

The next couple of Spotlights begin to focus on practical ideas for how to embed retrieval practice into your lessons.

*"What does this look like in my classroom"*

and

*"How can I apply the research and principles in my subject"*

*Please try to have discussions with your classes about what Retrieval Practice is, why it is so powerful and what it might look like in your lessons and when the students are reviewing your subject.*

I have been sharing the 4 core retrieval strategies<sup>1</sup> with students and parents in assemblies, PSHE and parent briefings.

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## 4 Methods of Retrieval Practice

@ImpactWales

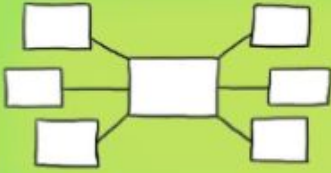
Before you start put away all your books & classroom materials.

Retrieval Practice Examples

- \* Exit Tickets
- \* Starter quizzes
- \* Multiple choice quizzes
- \* Short answer tests
- \* Free write
- \* Think, pair, share
- \* Ranking & sorting
- \* Challenge grids

### BRAIN DUMP

Write, draw a picture, create a mind-map on everything you know about a topic.



Give yourself a time limit, say 3 minutes, then have a look at your books & add a few things you forgot.

### QUIZZING

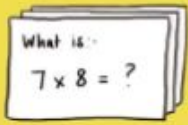
Create practice questions on a topic. Swap your questions with a partner & answer.

Question - What is a metaphor?

- A comparison using 'like, as, than'.
- A comparison where one thing is another.
- A comparison with a human attribute.

### FLASHCARDS

Create your own flashcards, question on one side answer on the other. Can you make links between the cards?



You need to repeat the Q&A process for flashcards you fail on more frequently & less frequently for those you answer correctly.

### KNOWLEDGE ORGANISERS

Complete a knowledge organiser template for key information about a topic.

Definition	Draw a picture
Examples	Non-examples

You can use knowledge organisers to learn new vocab & make links in between subjects or ideas.

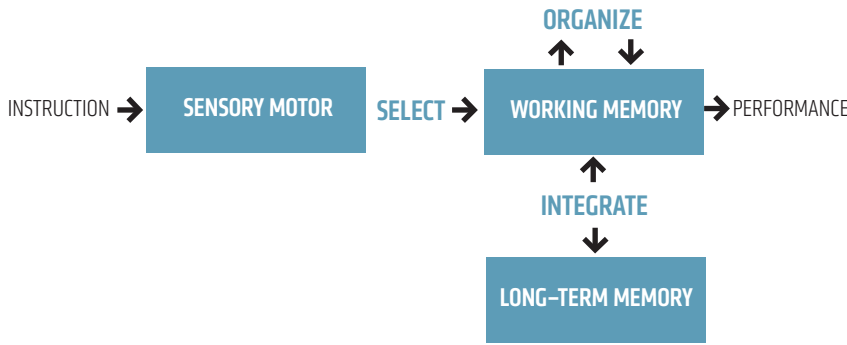
After you have retrieved as much as you can go back to your books & check what you've missed. Next time focus on that missing information

**Generative Learning** has much to offer if we are thinking about retrieval and how learning must be 'Active'. Learning as a Generative Activity tells you and provides an explanation of the supporting research that is both thorough and clear. Over the page are Eight Learning Strategies that Promote Understanding

<sup>1</sup> <https://www.impact.wales/>



# THE SOI MODEL | SELECT → ORGANISE → INTEGRATE



Everyone knows that learning must be 'active', but it's not obvious how you're supposed to put that commonplace advice into action. Learning as a Generative Activity tells you and provides an explanation of the supporting research that is both thorough and clear.

DANIEL WILLINGHAM



## 1 SUMMARIZING EFFECT SIZE: 0.5

**DEFINITION** Restate the main ideas of a lesson in one's own words.

**RESEARCH** Beneficial in 26 of 30 studies.

**BOUNDARY CONDITIONS** Best when summary skills directly taught. Less effective when lesson content contains complex spatial relations, as in Physics and Chemistry.



# LEARNING AS A GENERATIVE ACTIVITY

## Eight Learning Strategies that Promote Understanding

CAMBRIDGE UNIVERSITY PRESS

Logan Fiorella Richard E Mayer



## 2 MAPPING EFFECT SIZE: 0.62

**DEFINITION** Convert a text lesson into a spatial arrangement of connected key words.

**RESEARCH** Beneficial in 23 of 25 studies.

**BOUNDARY CONDITIONS** Best for novices — low knowledge base or young in age.

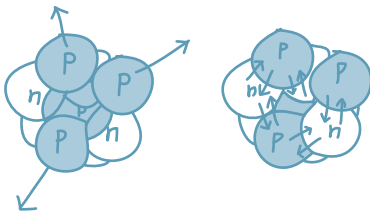


## 3 DRAWING EFFECT SIZE: 0.4

**DEFINITION** Create a drawing to illustrate content of a lesson

**RESEARCH** Beneficial in 26 of 28 studies.

**BOUNDARY CONDITIONS** Best when drawing skills directly taught, and lessening cognitive load by providing partially-drawn illustrations.



## 4 IMAGINING EFFECT SIZE: 0.65

**DEFINITION** Form internal images to illustrate the content of a lesson

**RESEARCH** Beneficial in 16 of 22 studies.

**BOUNDARY CONDITIONS** Best when students have experience in the content and it is well designed.

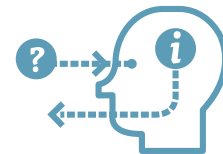


## 5 SELF-TESTING EFFECT SIZE: 0.62

**DEFINITION** Test one's self on previously studied content by answering practice questions.

**RESEARCH** Beneficial in 44 of 47 studies.

**BOUNDARY CONDITIONS** Best when receiving corrective feedback following practice testing in free-recall or cued-recall format. Less effective when demanding only recognition (eg MCQ).

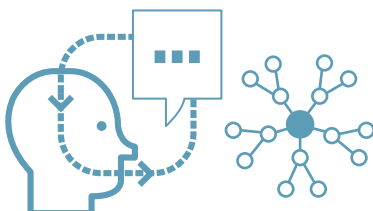


## 6 SELF-EXPLAINING EFFECT SIZE: 0.61

**DEFINITION** Explain the content of a lesson to oneself by elaborating on the material covered.

**RESEARCH** Beneficial in 44 of 54 studies.

**BOUNDARY CONDITIONS** Best when studying diagrams and conceptual materials, for novices and with focused prompts.

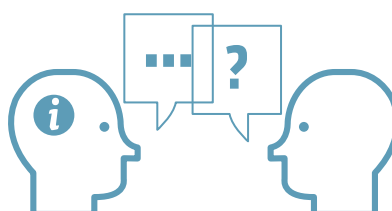


## 7 TEACHING EFFECT SIZE: 0.77

**DEFINITION** Teach others about previously studied material.

**RESEARCH** Beneficial in 17 of 19 studies.

**BOUNDARY CONDITIONS** Best when students study the material knowing they will later be teaching it and, so, reflect on their own understanding, as well as answering peers' deep questions.



## 8 ENACTING EFFECT SIZE: 0.51

**DEFINITION** Engage in task-relevant movements during learning.

**RESEARCH** Beneficial in 36 of 49 studies.

**BOUNDARY CONDITIONS** Best when students already have relatively high knowledge base, as well as receiving guidance and practice. Mainly for younger children.

