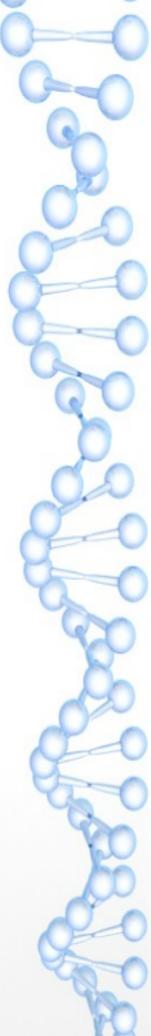


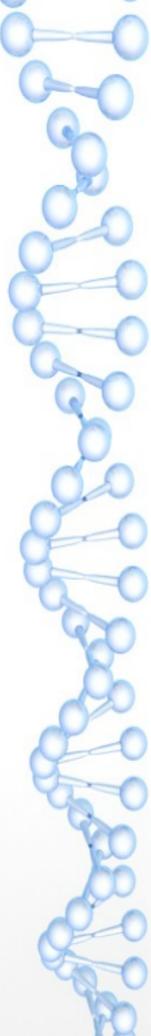
MEMORY

Dr.S.Sujithra, Principal, BGI



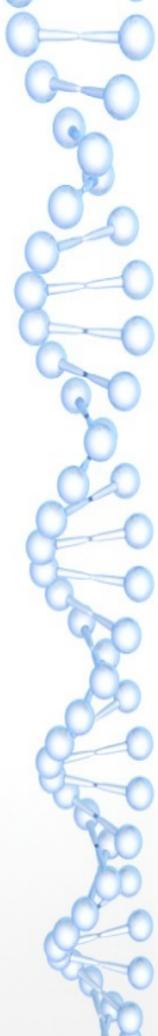
What is memory?

- Memory is regarded as the special ability of our mind to conserve the previously learned or acquired information and can be reproduced at a later stage of life.
- In psychology, memory is an organism's mental ability to store, retain and recall information. (Wikipedia)
- Memory is the retention of, and ability to recall, information, personal experiences, and procedures (skills and habits). (Skeptic' Dictionary)
- 'Memory' is a label for a diverse set of cognitive capacities by which humans and perhaps other animals retain information and reconstruct past experiences, usually for present purposes. (Stanford Encyclopedia)

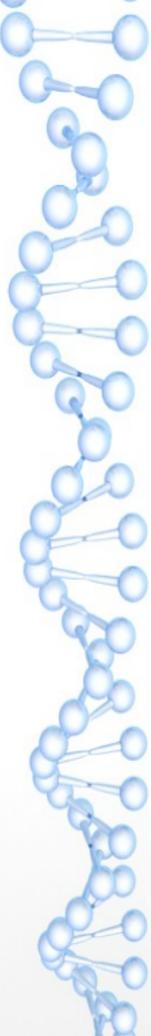


Brain Areas Included in Memory

- Brain Areas Included in Memory
- The hippocampus, a primitive structure deep in the brain, plays the single largest role in processing information as memory.
- The amygdala, an almond-shaped structure near the hippocampus, processes emotion and helps imprint

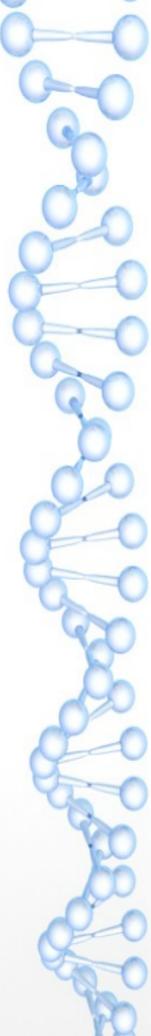


- The cerebral cortex, the outer layer of the brain, stores, the outer layer of the brain, stores most long-term memory in different zones, depending on most long-term memory in different zones, depending on what kind of processing the information involves: what kind of processing the information involves: language, sensory input, problem-solving, and so forth.
- In addition, memory involves communication among the brain's network of network of neurons , millions of cells activated by brain chemicals called neurotransmitters. 4



The Process of Memorization

- Our mind possesses a special ability by virtue of which every experiences learnt leaves behind memory images/traces which are conserved in the forms of engrams.
- Engrams are theorized to be means by which memories are stored as biophysical or biochemical changes in the brain (and other neural tissue) in response to external stimuli. Similar to storage in pen-drive or memory card.
- It is widely distributed in the brain not specific to any area.
- Learning is necessary for memory.



