Educational Psychology Overview Guide

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Putting children first

Working Memory

What is Working Memory? Working memory is an executive function of the human brain, it helps us to temporarily hold relevant information in mind whilst we complete a daily task. Unlike long-term memories, which remain in our brains even when we are not consciously thinking of them; Working memory is a mental post-it note, which holds short-term information (like instructions, directions and 'how-to' knowledge) temporarily for us whilst we apply that information to our actions.

Everyone struggles with working memory occasionally when stressed, tired, unwell or overwhelmed. Our mental post-it notes can often leave us forgetting an item on a shopping list or misplacing an important item, because we all have a limited capacity to remember short-term information. However, for children with ADHD or learning disorders, working memory challenges have a much more substantial impact.

Working Memory and Learning: Children with working memory challenges may struggle to learn, socialise and engage with the world around them when their mental post-it note (working memory) becomes full. Those with working memory difficulties often find that they have to work extra hard and use up a large amount of their working memory space to complete tasks (which their peers may be doing automatically). Since working memory capacity is limited for all of us, a child who has already used up 80% of their working memory capacity during a challenging lesson will find they do not have enough left over for the rest of the day, and will struggle to remember the information they need to complete subsequent everyday tasks.

High- demand Working Memory Tasks *(tasks for teaching staff to be aware of, which demand a lot of working memory capacity from a child with learning challenges).*

- Listening and processing verbal input, stories, lesson content or task instructions- Particularly high-demand when the child struggles with auditory processing as part of a learning disorder or sensory need. This may demand a high percentage of a child's working memory.
- Internal prompts to stay on task- This will require particularly high-demand when a child has ADHD or other forms of attention difficulties. This may demand a high percentage of a child's working memory.
- Organising learning materials- This requires sequential understanding of a task and memorisation of the instructions given. This may demand a high percentage of a child's working memory.

Supporting Memory in the Classroom:

- Motivate students by projecting a high level of enthusiasm- Teacher enthusiasm and pupil memorization is linked.
- Use visual aids alongside verbal instructions/ input- Task plans, key word lists, diagrams and mind-maps help to provide prompts and chunking of information which is to be held in working memory.
- 'Event memory' activities (role play, teach a peer, trips or visits)- Practicing by doing increases information retention.
- Use activities to summarise information and consolidate learning- Debates, problem-solving and matching games can increase information retention.

Further reading: Toolkit by 'Child Mind Institute': Helping children with working memory challenges. https://childmind.org/article/how-to-help-kids-with-working-memory-issues/