

Memory techniques - part 1

'All learning depends on memory – without it everything would be new and unknown everyday.'

'You have more brain cells in your head than the number of trees in the Amazon rainforest. You have more connections between brain cells than the number of leaves on all the trees in the Amazon rainforest.'



What is memory?

Memory is our ability to receive, retain and retrieve ideas and information.

Remember the three 'Rs' of memory: receive, retain, retrieve.

A convenient way to think about memory is in three distinct parts:

- short term memory
- medium term memory
- long term memory

We think of these three types of memory as operating in different ways.

Short term memory ('Electrical' memory)

Short term memory is like the RAM on your computer. It is limited in capacity, it's the holding centre for about seven pieces of information. If we try to add an item to short term memory, the new item pushes out one of the older ones.

Your short term memory can retain (for short periods) information which you only partially 'understand' (like telephone numbers) but you require 'understanding' to receive and retain information for longer.

When the power is switched off, all short term memory disappears.

Medium term memory ('Chemical' memory)

Medium term memory can store more data (information and ideas) for longer periods. Data can only be received into medium term memory by regularly activating and using the data. Even if we activate the material regularly over a period of time, a long period of inactivity will cause the

memory to disappear. We can all remember how to ride a bicycle, but do we remember the colour of our first bicycle? Medium term memory is like the hard disk on your computer.

Long term memory ('Structural' memory)

Long term memory is so deep that it actually changes the structure of our brain. In computer terms the memory is 'hard-wired'. Even if the power is switched off and the computer is left unused for many years the memory is retained within the structure (circuits) of the computer. In Italian, people talk about the 'incarnation' of memory – where the memory becomes part of our own flesh.

Receiving multi-sensory experience

Your working memory receives information through your senses. If you see it, say it, hear it and do it in a revision session, you will create a four-lane motorway into your medium term memory. This is why you should try to learn in a multi-sensory way and use them all to make as many different 'mental' connections as you can. So sitting for hours just reading will take you four times as long to memorise the same information! See it, say it, hear it, do it!

Why do we forget?

- Poor understanding
- Poor attention, poor listening
- Distractions
- Tiredness, anxiety, emotions, mood and stress
- Interference new information being confused with existing information
- Poor learning strategy – not having cues or memory triggers to unlock and retrieve the facts
- Disuse or insufficient rehearsal or practice using a review cycle
- Lack of importance – you don't remember what you don't value
- Improper organisation – trying to cram too much information into your brain without sorting it into categories

- Dehydration – the brain needs water to conduct electrical pulses fast

Using learning strategies to remember

- Rhymes: 'I before E except after C.' This easily remembered spelling rule avoids spelling mistakes in words like 'receive' and 'retrieve'. Get students to invent rhyming raps to memorise grammar rules.
- Physical prompts: in Libya, I was taught to use my two fists to remember the days in the months. If the first high bone is January (31) it is followed by a dip, February (28/29). March (31) is the next bone followed by a dip, April (30). July (31) is the last bone on one hand and August (31) is the first bone on the other hand.
- Memory workout : read, cover, write, say, check. (repeat the workout circuit many times!)
- Visualisation prompts: to remember a sequence of facts, think of a regular journey such as to school or to the shops. Connect each fact to a point on the journey.
- Sound prompts: the same as above but connect each fact to a stage in a piece of music you know well.

General principles to aid memory

- **Create interest:** find a purpose, 'This will be useful for ...'
- **Understand it:** it's impossible to learn what you don't understand.
- **Positive thinking and confidence:** often we fail to learn because we are convinced we can't do it.
- **Intend to attend to it!:** be determined to learn – avoid distractions.
- **Organise information** into sensible chunks and rehearse. Do not try to learn too much at one time – remember your short term memory can only hold seven items. Plan what you are going to learn.
- **Create associations:** it's much easier to learn something new if you link it to something you already know.



- **Look for meaning and compare with what you already know:** comparative grammar is not a waste of time – most languages have countable and uncountable nouns!
- **Remember the unusual:** some aspects of English grammar and usage will appear bizarre to the students. Learn them like the information about trees in the Amazon rain forest (see part one).
- **Develop a system of memory triggers** for each item you wish to remember. A 'souvenir' will trigger your memory of a holiday.
- **Use a multisensory approach:** employ a combination of audio, visual and physical strategies to use your audio, visual and motor memories.
- **Be relaxed:** play non-lyrical music to help your brain's Alpha waves buzz.
- **Doodle, highlight, cartoon, underline:** decorate your notes with colour and pictures to make them more memorable.
- **Involve your emotions:** feel happy and reward yourself when your memory works well. Develop an emotional relationship with the information you are learning!
- **Use concrete materials:** make a model or game to represent the information you need to remember.
- **You remember best the information you receive at the beginning or end of a work session:** Try having a short change in the middle of a work session so you have two beginnings and two endings.

Training your students to have better memories

- Make memory training a significant element of the course.
- Encourage students to think carefully about how their memories work.
- Start each lesson by asking students to recount the sequence of events and ideas in the previous lesson.
- Encourage the students to experiment with memory techniques. Eliminate their fear of investigating their mental processes. Many techniques will seem strange or silly but students will find they work!
- Words die in lists - encourage students to contextualise, visualise and personalise their vocabulary.

- Build self-confidence by teaching students to begin each lesson by repeating three times 'Every day, in every way, I'm getting better and better.'
- Teach your students to use diaries or calendars to keep records of their 'review cycle'. This should be based on One hour, One day, One week, One month. So a lesson is reviewed after one hour, then the next day and so on.
- Test students' memories regularly so they can see their memories improving!

So how will you remember all the information in this article?

The ideas in this article come from many sources including:

Longman Brain Trainer ~ Jonathan O'Brien - Longman 1999

The Good Study Guide ~ Andrew Northledge - Open University 1990

The Human Brain ~ Susan Greenfield - Phoenix 1997

Memory, Meaning and Method ~ Earl Stevick Newbury House 1976

In your hands ~ Jane Revell & Susan Norman - Safire Press 1996

Wordflo ~ Steve and Jacqueline Smith - Longman 1997