henry Roediger, Brown, C. & McDaniel, M.
Make it Stick, Belknap, 2014



Providing students with a visual schema gives them a framework for speaking and listening. Simply seeing the connections that link the facts together prompts and structures their explanations. This forging of meaning strengthens students' personal schema. It also serves as a practical rehearsal for any future writing on the topic.

4 Retrieval Students redraw their schema from memory



Understanding is memory in disguise.

Daniel Willingham
Why Don't Students Like School?
Jossey Bass, 2009



The meaning created by the previous activity was, at the same time, strengthening the memory of the schema. Indeed, instead of being opposites, these often considered antagonists, are actually one and the same thing! Redrawing the visual schema will strengthen it still further. Repeat at increasing time intervals.