

## Introduction

Memory is the mental activity of recalling information that you have learned or experienced. It is realised through a complex process that involves the use of several parts of the brain; and it serves us in multiple ways. Students need to understand the different types of memory, and how they function. Such understanding would help them learn the importance of the different types of memory, how to strengthen their own memory – especially, the long-term memory; and the techniques for the transfer of information from short-term to long-term memory.

## Short-term and Long-term Memory

**Short-term memory** helps students process and recall new information so that they can tackle the task at hand. This is also called 'working memory', because it is fleeting and holds a limited number of items. Information from short-term memory can be transferred into **long-term memory**, given the right conditions for processing. This is dependent on a number of factors: **(1)** being interested in what is being learnt; **(2)** seeing value in the material; **(3)** committing attention to the information; **(4)** making connections between new materials and what may be already known; and **(5)** practicing what has been learnt (Doyle & Zakrajsek). The table below differentiates between sensory, short-term and long-term memory.

In addition, it explains the different types of information processed by long-term memory.

Sensory register	Short-term or working memory	Long-term memory	Types of long term memory
This is a memory that is formed when information is first picked up through any of our five senses	stores information for a limited duration before either decaying or transferring it to long-term memory	storing, managing, and retrieving information whenever required	<b>Explicit memory:</b> stores conscious thoughts <b>Implicit memory:</b> stores what one remembers by rote <b>Autobiographical memory:</b> stores our life experiences

## Strategies for strengthening long-term memory

Linda Wong suggests the following techniques to enhance long-term memory with the mnemonic **SAVE CRIB PHOTO (FOTO – As per pronunciation)**

PRINCIPLE	DEFINITION	TIPS
1. <b>S</b> electivity	Sorting out the main ideas from the insignificant details. If you try to remember everything, you will overload your working memory.	<ul style="list-style-type: none"> <li>• Notice topics or themes that are repeated</li> <li>• Select information that stands out</li> </ul>
2. <b>A</b> ssociation	Making connections between pieces of information. The more ways you connect info, the more ways you can attempt to retrieve it.	<ul style="list-style-type: none"> <li>• Link information to known experience</li> </ul>
3. <b>V</b> isualization	Making mental images or "movies" in your mind.	<ul style="list-style-type: none"> <li>• Make visual images of terms and definitions in your head</li> </ul>
4. <b>E</b> laboration	Working with info in new ways to make it more meaningful.	<ul style="list-style-type: none"> <li>• Ask questions, draw, make up stories, mind-maps, etc.</li> </ul>
5. <b>C</b> oncentration	Focus your undivided attention on studying. Unnecessary stimuli, such as TV, makes it more difficult for your brain to process info.	<ul style="list-style-type: none"> <li>• Use active learning techniques to keep yourself engaged e.g. writing, drawing</li> </ul>
6. <b>R</b> ecitation	Explain information, saying it out-loud in your own words, in complete sentences.	<ul style="list-style-type: none"> <li>• Practice reciting at regular intervals in fun ways e.g. songs</li> </ul>
7. <b>I</b> ntention	Set the stage for learning by approaching your study time prepared, and in a positive mental state. Set goals for your study time.	<ul style="list-style-type: none"> <li>• List your priorities and goals</li> <li>• Understand your motivations</li> </ul>
8. <b>B</b> ig and Little Picture	Understanding main ideas and supporting details.	<p>In your notes, use main ideas as headings, and list supporting details below them</p> <ul style="list-style-type: none"> <li>• Use visual mapping to show main ideas and details</li> </ul>
9. <b>F</b> eedback	Testing your knowledge of the material.	<ul style="list-style-type: none"> <li>• Recite info without using your notes</li> <li>• Use flash cards</li> </ul>
10. <b>O</b> rganisation	Well-organised info is easier to remember	<ul style="list-style-type: none"> <li>• Make info into lists</li> <li>• Make tables or charts</li> <li>• Use time-lines or other visual organisers</li> </ul>
11. <b>T</b> ime on Task	Spend sufficient time learning the material - Review material consistently	<ul style="list-style-type: none"> <li>• Use spaced practice. Review your old notes before reading the next chapter.</li> <li>• Study in blocks</li> <li>• Focus on one subject at a time</li> </ul>
12. <b>O</b> ngoing Review	<b>Practice previously learned material</b>	<ul style="list-style-type: none"> <li>• Continuously review the information you have learned to create stronger connections in your memory</li> </ul>

## Additional Resources

Joshua Foer: Feats of Memory anyone can do

[https://www.ted.com/talks/joshua\\_foer\\_feats\\_of\\_memory\\_anyone\\_can\\_do?language=en](https://www.ted.com/talks/joshua_foer_feats_of_memory_anyone_can_do?language=en)

## Summary

Memory is an essential part of information retrieval mechanism in assessments. It could be realised as sensory memory, short-term memory and long-term memory. The ability to process and store information in long-term memory is desirable, as the durability of processed and stored information can enhance sustainable academic success. Techniques that can facilitate the transfer of information from short-term to long-term memory can be learned; and with sufficient practice, they can become key to ensuring better success in the processing and application of information.

## References

Brown, P., Roediger, H., and McDaniel, M. (2014). Make it stick. Massachusetts: The Belknap Press of Harvard University Press.

Doyle, Terry & Zakrajsek, Todd. (2013). The New Science of Learning How to Learn in Harmony with Your Brain.

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Wong, L., Essential Study skills (2009) New York: Houghton Mifflin Company