

THE MEMORY POCKETBOOK

By Vicki Culpin

Drawings by Phil Hailstone

"An elephant-like memory is no longer the preserve of the genius thanks to this book, which has over 14 years of expertise crammed into your back pocket. Use these tools to unlock your potential and retrieve what's on the tip of your tongue."

Lesley Richardson, Reporter, Press Association.

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STRUCTURE & TYPES OF MEMORY

TYPES OF MEMORY



Researchers often divide memory into different types, each with different characteristics. At present there is no model that successfully explains the entirety of memory function, but for the purposes of this book it is helpful for you to understand the distinction between two types of memory: **Short-Term Memory (STM)** and **Long-Term Memory (LTM)**.

Think about information that you only remember for a very short amount of time (eg a phone number that you need to write down). Now think about information that you can remember for a significant length of time (eg your first ever job interview).

The first piece of information will be stored briefly in STM while the second will be in LTM. In a business environment we rely on both STM and LTM to work effectively, eg you are sent an email with the time, date and agenda for a meeting next week. You read the email, and then delete it. In the next few seconds you write the time and location in your diary, using STM. During the meeting you recall the information necessary to discuss the agenda items, using LTM.

STRUCTURE & TYPES OF MEMORY

SHORT-TERM MEMORY



- How much information can you store in your STM?
- How long do you think information in your STM should last?
- How much information can you store in your LTM?
- How long do you think information in your LTM should last?

A famous experiment was conducted in 1956 by a psychologist called George Miller. He found that healthy adults could remember between five and nine single pieces of information (digits, letters or words) in STM, with an average of seven items.



STRUCTURE & TYPES OF MEMORY

SHORT-TERM MEMORY

NEED CONVINCING?



TASK

Cut a piece of A4 paper into nine separate squares and on each square write a digit from 1-9. Shuffle the pieces of paper and place them face down in front of you.

Turn each square over one at a time, at a rate of one per second, placing each new one on top of the preceding one. The task is for you to remember as many of the nine digits as you can, in the order that you see them.

When you have turned over all nine squares, write down, on a blank piece of paper, as many of the digits as you can remember, in the order that you saw them. Use a ? for any digits you cannot remember (eg 175?98??0).

Once you have completed the task, score yourself one point for each digit remembered in the correct place. This number is known as your STM digit span; that is the number of single digits you can remember, in order, in STM.

A 3x3 grid of digits from 1 to 9, arranged in order from top-left to bottom-right. The grid is tilted slightly to the right.

1	2	3
4	5	6
7	8	9

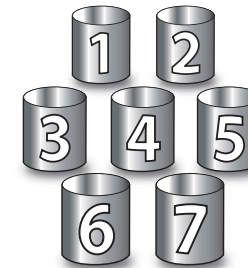
STRUCTURE & TYPES OF MEMORY

SHORT-TERM MEMORY

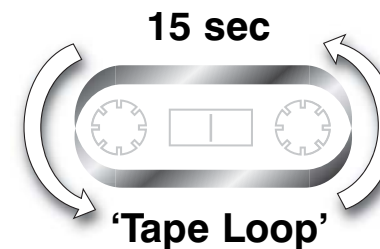


For many years psychologists believed that the amount we could hold in STM was determined by how many single pieces of information could be remembered; approximately seven.

More recent research has found, however, that we do not necessarily have a capacity of seven items; instead how much we remember in STM is partly determined by time. Instead of considering STM as the equivalent of having an average of 7 'pots' where pieces of information can be stored, it is now seen as a 'tape loop', with research finding that the length of the tape lasts between 2 seconds and 30 seconds, with an average of 15 seconds.



Seven 'Pots'



STRUCTURE & TYPES OF MEMORY

SHORT-TERM MEMORY



How much we remember in STM is, therefore, directly related to how much information (how many digits, words, letters or names of colleagues, etc) you can 'squeeze' into the tape loop in the approx 15 seconds of time you have, and how quickly you recall the information (eg how quick you are to write it down).

The more information you can squeeze into the 15 seconds and the faster you can output the information you have stored, the more you can remember in STM, so the better your STM will be. This concept will be examined further in the section on Improving STM.



STRUCTURE & TYPES OF MEMORY

LONG-TERM MEMORY



If STM is thought to be anything we can retain for a maximum of 30 seconds without any form of rehearsal, then LTM relates to any memory that we can remember for longer than, say, one minute.

Unlike STM, research on LTM has consistently shown that we can store large amounts of information in LTM for a very long period of time. That does not mean that LTM is infinite, however; just that the volume of memories created within your life span is less than that which you can store.

