

Active learning

Getting better value for your study time

In *passive* learning students 'receive' information (such as from a text or a lecture). *Active* learning requires students to *do* something with the information. Many people believe that active learning is an effective way to **learn**, **internalise** and **retain** complex ideas.

Active learning strategies help you maximise your study time and enhance your retention and comprehension.

Elements of active learning

The essential elements of active learning are:

- **Motivation:** you have to *want* to learn the material.
- **Mental transformation and manipulation of material:** i.e. doing something with the material, not just memorising it, helps retention.
- **Matching the strategy to the material being learned:** you need to be willing to experiment with subject-appropriate ways of interacting with the information you need to learn.

Try the following strategies

Think about strategies that are creative, have meaning for you and help you decide how and what to remember. The following are examples of active strategies to help retain specific information.

Use memory aids: consider renaming or reforming information in ways which help you remember it. For example:

In Medical Science you have to remember the order of the 12 pairs of cranial nerves: **O**lfactory; **O**ptic; **O**culomotor; **T**rochlear; **T**rigeminal; **A**bducens; **F**acial; **V**estibulocochlear; **G**lossopharyngeal; **V**agus; **S**pinal **A**ccessory; and **H**ypoglossal

The mnemonic, '**OOO to touch and feel very good velvet, AH!**' helps you to remember them.

In Law you can remember the five aspects of a contract by putting them into a situation you can remember:

*I made Jane an **offer**. She **accepted** and after due **consideration** I was **certain** of her **intention**.*

Change the format of information: Use this for tables, lists, theories or systems:

- Turn a list into a table.
- Turn a paragraph into a list of bullet points.
- Draw a flow chart to track the stages in a process.
- Construct a mind map to visualise the relationships between pieces of information.
- Use columns to compare information, for example comparing the situations in which energy of a system is conserved to those where momentum is conserved.

Write (and draw) frequently:

- Write summaries to consolidate understanding.
- Construct a **glossary**: explain a term's meaning, how it arises in situations; draw pictures to explain it; examples of its use; and ideas it relates to.
- Sketch pictures or diagrams to visualise what is happening as an aid to problem solving.

Work collaboratively with friends:

- Make a study group; work with your peers to solve problems.
- Share and test your ideas and knowledge with other students. The act of explaining a technique or approach to a problem is an active learning strategy.
- Explain what you know to a friend. Use diagrams and notes the first time, then try it on someone else from memory. Encourage the listener to ask questions.

Create missing links or 'information gaps': This is useful for material that you need to know in sequence.

- Make separate copies of parts formulae or an equation or a set of procedures.
- Write out different steps on each copy, and during different study sessions, try to re-write that section or step.
- Gradually work towards erasing all of the steps except a title prompt, and then practice recreating the entire piece.

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Practice labelling a diagram, figure or structure:

- Try to learn what you have been taught from a different visual perspective. For example, if you have been studying the structure of the muscles of the right leg, try drawing them in the left leg. The point is to draw, recreate or imagine the image or concept from a different perspective.

Increase your associations:

- Look up the topic on the Internet to make links with course content. You may find research or pictures or even an interactive page that approaches the same material in a new way.

Look at past material:

- Use past exam papers; look at how similar questions may have been asked in different ways in the past. Try to answer the questions without notes. This will help you work out your strengths and weaknesses in the subject.
- You may be able to find past exam papers at: <http://www.lib.unimelb.edu.au/collections/exams/>
- Practice writing under timed exam conditions.

Create an 'immersion' environment:

- Put key terms, vocab, hard-to-remember equations on **sticky notes** and put them up around your home in places you often go; e.g. the fridge, the bathroom.

Practise:

- A useful approach to practical procedures, oral exams, practical exams, oral presentations, and demonstrating equipment is to actually do it.
- If you are being tested in a practical skill you can increase your competency by either practising the technique or mentally rehearsing the steps.
- Get used to hearing your own voice. Practise verbal presentations, interviewing skills or oral exams out loud in front of a mirror or with your friends and/or family. Ask them to question you further to help clarify your answers

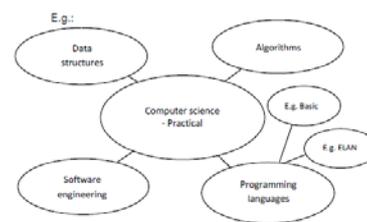
These ideas will get you started and assist you to develop active learning techniques. However, the best active learning strategies are those you make up for yourself – that is, when you **mentally engage** with the material.

Be aware of your learning styles

We all learn and process information differently. There is no particular way to study, so find out what your preferred learning styles are and use appropriate active learning strategies.

Here are a few study and revision tips for different learning styles:

Visual learners remember visual details and prefer to see what is being learnt. Study by using concept maps, creating diagrams and colour-coding.



Verbal learners enjoy discussion and like to talk aloud or discuss material in study groups. Mnemonics may also suit you. You can also revise by explaining concepts

Reflective learners learn best when time is allocated for thinking about and digesting new information. You can stop and periodically review new work, write summaries and think of possible questions about new information.

Sensory learners like to learn by touching and feeling objects or models. A sensory learner studying medicine, for example, might learn well by handling models of organs rather than seeing pictures in books.

Intuitive learners prefer discovering new relationships and can be innovative in their approaches to problem solving. You can revise by creating your own links between ideas, summaries and practice questions.

Sequential learners like to start from the beginning, knowing the detailed facts first, and then building on these. You like to go through problems methodically, step-by-step.

Global learners may be able to solve complex problems quickly or put things together in novel ways once they've grasped the bigger picture, but may have difficulty explaining how they did it. Try using a 'big picture' summary or 'mind map' based on lecture notes, concepts and theories, and use real world examples where individual pieces fit together.

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Further Resources

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