

MIND AND MEMORY

MASTERY

TRAINING GUIDE



Supercharge your Memory and Hone your Brain By Employing these Adept Techniques!!!





Table of Contents

C3	_	_		_ •	
D	In	tro	du	cti	on

10						_
£2.	Chapter 1:	Mind	and	Mamary -	_ An (TYOPTIOTAL
	Chapter 1.	WILLIAM	anu	MEHIOI A -	- All (J V CI V I C W

- What is Memory? 1.1
- **Different Stages of Memory** 1.2
- How is Memory related to Mind and Brain? 1.3

Sometimes of Memory Sometimes

- Stages of Memory 2.1
- Sensory Memory 2.1.1
- Short-Term Memory 2.1.2
- Long-Term Memory 2.1.3

Chapter 3: How does Memory Work?

- The Working and Process 3.1
- Recalling Memories When they are Forgotten 3.2

Chapter 4: Insight into Working Memory

- What is Working Memory? 4.1
- **Working Memory Model** 4.2
- Why is Working Memory Important? 4.3

Sometimes of the Chapter 5: Why does Memory Fade?

- How to Measure Forgetting? 5.1
- Why Do We Forget? 5.2
- The Cue-Dependent Theory of Forgetting 5.3
- The "Fading Effect" 5.4

Solution Chapter 6: The Impact of Alcohol on Memory

- 6.1 Effect of Alcohol on Long-Term Memory
- Impact on Explicit Memory 6.1.1
- 6.1.2 Impact on Implicit Memory
- 6.2 Effect of Alcohol on Short-Term Memory
- Blacking out 6.3
- Signs and Symptoms of a Blackout 6.3.1
- Demographics Related to Blackout 6.3.2

Sometimes of Chapter 7: The Impact of Drugs on Memory

Chapter 8: Building a Healthy Memory - Tools and Techniques

- 8.1 **Mnemonics**
- Mnemonic Techniques 8.1.1
- How to make Mnemonics more memorable? 8.1.2
- 8.2 Mind Mapping
- Techniques to Challenge your Brain 8.3





- Sometimes of the second sec
- Secrets of Aromatherapy
 - Essential Oils that may help those living with Dementia 10.1
 - Lavender 10.1.1
 - **Peppermint** 10.1.2
 - Rosemary 10.1.3
 - Lemon Balm 10.1.4
 - Ylang Ylang 10.1.5
 - Things to Remember 10.2
- **Solution** Chapter 11: Brain Training Exercise to Improve your Memory
 - **Brain Exercise** 11.1
 - **Brain-Boosting Exercise Tips** 11.2
- **Solution** Chapter 12: Naturally Improve your Memory Brain Food
- **Solution** Chapter 13: Advanced Techniques to Boost Memory
 - The Dominic System 13.1
 - The PAO System 13.2
 - Ben Pridmore System 13.3
- **Solution** Chapter 14: Important Memory Myths
- **Solution** Chapter 15: Hacking your Mind and Brain
- Conclusion





Introduction

"Memory is the scribe of the soul." – Aristotle

Experiencing a little fuzzy thinking and memory loss is a normal part of the human lifestyle. At some point, we all forget someone's name or struggle to find just the right word. But memory can always be sharpened and improved to avoid such situations where you fail to recall important things.

Memory strength is just like muscular strength. The more you use it, the stronger it gets. But you can't lift the same size weight every day and expect to get stronger. You'll need to keep your brain constantly challenged. Learning a new skill is an excellent way to strengthen your brain's memory capacity. In this course, we have covered different and unique ways to improve your memory by learning something new, doing different activities that keep your brain challenged and active.

This training also deals with extraordinary and effective ways to sharpen your memory and have better learning experiences like creating a memory palace, using mnemonics for remembering long lists of information, etc. It covers other important aspects for building a healthy memory and fighting off memory loss. Through this course, we have tried to cover everything that you need to know about mastering your memory and brain training exercises to boost and sharpen your brain.

Keep in mind that forgetting the name of a former acquaintance or making a mistake on your monthly bills is likely normal. What's not typically normal is forgetting the name of a grandchild and forgetting to pay your bills. So do not take your memory loss lightly and get started before the symptoms worsen and lead to a slip.

Let's get started...



Chapter 1



MIND AND MEMORY — AN OVERVIEW

Consider your morning routine. You probably got up, got dressed, drank a cup of coffee and drove to work (or university) while listening to a radio station. You paid no special attention to your route, sang along with a tune you learned maybe years ago, and mentally tuned out an ad you have heard too many times. The day is still young, yet you have already performed thousands of actions without thinking about them.



Have you ever wondered how you manage to remember information for a test, a meeting or a presentation? The ability to create new memories, store them for periods of time, and recall them when they are needed allows us to learn and interact with the world around us. Consider for a moment how many times a day you rely on your memory to help you function, from remembering how to use your computer to recollecting your password to log-in to your online bank account.

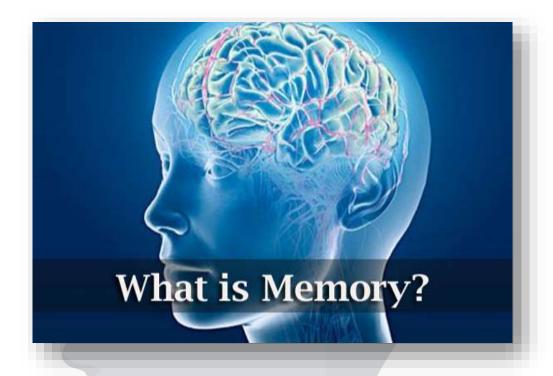
The ability to remember major facts and small details is essential for daily life. The processes of the supercomputer - the human brain - which facilitates memory, has intrigued the cognitive realm of psychology and has prompted research particularly in the last three decades. Human memory has a remarkable ability so familiar to us that we usually take it for granted. That ability is simply that one thing reminds us of another.





This brings us to an important question – how do you define memory and what is it?

1.1 What is Memory?



Essentially, memory is a complex process that involves acquiring, storing, and recalling information. Not all memories are the same, however.

- Memory refers to the processes which are used to retain and store information and later retrieve them.
- It is our ability to encode, store, retain and subsequently recall information and past experiences in the human brain.
- In more simple terms, Memory is the sum total of what we remember and gives us the capability to learn and adapt from our previous experiences as well as to build relationships.
- The power of recalling to mind the previously learned facts, experiences, impressions, skills, and habits.

In more physiological or neurological terms, memory is, at its simplest, a set of encoded neural connections in the brain. It is the re-creation or reconstruction of





past experiences by the synchronous firing of neurons that were involved in the original experience.

As we will see, though, because of the way in which memory is encoded, it is perhaps better thought of as a kind of collage or jigsaw puzzle, rather than in the traditional manner as a collection of recordings or pictures or video clips, stored as discrete wholes.

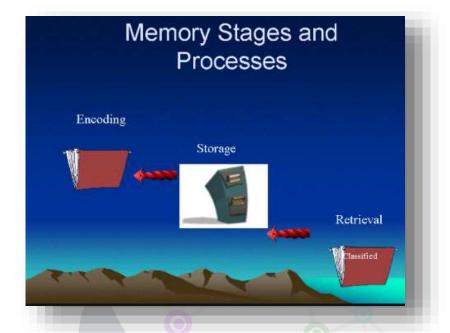
Our memories are not stored in our brains like books on library shelves but are actually on-the-fly reconstructions from elements scattered throughout various areas of our brains.

Human memory involves the ability to both preserve and recover information we have learned or experienced. As we all know, however, this is not a flawless process. Sometimes we forget or misremember things. Sometimes things are not properly encoded in memory in the first place. Memory problems can range from minor annoyances like forgetting where you left your car keys to major diseases that affect the quality of life and the ability to function.

Different Stages of Memory 1.2

There are 3 main stages of memory – Encoding, Storage, and Retrieval. Some theorists equate these processes in human memory to the elements of information processing by computers. Encoding involves forming a memory code. Storage involves maintaining encoded information in memory over time. Retrieval involves recovering information from memory stores.





1. Encoding

Encoding is the first stage of memory. Here, in this stage of memory, all the information is accumulated from the surrounding and is stored in our brain.

2. Storage

This is the second stage which deals with the nature of the memory –

- where the information is stored
- The time duration of the memory
- The amount of information that can be stored, and
- The type of memory

3. Retrieval

Retrieval refers to retrieving information out of the memory storage. Failure to retrieve information is often understood as not being able to remember or recall the particular information.

These are the 3 major stages of memory. We will discuss them in detail in the upcoming chapters.

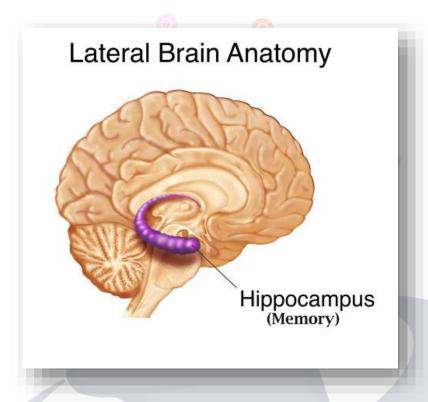




How is Memory related to Mind and Brain?

Before we start with this section of the training, it is very necessary to know about the hippocampus.

Hippocampus is a major component of the human brain located within its medial temporal lobe forming an important part of the limbic system (a region that regulates emotions). It also plays a significant role in the consolidation and manipulation of memory.



- 1. It is theorized that memories are stored in neural networks in various parts of the brain associated with different types of memory, including short-term memory, sensory memory, and long-term memory.
- 2. Memory traces, or engrams, are physical neural changes associated with memories. Scientists have gained knowledge about these neuronal codes from studies on neuroplasticity.
- 3. Encoding of episodic memory involves lasting changes in molecular structures, which alter communication between neurons.
- 4. Both the frontal lobe and prefrontal cortex are associated with long- and short-term memory, suggesting a strong link between these two types of memory.





5. The hippocampus is integral in consolidating memories but does not seem to store memories itself.



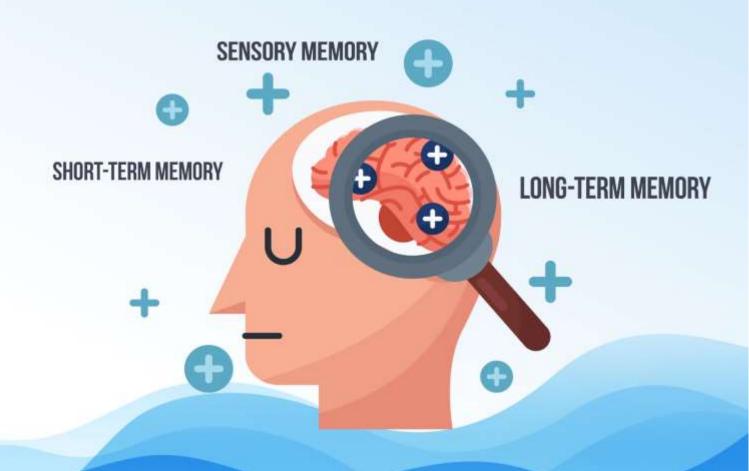
So the bottom line is that each brain structure is involved in memory formation and its consolidation. Consolidation occurs through communication between several parts of the brain. Although the physical location of memory remains relatively unknown, it is thought to be distributed in neural networks throughout the brain.

Conclusion

As memory is largely an active process it is unlikely that you will remember things unless you make a conscious effort to do so. This generally involves paying attention to information. As we are bombarded with stimuli throughout our lives, it is selective attention that acts as a filter allowing us to focus our awareness on a narrowed range of stimuli or events.



Chapter 2



TYPES OF MEMORY





Memory is the mental function that enables you to acquire, retain, and recall sensations, impressions, information, and thoughts you have experienced. It actually takes many different forms. We know that when we store a memory, we are storing information. But, what that information is and how long we retain it determines what type of memory it is.

There are several different types, stages, classifications, and functions of memory. Most people think of memory as either short-term or long-term. However, memory can be divided into many more types or categories. We categorize short-term and long-term as stages of memory than types of memory. Types of memory are mostly subsets of long-term memory.

Stages of Memory 2.1

We have discussed this section in the previous chapter, but now let's get some more detailed insight on this:



Information that you come across on a daily basis may move through the three stages of memory. However, not all information makes its way through all three stages. Most of it is forgotten somewhere along the way. The determination of what information makes its way through the different stages depends on what you pay attention to and process. Information that you pay attention to and the process will move to the next stage of memory. However, any information you don't pay attention to doesn't make its way to the next stage.

2.1.1 Sensory Memory

Sensory memory allows an individual to remember an input in great detail but for only a few milliseconds. It processes information from the environment

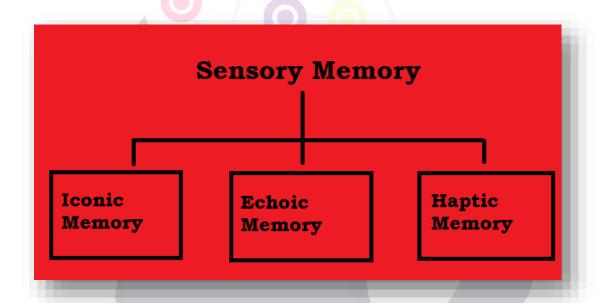




and holds it for a very brief period of time, generally for no longer than a second. Most of the information that gets into sensory memory is forgotten, but information that we pay attention to passes into short-term memory.

Types of Sensory memory:

It is assumed that there is a subtype of sensory memory for each of the five major senses (touch, taste, sight, hearing, and smell); however, only three of these types have been extensively studied: echoic memory, iconic memory, and haptic memory.



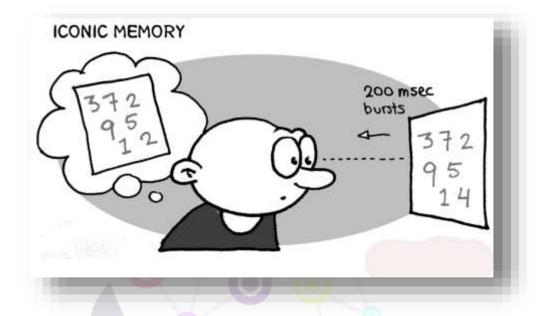
(a) Iconic Memory

Iconic Memory is the visual sensory memory that holds the visual information for a very short span of time. It has a duration of about 100ms that lasts very briefly before quickly fading.

For example - The phenomenon when bright light moves rapidly at night and is perceived as forming a trail. Another example is depicted in this image pertains to iconic memory.







(b) Echoic Memory

Echoic memory is a type of sensory memory used by the auditory system. It is capable of holding a large amount of auditory information, but only for 3–4 seconds. Overall, echoic memories are stored for slightly longer periods of time than iconic memories.

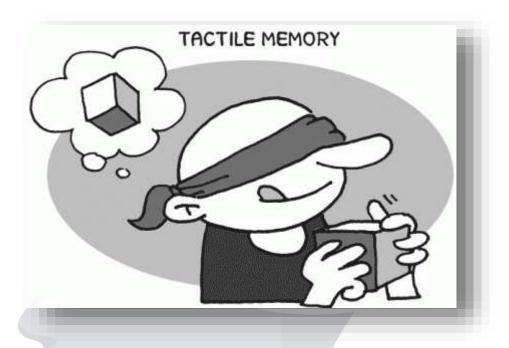


(c) Haptic Memory

Haptic memory, also known as tactile memory is another type of sensory memory used by the sense of touch. This type of memory seems to



be used when assessing the necessary forces for gripping and interacting with familiar objects. Sensations like pressure, itching, and pain, which are briefly held in haptic memory before vanishing or being transported to short-term memory. This type of memory seems to decay after about two to three seconds.

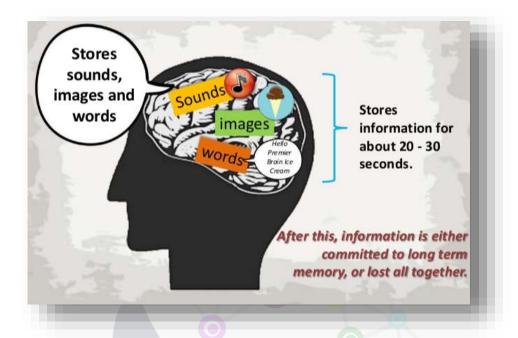


2.1.2 Short-Term Memory

Short-Term memory is also known as working memory or active memory. It stores information for a brief period of recall for things that happened recently. So, basically, it acts as a scratchpad for the temporary recall of information being processed.







