Impact on ADHD from Deficits in Executive Function, Memory Disorders And Processing Speed: Ramifications and Remediations

CHADD 7th Annual Southeast Regional Conference
January 31, 2015

Sheryl K. Pruitt, M.Ed., ET/P

Book Disclosures

Teaching the Tiger, Hope Press
Educator's Guide to Tourette Syndrome-Tourette Syndrome Foundation of Canada
Tigers, Tool, Executive Function, Speed of Processing and Memory, Parkaire Press (Co-Owner)
Tigers, Too, Assessment , Parkaire Press
Tigers, Too, Checklists for Classroom Objectives and Interventions , Parkaire Press
Challenging Kids, Challenging Teachers, Woodbine House
Tourette Syndrome, Contributor, Oxford Press

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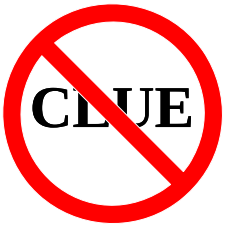

Can't Find It!
Can't Remember It!
Can't Do It Fast Enough!

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Regulatory Disorders

Obsessive Compulsive Disorder	Sleep Disorders	Attention Deficit Hyperactivity Disorder
Other Anxiety Disorders	Tourette Syndrome	Sensory Defensiveness
Mood Disorders	Autistic Spectrum	Stuttering

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Non-verbal Learning Disability	Speech Disorders	Visual-Motor Disability
Learning Disabilities	Language Disability	
Executive Dysfunction	Memory Disorders	Slow Processing Speed

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The "Dreaded Book Bag Diagnostic Test"

"...Coaching for the neurologically impaired focuses ...on helping people with TS, OCD, ADHD, EDF and WM...to identify and modify problematic personal behaviors and to develop more effective self-management skills."

Adapted by Daniel Pruitt from Thomas E. Brown, Ph.D. in Attention-Deficit Disorders and Comorbidities in Children, Adolescents, and Adults, 2000

EXECUTIVE FUNCTION

Set Goals

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Family

Work

Friends

EXECUTIVE FUNCTION

Initiate

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INITIATE

- **Routines with checklists**
- **Verbal or visual cue to start**
- **Work with peers**
- **Break up tasks**
- **Activity before starting**
- **Provide model work sample**
- **Teach brainstorming**
- **Pick topics of interest**

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EXECUTIVE FUNCTION

Prioritize

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Written Expression and Projects

- **Divide the assignment into small parts with a definite time schedule.**
- **Show them what a finished product will look like.**
- **Monitor progress towards intermediate deadlines.**

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EXECUTIVE FUNCTION

Pace

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Now!
Or
Not Now!

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EXECUTIVE FUNCTION

Plan

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Planning involves anticipating the outcome of your strategy before selecting it.

Two-Step Process

Plan Your Work and Work Your Plan

Problem defined!
Lay out options!
Act on one!
Now evaluate!

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EXECUTIVE FUNCTION

Sequence

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Sequence of Long Division

Visual/Symbolic Cue

÷ × −

Verbal Cue

Daddy, Mommy, Sister, Brother

Cognitive Cue

Dirty	Marvin	Smells	Bad
(Divide)	(Multiply)	(Subtract)	(Bring Down)

© 1992 Parkaire Consultants, in Teaching the Tiger (1995)

EXECUTIVE FUNCTION

Organize

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Organizing Materials: Do's

Have A Stash of Supplies

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EXECUTIVE FUNCTION

Shift

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You announced a change in plans. She's handling it quite well, isn't she?

© Leslie E. Packer, Ph.D., 2002

Executive Dysfunction Impacts on Transitions

- Changing from one activity to another
- Starting an activity

(Pre warnings give them a headstart to change)

EXECUTIVE FUNCTION

Use Feedback

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Everything in Life is Social

Social Difficulties

One of the leading causes of teenage depression is social failure.

© L. Warren Walter, Ph.D., 1996

Some impacts of executive dysfunctioning, memory problems and slow processing on socialization.

- **Cannot remember names.**
- **Does make plans for the weekend until Friday.**
- **Shows up late and forgets important occasions**
- **Forgets social conventions, e.g., calling people back.**
- **Cannot respond quick enough in teenage conversations.**

© Daniel G. Pruitt, PCC, SCAC, Sheryl K. Pruitt, M.Ed., 2009

Social Skills Curriculum Based Groups

Superflex®: A Superhero Social Thinking Curriculum

Stephanie Madrigal and Michelle Garcia Winner
Illustrated by Kelly Knopp.

