

## References

Buzan, Tony (2003) *Master Your Memory*, BBC Books

Buzan, Tony (2003) *Use Your Head*, BBC Books

European Dana Alliance for the Brain (EDAB), a society of eminent brain scientists committed to enhancing public understanding of brain research - [www.dana.org/edab/](http://www.dana.org/edab/)

Mason, Douglas J and Smith, S X, (2005) *Memory Doctor - Simple Techniques to Improve Memory and Boost Your Brain Power*, New Harbinger Publications

MindTools Memory Improvement Tools - [www.mindtools.com/memory.html](http://www.mindtools.com/memory.html)

Smith, Alistair, Lovatt, Mark, Wise, Derek (2003) *Accelerated Learning, A User's Guide*, Network Educational Publishers.

Society for Neuroscience, Brain Briefings, A series of two-page e-newsletters explaining how basic neuroscience discoveries lead to practical applications. <http://web.sfn.org/content/Publications/BrainBriefings/index.html>

Wareing, Shân (2004) *An Analysis of the Language of Educational Development*, Newsletter Issue 7, The Higher Education Academy

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# Improving Memory

This article provides key information about memory and suggests ways to help you to assist learners or staff, and of course yourself, to improve memory skills for more successful study.



The ability to store information and then recall it can be dramatically enhanced by being more aware of how memories are created in the first place

Everybody would like a better memory but many adults feel there is nothing much they can do to improve it. Also, too many educators and facilitators don't do enough to challenge this notion, having been switched off by educational texts full of specialist terms without appropriate explanation; e.g. *metacognition*; *retrieval cues*; *encoding*, and by depersonalisation. Texts also depend on shared implicit assumptions for coherence. This article will attempt to avoid such traps by using plain English and keyword headings and by providing some basic information about the whole body/brain system that underpins the latest thinking around memory improvement. In other words, the aim of this brief article is to connect with you as a person engaged in teaching or supporting learning. Adding memory improvement to your repertoire of skills is really important as remembering is such a fundamental part of studying. Take the ideas below and turn them into your own success stories.

Beliefs about memory are important. The confident message to send out is that memory can be improved. The ability to store information and then recall it can be dramatically enhanced by being more aware of how memories are created in the first place.

Different sensory memories are stored in different sites in the brain. Therefore hearing, seeing, saying and doing will provide a more complex and enduring memory than simply reading or listening.

We remember:

20%	30%	40%	50%	60%	90%
of what we read	of what we hear	of what we see	of what we say	of what we do	of what we see, hear, say and do

**'TELLING AIN'T TEACHING AND LISTENING AIN'T LEARNING.'**

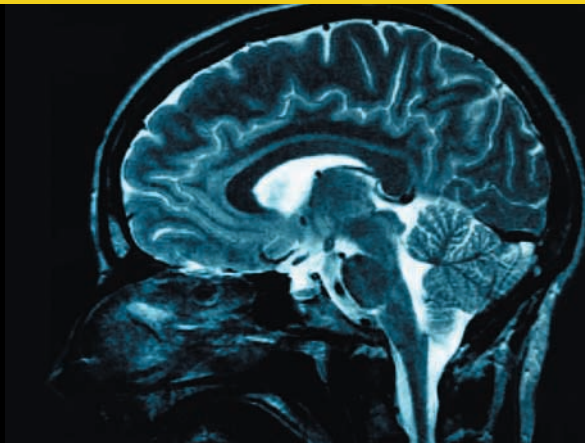
## Some facts about memory and the brain

Neurons are body/brain cells that communicate with each other chemically and electrically. One of the most important chemicals for memory is acetylcholine (ACh). It was the first neurotransmitter to be discovered 90 years ago and is the primary carrier of thought and memory through the 100 billion-cell branch-like network in the brain. Seafood aids the production of ACh and it is present in other foods such as soybeans, wheat germ, egg yolk, liver and peanuts. A shortage of ACh has been associated with Alzheimer's. Also studies show that our brain functions better if we drink plenty of water and breathe fresh air. So looking after the physical needs of learners creates optimal learning states.



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New learning means new connections and networks, with mental exercise having profound effects on mental capacity. And there is also evidence that learning protects our brains, just as exercise works wonders for our hearts.