Short-Term memory decays rapidly and a limited capacity to store information. In simple words, this is the information that a person is currently thinking about. The average time any information is retained in the short-term memory is 20-45 seconds. While many of our short-term memories are quickly forgotten, paying attention to the information and processing it allows it to continue into long-term memory.

Short term memory not only has a limited time, but it also has a limited capacity. It believed to only hold a few items. Research shows the number is around 7 +/- 2 items.

2.1.3 Long-Term Memory

Long-term memory refers to the storage of information over an extended period. It is everything that we store for a range from a few seconds to a lifetime. It is the final, semi-permanent stage of memory having infinite capacity.

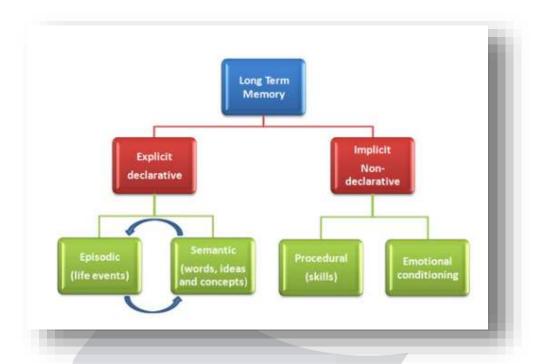
The information can last in our long-term memory for hours, days, months, or years. Although we may forget at least some information after we learn it, other things will stay with us forever. As you would imagine, long-term memories are much more complex than short-term ones. We store different types of information (procedures, life experiences, language, etc.) with separate memory systems.





Types of Long-Term memory:

There are several different types and categories that people use to describe long-term memory:



(a) **Explicit Memory**

Explicit also known as **Conscious Memory** involves memory of facts, concepts, and events that require the conscious recall of the information. In other words, the individual must actively think about retrieving the information from memory. When you are trying to intentionally remember something such as the name of someone you met or a list of items to pick up at the store, this information is stored in your explicit memory. This type of information is *explicitly* stored and retrieved—hence its name.

This type of memory is also known as **declarative memory** since you can consciously recall and explain the information.

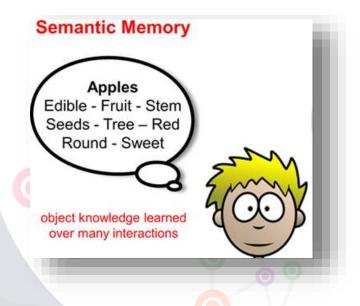
Explicit Memory is again categorized into two:

i. **Semantic Memory**

Semantic Memory stores your knowledge of facts, concepts, names, and other general knowledge information about the world.



For example – you remember the Prime Minister of your country, your name, address, your English school teacher any other general facts and figures.



If you were given the task to list the ingredients in cheesecake, you would not need to "time travel" in your mind. You may simply recall the data because involves abstract factual knowledge. It is for the type of information that we learn from books and school: faces, places, facts, and concepts. You use semantic memory when you take a test.

Another type of semantic memory is called a **script**. Scripts are like blueprints of what tends to happen in certain situations. For example, what usually happens if you visit a restaurant? You get the menu, you order your meal, you eat it, and then you pay the bill. Through practice, you learn these scripts and encode them into semantic memory.

ii. **Episodic Memory**

Episodic memory is the ability to remember episodes of your life. It refers to the first-hand experiences that you have experienced in your life. It is used for more contextualized memories. They are general memories of specific moments, or episodes, in one's life. As such, they include sensations and emotions associated with the





event, in addition to the WHO, WHAT, WHERE, and WHEN of what happened.



For example, if you were to tell someone what you did last Saturday, you would need to mentally travel through the day in your mind and state the events of your day. Another example of episodic memory would be recalling your first day at work.

Autobiographical memory (memory for particular events in one's own life) is generally viewed as either equivalent to, or a subset of, episodic memory.

(b) Implicit Memory

Implicit Memory refers to knowledge you remember unconsciously and effortlessly. It is also known as **non-declarative memory**. In contrast to explicit memory, implicit (also called "unconscious" or "procedural") memory involves procedures for completing actions. These actions develop with practice over time. It is remembering without awareness. You use implicit memory when your previous experiences aid the performance of a task without conscious awareness of these previous experiences.

Athletic skills are one example of implicit memory. You learn the fundamentals of a sport, practice them over and over, and then they flow





naturally during a game. Rehearing for a dance or musical performance is another example of implicit memory. You also use your implicit memory to ride a bike or drive a car because you can do so without having to consciously think about it.

Implicit memory is again classified into three: **Procedural memory**, Classical Conditioning, and Priming.

i. **Procedural memory**

Procedural memory is a type of implicit memory for skills and motor movements. It involves the tasks which you perform without conscious awareness. Procedural memory also helps enable you to perform several day-to-day activities without having to give it any thought.

It includes walking, tying shoelaces, cooking, brushing, reading, writing and much more.



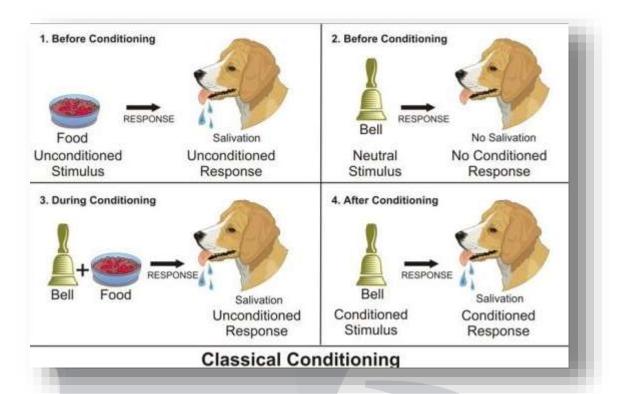
ii. **Classical Conditioning**

Classical Conditioning refers to the unconscious awareness of an association of one stimulus with another. The memory for the association is demonstrated when the conditioned stimulus begins to create the same response as the unconditioned stimulus did before the learning.





Here, the conditioned stimulus (such as the sound of a bell) is paired with and precedes the unconditioned stimulus (such as the sight of food) until the conditioned stimulus alone is sufficient to elicit the response (such as salivation in a dog).



iii. **Priming**

Priming is an implicit memory effect in which exposure to a stimulus influences a response to a later stimulus.

Unpacking that -

'implicit memory effect' - whatever priming is, it is occurring below the surface of conscious thought.

'exposure to a stimulus' - this stimulus can be auditory, visual, tactile, etc. and we call it a 'prime'.

'influences a response' - the aforementioned stimulus is affecting later behavior in some way.





'to a later stimulus' - and it is affecting behavior in a certain environment.

Basically, priming influences your flow of thoughts. It is a non-conscious effect that activates particular concepts or associations in memory. The theory is that when you are exposed to something enough it will rise from your subconscious to the surface of your consciousness.

For example, if asked to state an animal that begins with the letter "D", most people would choose "dog" because it probably is the most popular. However, some people may choose "deer" because of a particular connection. You can often predict how a person will respond based on the priming stimulus.

Since it occurs outside of your conscious awareness, it is your implicit memory. Often, you do not consciously recall seeing the priming stimulus that affects your action.

Conclusion

Memory is a vast concept which needs proper knowledge before starting to take control over it. It is something that should be first understood, learned and then acted upon. You're already on the right path mastering it. Keep learning.



Chapter 3

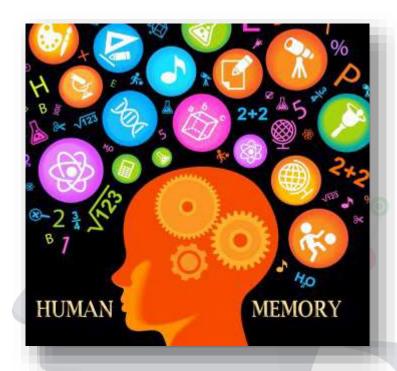


HOW DOES MEMORY WORK?





We tend to think our memory works like a filing cabinet. We experience an event, generate a memory and then file it away for later use. However, according to medical research, the basic mechanisms behind memory are much more dynamic. In fact, making memories is similar to plugging your laptop into an Ethernet cable -- the strength of the network determines how the event is translated within your brain.



Most people talk about memory as if it were a thing they have, like bad eyes or a good head of hair. But your memory doesn't exist in the way a part of your body exists -it's not a "thing" you can touch. It's a concept that refers to the process of remembering.

- Your "memory" is really made up of a group of systems that each play a different role in creating, storing, and recalling your memories. When the brain processes information normally, all of these different systems work together perfectly to provide cohesive thought.
- What seems to be a single memory is actually a complex construction. If you think of an object -- say a pen -- your brain retrieves the object's name, its shape, its function, the sound when it scratches across the page. Each part of the memory of what a "pen" comes from a different region of the brain. The

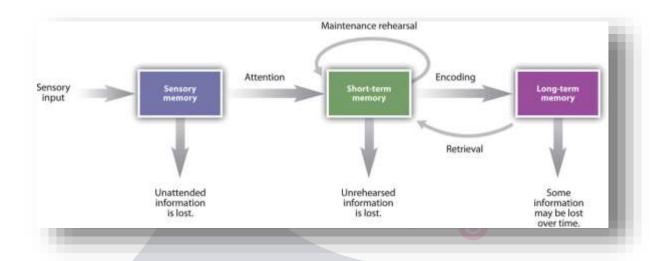




entire image of "pen" is actively reconstructed by the brain from many different areas.

The Working and Process 3.1

To remember something, a human brain goes through the following process:



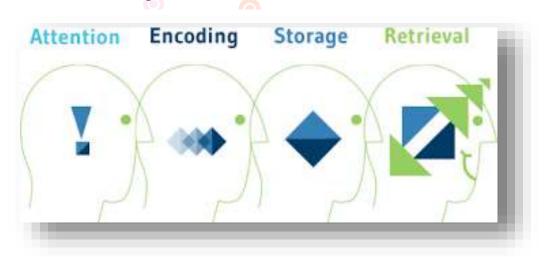
1. Encoding

- First, your brain consciously registers the memory, a process called **encoding**. This is the first step in creating a memory. It's a biological phenomenon, rooted in the senses, that begins with perception.
- Consider, for example, the memory of the first person you ever fell in love with. When you met that person, your visual system likely registered physical features, such as the color of their eyes and hair. Your auditory system may have picked up the sound of their laugh. You probably noticed the scent of their perfume or cologne. You may even have felt the touch of their hand. Each of these separate sensations traveled to the part of your brain called the **hippocampus**, which integrated these perceptions as they were occurring into one single experience -- your experience of that specific person.
- Hippocampus, along with the frontal cortex (another part of the human brain) is responsible for analyzing the various sensory inputs and





- decides if they are worth remembering. If yes, they become part of the long-term memory.
- To properly encode a memory, you must first be paying attention. Since you cannot pay attention to everything all the time, most of what you encounter every day is simply filtered out, and only a few stimuli pass into your conscious awareness. If you remembered every single thing that you noticed, your memory would be full before you even left the house in the morning.



2. Storage

- Once a memory is created, it must be stored (no matter how briefly). Experts say that there are three ways we store memories: first in the sensory stage; then in short-term memory; and ultimately, for some memories, in long-term memory. Because there is no need for us to maintain everything in our brain, the different stages of human memory function as a sort of filter that helps to protect us from the flood of information that we're confronted with on a daily basis.
- The creation of a memory begins with its perception: The registration of information during perception occurs in the brief sensory stage that usually lasts only a fraction of a second. It's your sensory memory that allows a perception such as a visual pattern, a sound, or a touch to linger for a brief moment after the stimulation is over.





After that first flicker, the sensation is stored in short-term memory. Short-term memory has a fairly limited capacity; it can hold about seven items for no more than 20 or 30 seconds at a time.



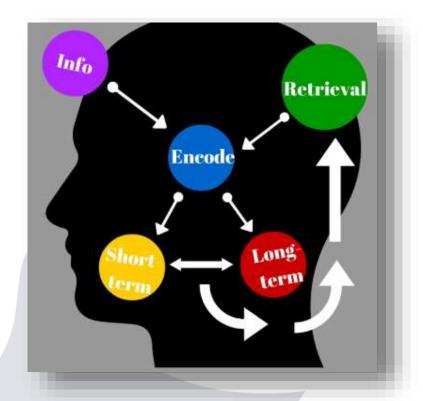
Then, the important information is gradually transferred from shortterm memory into long-term memory. The more the information is repeated or used, the more likely it is to eventually end up in long-term memory, or to be "retained." As learned in the previous chapter, unlike sensory and short-term memory, which are limited and decay rapidly, long-term memory can store unlimited amounts of information indefinitely.

3. Retrieval

- When you want to remember something, you retrieve the information on an unconscious level, bringing it into your conscious mind at will. The fact isn't that a person has a good or bad memory; instead, he is good at remembering some type of things and poor at the other types.
- If you've forgotten something, it may be because you didn't encode it very effectively, because you were distracted while encoding should have taken place, or because you're having trouble retrieving it. If you've "forgotten" where you put an object X, you may not have really forgotten at all -- instead, the location of X may never have gotten into your memory in the first place. Distractions that occur while you're



trying to remember something can really get in the way of encoding memories.



• Finally, you may forget because you're simply having trouble retrieving the memory. If you've ever tried to remember something one time and couldn't, but then later you remember that same item, it could be that there was a mismatch between retrieval cues and the encoding of the information you were searching for.

3.2 Recalling Memories When they are Forgotten

It might seem as though lots of the so-called long-term memories have actually turned to dust because there are plenty of things you've forgotten: old addresses, passwords, deadlines for articles about the memory system that you promised to write. The problem here is not that it has disappeared, but rather that you can't recall it. It's a bit like losing a glove – you still own a glove, it's in your home somewhere, but you can't use it.







- The recall is a very impressive but slightly mysterious process. When we want to access a memory from the dark recesses of our brain, signals from our frontal cortex link to that memory via uncertain means, and the memory is reconstructed from the information available. The more often you use the memory, the easier it is to find.
- Revising and remembering is a crucial part of the learning process. And there are things you can do to make it easier – some stranger than others. Being in the presence of some of the elements from the original memory helps retrieval. For example – if a memory is made while opening a refrigerator, then it will be recalled better while opening the refrigerator sometime later.
- Constantly updating memories can supposedly "supplant" existing ones, so you end up remembering things differently. This is known as "interference" and can lead to forgetting.

Conclusion

It is important to understand the working of memory if you really need to master it. This training effectively deals with the mastery of memory enabling you to first learn how it actually works. Until you know every minute detail of its stages, associations, and processing, it becomes quite challenging to master it. And once you have learned the above processing, the next steps, however, become too easy.



Chapter 4



INSIGHT INTO WORKING MEMORY

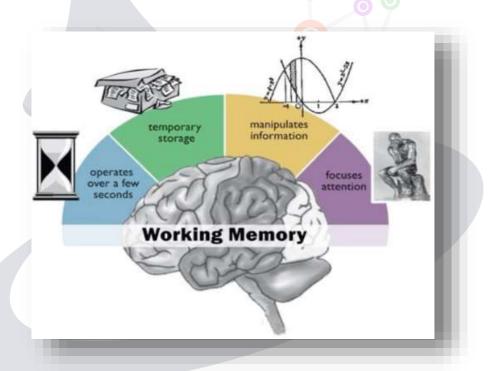




Have you ever gone to the store without a list, thinking you'll remember everything you need, but discovered when you got home that you forgot several items? If so, you've experienced the limitations of working memory. Working memory is the mental sticky note we use to keep track of information until we need to use it.

4.1 What is Working Memory?

Working memory is a short-term memory. Short-term memory holds a limited amount of information for a short period of time with a little processing. It is a unitary system. This means it is a single system without any subsystems. But working memory is not a unitary store. This means, instead of information flowing into one single store, there are different systems for different types of information.



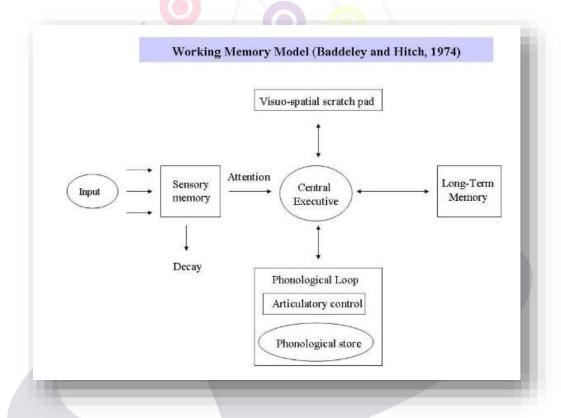
An important characteristic to understand working memory in humans is that it can only hold a limited amount of information. As one example of this, most people can only accurately hold about 7 numbers in working memory at any given time. Another defining characteristic is that the information in working memory is transitory. It is only held briefly in order to attempt to accomplish a task or activity and then it is gone (unless other measures are taken to convert it into a more long-term memory).





