

## Specific Memory Disorders: Long term memory

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### What are specific memory disorders?

It is increasingly recognised that like adults, children can have specific memory disorders (Gathercole, '98). It is known that these can adversely affect the development of other skills, such as children's language development, academic attainments, independent living skills and general problem solving abilities (Hood & Rankin, in press).

Research into the links between specific memory disorders and subsequent learning difficulties and scholastic achievements is ongoing. It is useful to identify specific memory disorders as early as possible in order to ensure that children's educational and life skills programmes are adapted to maximise their learning and independence skills (Bristow et al., '99), although most specific memory disorders are difficult to clearly diagnose until children reach the age of six years or upwards. There are many competing theoretical models that propose different types of memory difficulties in adults and children. However, a lot of researchers agree that one clear difference is between short-term memory and long-term memory disorders.

### Long Term Memory

The term long-term memory refers to a person's ability to retain information over time, e.g. for minutes to hours or longer. There is much theoretical debate about which types of long-term memory processing are possible in humans. One commonly debated account of long-term memory is the difference between storing episodic and semantic information. Episodic memory is memory for events or episodes that include the contextual details of the learning experience, for example, the ability to remember what happened on the way to school this morning or to recall what happened on a particular birthday. Semantic memory is the ability to remember factual information that does not include the contextual details of the learning event. For example, a child may know that the capital of France is Paris, but not remember the actual event when they were first told such a fact.

There are reports of children who appear to have strengths in semantic memory compared to episodic memory (Vargha-Khadem, '01).

Children with weaknesses in their episodic memory can exhibit particular patterns of learning, behavioural and social difficulties. For example;

- They may get lost easily.
- They may repeat things previously done because they do not remember doing them the first time.
- When questioned about their daily experiences, such as what they did at school that day, they find it difficult to provide specific details or describe events.
- They may appear socially aloof as they find it difficult to remember shared events.

Children with semantic memory difficulties will have more pervasive problems in learning the factual contents of the academic curriculum.

### Interventions

Following assessment, the neuropsychologist may make recommendations to support the child to improve areas of weakness. These recommendations may also guide parents and teachers to help maximise the child's learning despite their specific difficulties.

Interventions will depend on the diagnostic information for each child, and his/her age and particular circumstances. There is little evidence to show that memory weaknesses themselves can be improved through training. It is more likely that children's memory difficulties could be compensated for using external cues or alternative methods of presenting and manipulating information to be learned.

The availability and use of these strategies is still limited, partly because of resources but also because little research has been published in this area for children (Rankin and Hood, in press). This is likely to improve over coming years as specific memory disorders are increasingly recognised in the child population.

## References

**Bristow, J, Cowley, P & Daines, B** (1999), *Memory and Learning: A practical guide for teachers*. London: David Fulton Publishers.

**Gathercole, S E** (1998) The development of memory. *Journal of Child Psychology and Psychiatry*. 39:3-27.

**Hood, J & Rankin, P M**, *How do specific memory disorders present in the school classroom?* (In press) *Pediatric Rehabilitation*.

**Rankin, P M & Hood, J**, Designing clinical interventions for children with specific memory disorders. (In press) *Pediatric Rehabilitation*.

**Vargha-Khadem, F, Gadian, D G, Mishkin, M** (2001), Dissociations in cognitive memory: the syndrome of developmental amnesia. *Philosophical Transactions of the Royal Society London. Biological Sciences*. 356 (1413):1435-40.

**Please note: Afasic does not hold copies of any referenced material. However, it may be obtained via academic libraries.**

## Other relevant Glossary Sheets

- Specific language impairment (1)
- Learning difficulties (4)
- Phonological problems (14)
- Auditory sequential memory (25)
- Specific Memory Disorders: Short term memory (26)

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