The more we learn how to learn the better we will remember and the richer the network of connections in our heads



Many scientists once believed that as we aged the brain's networks became 'cemented' into place. But now a spate of studies finds that the brain never stops changing and adjusting – young and old. New learning means new connections and networks, with mental exercise having profound effects on mental capacity. And there is also evidence that learning protects our brains, just as exercise works wonders for our hearts.

**'IT IS NOT THE IQ BUT THE 'I WILL' THAT IS MOST IMPORTANT IN EDUCATION.'**

### The 7 step R A D I C A L way to improve memory

R A D I C A L is a mnemonic. A mnemonic is a device to aid memory. Mnemonics are often verbal and create in the mind an artificial structure that incorporates a series of ideas that by themselves would be difficult to remember. In this instance R A D I C A L stands for –

**Relax – Access multi-task – Deep learning – Imagination – Chat – Argue – Log it**

**1 Relax** – learners who feel relaxed, confident and motivated remember much better than tense, apprehensive learners. The reason for this lies deep in our brains where a tiny curved organ called the hippocampus holds the gateway to memory. It is part of a group of complex structures that are the wellspring of our powerful emotions. When we feel excited and happy about achieving our goals the hippocampus will hold that vision right at the front of our memory bank putting us in a resourceful state ready to learn. The opposite happens when we feel fearful or overwhelmed – then little can get through into long-term memory. We literally can't take it in.

To facilitate relaxation, spend time making everyone welcome, learn names, use music, icebreakers, relaxation exercises and personalise success.

**2 Access multi-task** – our brains remember beginnings and endings better than all the stuff in the middle. If you break down learning into a number of smaller tasks (sometimes called 'chunking') – using the different modalities of seeing, hearing, saying and doing - you create more beginnings and endings and increase the chances of remembering. Allow some 'down-time' as well.

Plan to say the most important things at the start and at the end. Those are the things that will stick.

**3 Deep learning** – encourage learners to dig into their memories and relate previous knowledge to new knowledge and to everyday experience. This will form more lasting connections as more brain cells will be activated.

To facilitate deep learning, make time for learners to explore their understanding in paired exercises. It affirms what they already know and builds confidence.

**4 Imagination** – using techniques that engage the whole mind, particularly the creative right brain, will lay down strong memories. Many of the techniques used by stage memory performers to remember an amazing amount can be learned by ordinary mortals. Association, imagery, movement, categorisation, story-telling, mnemonics, linking, peg-words, flash cards and mind maps all re-frame information to make it stick. By coding language and numbers in striking images, you can even recall the information in the order you want. There are lots of books on these techniques including *Master Your Memory* by Tony Buzan, where he expounds his Total Learning Memory Technique to remember 10,000 items using pictures! You can use this technique for something as simple as the 4 digits of your pin number. However, colourful signs, symbols and illustrations on handouts at important points will increase focus and create memory triggers.

To encourage imagination, use positive, pleasant, colourful and sense-laden images with sounds, smells, tastes, touch, movements and feelings - and use humour!

**5 Chat** – sharing new knowledge with a friend is a powerful way to begin to process new information and link it into long-term memory. It is not by chance that chatrooms are integral to e-learning courses because of the reinforcing effect for learners learning online. Verbalising in this way is also a review and revision process showing up gaps in knowledge.

To facilitate meaningful chat, create space in a class for groups or individuals to show what they know.

**6 Argue** – this is linked to the item above. Having a learning buddy is one of the best ways to learn well and increase understanding, especially if you see things from different perspectives. This is linked to deep learning - being able to pull out what you need to construct an argument from all the information stored in long-term memory.

To develop positive arguments, divide the class into groups to create group mind-maps on a topic on large sheets of paper. Then let the groups compare how differently they have organised their knowledge and let them argue the case to justify it.

**7 Log it** – completing a learning log at the end of each lesson is a very effective way for learners to reflect on what they have learned and record this. It can be done in whatever format suits – linear notes, mind-map, pictures with notes - and ideally it should be completed about an hour or so after the class when recall actually increases as the brain has had time to assimilate the new knowledge. This makes the process of subsequent reviews quick and easy. It also allows learners to map positive progress and appreciate how far they have come from start to finish.

**Conclusion** – Confidence is the key to good memory, together with multi-sensory active learning. Our memories are built up cell by cell and how well we remember will vary according to circumstances and emotional state. The more we learn how to learn the better we will remember and the richer the network of connections in our heads.

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