

Tip Sheet

Strategies to Support Poor Auditory, Visual and Working Memory

Teachers and parents often report that children have poor memories and struggle to retain new information. In most instances, this is not because the child has difficulties with long-term (long-lasting) memory, but instead it is because their short-term memory is not very efficient.

Auditory Memory

Students with short-term auditory memory difficulties have limited recall of verbally presented information (e.g. a sequence of digits or syllables) that they have heard moments before. Therefore, they have difficulty transferring this information into long-term memory. In order to assist these students, techniques and strategies can be taught that will reduce the impact of poor memory and create additional support. Some of these strategies are more useful for specific age groups.

- Practise repeating a short sequence of directions heard immediately. Keep repeating until the directions have been followed.
- When giving instructions, obtain the student's attention first by calling his/her name and making eye contact.
- Keep instructions brief or break them down. Reinforce instructions with written cues, instructions, or checklists on the board.
- Give a prompt or cue that the student will be required to remember information that follows. Use cue words (e.g. "listen", "look") or nonverbal cues (e.g. eye contact, tap on shoulder) to alert them to pay attention.
- When giving a child a task to perform, ask them to repeat it back to you before they start or ask a neighbouring child to repeat the instruction (this way the child hears the instruction twice).
- Respond positively, and with understanding, when the student asks for repetition or clarification.
- When trying to remember something that has been learnt, e.g. a "tricky" word, use other sensory channels in addition to auditory. Trace the word in the air with arms, draw it on paper, use 3D letters, sing, visualise with eyes closed etc.
- Try closing eyes when hearing auditory information to shut out interfering input.
- Practise "chunking" information into two or three units. For example, when trying to remember a telephone number, break it down into small units and make up a memory jogger to help with each chunk.
- Use mnemonics for difficult to recall pieces of information or spelling words. For example, "**B**eats **E**at **A**pples **U**nder **T**rees **I**n **F**orests **U**nder **L**eaves" helps you to remember how to spell "beautiful" and the saying "**M**y **V**ery **E**xcellent **M**other **J**ust **S**erved **U**s **N**ine **P**izzas" assists in recalling the names and order of the planets from the sun: **M**ercury, **V**enus, **E**arth, **M**ars, **J**upiter, **S**aturn, **U**ranus, **N**eptune, **P**luto. Mnemonics that are meaningful to the child are more effective.

Visual Memory

Visual memory problems are often detected when a child has difficulty remembering a sequence of letters in a word or words in a sentence he/she has seen. Learning "sight" words can be a real challenge.

Beware of using flash cards to develop visual memory for words. If they are used, flash cards should only be a small part of a literacy program which should focus mainly on developing phonic knowledge (awareness of the association between speech sounds and letter patterns).

- Play card games like memory, where the position is important. A version of this game can be played with words where one set of cards have word beginnings (onsets) and the other have word endings (rimes). This game helps with remembering word "chunks".

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Strategies to Support Poor Auditory, Visual and Working Memory (continued)

- Lay out pictures or the letters of the alphabet and allow the child to look at them for a while. Then while they close their eyes, make some changes or remove some objects and ask them to tell you what has changed. Start with obvious alterations.
- Cut out cartoon strips and cut them into individual scenes. Jumble them up and ask the child to put them in order and tell the story.
- Play “Spot the difference” or “What’s missing” with familiar pictures.

Working Memory

Working memory differs from auditory and visual memory, as it involves manipulating or thinking about the information held in short-term memory. For example: remembering a phone number uses short-term memory, taking that phone number and putting the numbers in order from smallest to largest involves working memory. Students with working memory difficulties may struggle when they are asked to do many classroom based activities including mental arithmetic, sequencing or following multi-step instructions and completing many literacy tasks. When giving multi-step instructions, it may be necessary to prompt students through each stage of a process to provide them with a structured framework. Additional strategies include:

- Keeping activities brief or structuring longer tasks into short blocks, providing a clear beginning and end, and suggesting times and expectations for completion.
- Showing the student, as well as telling them, when giving instructions and teaching new processes and concepts (e.g., demonstrate as you talk, use diagrams, illustrations, mind maps and flow charts).
- Reducing the overall amount of information to be stored (e.g., shortening sentences to be written or number of items to be remembered).
- Developing and sticking to a daily routine.
- Scheduling important and demanding activities early in the day or after an extended break.
- Encouraging the student to seek assistance when unsure of the steps to take.
- Providing a structure / framework for information. Help students see how new material is related to things that they already know or use relevant examples from things that interest students to help with remembering new information.
- Minimising potential distractions – sit the student at the front of the class and away from windows and doors. Keep his/her desk free of unnecessary material. The material students need to learn should be the most interesting thing in view.
- Provide a count on the number of steps / things or details that students are required to remember. For example “There are 6 new words to learn, 3 are verbs related to cooking, 3 are adjectives describing taste”.
- Provide direct prompts/signals to get back to the task and positively reinforce on-task behaviour.
- Making available and encouraging the use of external devices that act as memory aids for the child. These may include ‘useful spellings’ on white boards and cards, providing number lines and printed notes to store information that needs to be remembered.
- Reinforcing instructions with written cues, instructions, checklists or pictures.
- Using cue words (e.g. “listen”, “look”) or non-verbal cues (e.g. eye contact, tap on shoulder) to alert the student to pay attention.

It is important to keep in mind that working memory capacity can be negatively affected by factors such as poor sleep, anxiety, and stress.