- Working memory helps kids hold on to information long enough to use it.
- It plays an important role in concentration and following instructions.
- Working memory effects in different subject areas especially calculations and carrying out important daily tasks like reading, remembering instructions, etc.

4.2 Working Memory Model



Working memory consists of 3 main systems:

(a) Central Executive

- The central executive is the most important and versatile component of the model because it is responsible for monitoring and coordinating the operation of the slave systems (i.e., visuospatial sketchpad and phonological loop) and relates them to long-term memory.
- The central executive decides which information is attended to and which parts of the working memory to send that information to be dealt





with. For example, two activities sometimes come into conflict, such as driving a car and talking. Rather than hitting a cyclist who is wobbling all over the road, it is preferable to stop talking and concentrate on driving. The central executive directs attention and gives priority to particular activities.

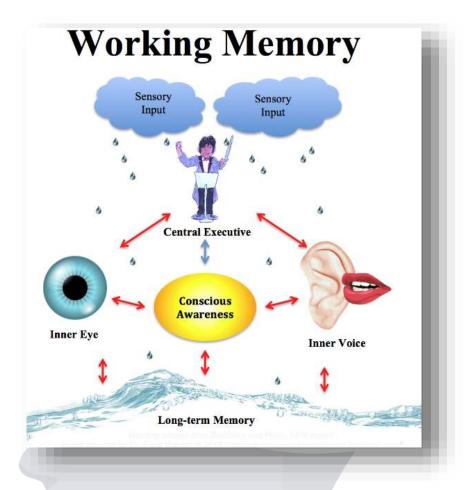
- It acts more like a system which controls attentional processes rather than as a memory store. This is unlike the phonological loop and the visuospatial sketchpad, which are specialized storage systems. The central executive enables the working memory system to selectively attend to some stimuli and ignore others.
- The Central Executive drives the whole system (e.g., the boss of working memory) and allocates data to the subsystems: the phonological loop and the visuospatial sketchpad. It also deals with cognitive tasks such as mental arithmetic and problem-solving.

Visuospatial Sketchpad (Inner Eye) (b)

- The visuospatial sketchpad (inner eye) deals with visual and spatial information. Visual information refers to what things look like.
- According to Baddeley, it is likely that the visuospatial sketchpad plays an important role in helping us keep track of where we are in relation to other objects as we move through our environment.
- As we move around, our position in relation to objects is constantly changing and it is important that we can update this information. For example, being aware of where we are in relation to desks, chairs, and tables when we are walking around a classroom means that we don't bump into things too often!
- The sketchpad also displays and manipulates visual and spatial information held in long-term memory. For example, the spatial layout of your house is held in LTM. Try answering this question: How many windows are there in front of your house? You probably find yourself picturing the front of your house and counting the windows. An image has been retrieved from LTM and pictured on the sketchpad.



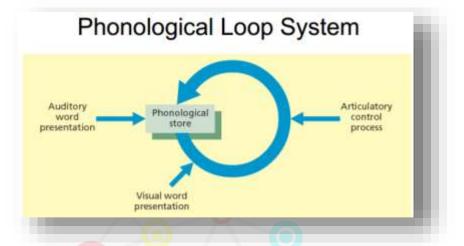




(c) Phonological Loop

- This is a part of the memory that deals with spoken and written material. It can be used to remember a phone number.
- It consists of **two** parts:
 - o Phonological Store (inner ear)
 - Articulatory control process (inner voice)
- **Phonological Store** (linked to speech perception) acts as an inner ear and holds information in a speech-based (spoken words) form for 1-2 seconds. The spoken words enter the store directly but the written words must be first converted into an articulatory code (spoken) before they can enter the phonological store.





- Articulatory control Process acts as an inner voice rehearsing information from the phonological store. It circulates information round and anon like a tape loop. And it is exactly how we remember a telephone number we just hear. As long as we repeat a piece of information, we retain it in our working memory.
- The articulatory control process also converts written material into an articulatory code and transfers it to the phonological store.

The working memory model makes the following **two predictions**:

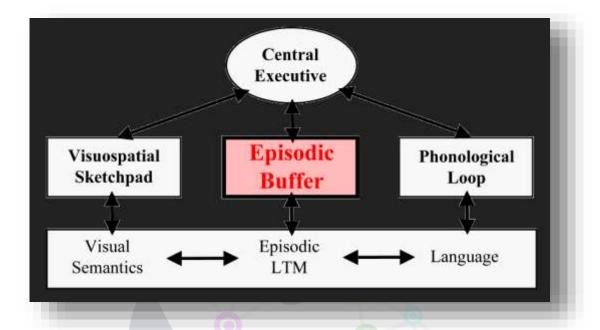
- 1. If two tasks make use of the same component (of working memory), they cannot be performed successfully together.
- 2. If two tasks make use of different components, it should be possible to perform them as well as together as separately.

What is Episodic Buffer?

The original working memory model was later updated in 2000 and an additional component was added known as "episodic buffer". It acts as a backup store which communicates with both long-term memory and the components of working memory.







4.3 Why is Working Memory Important?

Working Memory is the key to learning. It is a cognitive system with a limited capacity that is responsible for temporarily holding information available for processing. Working memory is important for reasoning and the guidance of decision-making and behavior.

1. Used for Accessing Information

Working memory isn't just stored for later use. It has to be accessed and "played back" immediately—even as new information is arriving and needing to be incorporated.

Imagine a teacher reads a word problem in math class. Kids need to be able to keep all the numbers in their head, figure out what operation to use and create a written math problem at the same time. Kids with weak working memory skills have difficulty grabbing and holding on to that incoming information. This means they have less material to work with when they're performing a task.

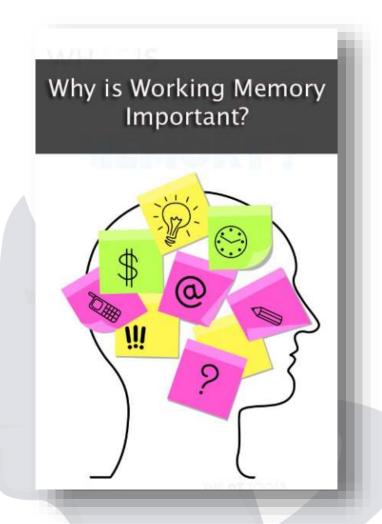
2. Used for Remembering Instructions

Human brains rely on both incoming information and information stored in the working memory to perform an activity. If we have weak working





memory skills, it's difficult to juggle with the above both. People with weak working memory skills have trouble keeping in mind what comes next while working on their current activity.



3. Used for Effective Reading

Working memory is responsible for many of the skills children use to learn to read. Auditory working memory helps kids hold on to the sounds letters make long enough to sound out new words. Visual working memory helps kids remember what those words look like so they can recognize them throughout the rest of a sentence.

4. Used for Mathematical Calculations

Solving mathematical problems and doing calculations depends on various factors that build on one another like building blocks. The most



important one, that forms the building block, is the ability to recognize and reproduce the patterns. It also involves remembering the formulae and other basic details.

What keeps the blocks from toppling over is the ability to remember, sequence and visualize information—all of which can be difficult for a child with weak working memory skills.





Chapter 5



WHY DOES MEMORY FADE?





Forgetting is an all too common part of daily life. Sometimes these memory slips are simple and fairly innocuous, such as forgetting to return a phone call. Other times, forgetting can be much dire and even have serious consequences, such as an eyewitness forgetting important details about a crime.



From forgetting where you left your keys to forgetting to return a phone call, memory failures are an almost daily occurrence. Forgetting is so common that you probably rely on numerous methods to help you remember important information such as jotting down notes in a daily planner or scheduling important events on your phone's calendar. However, forgetting is generally not about actually losing or erasing this information from your long-term memory. Forgetting typically involves a failure in memory retrieval. While the information is somewhere in your long-term memory, you are not able to actually retrieve and remember it.

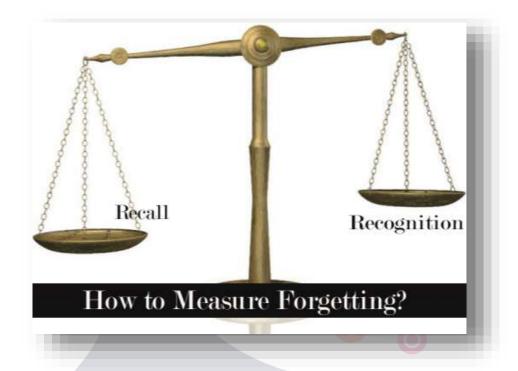
How to Measure Forgetting? 5.1

Sometimes it might seem that information has been forgotten, but even a subtle cue can help trigger the memory. A simple example to understand this is remembering your school days and the time of examinations. While you initially feel forgetful and unprepared to fight the exam, looking at the test paper and the information available





on it, helps cue the retrieval of information you might not have known you even remembered.



This gets us to an important question – how to know if something has been forgotten? Well, there are different ways to measure this-

(a)Recall

People who have been asked to memorize something, such as a list of terms, might be asked to recall the list from memory. By seeing how many items are remembered, researchers are able to identify how much information has been forgotten. This method might involve the use of free recall (recalling items without hints) or prompted recall (utilizing hints to trigger memories).

(b) Recognition

This method involves identifying information that was previously learned. On a test, for example, students might have to recognize which terms they learned about in a chapter of their assigned reading.

5.2 Why Do We Forget?





Why do we forget information we have learned in the past? There are four basic explanations for why forgetting occurs: retrieval failure, interference, failure to store and motivated forgetting.



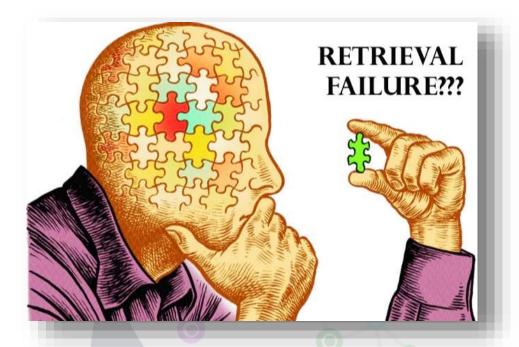
Sometimes information is simply lost from memory and in other cases, it was never stored correctly in the first place. Sometimes memories compete with one another, making it difficult to remember certain information. In still other instances, people actively try to forget things that they simply don't want to remember.

1. Retrieval Failure

Have you ever felt like a piece of information has just vanished from your memory? Or maybe you know that it's there, but you just can't seem to find it. The inability to retrieve a memory is one of the most common causes of forgetting.







Sometimes the memories are there, we just can't seem to access them. Two of the basic reasons for this failure in memory retrieval are related to encoding failures and lack of retrieval cues. A common reason why we don't remember information is because it never made it into long-term memory in the first place. Mostly, we aren't able to recall a piece of information because it wasn't ever encoded into our long-term memory.

Another reason why we are unable to retrieve information from memory i.e. retrieval failure is known as **decay theory**. According to this theory, a memory trace is created every time a new theory is formed. Decay theory suggests that over time, these memory traces begin to fade and disappear. If the information is not retrieved and rehearsed, it will eventually be lost. However, on the contrary, there are some memories which are not rehearsed or remembered but are still remarkably stable in long-term memory.

2. Interference

Another theory known as **interference theory** suggests that some memories compete and interfere with other memories. When information is very similar to other information that was previously stored in memory, interference is more likely to occur. As the intervening days' pass, the older memories related



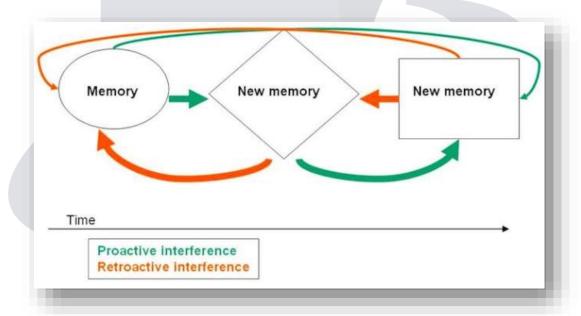


to a particular subject start to interfere with the other memories of that particular subject.

According to interference theory, forgetting is the result of different memories interfering with one another. It is difficult to remember what happened on an average day at work two months ago because so many other days have occurred since then. The more similar two or more events are to one another, the more likely interference will occur. Unique and distinctive events, however, are less likely to suffer from interference like high school graduation day, the prom night, your wedding, etc.

Interference also plays a role in what is known as the **serial position effect**, or the tendency to recall the first and last items of a list. For example, if you write a shopping list but forget to take it along for shopping, you might forget every other thing on the list, but the first and the last thing on your list will stand out clear and distinct. The others will interfere with each other.

Types of Interference:



(a)Retroactive Interference

It happens when new information interferes with old memories. For example: At the start of the new academic year, a teacher learns new names of students in the class while simultaneously find it difficult to





recall the names of the students in the previous class. This is because the new information interferes with the old one.

(b) Proactive Interference

This type of interference occurs when previously learned information makes it difficult to form new memories. For example, remembering your new laptop password becomes difficult as the old password interferes with the new one.

Eliminating interference altogether is impossible, but there are a few things you can do to minimize its effects. One of the best things you can do is rehearse new information in order to better commit it to memory. Another tactic to fight interference is to switch up your routine and avoid studying similar material back to back.

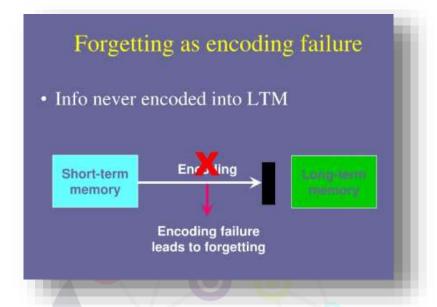
Sleep also plays an essential role in memory formation. Researchers suggest that sleeping after you learn something new is one of the best ways to turn new memories into lasting ones.

3. Failure to store

Sometimes, losing information has less to do with forgetting and more to do with the fact that it never made it into long-term memory in the first place. **Encoding failures** sometimes prevent information from entering long-term memory.







4. Motivated Forgetting

Sometimes we may actively work to forget memories, especially those of traumatic or disturbing events or experiences.



The two basic forms of motivated forgetting are **suppression**, which is a conscious form of forgetting, and **repression**, an unconscious form of forgetting. However, the concept of repressed memories is not universally accepted by all psychologists. One of the problems with repressed memories is that it is difficult, if not impossible, to scientifically study whether or not a memory has been repressed.





The Cue-Dependent Theory of Forgetting 5.3

Some researchers have suggested that sometimes information is actually present in memory, but that it cannot be recalled unless retrieval cues are present. These cues are elements that were present at the time that the actual memory was encoded.

For example, remembering the details of your first date with your spouse might be easier if you smell the same scent that your partner was wearing on that first date. The retrieval cue (the perfume) was present when that memory was created, so smelling it again can trigger the retrieval of those memories.

The "Fading Effect" 5.4

While we certainly remember what happened, our emotional recall dims with time. Researchers have found that the mind is biased toward positive emotional memories – as negative emotions fade faster. This isn't universal, however, as mild depression can skew emotional memory toward the negative. A study by Richard Walker says that people have an inherent bias to view their experiences in a positive light. For one, the positive bias can be explained simply because there are more positive events than negative ones.

Research has found that happier emotions have a longer shelf life in our memories. People consistently report experiencing more positive events. Negative emotions tended to fade faster than positive ones.

However, this "fading effect" works differently for those with depression. For people suffering from depression, positive and negative emotions fade at the same rate. And the folks who are mildly depressed tend to report more negative life events. They tend to have more difficulty dealing with negative emotions. This is likely to be one of the contributing factors [to depression].



