Practice Activity 4: Test Your Future Self

There are a vast array of academic studies in which researchers have found that one of the all-time superstars of revision techniques is to test your recall. Sometimes this is called active recall – a technique where you deliberately strain the muscles of your memory by trying to remember things you've studied without referring to your notes.

But who sets these tests and where are they? It can be a pain trying to track down tests or search online for just the right kind of test. Instead, we're going to suggest you set yourself the tests.

Hang on, you might be thinking, *if I've set the test won't I know the answers straight away?*

Good point. It's a problem. But here's how to get around it. At the end of a period of study, the last thing you should do is **set a test for your future self**. It should take about ten minutes, and it's a really valuable way to finish a session. By the time you return to the topic a few days or even weeks might have passed and you'll have forgotten precisely what it was you put in your test. But because you're the one who set it, you'll know the test covers the material perfectly.

What Should Your Test Look Like?

Mostly that's up to you, but we'd make the following suggestions:

1. Use the question, "If my future self recalled this material perfectly, what would they know?" and make a list of the things to include in your test.
2. Start with easy questions and move on to harder ones. Leave the toughest questions until last. These can be the questions that might build on all the others.
3. Consider asking definition questions early, using the words "What" or "when" to start your questions. Get the basics sorted.
4. Think about moving towards harder question-words as you go along. "How" or "Why" will require your future self to do some explaining, so leave those until the end.
5. Consider finishing with a tricky question which replicates something a real exam might ask you.
6. Make a note of what kind of test-score would make you happy with your future self. It doesn't have to be 10/10 – maybe you'll be pleased if you score 7 or above.

And that's it – ten minutes' work that means the next time you revisit this topic, you can begin with a ready-made test to check what you remember.

Two other things to consider when using this method:

Make a note of your score when you first complete a test. Then come back to the topic again – maybe a week or ten days later – and retake the test. If your score is improving, you can start to feel more confident about that topic.

If you revisit a topic and you're scoring really well on recall, you can leave it for a while and prioritise those topics where you're not doing so well. Or if you're feeling brave… you can design an ever harder test.

Practice Activity 5: Cog P versus Cog A

A fascinating study experiment took place at the University of Georgia, led by a professor of Biology, Kathrin Stanger-Hall. *(Multiple-Choice Exams: An Obstacle for Higher-Level Thinking in Introductory Science Classes, Kathrin F Stanger Hall, Life Sciences Education, Vol 11, no 3, 2017)* Students were split into two groups. They were going to be taught exactly the same material by the same teacher using the same resources – but here was the one difference; the first group knew they were going to be tested at the end by a 90-question multiple-choice exam, and the second group knew they'd take the same multiple-choice exam followed by a more challenging series of short-answer questions.

Off they went to revise for their exam. The researchers watched them closely, examining exactly how they studied. It turned out there was no difference in the amount of time they spent studying. However, there was a difference in how they approached their revision.

Those who knew all they had to do was to prepare for a multiple-choice exam became passive (we're going to call this group **Cog P: cognitively passive**). They tended towards five revision strategies that were comfortable, repetitive and less challenging. Here they are:

1. Reading the assigned text
2. Re-reading class notes
3. Making flash-cards of notes
4. Highlighting key terms during reading
5. Looking up difficult information

Those who knew they also faced short-answer questions, however, prepared differently. They were active; testing themselves more regularly and pushing themselves to do harder revision sessions (we're going to call this group **Cog A: cognitively active**). Here are five of the activities they used:

1. Repeatedly asking/explaining "how does it work?" and "why does it work this way?"
2. Creating and answering challenging study questions
3. Closing notes and testing how much is remembered
4. Drawing and labelling diagrams from memory
5. Setting tests, trying to answer questions, then looking up information

Before we show you what happened to their results, think about the differences between these approaches, and make some observations or suggestions about the impact they may have had:

The researchers just looked at the responses to the 90 multiple-choice questions, because both groups answered these.

So what did they find? Here we go:

Cog A students "…scored significantly higher on these 90 questions."

Cog A students "…scored significantly higher on the higher-level questions."

Cog A students "…learned significantly more, including critical-thinking skills."

Of the Cog A students "…72.1% agreed or strongly agreed that they saw the value of learning."

Of the Cog P students "…57.3% of students agreed or strongly agreed that they saw the value of learning."

What does this teach us?

Cognitively active revision gets you better results, **even if you spend the same amount of time doing it.** This means you might not have to do more revision to be successful… you might just have to do different revision. That's great news for your work-life balance!

Plan a revision session that incorporates a cognitively active revision technique in the space below: