Study Skills

I'm often asked "what can I do to learn more effectively". The simple answer is if you study PROPERLY you will learn and understand MUCH more easily and get better grades - whatever level you are at. Unfortunately the skills you need to study are rarely taught.

All you need to do is to learn and apply some simple techniques that take advantage of the way our brain works. This may be the best lesson you EVER learn.

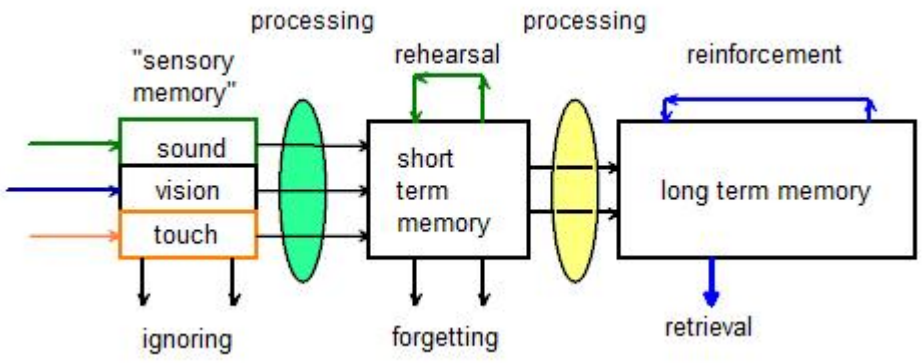
How your brain "remembers".

The most important thing to know is that FORGETTING is easy. Many of our day-to-day experiences are of little use to us. A car passed you in the street yesterday. Can you remember the colour - how many occupants - the license plate? No. You IGNORED it because it DOESNT MATTER.

The reason your brain is so good at forgetting is because of the need to organise data for retrieval. Imagine you have a desk, and every item of mail you receive gets thrown there. Each time you use a document you disorganise the pile. After a year or two you discover there is something you need. Its there somewhere - but where? Finding it would take AGES.

Now suppose you filtered the mail as it arrives. Anything not useful - junk mail - gets thrown out. (IGNORED) The rest gets sorted (PROCESSED) and put in piles with similar material. So electricity bills all get put in one pile, phone bills in another, car documents, etc. (ORGANISED)

When you need to find something you can go straight to the right pile; and the newest is on the top. (RETRIEVAL) This is similar to the way your brain works.

	Incoming data from your senses passes through "sensory memory". If not relevant to you it is ignored. Anything potentially useful goes to your short term memory
Short term memory holds only a few (5-9) "chunks" of information, typically for only 20-30 seconds. It can be retained there by rehearsal (repitition). This helps transfer it to long term memory	You can not rehearse if your brain is distracted.

Once in long term memory the information stays there. However if it is not recalled frequently (REINFORCEMENT) it becomes harder to retrieve. Our goal is to pass information into our long-term memory, encourage its integration with existing knowledge, and facilitate its retrieval as needed. Retrieving information from long term memory and working with it in the processes of **REVIEW and REFLECTION** are important factors in achieving this goal.

