

Glossary

Working memory

Working memory is the ability we have to hold in mind and mentally manipulate information over short periods of time (Gathercole and Alloway, 2007).

Most children with language and literacy difficulties have a poor working memory which helps to explain their poor attention to tasks that involve processing and acting on spoken instructions and mental problem-solving. Even after considerable improvement in language and reading ability, significant deficits in working memory often remain and may be overlooked, particularly at secondary school. When pupils become overloaded, forget crucial information, lose their place or abandon a task completely, this may be put down to poor attention or attitude, rather than a genuine difficulty which requires support.

There is no easy way to improve working memory. But if the children and those around them understand and work round the problem, much can be done to minimise the impact of a poor memory on day to day life.

Following Instructions

- Rather than talking more slowly, pause more. Chunk information together and pause between each chunk.
- Give instructions more than once, and ask for them to be repeated back to you. This will show you how much individual children can retain at once, and make you aware of how much to expect.
- Sequence the items clearly and avoid any excess language which will only confuse the issue. After giving instructions, repeat and summarise them as a series of key points. e.g. 'Stack the chairs, then go to the hall and ask Mr Baker if he's got any more jobs for you. If not, come back here and we'll get on with the display' becomes 'Chairs; Mr Baker; jobs; back to class'.
- Encourage children to repeat the key points to themselves while carrying out instructions – saying them as a rhythmic chant will aid recall.
- Ask children to tell each other what they need to do before starting a task, making a quick note of each step (key-words rather than full sentences) to aid recall later.
- Reduce the number of key points that have to be remembered by certain children unless they have a visual reminder. Break down tasks and instructions into smaller components.
- Whenever possible, get pupils to make lists out themselves, either by writing or drawing items. Try to turn a blind-eye to spelling mistakes. What's important is training children to be self-reliant, and the effort put in to producing a list, is itself a further aid to memory. The end product may look messy to you, but will be more meaningful to the child.
- Increase the meaningfulness and degree of familiarity of the material to be remembered; for example, by working on new vocabulary beforehand, providing an initial overview of the task in hand or acting out the sequence of events.
- Use visual imagery to aid recall. For example, if asking the child to buy washing-up liquid and toothpaste, feed the gerbils and get the washing in while you're out - make it clear there are 4 things to remember, then get them to imagine a scene where the gerbils are running up and down

the washing line, squirting each other with Fairy Liquid and toothpaste! The effects of visual imagery are very strong and have been proved to aid recall after considerable periods of time.

- When students are on task, avoid interrupting them.

Useful Aids

- visual reminders and memory joggers.
- Digital watch with date and alarm.
- Mnemonics such as 'double 3 - my age - my house' to remember the telephone number '331265'; or 'Oswald Usually Grinds His Teeth' to spell 'ought'.
- A home-school liaison book with a 'Things to remember' or 'To do' list. Children cannot rely on their listening memory for homework/invitations, etc. At first they will benefit from routinely going through the diary with an adult before they leave school/home. These checks may never become second nature but can be built into an established routine via a reminder system.
- Use of mobile phones, laptops or tablets to set up alarm prompts, and to jot things down as they crop up – either as written reminders or voice messages.
- A dictaphone or digital voice recorder, particularly if handwriting is a problem.
- A business card with vital information like address, phone numbers, date of birth. It's so easy to go blank on these things just at the wrong moment.
- Provide maps, diagrams, checklists and flowcharts, rather than relying on verbal instructions alone.
- Songs, limericks and raps.
- Number lines, number squares and pencil and paper to aid mental calculations.

General

- Make sure that those involved with the child are aware of their limitations and don't automatically dismiss forgetfulness as laziness, disinterest or inattention.
- Adopt a multi-sensory approach, using mime or actions to accompany explanations, and simple drawings or symbols to accompany instructions. Words alone can soon become a blur, and additional clues benefit everyone!

- Monitor children's working memory regularly in the course of demanding activities. Look for signs of losing focus and ask what they are doing and intend to do next.
- Limit the number of tasks any child is expected to process simultaneously as attention to one will reduce their memory capacity for the other, (e.g. retaining instructions for a written exercise while copying the date off the board, or collecting items from their bedroom while having a conversation).
- Help children to understand and accept their difficulties. Encourage them to say to others "I can't remember all that. Could you write it down for me please?" or "Could you say that just one bit at a time?"
- Encourage children to ask questions if they are not sure of anything. Check that teaching staff are prepared for this: if a child has plucked up courage to ask for repetition or clarification, then it is extremely important that this effort is rewarded by a patient answer. Similarly, children will need to understand that teachers may be busy and cannot always drop everything to give an immediate answer. With will and understanding on both sides, a compromise can be reached.
- Be aware that it is always easier to remember arrangements or items when personally motivated. This is a natural facet of memory that ensures that our priorities require the least effort. It is hardly surprising that children's and adults priorities rarely overlap!

References

Gathercole S E and Alloway T P (2007) *Understanding working memory: a classroom guide*. London: Harcourt Assessment

Gathercole S E and Alloway T P (2008) *Working memory and learning: A practical guide for teachers*. London: Sage

Johnson M (1997) Lost in a moving stream – auditory sequential memory deficits. *Speech and Language Therapy in Practice*, Vol 4 (Winter), 18-21

Johnson M (2007) *Helping Children Hang on to Every Word*. QEd publications.

Johnson M and Player C (2009) *Active Listening for Active Learning: a resource pack for mainstream inclusion*. QEd Publications, www.qed.uk.com

Nasen (2015) *Supporting Pupils with Specific Learning Difficulties in Secondary School*. One of a series of quick guides for SENCOs and whole-school staff. www.nasen.org.uk

Please note: Afasic does not hold copies of any referenced material. These publications should be available at academic libraries

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