

Active Learning

For longer term retention of material

Get better value for your study time

Passive learning techniques are popular, mainly because they seem easier than active learning. The basis of passive learning is repetition. When you have a great deal of information to learn the study approach you take is important. If you use passive techniques such as reading, highlighting and re-reading you will find that only a portion of what you need to retain will stay in your head.

Put simply, the return for your effort is not satisfactory.

Passive learning is boring and time consuming!

The more information you need to deal with the more you need to think about strategies that are creative, have meaning for you and help you decide how and what to remember.

For example, ROY G BIV is a creative way to remember the order of the colours of the rainbow- Red Orange Yellow, Green Blue Indigo and Violet.

Or, consider this legal story to help you remember the 5 aspects of a contract:

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

Invest in your future

Reading and re-reading lecture notes and textbooks may seem easier in comparison to spending time working out ways of recalling information, but recall is an essential first step towards building up your basic content knowledge and then using it appropriately.

Active learning needs to be understood as an active investment in your future knowledge. Developing an active learning approach will pay dividends in your results.

What do you need to Know?

The first step to active study is to decide what you need to know and how well you need to know it.



Learning Skills Unit
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Level of knowledge	What Use is this level?	Study tips
Recognition "I've seen that before"	Not much, even in multiple choice exams	Passive study strategies strengthen this level.
"I know the start but I get lost in the middle"	You can build on this level. It's important to be clear about what you know and what you don't	Now that you've identified gaps you can use active learning strategies to consolidate
Understanding "I can tell you how this works"	This is what you need for exams	Train yourself to respond to smaller and smaller cues
Expert knowledge 'we could use that idea here too"	For advanced postgrad research and assignments	Adapting ideas to new situations shows that you are really in command of your subject material.

You need to be at level 2 minimum in order to do well at uni. The best way to get beyond simple repetition is to use active learning strategies

The Active learning Process

The essential elements of active learning are:

- Motivation
- Mental transformation and manipulation of material
- Suiting 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 examples:

Change the format of the information.

This works well for tables, lists, or theories or systems:

- Make a list into a table
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- Turn a dense paragraph into a list of bullet points
- Re-arrange the columns in a table

Write frequently, if you need to write about information.

- Use past exam papers and try to answer the questions from your head. This will help you work out your strengths and weaknesses in the subject.
- Practice writing under timed exam conditions.
- Start by writing point form responses or just an introduction to an essay. Actually write an answer, don't just read the questions.

Work collaboratively with friends

- Try testing your knowledge verbally by exploring the ideas in your own words and in everyday language.
- 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.
- If you can, try to share, and test your ideas and knowledge with other students. The very act of explaining a technique or approach to a problem will in itself be an active learning strategy.

The missing link. This is useful for material that you need to know in sequence

- Make some copies of formulae, work map of an equation or a set of procedures. White 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.
- Practice whitening out all of the labels on a diagram

Change your perspective – useful for learning diagrams, figures, pictures and physical structures.

- Try to learn what you have been taught from a different visual perspective. e.g. if, for example, 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

- Try to increase your associations with course content by looking up the topic covered by your textbook on the Internet. You may find research or pictures or even an interactive page that approaches the same material in a new way.
- As well as reading the information, practice saying it, drawing it, or explaining it.

Do it! A useful approach to practical procedures, viva voce exams, prac exams, oral presentations, and using equipment.

- If you are being tested in a practical skill you need to increase your competency by either practising the technique or rehearsing the steps in your head.
- Practice interview techniques on friends or relatives.

These ideas are meant to get you started and assist you to identify the *active* in learning.

The best active learning strategies are by definition those you make up for yourself – that is, when you are mentally active with the material.

Explore your learning and temperament styles

We all learn and process information differently. There is no one way to study. It's best to find out what your learning style

preferences are and use appropriate study techniques.

Think about how you learn (or remember) things

- Do you see them (visual)?
- Do you hear/talk about them (verbal/auditory)?
- Do you do them (active)?
- Do you think about them (reflective)?
- Do you learn creatively (intuitive)?
- Do you like facts and concrete examples (sensing)?
- Do you learn in detail and stepwise (sequential)?
- Do you like the big picture first (global)?

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. Visual memory is strongest in 3-D so spend some time constructing your own mental images of concepts.

Verbal learners enjoy oral discussion and can study by talking aloud or discussing material in study groups.

You can also record your summaries onto tape and listen to these. Mnemonics based on songs may also suit you. You can also revise by explaining concepts aloud to interested people or even your friends or relatives.

Active learners like to be actively engaged with the material.

You can take notes and tap a rhythm to remember information. You can work with models or create tasks for yourself such as puzzles and fill-in sheets.

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. Put aside time to consider your ideas about the concepts you are learning. Spend some effort on creating your own overviews of topics.

Sensing learners like learning facts and solving problems by well established methods.

You are generally careful, practical and patient and like new knowledge to have some connection to the real world, so link information to the real world. You can also revise by substituting different examples in your old tutorial scenarios or problems, and working out what the application of the theory would mean.

Intuitive learners prefer discovering new relationships and can be innovative in their approaches to problem-solving.

You tend to work faster and dislike repetition and work that involves a lot of memorisation and routine calculations. You can revise by creating your own tables, summaries and practice questions.

Sequential learners like to start from the beginning and prefer to know the detailed facts first and then build on these.

You can go through a problem methodically, step-by-step. Try some other revision techniques such as fill-in sheets, or error-analysis of where your problem-solving took a wrong turn.



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