For professionals and parents to use with students in 3rd - 5th grade.

The Zones of Regulation
Leah Kuypers, MA, OT, Autism Specialist

The Zones of Regulation is a curriculum geared toward helping students gain skills in consciously regulating their actions, which in turn leads to increased control and problem solving abilities.

Instant Replay

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EXECUTIVE FUNCTION

Inhibit

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Teaching The Tiger pg. 53

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Blurt Blockers

- Put your hand in front of your mouth.
- Write your question on a piece of paper so you can wait without forgetting.

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EXECUTIVE FUNCTION

Self-Monitor

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This isn't it!

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Capitalization

Leave space

Ideas complete

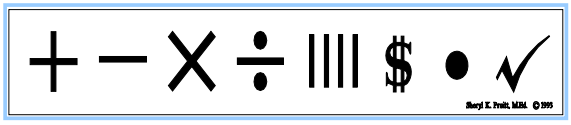
Punctuation

Spelling

Verbal Cue for Editing Work

"CLIPS" ©L. E. Packer, 1999

MATH EDITING STRIP



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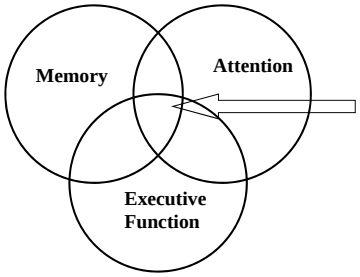
"He is such a good boy. I just don't know enough things to tell him not to do?"
-Ferrell Sams

Foundations of Learning



The Central Executive or Working Memory

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Short-Term Memory

- **Immediate memory**
- **Working memory**

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Working Memory

- **Often compared to RAM that stores information "online" during processing**
- **Know that interest, talent, and understanding impact working memory**
- **7-8 year old can hold 3 pieces of information**
- **11 year old can hold 4-5 pieces of information**
- **15 year old can hold 7 pieces of information**

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Working Memory Strategies

- Hook new concepts to previous learning
- Translate abstractions into a meaningful example

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Long-Term Memory

- Learn, store, and maintain information over an extended time
- Similar to the computer's hard drive
- Effective organization of material in memory is crucial
- REM Sleep important role in encoding to long-term memory

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Encoding Strategies

- Make sure the student is getting 7-9 hours of sleep.
- Utilize meaningful experiences, e.g., field trips, experiments, manipulatives.

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Declarative Memory

- Memory that can be declared as a verbal statement or as a visual representation.
- Made up of semantic and episodic or autobiographical memory.
- The area of memory that fools people into thinking that all memory is intact.
- The memory that can be used to teach abstract information.

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Adapted by Sheryl K. Pruitt, M.Ed.

Procedural Memory

- Memory of motor, perceptual, and cognitive sequencing skills
- Memory of automatic skills that do not require conscious recall.
- Memory for skills, such as riding a bike, writing a paper, establishing a friendship

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Procedural Memory Strategies

- Write down the order in which assignments are completed
- Give steps that are required to complete long-term assignments or projects

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Prospective Memory

- Remembering to carry out a task in the future
- Examples are taking books home from school, return completed homework to school, and Be on time

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Prospective Memory Strategies

- Teach "To-Do" lists.
- Use daily calendar.
- Make use of external memory devices, e.g., phone.

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Strategic Memory

- Remembering to use strategies such as cognitive strategies such as mnemonics
- Facilitates encoding and retrieval
- Spontaneous and effective use of strategies to encode and retrieve information is usually attained by 12 years of age.

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Strategic Memory Strategies

- Offer direct assistance in learning cognitive strategies.
- Prompt the use of strategies as necessary.
- Remind student to utilize strategy or "trick" book.

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Metamemory

- Self-awareness, understanding, and control of own memory
- Awareness of the need to use strategies to facilitate memory
- Normally established by the age of 12

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Metamemory Strategies

- Identify memory strengths and weaknesses.
- Select and use a memory strategy.
- Evaluate success of strategy.

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Retrieval
(A Memory Look-alike)

- Recalling information stored in long-term memory quickly, automatically, and efficiently

- Retrieval requires remembering without assistance

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Retrieval Strategies

- Categorization is essential.

