# Understanding Working Memory and Learning Disabilities (LDs)

By Jeffrey MacCormack and Ian Matheson

Working memory is managed by a central executive that collects information from various sources, determines which tasks require the most attention, and allocates resources as required. It is essential for doing school work. The central executive uses the following three working memory slave systems:
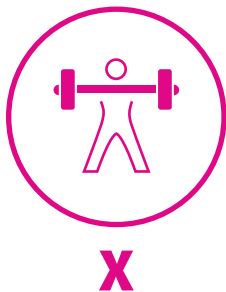
The **phonological loop** repeats auditory information.

The **visuo-spatial sketchpad** stores temporary information in visual and spatial form.

The **episodic buffer** stores both visuo-spacial and phonological information in the form of "episodes."

Students with LDs often have working memory deficits. For these students, losing information that was stored in their working memory can be **a huge obstacle to learning**. There are two things educators should know about supporting students who experience working memory delays.

Training in working memory to increase its capacity has been shown to have little effect since working memory is a constant trait that cannot be changed.

It is possible to reduce the load on working memory by eliminating some of the effort of memorization.

To find out more about this infographic, read the LD@school.ca article entitled:
*Understanding Working Memory and Learning Disabilities*, by Jeffrey MacCormack and Ian Matheson.