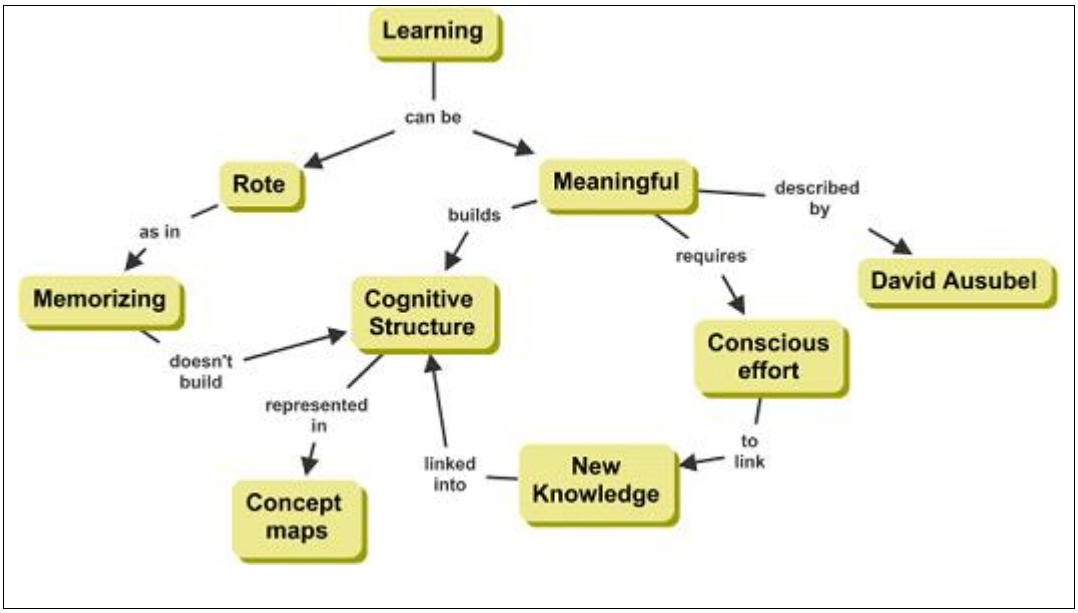
More effective learning

We are going to look at some simple techniques to help us learn and retain more from learning sessions;

- **preparation**
- **scheduled study and breaks**
- **review & reflection**
- **mind maps - data presentation and multi-sensory learning**

1: preparation

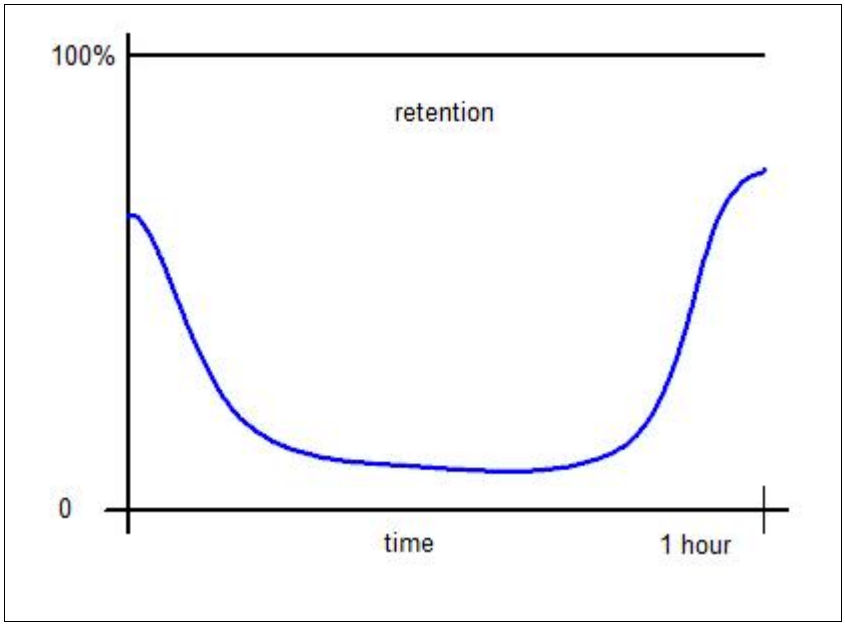
The key ingredient that facilitates long-term memory is meaningfulness. This term refers to how new information can be related to information **already** stored in your long-term memory. You can learn better by **reviewing earlier material** so your brain is ready to attach the new information into your "cognitive structure". (your existing knowledge) (David P. Ausubel 1968, 2000)
Ausubel said you needed "hooks" to hang your new information onto.



Before you engage on any learning process you should review what you already know on that subject. A good way to do this is with a mind map. (more later)

2: scheduled study, rewards, and breaks

Taking regular short breaks can HELP you learn!



In any learning period - a lecture, reading, seminar, whatever, you will remember only a little of the whole session.

This chart shows your retention of material over a one hour period. You can see most of the middle of the session has been wasted.