Chapter 6

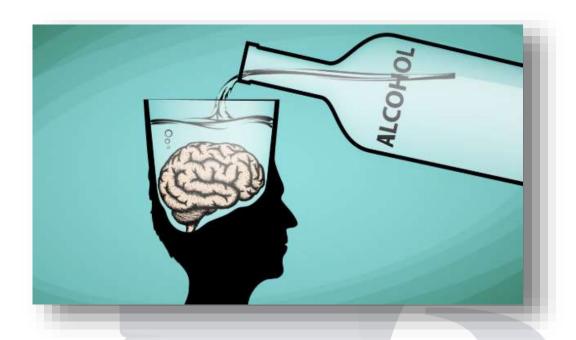


THE IMPACT OF ALCOHOL ON MEMORY





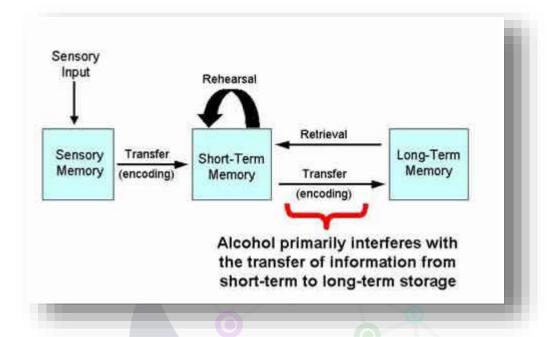
The human brain is a very complex organ involved in just about every aspect of human life. The three main regions of the brain are the brain stem, cerebrum, and cerebellum. The cerebellum, that makes up to 85% of the brain by weight, is involved in controlling motor functions and balance, and also cognitive functions such as language, attention, and the emotional responses to pleasure and fear, and processing and storing task-based, or procedural, memories.



Many factors can influence memory impairment and memory loss; for example, as people age, they lose neurons in the hippocampus, which is part of the limbic system, and it may disrupt their ability to learn new things. Alcohol primarily interferes with the ability to form new long-term memories, leaving intact previously established long-term memories and the ability to keep new information active in memory for brief periods.

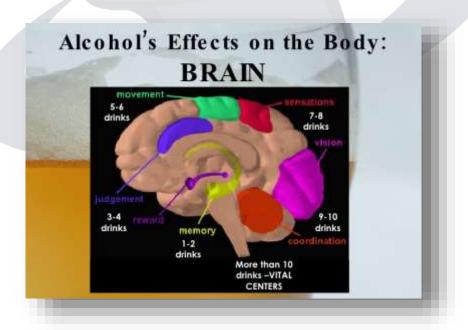






Alcohol and the effects of alcohol on memory and general cognitive functioning have been the subject of much research over the years.

Alcohol acts as a general central nervous system depressant, but it affects some areas of the brain more than others. Specifically, it leads to <u>distraction and inattention</u> and significantly inhibits neuronal activity in the hippocampus, which impairs memory encoding since the hippocampus plays an important role in the formation of new declarative memories.







6.1 Effect of Alcohol on Long-Term Memory

- Although light to moderate drinking does not appear to impair long-term
 cognitive functioning significantly (and according to some studies, may
 actually decrease the risk of cognitive decline), heavy drinking and chronic
 alcoholism are associated with long-term impairment in sustained
 attention and working memory function, especially visual working memory.
- Serious over-consumption of alcohol, especially in comparison with the intake of other foods, can cause a thiamine deficiency, leading to a much more serious form of amnesia known as **Korsakoff's syndrome**.



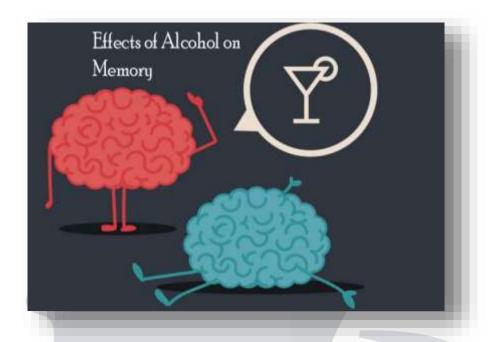
6.1.1 Impact on Explicit Memory

- Explicit memory requires a conscious and intentional effort for recall. It includes both **episodic** memory (for specific events, such as a party) and **semantic** memory (for general information, such as one's name).
- Alcohol particularly <u>impairs the encoding of episodic memory</u> (that part
 of declarative memory that relates to our personal experiences and specific
 events in time), especially for certain types of recall, such as cued recall,
 the recognition of completed word fragments and free recall.





A "blackout" is an example of a difficulty in the encoding of episodic memories due to high doses of alcohol. It is caused by a rapid increase in blood alcohol concentration, which in turn distorts the activity of neurons in the hippocampus, thus impairing a person's ability to form new episodic memories.



- High doses of alcohol severely disrupt the storage process of semantic memories. Alcohol was found to impair the storage of novel stimuli but not that of previously learned information. Since alcohol affects the central nervous system, it hinders semantic storage functioning by restricting the consolidation of the information from encoding.
- Alcohol also severely disrupt the **encoding and storage process of new** semantic memories (our memory of facts, meanings and acquired knowledge about the external world), although apparently not that of previously learned information.
- Retrieval of explicit memory is significantly impaired by alcohol. When compared to sober participants, intoxicated participants performed quite poorly on a recall task for everyday events (i.e., episodic memory). Intoxicated participants are also slower to respond in reaction time tasks.





Alcohol also impairs retrieval in word recognition tasks. When both encoding and retrieval take place during intoxication, there are surprisingly more impairments for cued recall than for free recall. In terms of gender differences in retrieval processes, females tend to score lower than males on recall tasks when intoxicated.

6.1.2 Impact on Implicit Memory

Implicit memory does not require conscious effort or intention for recall. Implicit memory includes procedural memory, which influences our everyday behaviors, such as riding a bike or tying shoes. People can perform these abilities without even thinking about them, which means procedural memory functions automatically. While retrieval of explicit memory is severely impaired by alcohol, retrieval of implicit memory is not. Intoxicated subjects score higher on recognition tasks (involving implicit memory) than they can on recall tasks (involving explicit memory).

6.2 Effect of Alcohol on Short-Term Memory

Alcohol also **impairs short-term and working memory**, although mainly by affecting certain mnemonic strategies and executive processes rather than by shrinking the basic holding capacity of working memory or by physically altering the structure of those parts of the brain which are critical for working memory function.







- Short-term memory is commonly tested with visual tasks. Alcohol decreases iconic memory (a type of visual short-term memory).
- Encoding deficits occur in verbal free recall and recognition tasks under the influence of alcohol.

6.3 Blacking Out

As the dose of alcohol increases, so does the magnitude of the memory impairments. Under certain circumstances, alcohol can disrupt or completely block the ability to form memories for events that transpire while a person is intoxicated, a type of impairment known as a blackout.

- Blacking out does not mean that a person becomes unconscious, like falling asleep. Instead, people often continue to interact with others, engage in routine or potentially dangerous behaviors, and even continue to drink. People who blackout may drive themselves home, engage in a sexual encounter, destroy property, spend too much money, or choose other risky behaviors.
- People who are blackout drunk are more likely to physically injure themselves. They have also been known to walk home, brush their teeth, eat meals, or go through other normal behaviors. They do not remember these behaviors because their brain does not move those experiences into memory. Once the person begins to sober up, the brain will begin to process memories normally again.



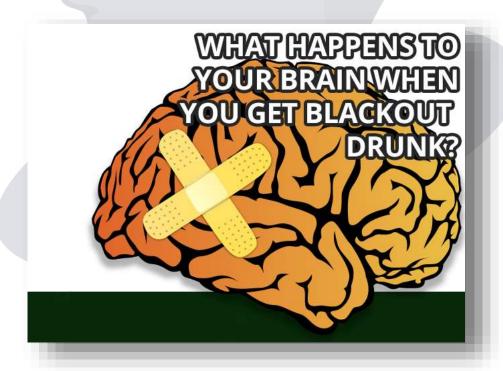




- At worst, it is possible to pass out while experiencing a blackout. This is likely due to a large quantity of alcohol in the body, and it could lead to choking on vomit, suffering a head injury from falling, or experiencing alcohol poisoning. The individual may also suffer seizures due to the amount of alcohol in their body.
- Experiencing a blackout after drinking does not mean that a person has a substance abuse problem, but it does mean that they drank more than their body could process over the course of a day or evening. People who often complain about memory loss or blacking out after drinking are more likely to have alcohol use disorder, indicated by the fact that they consume alcohol on a regular basis, not that they experience blackouts.

6.3.1 Signs and Symptoms of a Blackout:

It may be hard to tell when people are experiencing a blackout because they are likely to conduct themselves normally. Many people who drink too much engage in risky behaviors, but they may remember them the next day.



However, there are some indications that a person may be experiencing a blackout, so watch out for the following:





- The person is easily distracted.
- They repeat themselves often during conversation.
- The individual continually forgets where they are or what they were doing.
- They are unable to hold the thread of a conversation.
- They appear unconcerned about the thoughts or feelings of those around them.
- They choose to participate in risky behaviors that they may not perform when sober or tipsy.
- The person has consumed a lot of alcohol in a short period of time, or they have been drinking without eating or drinking water.

6.3.2 Demographics Related to Black Out

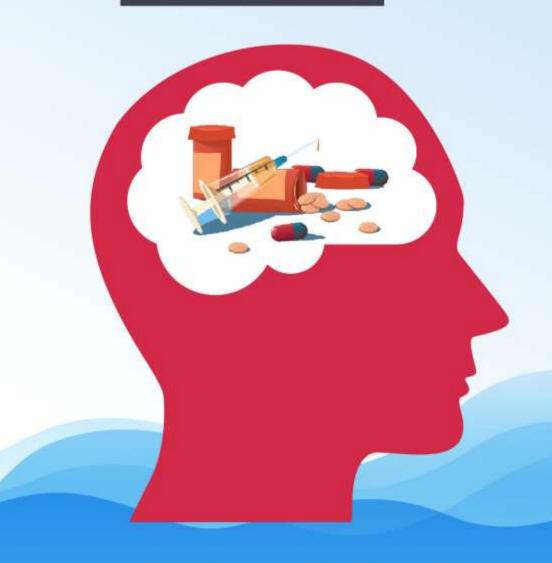
Women are more prone to blackouts than men, largely because they become intoxicated from consuming less alcohol. Women have a higher body fat ratio and less water-to-body-mass, which means they are physically less able to dilute and process alcohol than men.

People who smoke are more likely to blackout from consuming too much alcohol. This correlation is unclear, but it could be related to an existing addiction or problems with impulsive or compulsive behaviors.

When people have friends who drink or use other recreational drugs, they are more likely to experience blackouts from drinking too much.



Chapter 7



THE IMPACT OF DRUGS ON MEMORY





It is well known that using illicit drugs or abusing controlled substances is harmful to the body and brain. Memory loss may be a common side effect of drug abuse. Drug abuse also interferes with the way the brain communicates and processes memories, which can cause memory loss. It is a serious factor in memory loss and a lack of concentration, which can affect aspects of your life you may not have considered.



Drugs can make it hard for you to study, improve your skills at work, learn and retain new concepts, and even pay attention to what's happening around you. When you think about the activities that require your full attention – like driving – this side effect is certainly one to think about.

Drug abuse may go hand-in-hand with other potential contributors to memory loss, such as:

- **Stress**: High levels of stress due to traumatic events and chronic stress are risk factors for substance abuse and addiction, as published in the Annals of the New York Academy of Sciences. Stress can make changes in the brain that can cause memory loss or inhibit the growth of new neurons in the hippocampus, which is important for the formation of new memories.
- **Poor nutrition**: Drug abuse can deplete the body of healthy levels of vitamins and nutrients that are necessary for proper brain function.
- **Depression**: Mood disorders can create an inability to focus and a lack of attention that can disrupt memories. A third of those suffering from a major depressive disorder also meet the criteria for a substance abuse disorder, according to studies published in Current Opinion in Psychiatry.





Unhealthy sleep patterns: A disruption of quality sleep, which is often a side effect of drug abuse, can interfere with memory functions.

Many people who suffer memory problems due to drug abuse aren't even aware that they've been affected. A British Study shows that 75 percent of Ecstasy users have memory impairments, and that goes for both long- and short-term users. Another study found that ecstasy can impact your 'prospective memory', the part of your brain that remembers that you need to remember something. This can leave many people with the feeling that you've forgotten to do something after drug abuse. This type of memory is linked to the brain's ability to organize, plan, and do multiple things at the same time. These findings were also consistent in participants who use a mix of recreational drugs.

Emotions and memory are complexly intertwined. It is understood that drug abuse alters moods and interferes with the regulation of emotions and therefore with memory formation, processing, and storage. Some of these effects may only last as long as a user is intoxicated or "high," while others may persist longer and increase with regular abuse. Different types of drugs affect the brain in differing ways; therefore, some may be more detrimental to memory functions than others.

1. Marijuana

This is the most commonly abused illicit drug in America with close to 40 percent of high school seniors abusing it in the month leading up to the national survey.







- The main active ingredient in marijuana is delta-9tetrahydrocannabinol, or THC, which binds to cannabinoids receptors in the brain, over activating them and producing "high" and other mind-altering effects.
- The hippocampus is involved in memory processing and the transferring of short-term memories into long-term ones, which is disrupted by the introduction of THC.
- Typically, marijuana primarily affects the formation of new short-term memories and their transference to long-term status, meaning that while someone is "high," they may not be able to make new memories or remember what happened while they are intoxicated.
- When marijuana is introduced before the brain is finished forming, cognitive abilities, which may include memory functions, may be disrupted permanently.
- A study published by NIDA found that people who started abusing marijuana as adolescents and used it regularly lost an average of 8 IQ points that were unrecoverable even upon the cessation of marijuana abuse in adulthood.
- The shape of the hippocampus was also shown to be altered by chronic and long-term marijuana abuse in adolescents in a study published





in Tech Times, and this change negatively affected long-term memory functions.

- Teens who smoked marijuana daily from age 16 or 17 for at least three years were tested on long-term memory functions and found to perform 18 percent lower than their peers who didn't abuse the drug regularly.
- Other studies indicate that marijuana abuse significantly affects shortterm memory functions and attention levels while intoxicated and immediately thereafter, and continued and regular abuse may perpetuate these deficiencies in memory and attention long-term.

2. Heroin and Prescription Opioids

- Opioids are a class of drugs including both illegal heroin and prescription narcotics like Vicodin, OxyContin, and morphine.
- Opioid drugs bind to opioid receptor sites in the brain and effectively block feelings of pain. They also stimulate the production of dopamine, which is one of the brain's chemical messengers, or neurotransmitters, involved in feelings of pleasure within the limbic system.
- When normal neurotransmitter functions are disrupted, cognitive functions like short-term and long-term memory may be impaired. Heroin abuse, when perpetuated long-term, disrupts the integrity of white matter in the brain and therefore interfere with decision-making abilities, a person's response to stress, and emotional and mood regulation.



While opioids are not thought to cause significant memory loss or disruption directly, their effects on the central nervous system,





particularly on respiration, may lead to permanent brain damage, coma, or death. Opioids slow breathing functions by acting on the brain stem, which may result in a toxic overdose.

 Those who survive an opioid overdose may experience impaired cognition and disrupted memory functions as a result of the brain being deprived of oxygen for a length of time.

3. Benzodiazepines

- Prescription medications such as Valium, Xanax, and Ativan are commonly abused. Many people seeking treatment for a drug abuse or dependency issue are reported abusing benzodiazepines.
- These medications are prescribed to treat anxiety, insomnia, and seizures. They also may be used during a medical procedure as a part of an anesthesia regimen due to their ability to induce short-term memory loss with their amnesic properties.



- Benzos are central nervous system depressants which may interfere
 with the way people process memories and the transference of shortterm memories into long-term ones as well as the formation of new
 memories.
- Benzos may also interfere with episodic memories, which are memories related to recent events. In some cases, users have reported "blackouts"

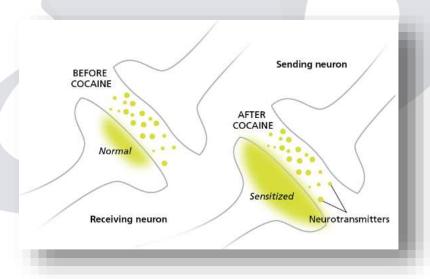




- when taking a benzodiazepine, meaning that they engaged in an activity they had no recollection of afterward.
- Taking or abusing benzodiazepines long-term can increase the risk of developing Alzheimer's, a form of dementia involving memory loss and cognitive impairment.
- The elderly population is warned against taking benzodiazepine
 medications as well as slowed metabolisms and interactions with other
 medications can cause adverse reactions and increase cognitive
 impairment and potential memory troubles.