The process of memorization

- 1. Encoding:

It refers to a process to translate the sensory information into such a coded form that can be easily stored and reproduced as and when the need arises.

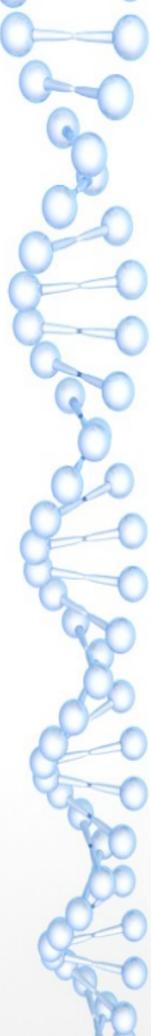
Every bit of information is transformed to engrams and codes for the storage. One can memorize anything using any methods.

- 2. Storage:

It is the power of retention. These are the engrams or encoded message.

- 3. Retrieval:

- It is the reproduction of the encoded message as and when required using the process of remembering.



Remembering and Memory

- Memory:

as described earlier it denotes the giant filing cabinet in the brain, with the data stored, classified and cross-filed for future reference.

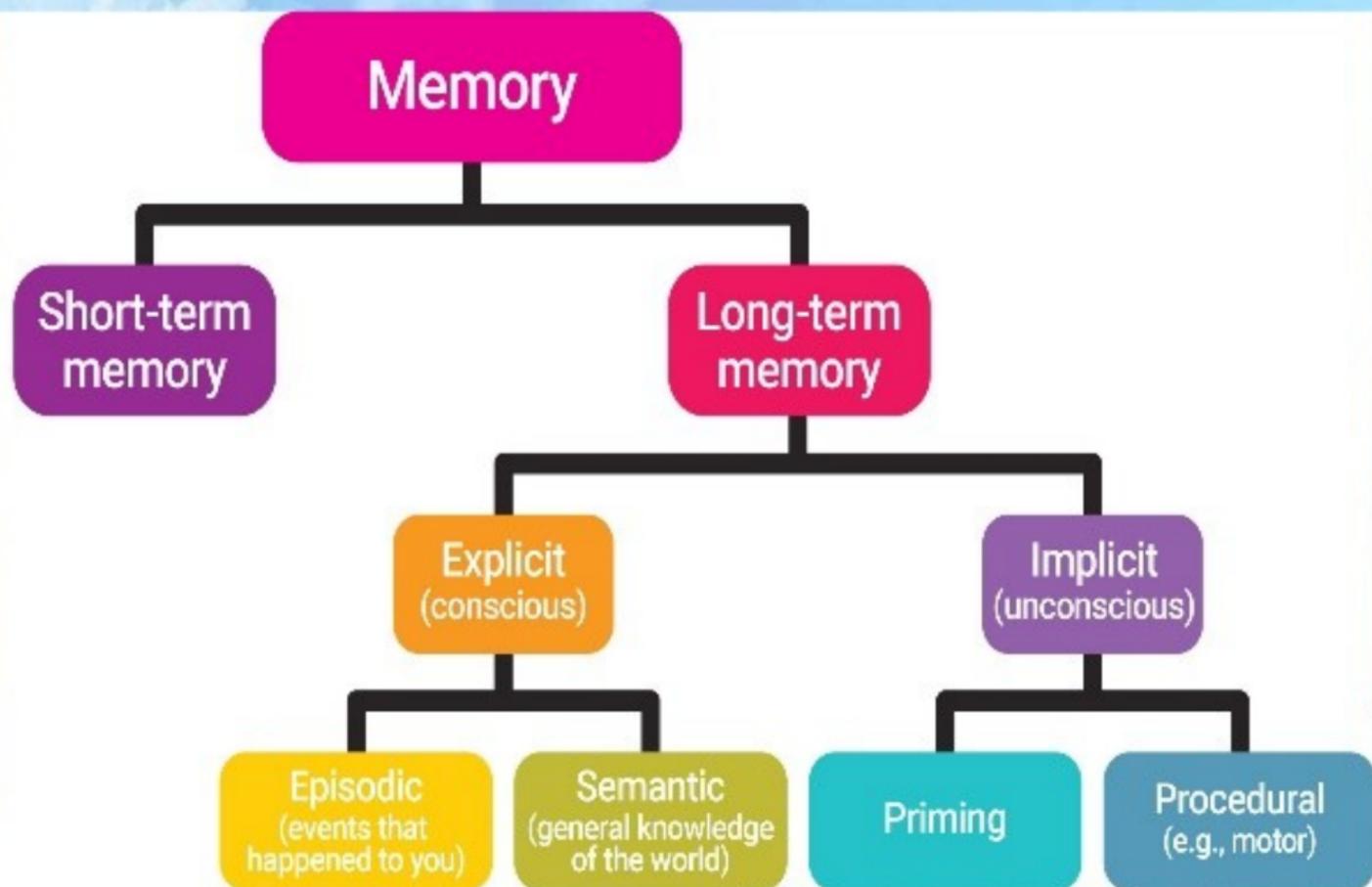
it is a noun denotes the ability of the mind in this process.

