

Active learning

Getting better value for your study time

In *passive* learning students 'receive' information (such as from a text or a video). At university your learning needs to be deeper, more active; this enables you to evaluate, criticise and apply information, not just memorise it. *Active* learning requires students to *do* something with information: construct and deconstruct ideas, evaluate information and theories, respond to ideas, and speculate on the implications of these ideas for your own practice.

Active learning strategies help you maximise your benefit from study time and enhance your retention and understanding.

Elements of active learning

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.

Active note-taking

Taking notes that **transform** or change information to suit your purpose, rather than simply copying out, is an active strategy. The ability to put another's ideas *into your own words* as a summary and/or paraphrase, or to transform a written text into a flow chart or mind map helps you to:

- check your understanding of the material;
- think critically and make connections between ideas;
- prepare for assignments and exams;
- contribute to online discussions;
- work efficiently (you shouldn't need to go back and re-read).

There is no one best way of taking notes; you need choose one that works for you, and suits your purpose and the material you are working with. Three common techniques are listed in the next column.

1. Marking up (annotating)

This involves underlining or **highlighting** keywords or sections of a text, or making notes in the margin. It can help you to concentrate and focus on what you are reading. However, it is **not** a particularly transformative approach to note-taking, i.e. it doesn't get you changing the text into something else.

2. Diagrammatic approaches (e.g. a mindmap)

Creating diagrams, such as mind maps, flow charts or concept maps involves manipulating ideas and information to represent them visually. They are useful when brainstorming for an assignment, or trying to connect ideas from various sources, as they provide a clear overview of key ideas, and importantly, the relationships between them.

3. Transformative approaches

Transformative approaches involve reproducing the **content** of a text **in different words**.

- A **paraphrase** involves saying the same thing as the author, *but in your own words*.
- A **summary** is a restatement of the main points of a text in (much) shorter form.

Active study strategies

As you can see from the list below, there are many different strategies, and you will need to vary your approach depending on what you are learning. Focus on strategies that are creative and have meaning for you.

Relate the content to your professional context / real life:

Try to find practical examples of concepts and think about how you might apply them in your work environment.

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: **Olfactory; Optic; Oculomotor; Trochlear; Trigeminal; Abducens; Facial; Vestibulocochlear; Glossopharyngeal; Vagus; Accessory; and Hypoglossal**

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 text or 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, e.g. parts of a theory.
- Use columns to compare information, for example comparing the causes and effects of a problem.

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:

- Make a study group; use forums or online tools to work with other students to solve problems.
- Share and test your ideas and knowledge with others.
- Explain what you know to someone. Use diagrams and notes the first time, then try it on someone else from memory. Encourage the other person 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 practise recreating the entire piece.

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. You may find research or pictures or even an interactive page that approaches the same material in a new way.

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.

Know your learning preferences

We all learn and process information differently, meaning there's no 'best way' to study. Most students have a variety of learning preferences, and can benefit from taking different approaches to different tasks. Note which approaches work for you and in what kind of learning tasks and try to extend these.

Some common preferences are listed below. Read them and reflect on which you most relate to.

Visual learning: good for revealing patterns, regularities and overall structure of material to be learned. Examples are concept maps, diagrams, colour-coding, and tables.

Verbal learning: discussion with others may help you clarify and deepen your understanding. Mnemonics, rhymes and explaining concepts aloud may also help you understand and retain information.

Reflective learning: it is important to allocate time to think about and digest new information. Giving yourself a task such as writing down your thoughts, or explaining a concept on paper will make reflection more effective. You can also stop and periodically review new work, write summaries and think of possible questions about new information.

Sensory learning: learning by touching and feeling objects or models. A student in medicine, for example, might learn well by handling models of organs rather than seeing pictures in books.

Intuitive learning: discovering new relationships and innovative approaches to problem solving. You can revise by creating your own links between ideas, summaries and practice questions.

Final tips

These ideas will get you started and help 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.