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ZEST FOR LEARNING… INTO THE RAINFOREST OF TEACHING

TEACHING AND LEARNING

10 Techniques for Retrieval Practice

POSTED BY TOM SHERRINGTON · MARCH 3, 2019 · 30 COMMENTS
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I've written about retrieval practice several times in other posts but here I just want to make it easy to lay out various alternative methods for the process of reviewing your students' knowledge and understanding.   Before doing that, I would suggest that there are some key principles:

1. **Involve everyone**: Good techniques involve all students checking their knowledge, not just a few and not just one at a time as you might do when questioning.
2. **Make checking accurate and easy**: it should be possible for all students to find out what they got right and wrong, what they know well and where they have gaps. Every technique involves students testing their knowledge and then checking their work for accuracy and completeness. (This is not the same as giving students extended mark schemes to mark longer assessments which, for me goes beyond a simple retrieval practice activity)
3. **Specify the knowledge**: Where appropriate, it's better if students know the set of knowledge any retrieval will be based on, so they can study, prepare and self-check. It must be possible for students to check their own answers which has implications for the way the knowledge requirements are laid out.
4. **Keep it generative**: students need to explore their memory to check what they know and understand; this means removing cue-cards, prompts, scaffolds and cheat-sheets; it means closing the books and thinking for themselves.
5. **Make it time efficient:** The idea of each technique is that they can be used repeatedly in an efficient manner without dominating whole lessons.
6. **Make it workload efficient:** None of these methods involve the teacher checking the students' answers, creating unsustainable workload. A teacher might choose to check the occasional test but that's no use for routine practice.

1. Quick Fire Quiz

Everyone know this one but it can still be done well or badly: Teacher reads out the question or presents them via slides or an audio tape (eg in MFL). The questions can be spontaneously generated or prepared. Questions can be simple factual recall, mental maths or multiple choice;

All students write down their answers. Teacher reveals the answers, one by one or all at once. Students check which they got right. Swapping answers to check is an option but it can be a faff and takes away from the message that students need to be evaluating the depth of their own learning. If you've

prepared this in advance, it is much more time efficient if students can see the answers all at once to check rather than wait for each to be read out.

It's important that the teacher discusses common wrong answers – which is one of the main functions. If you can do lots of confidence-building questions quickly (rather than deliberately hard ones) – you can get a great buzz of enjoyment. Knowing things is fun!

2. Paper Quiz

Everyone gets a copy of the questions and writes down answers at their own pace within a time limit. This is much less teacher-directed. It frees the teacher up to circulate and spot common errors as they emerge. It allows for a wider range of question types and makes it easier to engage in with worded questions that can be hard to read from a slide.

The checking process is much better done with pre-prepared answers rather than reading out answers one by one. Why? Because it is quicker, allows for more detail in the answers, it allows students to focus on things they got wrong and helps to build their capacity for self-assessment.

3. Silent Self-Quiz

Try this. Which ones do you know? (Answer provided)

How well can you learn these labels? (Test and then check)

In a test like this, students can generate answers and then check if they were right, silently and privately. They can repeat this multiple times. Any number of resources can be used – blanked diagrams, cue cards with answers on the back, maths questions with answers kept separately. This process keeps the outcome of the assessment with the student – the most important place! They learn what they know and don't know. You can then discuss common errors and problems. It saves a lot of time with asking questions and marking them – all of that is done mentally by the students.

4. Paired Quiz.

Here, we start using Dylan Wiliam's excellent strategy: _Activating students as resources for one another._ In order to maximise the extent of retrieval practice that goes on, it is fantastic to get students to quiz each other in pairs. One student has the material – questions, answers, cue cards, knowledge organiser, text – and asks the other student questions. "Test me" – it's a well-used technique and can be harnessed in lessons. Give a time limit and then get them to swap around. You get a room full of students checking their knowledge. I've seen this done in superbly well in languages where the teacher circulated to check for accent issues and common errors listening in to the multiple paired quizzing dialogues.

