

**Definition:** Orienting, selective, sustained, attention span, and inhibitory control (shifting). A neurological condition which presents with inattention, hyperactivity and impulsivity. It is not a disorder of attention, but the result of the brain's failure to monitor inhibition and self-control. Students' subsequent behaviors are seen as deliberate noncompliance. Many students are of at least average intelligence. Distractible, forgetful, Difficulty sustaining attention contributes to missing important details in reading and lectures. Difficulty organizing assignments leads to not completing assignments. Hyperactivity presents as fidgeting and tapping foot. Impulsivity presents as verbal or physical disruptions in class, careless errors and responses to questions without fully formulating the best answer or hearing the entire question. 40-60 % of students with ADHD have at least one coexisting disability (e.g., disruptive behavior disorders, mood disorders, anxiety disorders, tics and Tourette Syndrome and learning disabilities.

**Remediable:** No, but may be curbed by effective strategies such as: collaboration and communication between school and home, common rewards, reinforcement strategies, and cues. Impulsive behaviors are lessened in many students through medication.

**Related areas of processing:** Executive functions, specifically reading comprehension, working memory, short-term memory

**Impacts:** All academic and social areas. Disorders of attention are invisible except by the behaviors or lack of behaviors associated with attending. Erratic academic performance (finishing all assignments one day and finishing none the next day) convinces parents and teachers that the student is "stupid" or "lazy". Attention difficulty is not a learning disability. 40-60% of students with attention difficulty have learning disabilities and other disorders. Behavior issues of these students include hyperactivity, aggression, delinquency, family problems, and severe behavior. Persistent academic difficulties, low academic performance, increased dropout rates, lower rate of undergraduate education.

Attention

**READING Achievement**

- Difficulty with self-regulation leads to difficulties with hierarchy of skills (associating signs and symbols, sentence meaning, content, inferences).
- Difficulty reading independently
- Frustration due to loss of concentration (e.g., Must find place and reread).
- Perseveration for some students; read and reread until the words have no meaning (e.g., The. car. is. red.).

**MATH Achievement**

- Difficulty remembering rules for processes.
- Difficulty understanding why the process works.
- Difficulty checking work.

**WRITING Achievement**

- Difficulty remembering rules for spelling, grammar and punctuation.
- Sequencing difficulties.
- Focus on multiple elements at a time.

**Additional Indicators across other environments and contexts**

At home, with peers, in the community

Observed behaviors during assessment

Other indicators in performance or vocational readiness

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## Research-based Implications for Instruction, Curriculum, Environment (ICE):

### Instruction:

- Provide cues to remind students to use what they know at the moment it is to be used.
- Engage students, repeat information,
- Limit the quantity of information at a time,
- ensure material is coherent, and correct any errors or confusion before end of class or before moving on to next step,
- Teach self-monitoring and comprehension monitoring strategies.
- Teach students to sub-vocalize or develop internal voice which can be used to aid comprehension

### Curriculum:

### Environment:

Classroom free of distractions on walls around learning areas (e.g., white board). Carpet on floor to absorb distracting sounds. Fluorescent lights replaced with incandescent lights. Allow students to reposition themselves as needed (e.g., sitting at desk, standing at desk, sitting on foot, walking in back of room).

**Recommendation for Differentiation in the General Classroom Attention:** (includes changes in methods, Universal Design for Learning, process, accommodations, assistive technology, etc.)

Content	Process	Product
<ul style="list-style-type: none"> <li>• Material that is seen as applicable to students’ lives.</li> <li>• Behavior programs (e.g., PBIS).</li> <li>• Teach organization and planning.</li> </ul>	<ul style="list-style-type: none"> <li>• Pre-exposure (e.g., some vocabulary used week before lesson).</li> <li>• Twenty-minute work periods followed by change in activity. Provide a timer and/or software that works with other applications to inform learner of time available.</li> <li>• Review of lesson by teacher and entire class at end of period to catch missed points. Highlighting could be used to identify key vocabulary and concepts in the review process.</li> <li>• Positive attitude of teacher.</li> <li>• Teach curriculum in step-by-step form.</li> <li>• Separate stages of writing process. Use graphic organizers to assist with the planning and organization of content.</li> <li>• Provide FM amplification to facilitate attention to verbal instruction.</li> </ul>	<ul style="list-style-type: none"> <li>• Require students to show their comprehension and application of information in ways that use their strengths (e.g., painting, video, story, objective test).</li> <li>• Minimize amount of information students must hold in working memory (e.g., use manipulatives and other visual supports such as word walls, punctuation boards and math fact walls).</li> </ul>