4. Cocaine

- Cocaine is a powerful stimulant and a highly addictive drug that works to block the reabsorption of dopamine in the brain, causing a flood of this neurotransmitter and an intense euphoric effect.
- The brains of cocaine-addicted individuals have been studied through magnetic resonance imaging (MRI) and show a constriction, or narrowing, of blood vessels in the brain that slows blood flow and may cause cognitive and memory impairment in chronic abusers of the drug.



Cocaine abuse not only negatively affected attention levels and the
ability to focus but also causes a disruption in abusers' visual working
memories. Visual memory refers to the processing of things you see
and their storage in the brain. When you see a particular face, for





instance, visual memory helps you to remember whom it belongs to and stores that information for future retrieval. Short-term verbal memory, or the memory of words and language, may also be impaired or disrupted with cocaine abuse.

Cocaine abuse negatively affects the front-polar cortex, which may
produce deficits in both forms of prospective memory. Prospective
task-based memory can be based on either event or time-based
triggers, meaning that remembering to do something is either triggered
by an external cue or due to the self-awareness that it is time to do
something.

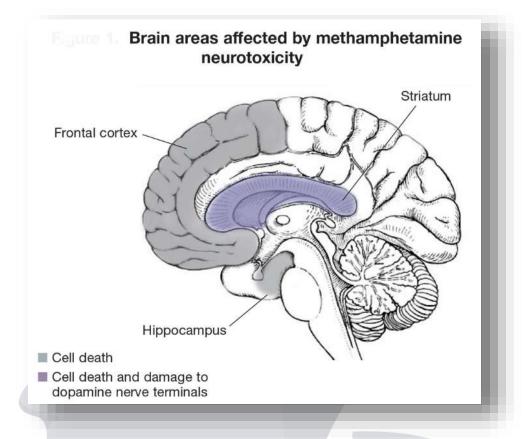
5. Methamphetamine



- Another stimulant drug is methamphetamine, which is a synthetic drug
 produced in illicit laboratories around the world. Just like cocaine,
 methamphetamine, or meth, interferes with normal dopamine
 production and the natural chemical communication system within the
 brain.
- Serotonin, another chemical messenger involved in pleasure and mood regulation, is also affected by methamphetamine abuse. These disruptions in the reward center may cause both functional and



structural changes in the frontal cortex of the brain, which can cause an interference with verbal learning, emotions, and memory.



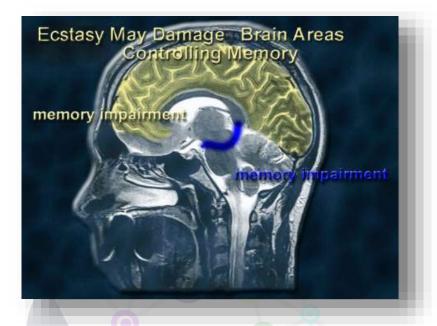
Stimulant drugs such as cocaine and meth also make it harder to get quality sleep, and sleep is important in healthy memory formation, processing, and storage. When we sleep, new memories are transferred into long-term memories and stored. Meth can disrupt sleep patterns and therefore stunt this process, making it more difficult for stimulant drug abusers to successfully retain short-term memories and form long-term ones.

6. Ecstasy

Molly and ecstasy are street names for 3, 4methylenedioxymethamphetamine, or MDMA, which is another synthetic drug having stimulant and hallucinogenic properties and is commonly referred to as a "club" or "party" drug.







- MDMA selectively affects the executive working memory and visual recall functions in the hippocampus related to learning and memory. Executive memory is the ability to remember instructions, make plans and decisions, control impulses, and manage multiple tasks simultaneously.
- Ecstasy abusers are often aware that they are suffering from memory lapses or impairment. Negative effects of MDMA on memory may be reversed when users stop abusing the drug and maintain a period of abstinence.

7. Hallucinogens

Drugs that alter the way people perceive things and produce mindaltering effects are called hallucinogens.





- PCP, with the street name of "angel dust," directly affects the production of the neurotransmitter glutamate, which is important for the regulation of emotions as well as learning and memory functions.
- Acid, or LSD, may cause a user to experience "flashbacks" months or even years after abusing the drug and may cause mood disturbances and long-term memory loss.

Drug abuse is a serious condition that can be improved with treatment. Treatment is designed for people of all ages, whether you are a student, in middle age, or even past retirement.



Chapter 8



BUILDING A HEALTHY MEMORY -TOOLS AND TECHNIQUES



Memory is more than recalling information for exams, trivia games or quizzes. It's an important work skill that you can develop and improve. Whether it's remembering key statistics during a negotiation, or quoting a precedent-setting action when making a decision, or impressing clients with your knowledge of their product lines – your ability to remember is a major advantage.



People with good memories are often seen as knowledgeable, smart, competent, and dependable. And there are many techniques you can use to develop your own ability to remember information – and then recall it when and where you need it.

In this section, we will help you with some tools to improve and build a healthy memory. This would help you to remember facts accurately and also remember the structure of information.

As with other mind tools, the more practice you give yourself with these techniques, the more effectively you will use them. This section contains many of the memory techniques used by stage memory performers. With enough practice and effort, you may be able to have a memory as good. Even if you do not have the time needed to





develop this quality of memory, many of the techniques here are useful in everyday life.

8.1 Mnemonics

- Mnemonics are simple memory-improving tools that help you connect every day, easy-to-remember items and ideas to the information you want to remember. Later, by recalling these everyday items, you can also recall what you wanted to remember.
- It is another word for memory tool. Mnemonics are techniques for remembering information that is otherwise quite difficult to recall.
- The idea behind using mnemonics is to encode difficult-to-remember information in a way that is much easier to remember.



8.1.1 Mnemonic Techniques

Let us learn a few mnemonic techniques:

a. The Number/Rhyme Technique

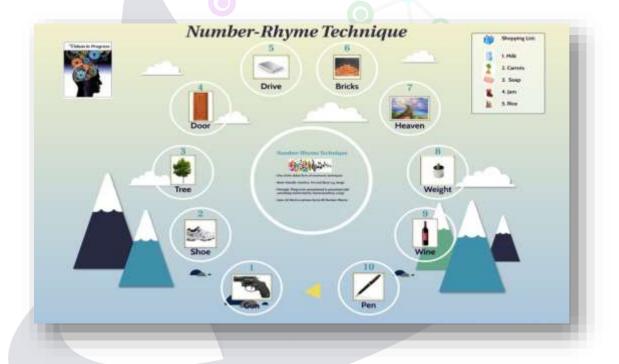
This allows you to remember the ordered lists. Start with a standard word that rhymes with the number (we recommend 1 - Bun, 2 - Shoe, 3 - Tree, 4 -





Door, 5 – Hive, 6 – Bricks, 7 – Heaven, 8 – Gate, 9 – Line, 10 – Hen). Then create an image that associates each with the thing you're trying to remember. For Example: To remember a list of South American countries using number/rhyme, you might start with:

- One Bun/Colombia: A BUN with the COLUMn of a Greek temple coming out of it.
- Two Shoe/Venezuela: VENus de Milo coming out of the sea on a SHOE.
- Three Tree/Guyana: Friends call GUY and ANnA sitting in a TREE.
- Four Door/Ecuador: A DOOR in the shape of a circle/globe with a golden EQUAtOR running around it.



b. The Number/Shape System

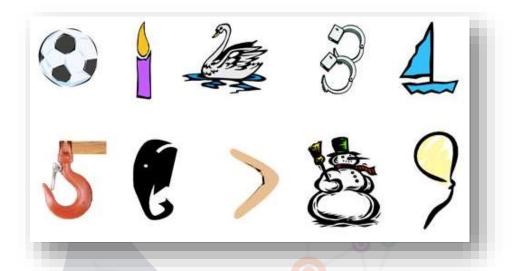
Here, create images that relate to the shape of each number, and connect those images to the items on your list. Let's use the same example:

- One Spear/Columbia: The shaft of the SPEAR is a thin marble COLUMn.
- Two Swan/Venezuela: This time, VENus is standing on the back of a SWAN.





- Three Bifocal Glasses/Guyana: GUY has just trodden on ANnA's bifocals. She's quite cross!
- Four Sailboat/Ecuador: The boat is sailing across the golden line of the EQUAtOR on a globe.



c. The Alphabet Technique

- This works well for lists of more than 9 or 10 items (beyond 10, the previous techniques can get too difficult).
- With this system, instead of finding a word that rhymes with the number, you associate the things you want to remember with a particular letter of the alphabet, from A to Z.
- This is an efficient way to remember an ordered list of up to 26 items.





Mnemonic		
Please	P	- Parenthesis
Excuse	E	- Exponent
My	M	- Multiplication
Dear	D	- Division
Aunt	A	- Addition
Sally	S	- Subtraction

d. The Journey System

- In your mind, think about a familiar journey or trip: for example, you might go from your office to your home.
- Associate the things that you want to remember with each landmark on your journey. With a long enough, well-enough known journey, you can remember a lot of things!

e. The Roman Room System (Loci Method)

- This technique uses location to stimulate your memory. Connect your list with items you see in a familiar room or location.
- You might find associations with things in your kitchen, in your office, or any another place you visit.

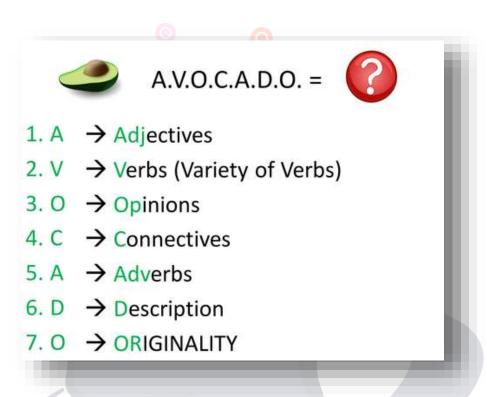
Our brains evolved to code and interpret complex stimuli such as images, colors, structures, sounds, smells, tastes, touch, positions, emotions, and language. We use these to make sophisticated models of the world we live in. Our memories store all of these very effectively.

8.1.2 How to make Mnemonics more memorable?





- 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. Remember that your mnemonic can contain sounds, smells, tastes, touch, movements, and feelings as well as pictures.



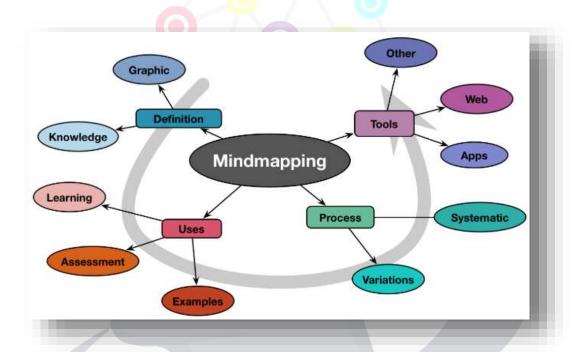
- Give your image three dimensions, movement and space to make it more vivid. You can use movement either to maintain the flow of association or to help you to remember actions.
- Exaggerate the size of important parts of the image.
- Use humor! Funny or peculiar things are easier to remember than normal ones.
- Similarly, rude rhymes are very difficult to forget!
- Symbols (red traffic lights, pointing fingers, road signs, etc.) can code quite complex messages quickly and effectively.





8.2 **Mind Mapping**

- Mind Maps are also known as **memory maps** or **concept maps**. These are an effective way to link ideas and concepts in your brain, and then "see" the connections firsthand.
- Mind Mapping is a note-taking technique that records information in a way that shows you how various pieces of information fit together. Technically, a mind map is a diagram used to visually organize information.



- Mindmap is hierarchical and shows relationships among pieces of the whole.
- There's a lot of truth in the saying "A picture speaks a thousand words", and mind maps create an easily-remembered "picture" of the information you're trying to remember.
- This technique is very useful to summarize and combine information from a variety of sources. It also allows you to think about complex problems in an organized manner, and then present your findings in a way that shows the details as well as the big picture.

Techniques to Challenge your Brain 8.3







As with other parts of your body, your mind needs exercise. You can exercise your brain by using it in different ways, on a regular basis. Try the following:

- **Learn a new skill or start a hobby** Find activities that build skills you don't normally use in your daily life. For example, if you work with numbers all day, develop your creative side with art classes or photography.
- **Use visualization on a regular basis** Since much of memory involves associating and recalling images, it's important to build this skill. Get plenty of practice with this!
- **Keep active socially** When you communicate and interact with people, you have to be alert. This helps keep your brain strong and alive.
- **Focus on the important things** You can't possibly remember everything, so make sure you give your brain important things to do and don't overload it with "waste." The "garbage in, garbage out" philosophy works well here.

Your memory is a valuable asset that you should protect and develop. Even if you no longer have to memorize information for exams, the ability to remember quickly and accurately is always important.



Whether it's remembering the name of someone you met at a conference last month or recalling the sales figure from last quarter, you must rely on your memory. Learn and practice the above techniques to keep your mind healthy.

You have only one brain – so treat it well, give it lots of exercises, and don't take it for granted. You never know when you'll need its skills to be at their best!





Chapter 9



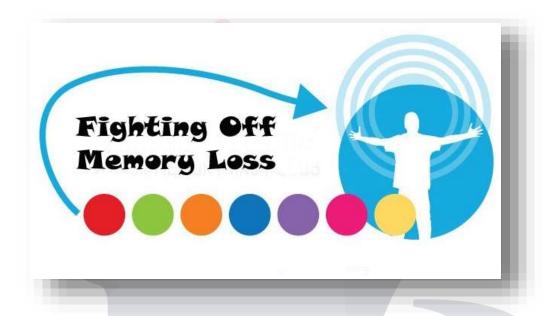
FIGHTING OFF MEMORY LOSS





By now, we all know that memory loss is a common phenomenon and everyone has these memory blips from time to time. And as a person grows older these slip-ups become more common.

But you should not resign yourself to memory loss just because you hear or you know that it's a common phenomenon. There are some techniques to fight it off by keeping your brain sharp and reduce it:



1. Stay Mentally Active

Mental activities are equally important in one's life as daily physical activities. Mentally stimulating activities help to keep the human brain in shape, which is necessary to prevent memory loss.

An effective way to incorporate this is by doing crossword puzzles, playing bridges, etc. Other ways to keep your mind fit and active is by learning a musical instrument in your free time, volunteering at a local school, etc. Playing Sudoku might also help.

2. Socialize More Often

Engage with more people around you as social interaction helps to combat stress, anxiety, and depression, which can contribute to memory loss. Find opportunities that bring you closer to your family, friends, and relatives. This is essential in cases if you live alone.







It is important to note that the people that you hang around with positive people and not the ones who bring you down or demotivate you.

3. Organize yourself

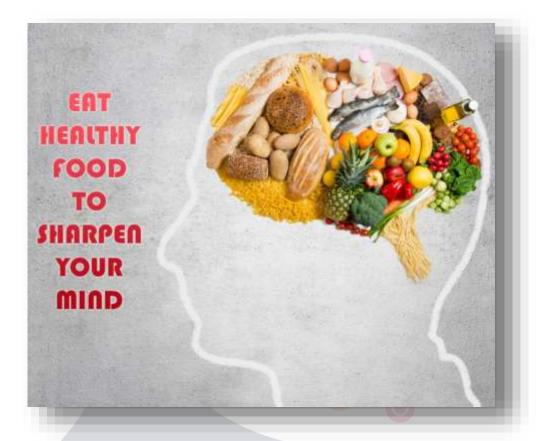
There are high chances of forgetting things when your surroundings are cluttered or disorganized. It is a best practice to jot down important things, meeting notes, appointment schedule and other stuff that you feel is important and shouldn't be forgotten at any cost.

Keep your to-do lists up to date and regularly check-off the items that you complete. Fix a place at your home to keep keys, wallet, and other essentials of your daily life. Be focused on information that you're trying to retain so that you can recall it later. Limit your distractions and avoid concentrating on too many things at one time.

4. Eat Healthy Food







A healthy diet is equally important for your brain as it is for your heart and body. Intake fresh fruits, vegetables, and whole grains. Opt for low-fat protein sources like fish, skinless poultry, etc. As learned in previous chapters, avoid consumption of alcohol and drugs as they may lead to confusion and memory loss.

5. Do physical activity daily

Just as sleep is important for both your physical and mental health, so too is that other pillar of health: exercise.

A 30-minute walk daily is one of the best things that you can do for your body and brain. According to the Medical Centre, physical exercise has the best evidence for preserving memory and mental function with aging. Some studies also suggest that physical activity also triggers the release of a protein called BDNF that promotes healthy nerve cells in the brain. This also gives a boost to memory.

