

Miers Court Primary School are committed to creating an inclusive, safe and stimulating environment where we can all learn together.

### Welcome to Issue 3 of the SEND Newsletter

The focus of our third newsletter is working memory.

#### What is working memory?

Working memory is the capacity to hold material in mind and manipulate it for a brief period. In other words, to briefly remember something and work on it at the same time. It has been compared to a workspace with multiple post-it notes. The post-it notes are not intended to be there forever; they must be used or transferred somewhere more reliable quickly, or they are forever lost. Each individual's working memory capacity is different. It's often reduced where there's dyslexia, developmental coordination disorder (dyspraxia), ADHD, autistic spectrum disorder, developmental language disorder and mental health conditions.

Working memory is associated with cognitive load theory, a term coined in 1988 by John Sweller, who suggested that instructional methods should avoid overloading working memory in order to maximise learning. To return to the post-it analogy, it's important for the information on the post-it notes to be moved quickly to a place where it can be stored (and remembered) - otherwise it's gone for good.

Think of working memory as like an upturned bottle, where information flows downwards, and ultimately out of the bottle, to be stored in the long-term memory.

There is only limited space in the working memory and if too much information is held there, it causes a bottleneck.

If nothing is done to relieve the load, ultimately the bottle will break, and all the information is lost.

Very often both teachers and parents expect children and young people's working memory capacity to be considerably bigger than it actually is, and it's alarmingly common for us to unwittingly place unnecessary demands on their working memory. Just being aware of this can make all the difference.

#### How do I spot working memory difficulties?

Working memory difficulties are not as easily spotted as literacy or maths difficulties (though often they are linked). Sometimes a child who has working memory difficulties is thought to be lazy, distracted, or a daydreamer. Sometimes children mask so well that teachers don't notice.

**Here are some tell-tale signs that a child may be experiencing working memory difficulties:**

- Low output, slow pace of work.
- Poor behaviour.
- Always tired.
- Seems disorganised, especially with learning.

- Perceived to "Never listen" especially to instructions
- Easily confused or overwhelmed
- Homework often late
- Hand goes up - but forgets
- Struggles to work with multiple sources for one piece of learning
- Struggles to take notes
- May appear to resist change of routines
- May struggle to acquire study and revision skills

### **Working memory can be supported with some simple adaptations**

The best support is by being aware of the load we give children. We often expect their memory capacity to be considerably bigger than it is in reality.

### **Here are some ideas for adaptations you can make in school and at home:**

- Always make explicit links to previous learning - and train learners to do this
- Keep instructions clear and concise, give them in chunks or steps, and repeat where needed. Visual or audio is great backup!
- Offer visual and kinaesthetic (active) support for verbal material - pictures, actions, songs, etc
- Ensure your own spoken language is clear, concise, to the point, and accessible. Try not to waffle!
- Take time to organise how you present oral information so that it is structured
- Allow adequate time to process information
- Avoid asking children to do a task and listen at the same time
- Give all random information meaning and context, eg names, numbers, facts. This can be done in many different ways - telling it as a story, giving it characters, drawing it as a picture, making up mnemonics.
- Use response partners and speaking frames
- Encourage and support brain breaks/movement breaks
- Be aware of fatigue; tired brains need recovery time (especially for activities and homework after school)!
- Establish routines

When it comes to working memory difficulties, there is no quick fix - but there is a lot we can all do to relieve the load!

### Games you can play with your child at home

Matching pairs card games - the old classic of turning two cards over and see if they match!



Simon electronic game - remember a sequence of flashing lights.



#### What's missing?

You can play this with anything you have in the house. Set out some items on a tray and ask your child to take a good look. Then when they close their eyes, take one item away and see if they can tell you what is missing.



Crossword puzzles are another classic game, as working on a puzzle, you must retrieve and hold in memory the clues provided for each word. You also need to keep track of the placement of letters in the grid, while also considering the intersecting words.

Complete the shape - show a drawing of a shape for 10 seconds and then give an incomplete shape to complete from memory.

I went to the shops game - mix it up by using different scenarios, eg I went into space and I saw...I went to the restaurant and I saw...etc.

Simon Says - build the instructions up gradually. Start with a two-step instruction and see how far you can get.

Opposite/synonyms game - The man got off the bus and ran down the long road becomes the lady got off the train and walked along the short street.

Meditation and mindfulness may also improve attention control, a vital aspect of working memory.

Listening to classical or instrumental music can positively impact on concentration.

### Top websites for support on working memory

<https://potentialplusuk.org/index.php/2020/08/27/working-memory-a-brief-guide/#:~:text=Repetition%20%E2%80%93%20be%20prepared%20to%20repeat,Provide%20routine%20and%20structure.>

<https://www.twinkl.co.uk/resource/supporting-a-child-with-working-memory-difficulties-a-guide-for-parents-t-s-1664957796>

<https://www.dyslexiauk.co.uk/working-memory/>

<https://www.coventry.gov.uk/downloads/file/39261/supporting-children-with-memory-difficulties-at-home>