You can improve your retention by taking breaks

Divide your material up into subjects or topics that can be covered in less than 50 minutes.

OVERVIEW: Start by spending a minute or two getting an overall idea of what you will be learning. Look at the title, and chapter headings.

Then read the material. At the end of each, and before starting another subject / topic, DO A REVIEW;

then **take a SHORT break (about 5 minutes)**. This gives your brain time to "file away" the material. You should not place demands on your brain during this time.

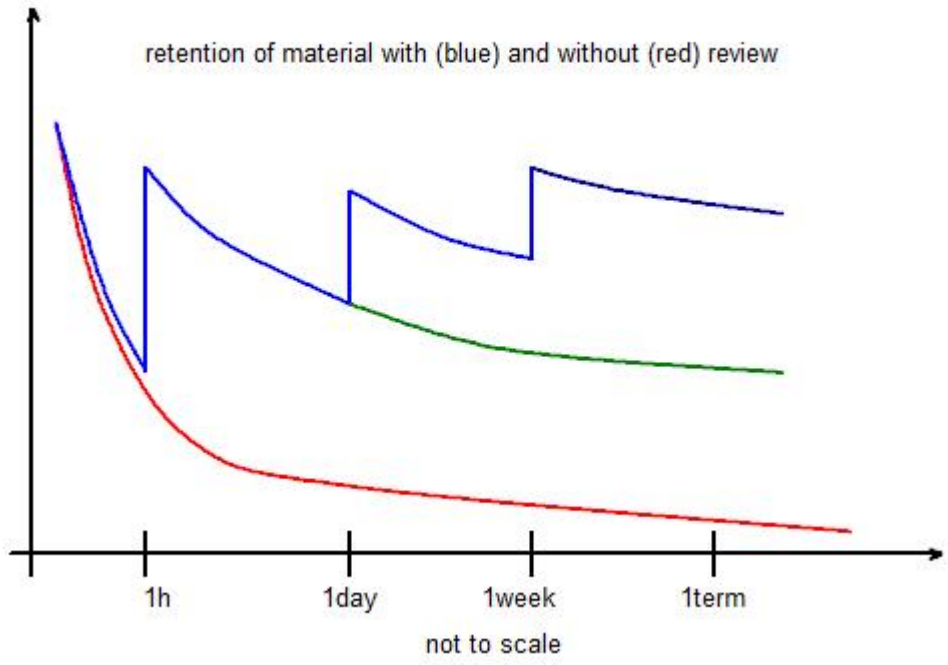
Good break	**Bad break**
Make a drink	Go to pub
Go for a short walk	Conversation
Rest	Phone call
Wash dishes	Do crossword
Review / reflect	Reading

REWARD! You deserve a reward for the work you have done! So your break can be a reward in itself – but also include a more tangible reward – cup of coffee, biscuit, a snack or sweet etc. These rewards will help you develop a positive attitude towards your study time.

You can add a more substantial reward when you have completed the day's study – a meal, television or play time.

3: Review & Reflect

After any learning experience your retention gradually fades. You can improve your retention DRAMATICALLY by a process called review. This involves REMEMBERING what you have learnt, and ORGANIZING it.



This graph shows how much you forget over the course of a term or semester and how you can retain MUCH more if you review your work at the end of each hour, each day, and each week.

This sounds like a lot of hard work but need only take a few minutes.

Review is an active process in which you retrieve the information from your brain. Try to tie in new material to any earlier work on the subject. Note anything you CANT remember clearly. Then refer back to your notes to fill in the gaps.

This should take at most 5 minutes after a 50 minute lecture. You can see from the graph above how useful this five minutes will be in improving your study. Even if this is the ONLY review you do, you will STILL almost DOUBLE the amount you remember!

At the end of each day you need spend only a couple of minutes reviewing each topic in that days work. All told 30 minutes.