Don't rush to get your running shoes on just yet, though. After studying or learning something new, it might pay to wait. Exercising about 4 hours after





learning might be better for improving memory than exercising immediately after. For most healthy adults, the Department of Health and Human Services recommends at least 150 minutes a week of moderate aerobic activity, such as brisk walking, or 75 minutes a week of vigorous aerobic activity, such as jogging — preferably spread throughout the week. If you don't have time for a full workout, squeeze in a few 10-minute walks throughout the day.



6. Have a sound sleep

Sleep plays an important role in helping you consolidate your memories, so you can recall them down the road. Make getting enough sleep a priority. Most adults need seven to nine hours of sleep a day.

One recent research study found that people who slept for 8 hours after learning new faces and names were better able to remember them compared to those who didn't get the sleep opportunity. It appears that sleep "resets" our brains and is critical for memory and learning. If you're sleep-deprived, the brain's neurons become over-connected with so much electrical activity that new memories can't be saved.

Naps count too! Researchers found that taking a nap of about 45-60 minutes immediately after learning something new could boost your memory 500%.

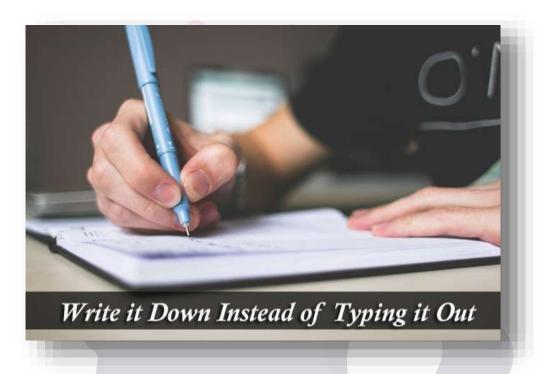




So sleep on it. If your boss or co-workers catch you napping at work, just show them these findings.

7. Write it Down instead of Typing it Out

Typing things instead of writing down doesn't help you remember them. You are likely to remember notes when you write them by hand. So, it's time to put your laptop away.



Handwriting is preferable over using your laptop or phone to jot down items or tasks when it comes to memory. There are evident reasons why it is so. First, the physical act of writing stimulates cells at the base of your brain, called the **reticular activating system (RAS).** When the RAS is triggered, your brain pays more attention to what you're doing at the moment. When you're writing by hand, your brain is more active in forming each letter, compared to typing on a keyboard where each letter is represented by identical keys.

Also, research has shown that when people take notes on their laptops, they tend to transcribe lectures verbatim. Conversely, when taking notes by hand, we tend to reframe the information in our own words-a more active kind of learning.





8. Share it with Others

Finally, there's the old adage that "the best way to learn something is to teach it to someone else." As per a survey it was found that teaching, explaining or just a simple mention of what they learned improves learning and memorization. This is the most recommended learning technique as it helps people to identify knots and gaps in their own thinking.

9. Offload the Information that you don't need to memorize

The human brain is incredible. Because our neurons can store many memories at a time, our mental storage capacity is somewhere around the 2.5 petabytes (million gigabytes) range-enough to hold three hundred years' worth of nonstop TV shows.

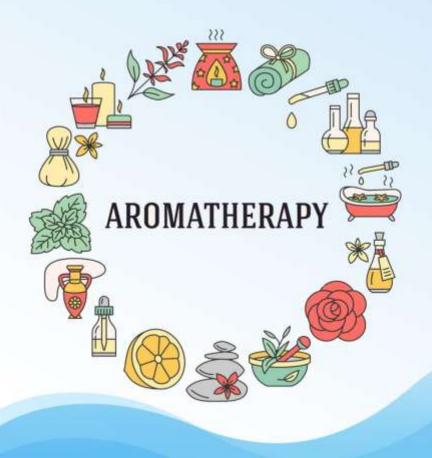
Memorizing information takes effort, so we should focus on the information that we really need to commit to memory. Stuffing the brain with excess information that is useless can be risky and not really fruitful. So try to retain only important information and save the rest in any of the apps available on the web like Evernote, Notepad, etc.

Memory might still be a mystery to us, but studies have shown that the techniques above will help you retain more of what you learn. There is nothing called photographic memory; it is the memory skills that people use to remember information. For the rest, remembering the silliest of the things becomes a challenge. For example, remembering where did they put their glasses or car keys. But following at least one of the above techniques actually helps to let information stick to the brain.

So, implement them and see the difference.



Chapter 10



SECRETS OF AROMATHERAPY





Aromatherapy is both an art and science as it uses natural essential oils and extracts from plants that chemically balance the body, mind, and spirit. Aromatherapy uses essential oils from plants, either applied in a lotion and absorbed by the skin or inhaled and absorbed into the lungs and nasal passages, to improve physical and mental health.



Aromatic oils have been used for over 5,000 years; ancient Egyptians used them as perfumes and there are many references in the Bible to their use in mental and physical healing. While essential oils are not a cure for dementia, they can do a great deal to improve the quality of life. Certain oils have proven effective for depression, anxiety, restlessness, focus, and insomnia, all of which are symptoms of Alzheimer's and other conditions caused by the onset of dementia.

Memory loss and impaired cognition over time can result in grave neurodegenerative diseases that deteriorate the quality of life if left undiagnosed or if not looked after. Our diet and lifestyle have an essential role to play in maintaining the healthy functioning of the brain. It is thus important to pay attention to the food we eat, how it affects our brain health and what food and lifestyle changes we can make to sharpen our memory and cognitive functions.

Aromatherapy employs the use of the sense of smell and fragrance to promote feelings of well-being. The olfactory function refers to the combination of structures in the brain and nose that help us detect smells. Smells can trigger a variety of physical and emotional responses and even stimulate recall of old memories. Let's say when you walk by a traditional bakery and the aroma of the products reminds



you of your grandmother's freshly baked bread. Similarly, the aroma of some essential oils also stimulates improved focus and attention and improve mood thus resulting in better cognition.



While research on the effectiveness of essential oils is somewhat limited, some studies have shown aromatherapy can:

- Ease symptoms of anxiety
- Enhance memory
- Offer relief from symptoms of depression
- Improve the quality of life for people living with chronic health conditions

Oils may be inhaled, applied to the skin, or placed in food or tea depending on the type of oil and its level of concentration.

10.1 Essential Oils That May Help Those Living with Dementia

Here are oils that have been shown to be effective in treating and controlling different symptoms of dementia:

10.1.1 Lavender

Lavender is thought to be calming and able to balance strong emotions.





- It has also been used to help with depression, anger, and irritability, and can help in some cases of insomnia.
- Lavender can be directly inhaled, used as massage oil or sprayed on linens. It can even be used to mitigate anxiety related to work or school, allowing a student to concentrate on questions and have better memory recall.
- It composed of chemical compounds called terpenes small molecules that are absorbed into the bloodstream through the nose or lungs. Terpenes are so small they can easily cross the blood-brain barrier, which means they can be absorbed by the brain, impacting its neurological processes.



- Also in lavender, there are alpha-terminal, borneol, lavandulyl acetate, camphene, farnesene, beta-caryophyllene, limonene, camphor, cineole, and pinene, all offering their own mood-boosting, health-promoting benefits. They help relax your muscles, relieve anxiety, and even reduce migraines and improve sleep patterns.
- Like all essential oils, lavender is not a pure compound; it is a complex mixture of naturally occurring phytochemicals, including linalool and linalyl acetate. Kashmir Lavender oil is famous for being produced from lavender at the foothills of the Himalayas.





These compounds have been shown to have anti-inflammatory qualities.

10.1.2 Peppermint

- Peppermint is an energizer and can be used to stimulate the mind and calm nerves at the same time.
- Best used in the morning, peppermint oil can be inhaled directly, diffused in a room, used as massage oil, sprayed in the air or even placed in a bath.



- It also improves brain function, focus, and concentration.
- Peppermint oil inhalation induces relaxation, relieves stress, enhances focus and hence improves cognitive performance or ability to think, reason and calculate.
- Its aroma helps protect memory and cognition by inducing a state of relaxation and improving attention.

10.1.3 Rosemary

Similar to peppermint, Rosemary is uplifting oil used to stimulate the mind and body. It may even improve cognitive performance and mood.





Rosemary oil can be directly inhaled, diffused through a room or used as a spray. Rosemary triggers improved memory as well as increased alertness.



- While the studies are ongoing, it certainly seems that the one-two combo of rosemary and peppermint could help improve brain function and memory in people of any age – but especially older citizens.
- Just add a few drops of the rosemary oil to a diffuser and let the scent fill your room to start triggering the changes in the brain that can lead to better brainpower.

10.1.4 Lemon Balm

While lemon oil may be among the more expensive oils, it is also one of the most studied and more effective oils. It has been shown to help calm and relax people who are dealing with anxiety and insomnia, improve memory and ease indigestion.







- Lemon oil can be dropped into a bath, inhaled directly, diffused, sprayed or applied directly to the skin as a massage oil.
- It is known that lemon balm boosts the activity of acetylcholine which is a chemical messenger that reduces if a person suffers from Alzheimer's disease (causing memory destruction).

10.1.5 Ylang Ylang

- When it comes to calming the body and mind and putting the mind at ease, nothing beats Ylang Ylang oil.
- It can help ease depression while also promoting good sleep that enhances memory.
- This is great oil not only for a person living with Alzheimer's but also for caregivers struggling with restlessness and lack of sleep.







Ylang Ylang is often combined with lemon oil and can be placed in a bath, inhaled, diffused or sprayed.

10.2 Things to Remember

If you want to achieve better memory, it's worth it to remember the following points:

- 1. First of all, understand that nothing works instantly for improving memory. Instead, you should expect results over time. Create the right essential oil diffuser experience and use it regularly. Eventually, you'll begin to notice improvements.
- 2. While the science certainly supports using essential oils for things like improving your memory, additional steps like the previously mentioned cessation of drug use and avoidance of alcohol, or things like eating a healthier diet, sufficient sleep and drinking water regularly all can also help lead to better results.







- 3. Finally, keep in mind that severe memory loss could be a sign of a more serious condition. Using rosemary essential oil can certainly help promote a healthy memory, but it's always a good idea to talk to a medical professional if significant problems persist.
- 4. While oils have been used for generations and many are thought to be safe, essential oils are not regulated by the Food and Drug Administration, so be sure to consult with your doctor before using to ensure oils will not have any negative interaction with medication.

If you'll keep these key tips in mind and use high-quality oil in your nebulizing oil diffuser, you will promote better memory for yourself and your entire family. Pure essential oils can have a positive impact on the mind, and they're well worth using.



Chapter 11



BRAIN TRAINING EXERCISE TO IMPROVE YOUR MEMORY





A strong memory depends on the health and vitality of your brain. Whether you're a student studying for final exams, a working professional interested in doing all you can to stay mentally sharp, or a senior looking to preserve and enhance your grey matter as you age, there are lots of things you can do to improve your memory and mental performance.



On top of a healthy diet and regular exercise, there are ways to give your brain its own workout routine — without emptying your wallet. Experts recommend sticking to brain training that involves real-world activities. Exercises to strengthen brain function should offer novelty and challenge.

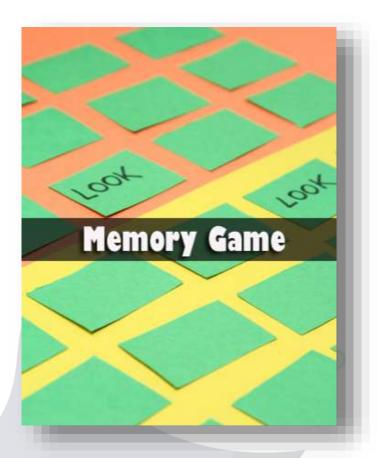
11.1 Brain Exercises

1. The Memory Game

Do you remember the memory game that you used to play as a child? The stack of cards with pairs of buses, cars, fruits, vegetables and all sorts of objects that were shuffled and arranged in neat rows and you had to match the pairs solely through the power of your memory. That's an excellent brain exercise.







Another activity that can help you test your recall can be making a simple list may be the one you prepare to fetch things from the grocery. Memorize it and then at the end of one hour, see how many you can recall out of the total items on the list.

You can go one level advanced by making the items as challenging as possible, for a greater mental stimulation.

2. Brain Training Games

There a number of brain training games available. One of the best examples is Sudoku. Another is Minesweeper. Today, in this era of smartphone and digital world, you no longer need to worry as you can play them in your mobile phones and tablets. Search for brain training games online and there will be various websites that will pop up with an extensive range of games.







These games and others train your cognitive skills - memory, attention, speed, mental flexibility, emotional intelligence etc. They also include matching colors, remembering patterns, testing speed, applying logic, and other simple games which are also a lot of fun and a good way to pass time.

3. Play Puzzles

If you love to solve puzzles, then it's great to do that as part of the brain training exercise. But, if you haven't been much interested in it, then start with trying your hands at jigsaw puzzles. It's good exercise for the brain because it helps in refining your hand-eye coordination, and it is a lot of fun too. If you don't have the time for buying boxes of puzzles, just go online and solve jigsaw puzzles for free.



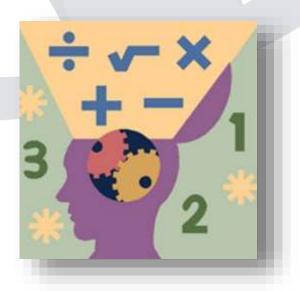


Building blocks is another good exercise for the brain.

4. Do some maths in your head

Mathematics is one of the most hated subjects in high school for the majority of the students. But the fact is that it is an excellent way of exercising the brain.

Figure out problems without the aid of pencil, paper, or computer; you can make this more difficult — and athletic — by walking at the same time.







Start with basic problems and basic mathematics before jumping on to adding up big numbers or multiplying 2-3 digit number in mind. You can choose to do the series of squares or cubes to give it a start.

5. Draw a map from your memory

Another easy game is to pay close attention to your surroundings on your way to or back from work, and then draw out a map of the route with all that you remember of seeing. And check it out the next day. With time, you will also become more attentive to your surroundings.



Also, you can visit new places and after returning home, try to create a map of the area, jot the things you found on the way, even locations and repeat the exercise every time you visit a new location.

6. Play with words

The best word games associated with memory enhancement include Atlas, Name, Place, Animal, Things. No doubt, the latter is ranked high as one of the all-time favorite indoor games. Not only it is an effective way to increase your knowledge but also sharpen memory.







Scrabbles is a great exercise as well. Another option is to visualize the spelling of a word in your head, then try and think of any other words that begin (or end) with the same two letters. Try to challenge yourself to remember all the names of the rivers in your state, the city names, or capitals of different countries using mnemonics. There are so many options. Do one every day!

7. Challenge your brain while Cooking

Cooking is one skill which makes use of all your senses to be able to create that perfect dish - smell, sight, taste, touch, and sound. As such, it is a great exercise for the brain.



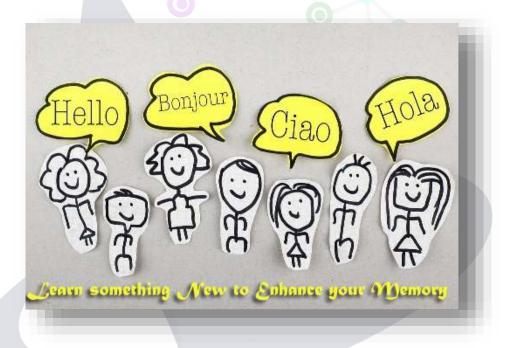




Attempt different recipes and cuisines, and try to play around with unfamiliar ingredients; this way you will improve your attention as well. And while eating, try and identify different smells and flavors of your meal rather than digging straight in to curb the hunger pangs. Try to identify individual ingredients in your meal, including subtle herbs and spices. This is a good exercise for your brain.

8. If possible, learn something new

As per a research - A higher level of vocabulary, as a measure of cognitive reserve, can protect against cognitive impairment. Hearing and Listening involves brain stimulation, and learning a new language can, therefore, aid in sharpening the memory.



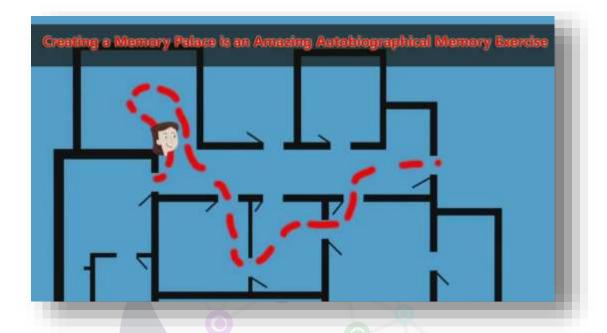
You can also start doing any athletic exercise like yoga, playing golf, badminton, tennis, etc. that utilizes both the mind and body. This will enhance your memory.