5. Self-Explanation

Beyond simple recall, ask students to explain something to themselves. You simply give students a few silent moments to complete a mental task. They have to generate a version of what they understand that they can either then self-check or write down or use to respond to further question. However the process of mental rehearsal is important.. making this explicit helps to train those who don't do it spontaneously.

What is the story of Henry VIII's Six Wives? Run through it… then check.

6. Demonstration and Performance

Of course LOTS of knowledge isn't simply quiz-able declarative knowledge. You can ask students to show what they know: a procedure; a technique; a routine. Have you learned it? Show me… Of course as a student shows what they can do to a teacher, they are showing themselves what they can do. This is important. Again, the intensity and frequency can be amplified by getting students to show each other in pairs rather than one-by-one with the teacher, as long as they have the tools to evaluate success. This is common in practical areas and performance areas – sport, music, art – but it also has a role in science, maths, English where the modelling process could be framed as 'teaching'. eg teaching the class how to answer a maths problem.

7. Paired or individual elaborative-interrogation

A form of quizzing that can be done in pairs or as a silent private process, is elaborative interrogation. This is where students explore their schema by answering How and Why questions.

Why does this happen? How does it work? Why does it work? Why did she say that? Why do you use that structure? Why is that the most important reason? How do you know?

If you train students to use some of these question stems and give them resources that help them to verify the answers, this makes for a deep retrieval practice exercise

8: Tell the story; rehearse the explanation

Lots of knowledge forms a narrative structure – a series of events, a process, cause and effect. So, the retrieval practice can be formed as 'telling the story' to someone else who can play the role of verifier. Any explanation can then be improved and rehearsed. You can get better at telling a story in more detail.

Here are some examples. Tell the story of a water molecule as if follows the water cycle: (with or without key words provided)

Why does the sun rise in the East?…. How good was your friend's answer? Now you have a go…

Of course this material can be used for self-explanation in the first instance.

9: Summarising

This is a useful recall process although it is less precise in terms of checking – because every summary can be different. A retrieval process can be something like:

Last week we looked at renewable energy. Summarise the main advantages and disadvantages of a wind farm: Go! .

Then show your definitive response for checking:

10. Map and Compare

This method is where you want to check students' capacity to make links. Ask them to make a memory map of the key aspects of a topic… eg: Reactions of Metals OR Themes in Hamlet OR Generating Electricity. These things can be much tighter sections of knowledge too: Types of radiation; the key events and figures in the Cuban Missile Crisis.

BBC Bitesize

Students then make mind-maps in a quick, memory -dump style before checking against a good resource – their knowledge organiser, exercise book or a teacher-completed version: What did you get right? What did you miss out completely?

Trial by Ordeal? What can you remember? Go…..

Further reading: Check out these documents. The summaries by @olicav are superb but also read the original papers they relate to.

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Discussion

30 thoughts on "10 Techniques for Retrieval Practice"

1. Thanks for this concise and clear summary. I like the way that you have included examples from a range of different subjects.

   POSTED BY **CASEBY'S CASEBOOK** | MARCH 10, 2019, 11:51 AM
   REPLY TO THIS COMMENT

2. Hi Tom,
   Thank you for this, I hope you don't mind, but I'm going to be borrowing some of your ideas and putting them onto one sheet and add on other people's ideas to make it easier for planning. 🙂

   POSTED BY **M21VP** | MAY 15, 2019, 6:41 AM
   REPLY TO THIS COMMENT

3. Reblogged this on Longsands LPD.

   POSTED BY **LONGSANDSCPD** | JULY 5, 2019, 2:44 PM
   REPLY TO THIS COMMENT

4. Hi Tom,
   I have finally convinced my son who is taking his GCSE's this year to build retrieval practice into his revision at home. He has started to use Quizlet to create questions and answers from his text books and notes but is there anything else he could be doing to help with retrieval practice? The volume of knowledge that he has to retain is incredible. Thank you.

POSTED BY **FIONA BISHOP** | NOVEMBER 6, 2019, 6:20 AM

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