We must also be aware that even if a memory is stored, we still may not be able to access it; successful memory depends upon both effective **storage** and effective **retrieval**. Both storage and retrieval strategies will be discussed later.

STRUCTURE & TYPES OF MEMORY

TYPES OF LONG-TERM MEMORY



Think about every aspect of your business life and write a list of as many different types of material as you can think of that you need to store in your LTM. Once you have created the list, review it. Is there any way you can group the items within the list? Do certain types of material share characteristics? Your list could be: phone numbers, email addresses, where files are stored on the computer, access code to the front door, credit card pin number, how to get voicemail messages from phone, latest budget figures, appointment on Monday, information for next appraisal interview, names of the two new administrative assistants, etc.

The list you have created may contain 30 or 40 items (if it only contains one or two, see if you can subdivide further – eg if you have listed ‘meetings’ what is it about meetings that you need to retain; names, minutes, action points etc). You could group them according to the decade in which they were experienced, the emotionality of the memory, the type (eg faces, finances, department you worked in) or whether the memory was personal to you or external to you.

STRUCTURE & TYPES OF MEMORY

TYPES OF LONG-TERM MEMORY



Researchers have found that LTM can be subdivided into a number of different types, with each type having different characteristics. Three basic ways of subdividing LTM are:

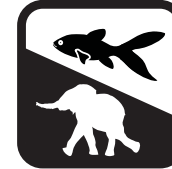
- Episodic memory
- Semantic memory
- Procedural memory

Both episodic memory and semantic memory are key to successful performance in a business environment, whereas procedural memory (which is concerned with remembering a skill such as driving a car or learning a language) is less of an issue and so will not be discussed.

If you find you keep forgetting elements that you might think are procedural, eg infrequently used computer shortcuts, the issue you have is that the skill is not learned enough to become a true procedural memory, and so it is still fact based but not practised enough. Procedural memory is pretty sturdy and isn't subject to the normal issues of memory but the material has to be well learned in the first place. Keep repeating your computer shortcuts to transfer the knowledge to procedural memory.

STRUCTURE & TYPES OF MEMORY

EPISODIC MEMORY



Memory is the diary that we carry about with us **Oscar Wilde**

Episodic memory is ‘knowing that...’ related to experiences personal to you. It includes all memories relating to you and your life; your autobiographical memory.

Think about a work scenario where failure of episodic memory may cause a significant problem – any instances of forgetting information personal to you. For example, do you forget times and places for appointments, do you open a blank email and forget who you are sending it to or are you asked by your boss for your opinion of a recent meeting and struggle to remember anything about it? These are all failures of episodic memory that may lead to mild embarrassment, or more significant work-related concerns such as looking unprofessional, uncaring or inefficient.

What time is your first appointment at work tomorrow morning?

When was the last time you gave 360 feedback to a colleague?

Did you attend that conference last year or the year before?

STRUCTURE & TYPES OF MEMORY

SEMANTIC MEMORY



Semantic memory is ‘knowing that...’ related to *general* knowledge. It includes all the factual based information you learnt at school and all the knowledge that you have developed during your working life.

Now think about a work scenario where failure of semantic memory may cause a significant problem – any instances where forgetting general work-related information may be an issue. For example, do you forget the names of colleagues, the acronym of the latest scheme or system being devised or the latest budget predictions? These are all failures of semantic memory and don’t worry, they are the most common memory concerns within a business environment.

What is your organisation's mission statement?

How well did product A or division B in your company perform last year?

What were the 10 key points from the last meeting or presentation you attended?

About the Author

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Vicki is the Ashridge Research Director and a member of the Ashridge faculty. She works with a range of clients, nationally and internationally, from the public, private and cultural sectors and delivers guest lectures around the UK on a variety of psychological topics.

Vicki specialises in memory, sleep, research methodology and statistics. She has spent over 14 years researching memory, the impact of poor memory, how to improve memory and the effects of reduced sleep.

She delivers workshops on a wide range of psychological issues including memory and leadership, the impact of sleep on decision-making and simulations around decision-making and heuristics. She also works with clients designing and analysing psychometric tools and surveys and supports other Ashridge faculty on the design, implementation and analysis of their research (including multivariate statistics).

Vicki studied Psychology at Manchester University, followed by an MPhil and PhD in Psychology from Lancaster University and an MSc in Applied Forensic Psychology from Leicester University. She is an Associate Fellow of the British Psychological Society, a Chartered Psychologist and a Fellow of the Higher Education Academy.