- Remembering:

It is a verb that processes out the directives of the memory.

Most of the occasions they are used synonymous.

Types of Memory



Short term Memory

- ◆ Short-term memory: It is a type of memory which is temporary and short lived.
- ◆ It is also called as recent memory/working memory.
- ◆ The retention time is longer than immediate memory. It may be long as 30 second or more.
- ◆ Short-term memory acts as a kind of “scratch-pad” for temporary recall of the information which is being processed at any point in time.
- ◆ It holds a small amount of information (typically around 7 items or even less) in mind in an active, readily-available state for a short period of time
- ◆ For example, in order to understand this sentence, the beginning of the sentence needs to be held in mind while the rest is read, a task which is carried out by the short-term memory.

Immediate Memory

- ◆ It is also a type of short term memory.
- ◆ It is otherwise called as sensory memory.
- ◆ is the ability to retain impressions of sensory information after the original stimulus has ceased.
- ◆ It refers to items detected by the sensory receptors which are retained temporarily in the sensory registers.
- ◆ In this the retention time is very brief may from 1 to 5 seconds.
- ◆ Old sensory impressions may get erased by new information.
- ◆ We enter a cinema hall, see the seat number given in the ticket, after sitting we forget it.
- ◆ We look at the telephone directory for a phone number, we remember it, make the call and then forget it.

Long term Memory

- ◆ As the name suggests it has quite a durable or endless retention of the sensory impressions.
- ◆ It is also called as permanent memory. It is also referred as remote memory.
- ◆ In this, the span of attention is far better than the other type of memory.
- ◆ Identifying data like our name, parentage, date of birth, date of marriage, etc.
- ◆ This memory is properly coded, retrieved systematically, purposeful and meaningful and correlational with events and information.
- ◆ It can be further classified as Explicit (conscious) and Implicit (unconscious).

Explicit Memory

- ◆ Explicit memory (or declarative memory) is one of the two main types of long-term human memory.
- ◆ It is the conscious, intentional recollection of factual information, previous experiences and concepts.
- ◆ Explicit memory can be divided into two categories: *episodic memory*, which stores specific personal experiences, and *semantic memory*, which stores factual information.

- ◆ ***Episodic memory:*** It is connected with episodes and events which may consist of personal events and experiences associated with one's life.
- ◆ Eg. Describe an accident; The observation of an event helps in narrating the details in detail almost throughout his life whenever required. It is deeply rooted in the brain of the person.
- ◆ ***Semantic memory:*** helps to recollect the relationship between events or association of ideas.
- ◆ Eg. Bike & Helmet, Drinking & Driving, a Formula application in Computation, remembering the names of Capitals of different States and Countries.
- ◆ It is coupled with general knowledge and its interpretation and generalization.

- ◆ **Procedural memory** is the long-term memory of skills and procedures, or procedural knowledge.
- ◆ It is considered a form of implicit memory.
- ◆ It is helpful in learning skills and skills remain permanent always with the person until diseased.
- ◆ **Priming** is a non-conscious form of human memory concerned with perceptual identification of words and objects.
- ◆ It refers to activating particular representations or associations in memory just before carrying out an action or task.
- ◆ Try to remember the following word in sequence: College, Students, girlfriend, birthday, party, Piza hut, Secretariat, father, escaped, enquiry, sorry.

Factors Influencing Memory

There are two factors that influence the memory.

