Helpful Strategies for Auditory Memory

by Susie S. Loraine, M.A., CCC-SLP and Clint M. Johnson, M.A., CCC-SLP

Memory impacts a person's ability to perform almost any activity. *Memory* is how "knowledge is encoded, stored, and later retrieved" (Kandell, Schwartz, and Jessell, 2000). Even mild memory deficits can impact a student's success. There are different kinds of memory, including long-term memory, short-term memory, working memory, auditory memory, and visual memory. *Auditory memory* is the ability to take in information that is presented orally (out loud), process it, retain it in one's mind, and then recall it (Bellis, 2003; Roeser & Downs, 2004; Stredler-Brown & Johnson, 2004). Auditory memory requires working memory.

Working memory is "the management, manipulation, and transformation of information drawn from short-term memory and long-term memory" (Dehn, 2008). Working memory is responsible for processing higher level linguistic information, and if the task is more complex, working memory spends more time processing (Daneman and Carpenter, 1980). Working memory capacity has significant relationships with reading decoding, language comprehension, spelling, following directions, vocabulary development, note taking, and GPA (Engle, Tuholski, Laughlin, and Conway, 1999).

Auditory Memory Deficits

Auditory memory deficits include remembering multi-step directions, relating new information to prior knowledge, oral language comprehension, taking notes while listening, verbal fluid reasoning, written expression, and oral expression (Dehn, 2008). Individuals with deficits and weaknesses can benefit from direct teaching of strategies which can improve working memory performance. According to Dehn (2008), effective strategy teaching can include:

- Engaging in one-on-one brief, focused sessions over several weeks;
- Teaching one strategy at a time;
- Explaining purpose and rationale;
- Explaining and modeling the steps of the strategy;
- Providing plenty of practice and offering feedback;
- Teaching cues to help remember the strategy;
- Providing positive reinforcement and data tracking;
- Encouraging children to monitor and evaluate strategy use;
- Encouraging generalization across sessions.
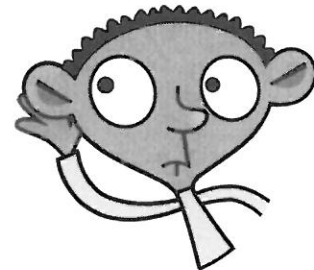
Types of Auditory Memory Strategies

Different types of auditory memory strategies include:

- **Verbal Rehearsal** – repeating words or numbers, either vocally or subvocally (e.g., Try saying the numbers over and over, like this: *2, 7, 5; 2, 7, 5; 2, 7, 5.*);

- **Elaborative Rehearsal** – associating new information with prior knowledge, such as creating sentences of the to-be-remembered word or creating a story, or paraphrasing [reorganizing larger amounts of information into smaller, more personally meaningful units (Donahue & Pidek, 1993)];

- **Chunking** – pairing, clustering, grouping, or association of different items into larger units (e.g., Try putting the numbers together. So if you hear 2, 4, 8, 3—think *24, 83.*);

- **Relational Strategies** – making the information being memorized more meaningful through mnemonics, imagery, or elaboration (e.g., Try to make a simple sentence using the words you hear. If you hear *dog, hat, bed*, make a silly sentence like, "The dog found a hat under the bed.").

Resources

Bellis, T. J. (2003). *Assessment and management of central auditory processing disorders in the educational setting: From science to practice* (2nd ed.). Clifton Park, NY: Delmar Learning.

Daneman, M., & Carpenter, P. A. (1980). Individual differences in working memory and reading. *Journal of Verbal Learning and Verbal Behavior, 19*, 450–466.

Dehn, M. J. (2008). *Working memory and academic learning: Assessment and intervention.* Hoboken, NJ: Jon Wiley & Sons.

Donahue, M., & Pidek, C. (1993). Listening comprehension and paraphrasing in content-area classrooms. *Journal of Childhood Communication Disorders, 15*, 35–42.

Engle, R. W., Tuholski, S. W., Laughlin, J. E., & Conway, A. R. A. (1999). Working memory, short-term memory, and general fluid intelligence: A latent-variable approach. *Journal of Experimental Psychology: General, 128*, 309–331.

Kandel, E. R., Schwartz, J. H., Jessell, T. M. (2000). *Principles of neural science,* (4th ed.). New York: McGraw-Hill.

Roeser, R. J., & Downs, M. P. (2004). *Auditory disorders in school children: The law, identification, remediation* (4th ed.). New York: Thieme Medical Publishers, Inc.

Stredler-Brown, A., & Johnson, C. D. (2004). *Functional auditory performance indicators: An integrated approach to auditory skill development* (3rd ed.). Retrieved from http://www.cde.state.co.us/cdesped/download/pdf/FAPI_3-1-04g.pdf

For more Handy Handouts®, go to www.handyhandouts.com.

Helpful Products

The list of Super Duper® products below may be helpful when working with children who have special needs. Visit www.superduperinc.com and type in the item name or number in our search engine. Click the links below to see the product descriptions.

Webber® HearBuilder® Auditory Memory Software Program – Professional Edition
Item #HBPE-377

Auditory Memory for Quick Stories
Item #AMLQ-110

Auditory Adventures®
Item #GB-654

Auditory Memory High-Interest Quick Stories™
Item #AMLQ-220