

Mastering Your Memory

Memory and learning are so closely connected that people often confuse them with each other. They are two distinct phenomena. Learning is a process that will modify a subsequent behaviour. Memory is the ability to remember past experiences and is a record of the learning process. The human brain has the ability, known as neuroplasticity, that allows it to form new neural pathways, alter existing connections, and adapt and react in ever-changing ways as we learn. Information must go into our long term memory and then, to retrieve it from our memory, we must have a way of getting it back.

Sensory memory takes the information provided by the senses and retains it accurately but very briefly (from a few hundred milliseconds to one or two seconds). It represents an essential step for storing information in short-term memory.

Short-term memory is a temporary record that you are using constantly. Most of us can only hold about seven units of information for a few dozen seconds. It is a necessary step toward the next stage of retention, long-term memory.

Long-term memory stores all the significant events that mark our lives; it lets us retain the meanings of words and the physical skills that we have learned. There are three process steps involved in establishing a long term memory: encoding, storage, and retrieval.

- 1) To encode, you assign meaning to the information.
- 2) To store the information, we review it and its meanings (study), as repetition is essential to remembering.
- 3) To retrieve it, you follow the path you created through encoding. This may include a number of memory triggers that you used when you were encoding.

There are different types of memory but here we concentrate on Semantic memory – the system that you use to store your knowledge of the world. It is a knowledge base that we all have and much of which we can access quickly and effortlessly. It includes our memory of the meanings of words—the kind of memory that lets us recall not only the names of the world’s great capitals, but also social customs, the functions of things, and their colour and odour. Semantic memory also includes our memory of the rules and concepts that let us construct a mental representation of the world without any immediate perceptions. Its content is both abstract and relational and is associated with the meaning of verbal symbols.

Mnemonics (the initial “m” is silent) are strategies to associate the information we want to remember with a physical sense to turn it into something that's much more likely to stick in your mind and be able to be brought back to your consciousness when you want it. The key idea is that by coding information using vivid mental images, you can reliably code both information and the structure of information. And because the images are vivid, they are easy to recall when you need them.

- Use positive, pleasant images. Your brain often blocks out unpleasant ones.
- Use vivid, colorful, sense-laden images – these are easier to remember than drab ones.
- Use all your senses to code information or dress up an image by using sounds, smells, tastes, touch, movements and feelings as well as pictures.
- Give your image three dimensions, movement and space to make it more vivid.
- Exaggerate the size of important parts of the image.
- Use humour! Funny or peculiar things are easier to remember than normal ones.
- Similarly, rude rhymes are very difficult to forget!
- Symbols (red traffic lights, pointing fingers, signs, etc.) can code quite complex messages.



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Type	Sample Method
Acronyms	Every discipline has its own language and acronyms are the abbreviations. Acronyms can be used to remember words in sequence or a group of words representing things or concepts. CAD can mean: Control Alt Delete, Canadian Dollar, Computer Aided Design, Coronary Artery Disease, Canadian Association of the Deaf, Crank Angle Degree, etc.
Acrostics	Acrostics are phrases where the first letter of each word represents another word. They are relatively easy to make and can be very useful for remembering groups of words. For example: King Philip Can Only Find His Green Slippers. This is the classification system of: Kingdom, Phylum, Class, Order, Family, Genus, Species.
Chunking	You can capitalize on your short term memory by "chunking" information. If you need to remember this number: 178206781. The task would exhaust your seven units of storage space unless you "chunk" the digits into groups. In this case, you could divide it into three chunks, like a social insurance number: 178 206 781. By chunking the information and repeating it you can stretch the capacity of your short term memory.
Images	This helps us remember by linking words to meanings through associations based on how a word sounds and creating imagery for specific words. This sort of visualization was found to be more effective when one listened to a someone reading a text than when they read the text themselves
Locations and Journeys	Traditionally known as the Method of Loci, we associate each word from a list or grouping with a location. Imagine a place with which you are familiar, such as, the rooms in your house. These become the objects of information you need to memorize. Another example is to use the route to your work or school, with landmarks along the way becoming the information you need to memorize. When you do this in order of your journey through the imagined space, it makes it easier to retrieve all of the information in the future.
Maps & Diagrams	Graphic organizers help us remember by connecting new information to our existing knowledge and to let us see how concepts relate to each other and fit in to a context. Mind and concept maps, Cause and Effect, Fishbone, Cycle, Flow Chart, Ladders, Story Board, Compare and Contrast, Venn Diagrams, and more.
Reciting	Saying something out loud activates more areas of our brain and helps to connect information to other activities.
Rhymes	Rhyme, rhythm, repetition, and melody make use of our brain's ability to encode audio information and use patterns to aid memory. They help recall by limiting the possible options to those items that fit the pattern you have created.
Summarizing	This traditional element of note taking is a way to physically encode materials which make it easier for our brain to store and retrieve. I can be said that if we cannot summarize, then we have not learned...yet.

References: <http://thebrain.mcgill.ca/>, <http://etec.ctlt.ubc.ca/510wiki/Memory>, <http://wtamu.lifeduringcollege.com/>, <http://www.mindtools.com/memory.html>