- ◆ Nature of the Material to be memorized: it includes;
 1. Meaningfulness of the material to be memorized: The useful, meaningful, and something that suits needs, motives and purpose can be learnt and memorized easily. Eg. The words can be learned faster RAT, CAP, TENT etc. but the word such as NAL, SOK, PAB, KAZ cannot be learnt as it does not have any meaning.
 2. Amount of the material to be memorized: The size, quantity, time limit also influence the process of memorization.
- ◆ Methods and techniques of memorizing. The methods and techniques makes one succeed in memorizing.

Methods of Memorizing

- 1. Recitation Method:** The learner reads a content once or twice , then tries to recites and recall. It helps in self appraisal and self evaluation and the learner can write down the points that he is unable to recall.
- 2. Whole and Part Method:** memorizing from beginning to end at stretch or part by part. Like memorizing a Poem. It has merits and demerits. The learner can use a combined method by starting the poem with whole and difficult areas can be learned as part.
- 3. Spaced and Unspaced method:** It follows the principle of work and rest. After memorizing something for a period of time, some rest is provided, and continues the memorization again.

Healthy habits to improve memory

Regular exercise

1. Reduces the risk for disorders that lead to memory loss, such as diabetes and cardiovascular disease.
2. Increases oxygen to your brain.
May enhance the effects of helpful brain chemicals and protect brain cells.

Managing stress

1. Cortisol, the stress hormone, can damage the hippocampus if the stress is unrelieved.
2. Stress makes it difficult to concentrate.

Good sleep habits

1. Sleep is necessary for memory consolidation.
2. Sleep disorders like insomnia and sleep apnea leave you tired and unable to concentrate during the day.

Not smoking

1. Smoking heightens the risk of vascular disorders that can cause stroke and constrict arteries that deliver oxygen to the brain.

- ◆ **Forgetting is the loss, permanent or temporary, of the ability to recall or recognize something learnt earlier.**

- **Munn**

- ◆ **Forgetting is the failure of the individual to revive in consciousness an idea or group of ideas without the help of the original stimulus.**

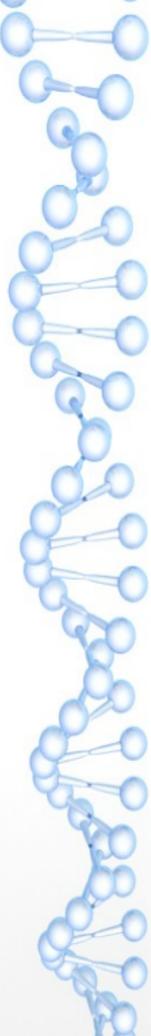
- **Bhatia**

Types of Forgetting

- ◆ **Natural Forgetting:** Forgetting occurs with lapse of time in quite normal way without any intention.
- ◆ **Morbid Forgetting:** Deliberate try to forget something. This may be the result of repression.
- ◆ **General Forgetting:** Total loss of recalling some previous learning.
- ◆ **Specific Forgetting:** forgets only one or the other specific part of his earlier learning.
- ◆ **Amnesia:** This type of forgetfulness may be either Physical (age, diseases, accidents, intoxication etc.) or Psychological(stress, anxiety, apathy, conflicts etc.).

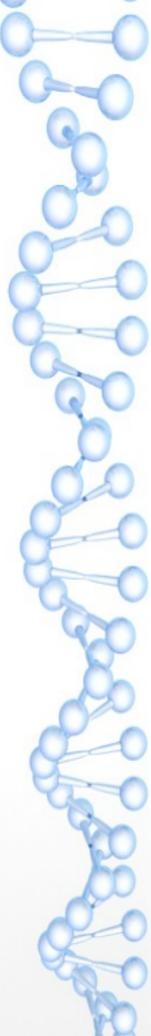
Theories of Forgetting

- ◆ **The memory Traces Decay Theory:**
- ◆ **The interference Theory.**
- ◆ **The repression or motivated forgetting theory.**
- ◆ **The displacement theory**
- ◆ **The theory of storage failure.**



Implications for Nurses

- A nurse should always remember that a thing well learnt are remembered well.
- Forgetfulness is not bad all times.
- Should understand there is no magic cure, pills or any other for medications to improve the memory as some advertisements claims.
- Memory can be improved only by hard work and attempts.
- Understand that forgetfulness is natural phenomena and treat the patients accordingly, especially old age.



ASSIGNMENT

- TIPS TO IMPROVE MEMORY