- Practice using visualizing and verbalizing.

- Utilize word banks on fill-in-the-blank tests

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Externalize Your Memory!

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Echo Smart Pen by Live Scribe

- Pen that is a computer

- Built-in microphone

- Links audio to what is written

- Remember what wrote and associated audio to your computer

- Tap on any word you wrote and play the audio recorded at the time the word was written.

http://www.livescribe.com/en-us/

Sluggish Cognitive Tempo

Processing Speed Definition:

Processing speed refers to the pace and automaticity with which the student:
- accumulates, assimilates, and integrates incoming information;
- retrieves information stored in long-term memory;
- and performs cognitive tasks.

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Processing Speed Influences:

- Sustained Attention
- Executive Functions
- Efficient Memorization
- Academic Automaticity
- Behavior
- Social Competence

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Sluggish Cognitive Tempo (Slow Processing Speed)

Retrieval of information from long-term memory may be slow and require extra effort, thereby reducing the resources available to manipulate and integrate material.

When information is automatized, speed of processing increases!

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Sluggish Cognitive Tempo (Slow Processing Speed)

Sluggish cognitive tempo is reported by researchers to exist in one-fourth to one-half of students with ADHD-Inattentive Type.

©Tigers, Too, 2009

Carlson, Mann,2002, Goodyear, Hynd1992
Nigg,Blaskey,Huang-Pollock,Rappley, 2002,
Weiler, Bernstein, Bellinger,Waber, 2000, Barkley, 2006

Sluggish Cognitive Tempo (Slow Processing Speed)

- Reduce the length and requirements of assignments.
- Be alert for confusion and loss of focus…repeat, rephrase, summarize.
- Allow sufficient time to formulate verbal responses.
- Cue questions to be asked in class ahead of time.
- Schedule frequent practice and rehearsal until mastery achieved.

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Sluggish Cognitive Tempo (Slow Processing Speed)

Allow extra time for everything!!!

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Treatment for Sluggish Cognitive Tempo or Slow Processing Speed Disorder

The Fast ForWord® Program

The Trick Book

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Assistive Technology

Offset memory difficulties, e.g.,:

- **extends memory capacity**
- **editing**
- **remembering events**
- **organizational memory**

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MUSIC

ABCDEFGHIJKLMNOPQRSTUVWXYZ

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MOVEMENT

Prepositions

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Cognitive Strategies

- **Cognitive strategies are particularly helpful to children and teens with executive dysfunction, as they enable the student to:**
- **Encode the information.**
- **Retain the sequence of information.**
- **Retrieve the information.**

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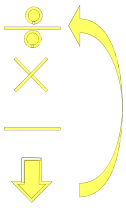
THE SEQUENCE OF LONG DIVISION

VISUAL CUE



VERBAL CUE

Daddy, Mother, Sister, Brother

COGNITIVE CUE

Dirty (Divide) **Marvin** (Multiply) **Smells** (Subtract) **Bad** (Bring Down)

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How To Read A Chapter

1. **Set up clear objectives.**
2. **Define vocabulary.**
3. **Watch video tape or TV program.**
4. **Overview the chapter or book prior to reading.**
5. **Read questions at end of the section.**
6. **Look at pictures and graphs.**
7. **Read the chapter.**

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Written Expression and Projects

- Divide the assignment into small parts with a definite time schedule.
- Show them what a finished product will look like.
- Monitor progress towards intermediate deadlines.

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Math Tricks

7 x 8 = 56

Think of the two numbers before 7 and 8. The 5 and 6 give you the answer (56)

5 6 = 7 x 8

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Is the Battle Over the Assignment Book Worth It?

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Just Try Harder!

© Leslie E. Packer, Ph.D., 1999

THE RIGHT TRICK CAN BE MAGIC

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Credits….

Thanks go to Leslie Packer, Ph. D. for her constant support and contributions for several of the power point slides used here today.

Thanks also to Warren Walter, Ph.D. and Marilyn Dornbush, Ph. D. for their contributions and support to several power point slides today.

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Thanks especially to my husband, Daniel G. Pruitt, PCC, SCAC, who has been my supporter, partner in our clinic, my publisher, and a contributor to this presentation.

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Dedication

This program is cheerfully dedicated to the author's family, who have cleverly managed to have almost every problem described. Any problem my husband and I did not have I gave birth to. They are my first, and best, teachers.

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THE END

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