

Practice Activity 2 – Closed-book Notetaking

Here's a fascinating study: two psychologists working in Indiana in the US studied four revision techniques and their impact on test performance. (*Jeffrey D. Karpicke, Janell R. Blunt, Department of Psychological Sciences, Purdue University, West Lafayette, IN 47907, USA. Journal Science 11 Feb 2011*)

The students were split into four groups before the test:

1. **Single-reading study.** In this group, students had to read a chapter once.
2. **Repeat-reading study.** In this group, students had to read a chapter four times.
3. **Mind-mapping.** In this group, students read the text once, then summarised it in a mind-map.
4. **Active recall.** In this group, students read the text once, then covered it up and tested their recall by writing out as much of it as they could remember in two practice tests.

Before they began the experiment, they asked the 80 science students taking part to predict which group would perform best on the subsequent test.

What do you think the students predicted would be the most effective technique?

You know that activities like these have surprise punchlines, so you're probably guessing the students were wrong. And they were. So in the light of that – what's *your* guess as to the technique that was most efficient?

Let's take this a step further. There were two types of question asked in the test, mixed up so the students didn't know what to expect.

1. Question type 1 were 'recall questions.' Students had to answer simple questions about the information that had appeared in the text.
2. Question type 2 were 'inference questions.' These questions were harder, asking students to connect ideas and concepts, requiring deeper knowledge.

Now guess which techniques yielded which results!

For the simpler recall questions:

	Which technique?
Winners: 65% of questions correct	
Runners Up: 45% of questions correct	
Third place: 40% of questions correct	
Last place: 27% of questions correct.	

For the more complex inference questions:

	Which technique?
Winners: 70% of questions correct	
Runners Up: 57% of questions correct	
Third place: 55% of questions correct	
Last place: 28% of questions correct.	

The same technique won both times: active recall. It was the technique that the students thought would work least-best of the four, but in fact it worked the best of the four! It just goes to show that our instincts about revision are often wrong.

Testing yourself will lead to better performance than re-reading notes *four times*. Think of the time you could save.

So active recall is definitely a technique you should add to your studies. A great way of adding active recall to your studies is to try Closed-Book Notetaking. Here's how to do it:

Closed-book Notetaking: an active recall study technique in five steps

First, you'll need to choose something you want to learn. You'll need a section of textbook – not too long – or a study guide or some notes you've already made. Once you've chosen what you're aiming to learn, here's what to do:

1. Read the section of textbook/information *whilst highlighting the key information*. Really connect and concentrate as you read and highlight.
2. Now close the book/put the notes away.
3. Now write notes on the section you've just covered without looking at the information! It will feel hard. You might get frustrated. You won't be able to remember everything. No problem; leave lots of space to add forgotten information. Scatter the notes around the page with subheadings and leave lots of white paper.
4. When you're done, open the book or turn over the notes. Re-read and note-take as you go but...
5. ...add the stuff you missed or forgot in another colour, filling the white space you left first time around.

And that's it! This approach will be more effective than reading the material four times. You might even finish more quickly than you would have doing four re-reads.

Of course, it will feel harder than just re-reading. It's not as comfortable, and you might feel exhausted by the end. But you'll perform better in tests and exams if you make this part of your weekly study!