| **38** CHANDLER COMMUNITY.ORG September 2008 **CHANDLER YOUTH** | The Connection Between Memory and Learning  WORKING MEMORY DEFICITS OFTEN CONFUSED WITH LACK OF MOTIVATION | | |
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| WRITTEN BY  LYNN CARAHALY, MA, CCC-SLP,  TRACEY GRAVES, PHD, CCC-SLP  Having a limited working memory  capacity often results in losing  crucial information when trying  to follow instructions and details  of what to do next. If information  is not stored properly, or at all,  a child most certainly cannot  retrieve this information for  information for learning.  Children with working memory  future tasks or build upon prior  deficits demonstrate difficulty  remembering information from  one lesson to the next.  **Children with working memory deficits often:**  **Get poor grades in reading**  **and math**  **Are easily distracted**  **Have problems finishing**  **classroom assignments**  **Have trouble following**  **directions from teachers**  **Are reluctant to answer**  **questions in class** | |  | | --- | | **C** |   hildren who receive poor grades  in reading and mathematics,  have problems finishing schoolwork,  and have a hard time paying  attention are often labeled  “unmotivated” by parents and teachers. The  challenge may not actually be a lack of intelligence  or even a lack of motivation for many  struggling students, but simply a poor memory,  in particular a poor working memory.  Working Memory is a critical cognitive function that refers to the ability of the brain to hold and manipulate verbal and visual information in the mind for brief periods of time. An example of working memory is remembering a telephone number or remembering someone’s name 30 seconds after they have introduced themselves. Working memory precedes short term memory. It works  like a mental notepad to help us store important  information to carry out tasks.  Children with working memory deficits  are easily distracted, struggle to remember  instructions, and have difficulty starting, prioritizing  and finishing tasks. Studies have shown that they also have difficulty in school, particularly with reading comprehension and math, due to their inability to hold in mind sufficient information to allow them to  complete the task at hand.  Studies conducted at York University concluded  that working memory skills at 4 years old are excellent predictors of children’s achievements three years later on national assessments in reading, writing and mathematics. Children with good working memory  skills perform better in school. In contrast, children who did not achieve at expected levels in national assessments in literacy and mathematics typically have weaker working memory skills compared to their agematched peers.  Many researchers in the field of cognitive  skills related to academics believe working  memory is the most important predictor of  learning, much more so than a student’s overall  IQ score. Working memory gives us an isolated  measurement of what a student is  capable of learning. It measures a child’s  potential to learn and not just what they have  already learned.  Working memory plays a key role in Attention Deficit Disorders. Poor working memory leads to poor attention, and good working memory results in good attention. | A girl reading a book  Many children diagnosed with AD/HD also  have a limited working memory capacity.  Research shows that children with AD/HD  have an average working memory level  roughly equal to that of a non-AD/HD seven  year old. Strengthening working memory can  help to reduce the social, academic and other  challenges that children with AD/HD face  every day.  There is good news for students with poor  working memory skills: there is something  that can be done about it. The human brain  has the ability to reshape and rewire itself.  This is called neuroplasticity. Neuroplasticity,  also referred to as brain plasticity or cortical  re-mapping, is the brain’s ability to change  shape and re-network, creating new connections  between neurons, as well as establishing  new neurological pathways in the brain.  Working memory impairments can be  addressed using a combination of researchbased  working memory training techniques to  actually create a neurological change in the  brain’s ability to expand working memory  capacity, and directly teaching and implementing  memory strategies in the classroom  and everyday life.  *For further information on working*  *memory deficits and interventions,*  *please visit www.listening-ears.com or*  *email Lynn Carahaly, MA, CCC-SLP at*  *info@listening-ears.com. ©* |