The weekend is an opportunity for a fuller review. You may have homework or assignments that will form a large part of this review. An excellent technique for this period is to use a mind map or spider diagram. (see later)

At the end of the term, and especially if preparing for exams, your final review will improve your recollection, enable you to retrieve information more quickly, and help to organize the material into a whole body of knowledge.

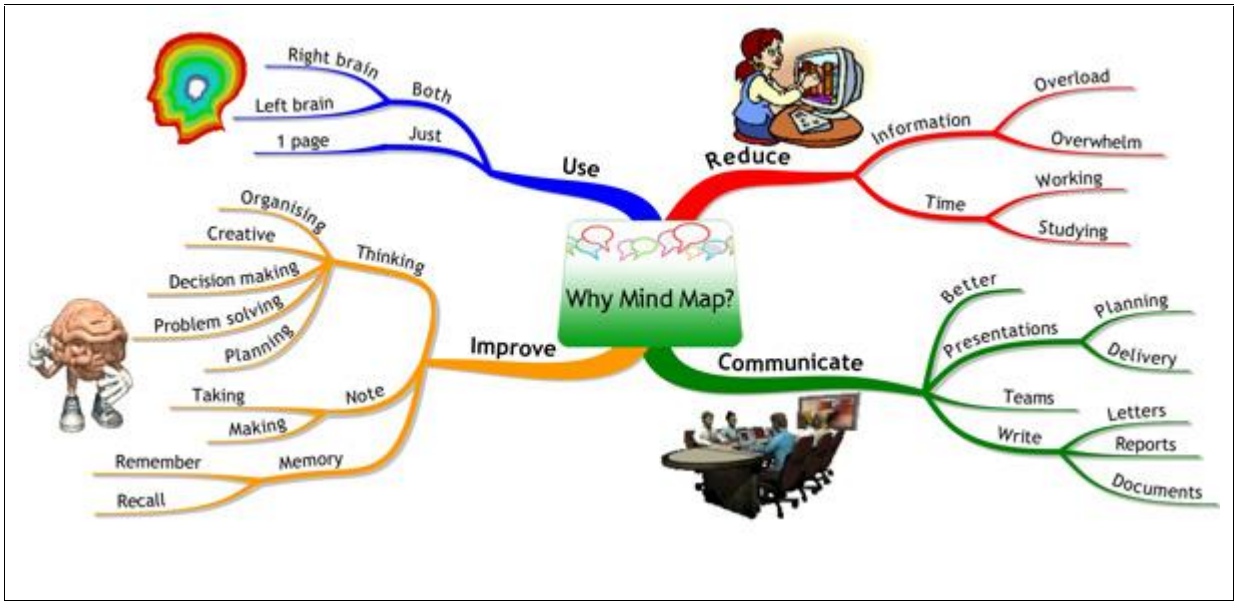
4: mind maps: data presentation and multi-sensory learning

It's well known that you learn better if you use more of your senses. You use this strategy when you learn a poem or a passage of text by reciting it aloud.

Rewriting notes works in a similar way. Your muscle action and hand-eye co-ordination, are being used, but it just takes a lot of time which could be better spent.

Mind maps (concept or spider diagrams) are a better way. As with reviews you should work from memory - reading and copying from notes does not work as well, as it only involves short-term memory.

As you construct your mind map you use many different senses and parts of your brain, which helps retention. Talking about what you are doing adds another sense.



You will find plenty of guidance on how to construct mind maps on the web. There are also programs available that let you construct mind maps on a computer. But you don't want the computer to learn! The best way to do mind maps is with an A3 sketch pad, and coloured pens.

The process of making a mind map will

- help your brain fit new information into your "cognitive structure"
- help you retrieve information quickly and easily
- provide a study resource you can use again, and share with others
- show up any areas where your knowledge or understanding is lacking.

Summary

Now use the skills you have read about here. Review the material in each section:

- How your brain remembers
- Preparation
- Breaks
- Review
- Mind maps

Then take a break; and make a mind map of what you have learnt.

Finally: Start NOW, try each of these techniques and discover how effective they are!