9. Create a Memory Palace

The ultimate brain exercise on the planet is also the easiest. It involves nothing more than a simple drawing that follows some simple principles. First, creating a Memory Palace draws upon your spatial memory. It's also a great recovered memory and autobiographical memory exercise.







(a)Decide on a blueprint for your palace

Though a memory palace is an imagined place, it becomes easy to base it upon a place that exists in the real world. It should be something that you're familiar with. You can also use a place shown in your favorite video game to start with. A small or basic palace can be your bedroom while the larger palace can be based on a bungalow, a street, sometimes an entire town. The larger or more detailed the real place, the more information you can store in the corresponding mental space.

(b) Define a route

It is essential to follow a specific route through your palace, especially when you have to remember things in a certain order. This holds true in real life scenarios too.

So, when you've decided what your memory palace is, decide on how you will travel through it.

(c) Decide on storage locations along your route or inside your palace

While using your memory palace, you need to identify as many locations as you think you will need. The storage locations can be landmarks along your way like your neighbor's house, a statue, a skyscraper, anything that





you think you need to remember. Apart from these locations, there may be other small locations, probably inside a room, such as a painting, a piece of furniture, a show-piece, etc.

Memorize your palace (d)

For your memory palace to be effective, you need to commit it to memory perfectly. The best way to do this is to actually draw out a blueprint (or a map, if the palace is a route) which shows the landmarks or storage locations you have chosen. Try visualizing the palace when you are not there, and then check your mental image against the map to make sure you have remembered every location and put them in the correct order. Picture the landmarks in as much detail as possible: make sure your mental image includes their colors, sizes, smells, and any other defining characteristics.

(e)Place things to be remembered

Once you have constructed your palace and have it firmly implanted in your mind, you are ready to use it. Put a manageable amount of information in each place.

For example, if your palace is your house, and you are trying to remember a speech, you might place the first few sentences on your doormat and the next few in the keyhole of your door. Don't put too much information in any one place, and if certain things must be kept separate from others, put them in different places. Make sure that you place things along your route in the order in which you need to remember them, if applicable.

(f) Use symbols and be creative

You don't necessarily need to put a whole string of words or numbers in a given location in order to be able to remember it, and trying to do so can be unwieldy and counterproductive. For example, if you are trying to remember a ship, picture an anchor on your couch.

Symbols are shorthand and make memories more manageable, but they also can be more effective than picturing the actual thing you are trying to remember.





Generally, images will be more memorable if they are absurd (out of the ordinary, or if they are attached to some strong emotion or personal experience. Use your creativity and imagination to make your palace easy to remember.

(g)Stock your palace with mnemonics

There are many simpler mnemonics that you can use in combination with the memory palace. Mnemonics make remembering and recalling easy.

(h) Explore and use

Once you have stocked your palace with evocative images, you need to go through it and look at them. The more you explore your palace, the more easily you will recall its contents on demand.

(i) Recall

Once you have memorized the contents of your palace you can recall them simply by mentally walking through it or looking around it.

For example, If you need to give a speech, just follow your route in order as you do so.

If you need to remember that your girlfriend's birthday is March 16, simply go into your bedroom and see the soldiers "marching" on the bed to the tune of the 80s cult classic "Sixteen Candles." With practice, you will be able to start anywhere in your palace or along your route to recall a specific piece of information.

As far as brain exercises go, the Memory Palace training exercise works kind of in reverse, because you're accessing cues that are usually blueprinted on your mind outside of your awareness.

11.2 Brain-Boosting Exercise Tips

There are a few quick tips that can expedite your brain sharpening journey and experience:







- Aerobic exercise is particularly good for the brain, so choose activities that keep your blood pumping. In general, anything that is good for your heart is great for your brain.
- If it takes a long time for you to clear out the sleep fog when you wake up, then, exercising in the morning before you start your day makes a big difference. In addition to clearing out the cobwebs, it also primes you for learning throughout the day.
- Physical activities that require hand-eye coordination or complex motor skills are particularly beneficial for brain building. Taking up a new hobby that involves -motor skills, such as knitting, drawing, painting, assembling a puzzle, etc. may help.
- Exercise breaks can help you get past mental fatigue and afternoon slumps. Even a short walk or a few jumping jacks can be enough to reboot your brain.

Conclusion

While the brain is an extremely smart organ capable of carrying out various tasks, it is also good to put it to a test every once in a while. The more you challenge it, the





more it will learn and evolve, and as such, will stay active too. Certain parts of the brain, especially the area of the frontal lobe (prefrontal cortex) and the hippocampus play a vital role in learning, memory and other complex mental activities.





Chapter 12



NATURALLY IMPROVE YOUR MEMORY -BRAIN FOOD





Everyone has moments of forgetfulness from time to time, especially when life gets busy. While this can be a completely normal occurrence, having a poor memory can be frustrating. As the control center of your body, the brain is in charge of keeping your heart beating and lungs breathing and allowing you to move, feel and think. That's why it's a good idea to keep your brain in peak working condition.



Genetics plays a role in memory loss, especially in serious neurological conditions like Alzheimer's disease. However, research has shown that diet and lifestyle have a major impact on memory too. The foods you eat play a role in keeping your brain healthy and can improve specific mental tasks, such as memory and concentration.

The best menu for boosting memory and brain function encourages good blood flow to the brain — much like what you'd eat to nourish and protect your heart. Here are some brain foods that you should be eating to boost your brain:

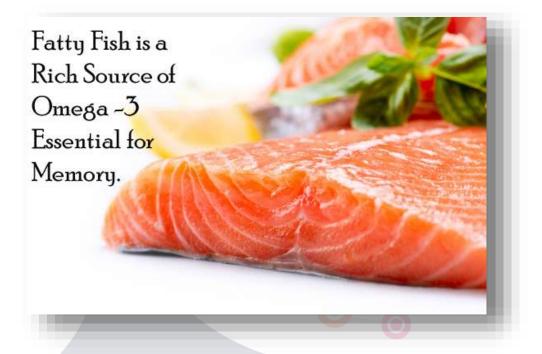
1. Fatty Fish

When people talk about brain foods, fatty fish is often at the top of the list. Fatty fish is a rich source of omega-3s, a major building block of the brain. This type of fish includes salmon, trout, and sardines, which are all rich sources of omega-3 fatty acids. About 60% of the brain is made of fat, and half





of that fat is the omega-3 kind. The brain uses omega-3s to build brain and nerve cells, and these fats are essential for learning and memory.



Omega- 3s also has a couple additional benefits for your brain. For one thing, they may slow age-related mental decline and help ward off Alzheimer's disease. On the flip side, not getting enough omega-3s is linked to learning impairments, as well as depression.

2. Blueberries

Blueberries are antioxidant powerhouses, protecting the brain from oxidative damage and stress that lead to premature aging, Alzheimer's, and dementia. The flavonoids in blueberries also improve the communication between neurons, improving memory, learning, and all cognitive function, including reasoning, decision making, verbal comprehension, and numerical ability. Other dark berries are good for the brain too, like blackberry, açai, and goji berries. They also help to reduce inflammation, a cornerstone of virtually all brain degenerative disorders.







3. Coconut Oil

Coconut oil contains medium chain triglycerides that the body uses for energy, leaving glucose for the brain. It also seems to have a beneficial effect on blood sugar, blood pressure, and cholesterol. Anything that benefits the heart and circulation also benefits the brain. Coconut oil acts as an anti-inflammatory as well and has been linked to helping prevent Alzheimer's and dementia. It also enhances the ability of the brain's neurons to use energy while at the same time reducing the production of damaging free radicals. Coconut oil also provides saturated fat – a vital nutrient for the integrity and function of brain cell membranes.







4. Broccoli

Broccoli is a super-food for the whole body. It is rich in calcium, vitamin C, B vitamins, beta-carotene, iron, fiber, and vitamin K. These nutrients protect against free radicals, keep blood flowing well, and remove heavy metals that can damage the brain. It is a great source of vitamin K, which is known to enhance cognitive function and improve brainpower.



5. Eggs

Eggs are a good source of several nutrients tied to brain health, including vitamins B6 and B12, folate, and choline. Choline is an important micronutrient that your body uses to create acetylcholine, a neurotransmitter that helps regulate mood and memory. Eating eggs is an easy way to get choline, given that egg yolks are among the most concentrated sources of this nutrient. Furthermore, the B vitamins have several roles in brain health. To start, they may help slow the progression of mental decline in the elderly. Also, being deficient in two types of B vitamins — folate and B12 — has been linked to depression.





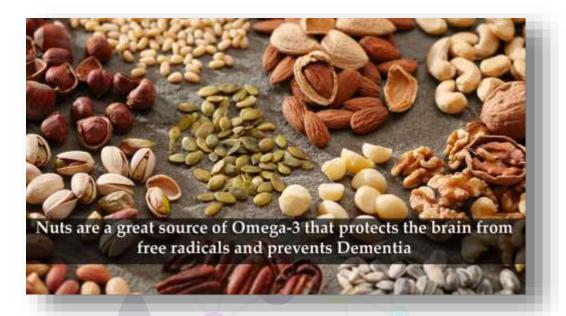


6. Nuts

Nuts, especially walnuts and almonds, are extremely good for the brain and nervous system. They are great sources of omega 3 and omega 6 fatty acids, vitamin B6, and vitamin E. Vitamin E has been shown to prevent many forms of dementia by protecting the brain from free radicals, and it improves brain power. Nuts contain some anti-nutrients, like phytic acid. Since we consume a relatively small amount of nuts, this isn't a huge problem, but they are far healthier if you soak them overnight (about 8 hours) before eating them. A review showed that nuts can also improve cognition and even help prevent neurodegenerative diseases. Also, another large study found that women who ate nuts regularly over the course of several years had a sharper memory, compared to those who didn't eat nuts. While all nuts are good for your brain, walnuts may have an extra edge, since they also deliver omega-3 fatty acids.







7. Turmeric

This deep-yellow spice is a key ingredient in curry powder and has a number of benefits for the brain. Curcumin, the active ingredient in turmeric, has been shown to cross the blood-brain barrier, meaning it can directly enter the brain and benefit the cells there. It's a potent antioxidant and anti-inflammatory compound that has been linked to the following brain benefits:







- **Benefits Memory:** Curcumin may help improve memory in people with Alzheimer's. It may also help clear the amyloid plagues that are a hallmark of this disease.
- **Eases Depression:** It boosts serotonin and dopamine, which both improve mood. One study found curcumin improved depression symptoms just as much as an antidepressant over six weeks.
- Helps new brain cells grow: Curcumin boosts brain-derived neurotrophic factor, a type of growth hormone that helps brain cells grow. It may help delay age-related mental decline, but more research is needed.

Turmeric and its active compound curcumin have strong anti-inflammatory and antioxidant benefits, which help the brain. In research, it has reduced symptoms of depression and Alzheimer's disease.

8. Dark Chocolate

Dark chocolate and cocoa powder are packed with a few brain-boosting compounds, including flavonoids, caffeine, and antioxidants. Flavonoids are a group of antioxidant plant compounds that improve blood vessel function, which in turn improves cognitive function and memory. Chocolate also improves mood, can ease the pain and is full of antioxidants. They gather in the areas of the brain that deal with learning and memory. Researchers say these compounds may enhance memory and also help slow down the agerelated mental decline. The flavonoids in chocolate may help protect the brain. Studies have suggested that eating chocolate could boost both memory and mood. In one study including over 900 people, those who ate chocolate more frequently performed better in a series of mental tasks, including some involving memory, than those who rarely ate it.







9. Pumpkin Seeds

Richer in zinc than many other seeds, pumpkin seeds supply this valuable mineral which is vital for enhancing memory and thinking skills. These little seeds are also full of stress-busting magnesium, B vitamins, and tryptophan, the precursor to the good mood chemical serotonin. They also contain powerful antioxidants that protect the body and brain from free radical damage. Other than zinc, pumpkin seeds are also rich in many micronutrients that are important for brain function, including copper, iron, and magnesium which are essential for learning and memory.







Avocado 10.

Avocados are a source of monounsaturated fats, omega 3, and omega 6 fatty acids. These increase blood flow to the brain, lower cholesterol, and aid in the absorption of antioxidants. Avocados also come with many antioxidants of their own, including vitamin E, which protect the body and the brain from free radical damage. They are also a good source of potassium and vitamin K both protect the brain from the risk of stroke. Avocado oil has also been shown to help maintain healthy blood pressure levels.







The research has found the Mediterranean Diet helps keep aging brains sharp, and a growing body of evidence links foods such as those in the Mediterranean diet with better cognitive function, memory, and alertness. The Mediterranean diet emphasizes eating foods like fish, fruits, vegetables, beans, high-fiber bread and whole grains, and olive oil. Meat, cheese, and sweets are very limited. The recommended foods are rich in monounsaturated fats, fiber, and omega-3 fatty acids. So, prepare your healthy Mediterranean-diet chart today and boost your memory and learning skills.



Chapter 13



ADVANCED TECHNIQUES TO BOOST MEMORY



By now, you must already know about different brain exercises to boost memory and also the brain foods that are stimulate learning and enhance brain power. Now, in this section, we will present advanced memory techniques that are required to boost memory and speed up the learning process.



13.1 The Dominic System

- The Dominic system is a technique for memorizing long sequences of numbers or playing cards, created by **Dominic O'Brien**, a British mnemonist (eight times World Memory Champion) and an author of memory-related books.
- It is a letter-based abbreviation system where the letters comprise the initials of someone's name, while the major system is typically used as a phoneticbased consonant system for objects, animals, persons, or even words.

The Dominic System uses an easy-to-remember number-to-letter conversion and the initials of memorable people, as well as journeys that are like memory palaces. As many mnemonic systems do, the Dominic System requires some bootstrapping for you to reach its full potential.

The number-to-letter correspondences run as follows:



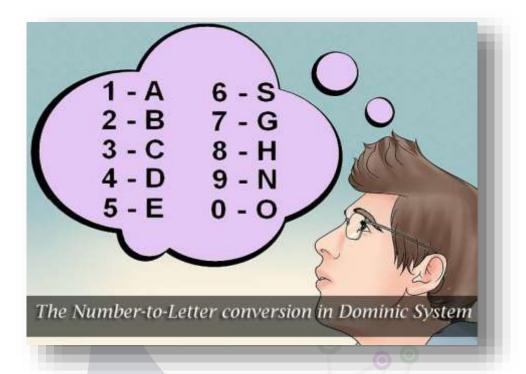


Digit	Letter
1	Α
2	В
3	С
4	D
5	E
6	S
7	G
8	Н
9	N
0	0

- You can remember the numbers 00 to 99 by linking them to famous people and actions that are characteristic of them. For example, the number 15 becomes AE. You might mentally connect the initials AE with Albert Einstein and assign writing on a blackboard as Einstein's characteristic action. Similarly, 80 = HO = Santa Claus, laughing and holding his belly (HO, HO, HO!).
- After you have the two-digit associations firmly in your mind, you can remember four-digit numbers by combining the person associated with the first two digits and the action associated with the second two digits. Thus, 8015 can translate to HOAE, which can be broken down to HO and AE. To remember it, think of Santa Claus (HO) with Albert Einstein's action (AE): Santa Claus writing on a blackboard.







- You can remember five-digit numbers by adding a symbol from the numbershape system to the image so that 80152 might be represented by Santa writing on a blackboard with a swan tucked under one arm.
- For larger numbers, break the associations into smaller chunks and apply the mnemonics:

Example: This is a 12 digit number: 033614625035. Next, break up this list (i.e., chunk it) into three four-digit numbers: 0336 1462 5035. Now, apply the Dominic System mnemonics:

- o 0336 = OCCS = Oliver Cromwell/C.S. Lewis
- 1462 = ADSB = Jesus (AD)/Sandra Bullock in the movie Speed
- o 5035 = EOCE = Eeyore/Clint Eastwood

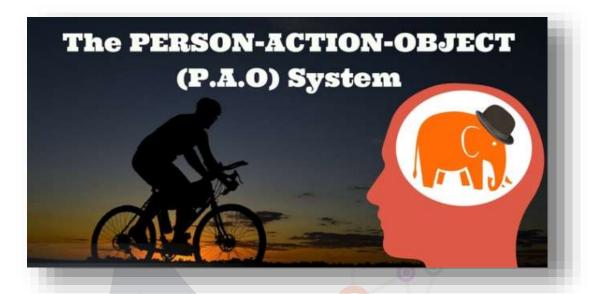
13.2 The PAO System

The Person-Action-Object System (or "PAO" System) is a popular method for memorizing long random numbers and decks of playing cards. It is similar to the person-action Dominic System but it adds an object to the images.





