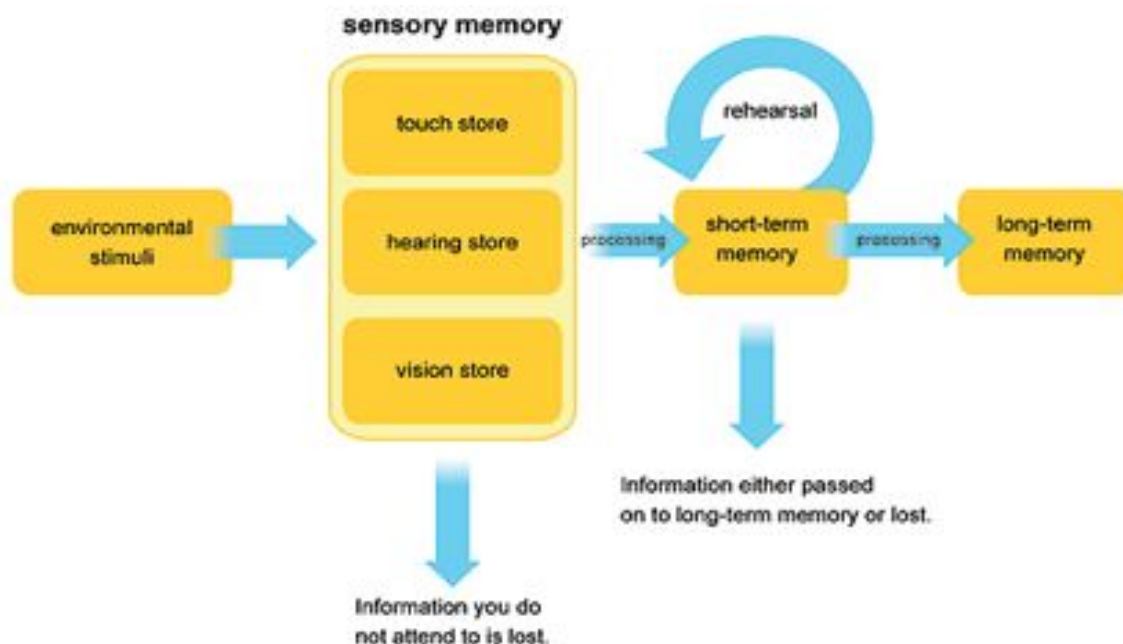


Dyslexia and Working Memory.

Students with learning difficulties, including dyslexia and ADHD often have difficulties with working memory. The International Dyslexia Association (IDA) estimates that it ranges from between 20-50% of students who have a deficit in this area (Working Memory: The engine for Learning, International Dyslexia Association 2019).

What is working memory

Working memory is the cognitive storage to hold information for a short period of time to then manipulate and process this information. The average adult has a capacity to hold 6-7 pieces of information in their working memory. For a student with dyslexia this is often reduced. The duration they can hold the information for may also be reduced having a huge impact on many areas of their learning. Demanding tasks require a greater use of working memory and distractions can also hinder the ability to retain information.



We need working memory for tasks such as:

- Following instructions
- Reading comprehension tasks
- Maths tasks

This allows information to be converted to long term memory.

We use working memory all the time in everyday life. Some examples are:

- Mental arithmetic such as working out the cost of 3 items and how much change you would receive.
- Remembering a phone number while trying to find a pen and paper.

How can we help

- Reduce and simplify instructions or incorporate visuals
- Provide memory hooks such as mnemonics for spelling irregular words e.g. 'was'- Wally Ate Sausages or known spelling rules. E.g. 'Sail Away' for 'ai' and 'ay' spelling words.
- Overlearning and repetition.
- Chunking helps to reduce the load on working memory, this is organising information into smaller meaningful units. E.g splitting a phone number up into 3-4 numbers.
- Providing worked examples.

While we do not have a way to increase working memory, there are many ways parents and teachers can help to support students with Dyslexia in this area.

Warning!

Beware of programs that claim to 'train' or 'improve' working memory as there is no quick fix!

https://cdn.spelfabet.com.au/wp-content/uploads/2018/12/MUSEC-Briefing_37_Cogmed-Briefing.pdf

Further reading and resources to support

A classroom guide to Understanding working Memory

<https://www.mrc-cbu.cam.ac.uk/wp-content/uploads/2013/01/WM-classroom-guide.pdf>

Working Memory- What It Is and How It Works.

<https://www.understood.org/en/learning-attention-issues/child-learning-disabilities/executive-functioning-issues/working-memory-what-it-is-and-how-it-works>

Bill Hansberry on working memory.

<https://www.youtube.com/watch?v=YSz-okYyzxQ>

Working Memory The Engine for Learning - IDA 2019

<https://dyslexiaida.org/working-memory-the-engine-for-learning/>

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