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## Implications for Achieving Proficiency on State Standards When Attention is Normative

### Weakness

Samples of English Language Arts content standards, if unsupported, may exceed a student's attention capacities or compensatory strategies which in turn will decrease the likelihood of reaching proficiency.

- Grade 5 Speaking, Viewing, Listening, Media Standards: report on a topic or text or present an opinion sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas of themes, avoid plagiarism, by identifying sources, and speak clearly at an understandable pace.
- Grade 5 Language Standards: Use knowledge of language and its conventions when writing, speaking, reading, or listening to expand, combine, and reduce sentences.
- Grade 5 Writing Process: Production and Distribution of Writing Standard: Draw evidence from literary or informational text s to support analysis, reflection, and research.
- Apply grade 6 reading standards to literature (e.g. compare and contrast texts in different forms, genres in terms of their approaches to similar themes and topics).
- Apply standards to non-fiction (e.g. trace and evaluate the arguments and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not).
- Grade 6-8 Standards for Reading Science and Technical Content: Follow precisely a multi-step procedure when carrying out experiments, taking measurements, performing technical tasks.

### Resources

Barkley, R. A. (2011). [An Overview of ADHD: Nature, Causes, and Treatment](#) and [The Nature and Theory of ADHD as a Disorder Of Executive Functioning and Self-Regulation](#) found at <http://www.russellbarkley.org/barkley-powerpoint-presentations-to-order.htm>

Dehn, M. (2006). *Essentials of processing assessment*. Hoboken, New Jersey: John Wiley & Sons, Inc.

Feifer, S. and De Fina, P. (2005). *The neuropsychology of mathematics: Diagnosis and intervention*. School Neuropsych Press.

Feifer, S. and De Fina, P. (2002). *The neuropsychology of written language disorders: Diagnosis and intervention* School Neuropsych Press Inc.

Feifer, S. and De Fina, P. (2000). *The neuropsychology of reading disorders: Diagnosis and intervention*. School Neuropsych Press Inc.

Flannagan, D. P. (2008). Integrating RTI and comprehensive assessment for SLD determination: A theory and research-based operational definition. Two part workshop presentation for Minnesota Department of Education.

Flanagan, D.P., and Alfonso, V.C. (2011). *Essentials of Specific Learning Disability Identification*. Hoboken, New Jersey, John Wiley & Sons.

Hale, J., and Fiorello, C. (2004). *School neuropsychology: a practitioner's handbook*. New York: Guilford Press.

*Cognitive Functioning: Identifying, Understanding, and Addressing the Impact of Cognitive Deficits in the Classroom (PowerPoint)* by Jennifer Mascolo PsyD St. Johns University

McGrew, K (July 10, 2008). Advances in the prediction of academic achievement using WJIII cognitive subtests. Conference proceedings and personal communications from the Third National *School Neuropsychology Conference, Dallas, Texas*.

Ortiz, S. O. & Flanagan, D. P. (1998). Enhancing cognitive assessment of culturally and linguistically diverse individuals: Application and use of selective Gf-Gc Cross- Battery assessment. *The School Psychologist*, 52(1), 6-9.

Wendling, B. and Mather, N. (2008). *Essentials of Evidence-Based Academic Interventions*. Hoboken, New Jersey, John Wiley & Sons.

Wodrich, D. and Schmitt, A. (2006) *Patterns of Learning Disorders: Working Systematically from Assessment to Intervention* New York: The Guilford Press.

