Alberta Health Services

January 2018

School Speech Language Services

Working Memory

Our November/December newsletter covered executive functioning. This month, we are putting the spotlight on one of the skills of executive functioning : working memory.

What is working memory?

Working memory is like a mental sticky note that keeps track of short term information. Two kinds of working memory work together: auditory memory and visual spatial memory.
A brain might put events into sequence or sort objects into categories. In math, working memory can allow kids to 'see' the numbers the teacher is saying as symbols in their head.
Working memory is not just for short term use. It helps the brain organize new information for long term storage.

Weak working memory skills affect learning in many ways and impact the ability to learn in every subject. Students with weak working memory have a hard time remembering directions, taking notes or understanding something that was just explained to them. Math word problems, decoding and reading comprehension are all more difficult for these students.

Sometimes the information a student has remembered doesn't make sense. Working memory problems can mean their brain doesn't package information properly in the first place. If a student learns information in a disjointed way, they have trouble using that information later.

Most students with learning and attention issues have trouble with this important function.

Practically, asking a student to hang up their coats and put away their boots OR asking that same student to go back to their desk, put away their math workbook and take out their spelling workbook may result in no or only one part of the instruction being followed.

In summary:

- Working memory helps students hold on to information long enough to use it and organize it for long term storage
- Working memory plays an important role in concentration and following instructions
- Weak working memory skills can affect learning in many different subject areas including reading and math

Strengthening memory while having fun!

Games, games, games!

Games are a great way to develop thinking and memory skills in a fun way.

Students 5-7 years:

Choose card games that require your child to remember– *Concentration, Go Fish, Old Maid.*

Choose games that allow your child to match playing cards by suit or number– this helps your child understand that there is more than one way to do things. Games like *Crazy 8's, Uno, Spoons, Blink and SET*

Choose board games that involve strategy– this allows your child opportunities to make and hold a plan for a few moves ahead, consider rules and adjust what you do based on your partners' moves. Games like *Sorry, Battleship, Parcheesi, Checkers*

Action games like *Simon Says, Red light/green light, What time is it Mr. Wolf* require attention and quick responses and help children practice attention and inhibition.

Students 7-12 years:

Choose card games where your child has to track playing cards, exercise working memory and flexibility to plan and strategize. Games like *Hearts, Spades, Bridge* and *Rummy.*

Choose card games like *Spit*, that require monitoring and fast responses. This challenges attention and quick decision making.

Choose complex games that require your child to hold information in working memory about places, rules, and how materials can be used. Games like *Settlers of Catan, Minecraft,*

Video Games in Moderation

Video games can help 'exercise' working memory by allowing kids to practice memory skills while having fun.

Many games require that the player learn and repeatedly recall information in order to succeed and advance to higher levels.