PAO is a memory method where you create a **Person** for every number, an action that goes with that person and an object that goes with that person. For example, my person for the number 36 is Michael Jackson.



The action is moonwalking and the object is a stage. So:

- 36 = Michael Jackson moonwalking on stage
- 25 = Neil Armstrong floating in space
- 50 = Lucy (from Charlie Brown comic) holding a football

Then once you have a person-action-object for each number you can memorize numbers 6 digits (or in the case below 9 digits) at a time.

- The people are generated according to the number-letter associations introduced in the Dominique System. The actions and objects are arbitrary: they do not have to directly relate to people. For instance, you do not have to have Tiger Woods swinging a golf club; you could have him crawling like a tiger. Your goal is to find triples of person, action, an object that immediately bring to mind the 2-digit number they are associated with. In addition, any of the four elements (number, person, action, object) should immediately bring to mind the remaining three.
- To memorize a number, divide it into groups of 6 digits. For each 6-digit number, break it down further into three 2-digit numbers. Use the person association for the first, the action association for the second, and object





association for the third. Combine these three images into one; visualize it and place it along with a memory route in your memory palace.

For example, the number 36 25 50 would = Michael Jackson floating on a football. For the 1st pair, you take the person, the second paid you to take the verb for that number and the 3rd pair you take the object for that pair. It is a genius way to memorize numbers (and playing cards too).



Quick Tips:

- 1. Choose actions that are distinguishable. For Example: Do not have Barney Stinson adjusting his tie, have him ripping his suit.
- 2. Do not use any clothing article as objects. If you do, make sure it is noticeable. For instance, do not ever use a tie because any male in your list can be associated with it, or do not ever use heels because any lady on your list can be associated with those.
- 3. Before you try to memorize any number, run through your PAO list until it is ingrained in your brain and that seeing any one element brings to mind the other three becomes your second nature.

13.3 Ben Pridmore System





- In the Ben System, the information to be memorized is chunked and encoded into consonant-vowel-consonant sounds that are the basis for the mnemonic images.
- The basic principle is the same as others visualizing images at points along a mental route or journey. There are three 'objects' at each point on this route. Some of these objects are people, some are things. Each object is made from a combination of two playing cards, or three decimal digits, or ten binary digits. The name of the object starts with a one-syllable sound made up of a consonant, a vowel, and another consonant.
 - **Decimal numbers** are chunked in threes which become the consonant-vowel-consonant.

Example: 974141744 would become 974-141-744:

974 = bEr = this could be a beer

191 = tOt = this could be a totem pole

714 = kor = this could be a carrot

Decimals			
First consonant (first digit)	Vowel (second digit)	Second consonant (third digit)	
0 = s 1 = t 2 = n 3 = m 4 = r 5 = 1 6 = gj 7 = k 8 = f/th 9 = b	<pre>0 = 'oo' as in 'you' 1 = 'a' as in 'cat' 2 = 'e' as in 'pet' 3 = 'i' as in 'kitten' 4 = 'o' as in 'tom' 5 = 'u' as in 'puss' 6 = 'A' as in 'hay' 7 = 'E' as in 'bee' 8 = 'I' as in 'high' 9 = 'O' as in 'low'</pre>	0 = s 1 = t 2 = n 3 = m 4 = r 5 = 1 6 = g 7 = k 8 = f/th 9 = b	

Binary numbers chunked in tens and chunked again into 4-3-3 which becomes the consonant-vowel-consonant.

Example: 1001111100 would become 1001-111-100:



1001-111-100 = bEr = this could be a beer

Binaries		
First consonant (first digit)	Vowel (second digit)	Second consonant (third digit)
0000 = s		
0000 = 5 0001 = t		
0010 = n		
0010 = M		
0100 = r	000 = '00'	000 = s
0101 = 1	001 = 'a'	001 = t
0110 = g/j	010 = 'e'	010 = n
0111 = k	011 = 'i'	011 = m
1000 = f	100 = 'o'	100 = r
1001 = b	101 = 'u'	101 = 1
1010 = p	110 = 'A'	110 = g
1011 = d	111 = 'E'	111 = k
1100 = h		
1101 = sk/sn/sm		
1110 = st/sp		
1111 = sh/sl/sw		
1111 = sh/sl/sw		

Conclusion

These techniques can become the new mnemonic nuclear arsenal that will help you to memorize short, medium or very long numbers, including binary numbers, and much more. In this section, we have covered simple but powerful memory techniques that you can apply in your daily life, and ensure your success in different situations that you face every day.

Happy Learning!



Chapter 14



IMPORTANT MEMORY MYTHS





Many of us subscribe to false beliefs about how our memories work, sometimes with serious consequences. But those who plan to improve their learning skills must be alert against a volley on false claims that are ripe in books and materials devoted to accelerated learning. This short and concise list should help you avoid books or websites that do not stick to the basics of science.

Human memory is nothing short of amazing. It allows us to store an impressive amount of information and build on our pre-existing knowledge. However, there are limits to its power. Let's take a closer look at important human memory myths and the truth behind them:



1. Myth #1 - Some People have Photographic Memories

The first and most popular myth about memory is that some people have a photographic memory that they can take a snapshot of a scene or a page in a book, and then bring it to mind whenever they want to. But the truth is that when most people who perform memory feats are tested, it turns out they are almost always using memory skills to remember information. They depend on mnemonic devices and thousands of hours of practice to inculcate this memory.







So don't worry about whether someone else has a photographic memory.

Using memory skills, you can develop your own memory so that people think you have one!

2. Myth #2 – A person is TOO Young or TOO Old to Improve his memory

Another myth regarding memory is having heard people say — He/She is too old to learn. While it is true that some people find remembering more difficult as they age, anyone can learn new things. An elderly person who uses memory skills can actually remember better than a 20-year-old who does not!

When comes to young people or children, even they have a good ability to learn. Children as young as 7 years have been taught the skills as well.

No matter what your age, you still have the ability to learn.

3. Myth #3 – Memorizing too Much Improves Memory







There is no evidence that simply memorizing over and over will improve your memory. What will improve your memory is practicing memorizing using memory skills. One classic study discovered that 3 hours of practice memorizing did not improve long-term memory, but 3 hours of practice using memory techniques did improve long-term memory.

Rather than blindly practicing rote memorization, learn the memory techniques, and keep your brain healthy!

4. Myth #4 - Memory gets worse as we Age

Aging universally affects all organs. 50% of 80-year-olds show symptoms of Alzheimer's disease. Hence the overwhelming belief that memory unavoidably gets rusty at an older age. Fact: It is true we lose neurons with age. It is true that the risk of Alzheimer's increases with age. However, a well-trained memory is quite resilient and shows comparatively fewer functional signs of aging than the joints, the heart, the vascular system, etc. Moreover, training increases the scope of your knowledge, and paradoxically, your mental abilities may actually increase well into a very advanced age. Being forgetful about details such as names and facts happens to everyone, no matter his or her age. Poor memory can often be attributed to a lack of attention. Age is definitely not the cause of poor memory. It can happen to anyone at any age.





Distraction and poor attention can be the major reasons behind a bad memory. It can be immediately by practicing memory skills.



5. Myth #5 – Memory is Infinite

Anyone with a basic computational understanding of memory knows this claim is absurd. Memories are stored in a finite number of states of finite receptors in finite synapses in a finite volume of the human central nervous system. Even worse, storing information long-term is not easy. Most people will find it hard to go beyond 300,000 facts memorized in a lifetime.







Some people assume that our memory can store limitless amounts of information, and recalling important facts is the hard part. However, our memory does have a limited amount of space to store data. We're only human. Our brains may be likened to machines, but they are still made of organic matter with built-in neural pathways. Every day brings new memories that our minds must tuck away for later use. There are only so many facts and stats it can handle before it reaches full capacity.

6. Myth #6 - Stored Memories Stay the Same Over Time

Our memories are not set in stone. In fact, our memories are quite malleable, especially as time wears on. Even notable events that we think may be ingrained in our memory banks may change over the years. For this reason, it's essential to reinforce key concepts and ideas during and after the eLearning experience. It's true that some facts are gradually forgotten over time.

7. Myth #7 – Repetition is the Key to Unlock Long-Term Memory

It takes more than mere repetition to lock information into the memory banks. We cannot simply repeat information multiple times and hope to retain it for later use. The secret is assigning meaning to the ideas and concepts so that it expands our mental schema. This means creating a memory palace as explained in the previous sections of this course. This also allows us to form connections between new information and pre-existing knowledge. In terms of eLearning, it's best to contextualize the subject matter and encourage online learners to reflect on the topic. For example, provide real-world examples or eLearning simulations that allow them to put the information into practice.







8. Myth #8 - Remembering TOO Much can Clutter your mind

Your ability to remember things does not really depend on how much information is in your mind. Actually, it depends on how well organized the information is. Our brains can store an almost abundant amount of information. But if the information in your mind is disorganized, it will be harder to remember things.







In some ways, the more you learn about something, the easier it is to learn more about it. Someone who is an expert in a subject has an easier time learning new facts about it that someone unfamiliar with the subject.

Learning new things does not "fill up" the mind. So don't be shy or afraid of learning.

Conclusion

Now that you are aware of these myths about memory, do not get fooled yourself by online tutorials or trained professionals who try to misguide you.

Beware of false information and get a hold on your memory today.



Chapter 15

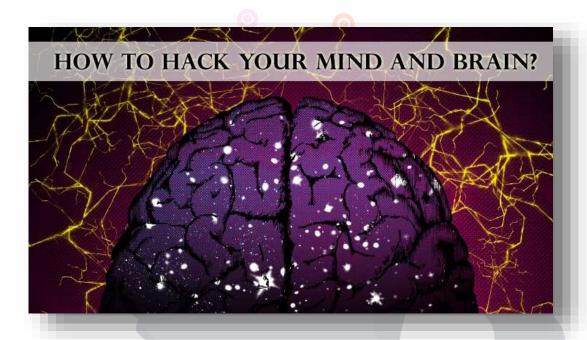


HACKING YOUR MIND AND BRAIN





Today, most of us have incredibly short attention spans (in fact, some have found that we have shorter attention spans than goldfish), and it's only getting worse. Our brains, while extremely powerful, are pulled in so many directions at once that we really limit our ability to do any one task very well. And while multitasking might sound nice on a job posting, people who juggle several streams of content do not pay attention, memorize, or manage tasks as well as those who can "monotask" by focusing on one thing at a time.



Brain hacking (or "neurohacking") is simply the alteration – usually improvement – of the normal functioning of our brain and central nervous system (CNS).

There are simple ways to out-smart your brain and inculcate a laser focus with all these distractions in your life or at work.

1. Set your Intentions

It is important to set an intention for your attention before you are caught in the moment of distraction. While you start your day in the morning, ask yourself what is most important to you. Check how your mood is, and what do you expect to do throughout the day.







Classify what matters to you the most and depending on that set an intention. If you think you made a mistake somewhere, instead of hammering the details and slipping into anxiety, choose to focus your attention on moving forward.

2. Eliminate Stress Through Laughter

Laughter is an incredibly powerful action. When we laugh, our stress hormones and blood pressure drop; blood flow and oxygenation to our cells and organs increases, and the levels of endorphins – the "pleasure" chemical – in the body and brain spikes. So, basically, laughter has a magical effect of restoring normalcy to chaos because of the multitude of positive changes that take place within our brain and body. In effect, this is a hack that alters our chemical state.

A psychology expert said: "Once the brain signals to the body to laugh, the body doesn't care why. It's going to release endorphins; it's going to relieve stress as a natural physiological response to the physical act of laughing."







However, there are times when the last thing we feel like doing is laughing, right? Well, do it anyway, because it releases stress and helps in decision making during your tough times.

3. Practise Anger Management

This might sound a bit odd, but yes this is true. Sometimes, anger outbursts can be compared to an emotional time bomb. Anger management is essential especially when you're into critical and crucial situations. Those are the times when you are the most frustrated, prone to irritation and anger. Meditation helps you to handle and solve such situations, thus arming you with the mental toolkit to keep calm and control your anger.







4. Make time for self-care

You would have read several times about the importance of self-care. There are various blog telling you why it is significant for your well-being and mental health. Maintaining a healthy relationship with ourselves is essential as it produces positive thoughts and boosts self-confidence. Making time for routines of 10-15 minutes for your personal care can trigger happiness and joy; thus, putting your mind and brain to work in its best form.

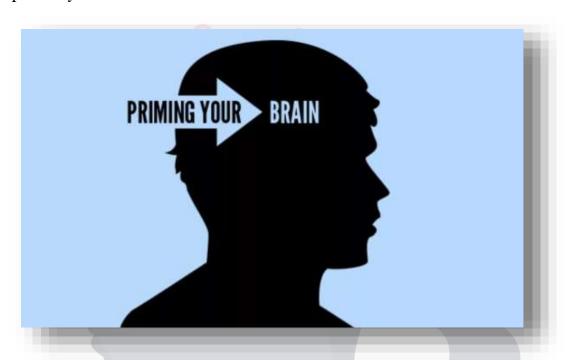






5. Adopt practices that prime your brain

Basic lifestyle hacks can help you prime your brain. These include – taking a sound sleep, exercising well, drinking plenty of water, having a balanced diet with foods containing plenty of Omega-3 fatty acids. Apart from these, practicing gratitude also plays an important role. Be thankful for what you have. The key is to create regular routine thus developing a healthy lifestyle to optimize your brain.



6. Save brain power in the morning for MITs

Prioritizing your tasks and activities are signs of being a good businessman, a successful person and a smart entrepreneur. And if you focus on saving your morning energy for the MIT (Most Important Tasks) of the day, it may be an add-on. Yes, rather than wasting your zeal on scrolling the social media or taking a peek at your inbox, save this energy for your top-most priority tasks.







As per a study, it has been found that checking out your social media before you get out of bed, depletes your mental energy and makes you lethargic right before you start your day. Thus, try to focus on the tasks that can give you the biggest momentum for the day.

7. Use pen and paper for improved memory

With the world going digital and internet taking it by the storm, pen and paper have gone the downside. There are mobile and web applications for almost everything on the earth, including management of the administrative tasks – from banking to setting goals, tracking them, etc. But an over-dependence on digital media can have a drastic impact on our memory. It may weaken our power to remember things and weaken the human memory.

Writing down information engages the memorization circuitry of our brain, whereas digitally inputting information has minimal **effect.** This is especially true for lists, or when trying to remember multiple pieces of information. Writing the things down has far more activity in the area of the brain responsible for memory.

So, use pen and paper to keep your brain active and in a good working state.







Conclusion

The human brain has this remarkable ability to reshape and adapt itself. It means that we can enhance our cognitive ability while fundamentally changing ourselves in the process. This inherent malleability of our brain is a tremendously exciting and potentially life-changing concept that can be applied in every area of our lives.

We can be happier, work more efficiently, improve our productivity, strengthen our spirituality and so forth. The possibilities are indeed endless; limited only by our own imagination. If we're willing to embrace this concept and put in the required effort, we can reap extraordinary benefits.





Conclusion

Memory is made, not born. Like any muscle, the more you exercise it, the better it gets. By employing the right techniques, you can take your memory to a level you never thought before. In our training, we have covered all the important tricks and tips to master your memory simultaneously understanding how your memory works and knowing the causes of its fading.

But, the first thing required to supercharge your memory is to cultivate a strong belief compatible with success. Have a strong belief in yourself and your abilities, your brain and mind before you start implementing these golden tips. Accept that you can learn it, remember it and later recall it when need be.

Lastly, an advice for you exclusively, that is not covered in the above training. So, you can take it down as a tip – There is a strong correlation between memory and comprehension. The better you understand something, the easier it is to remember. Certainly, you can memorize words from the foreign language you don't know the meaning, or memorize a string of symbols you cannot even pronounce, but this proves to be far less effective than learning something you can understand. So, understand what you learn, as it will effectively help you memorize information. Cramming doesn't help much in the long run.

We wish you good luck in your learning and memorizing experiences in the future.

Remember, Tim Fargo said:

"A Treasured Memory is the Lasting Gift of Time Well Spent."

So, do honor it!







Click Here to Grab Mind and Memory **Mastery HD Training Video**