

# Brain Based Classroom and Executive Function Strategies



Nicole Crawford, Ph.D.  
CDE Brain Injury Specialist

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## Speaker: Nicole Crawford, Ph.D.

- Brain Injury Specialist-Colorado Department of Education
- School Psychologist and Licensed Psychologist

### Experiences

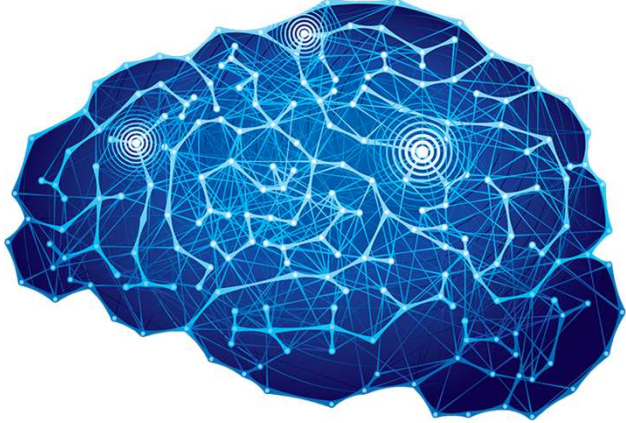
- School Psychologist for nearly 20 years
- Brain Injury Team facilitator and co-facilitator
- Brain Injury Educator Liaison
- Traumatic Brain Injury Network Team Planner
- Private Practice- complete neuroeducational assessments



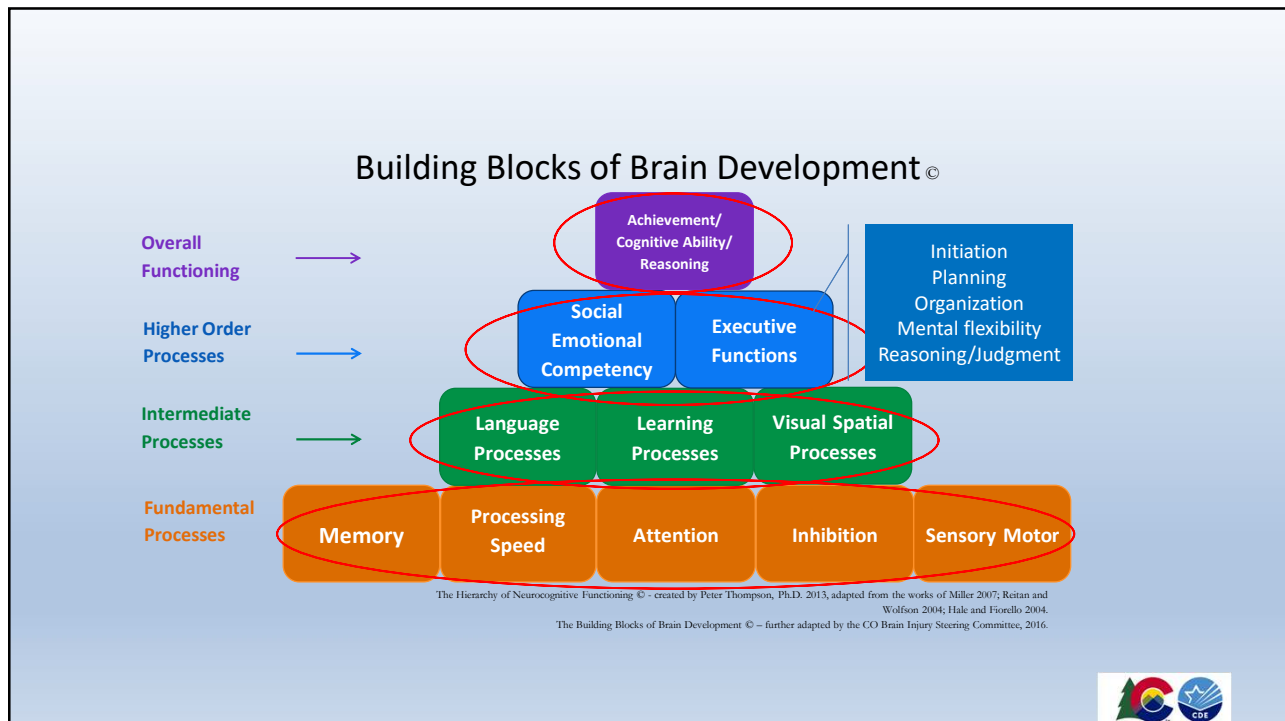
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## Objectives

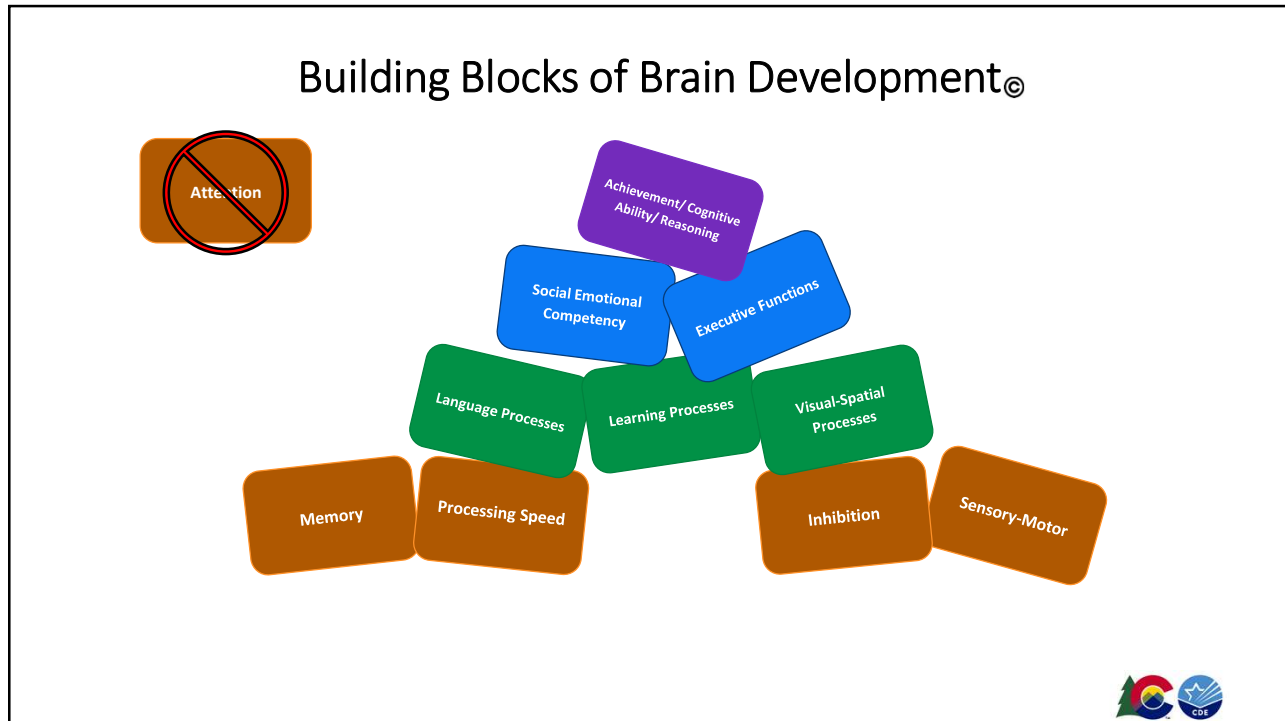
- Quick Overview of the Building Blocks of Brain Development
- Deciding what strategies to chose
- Fundamental Strategies
- Intermediate Strategies
- Executive Functions



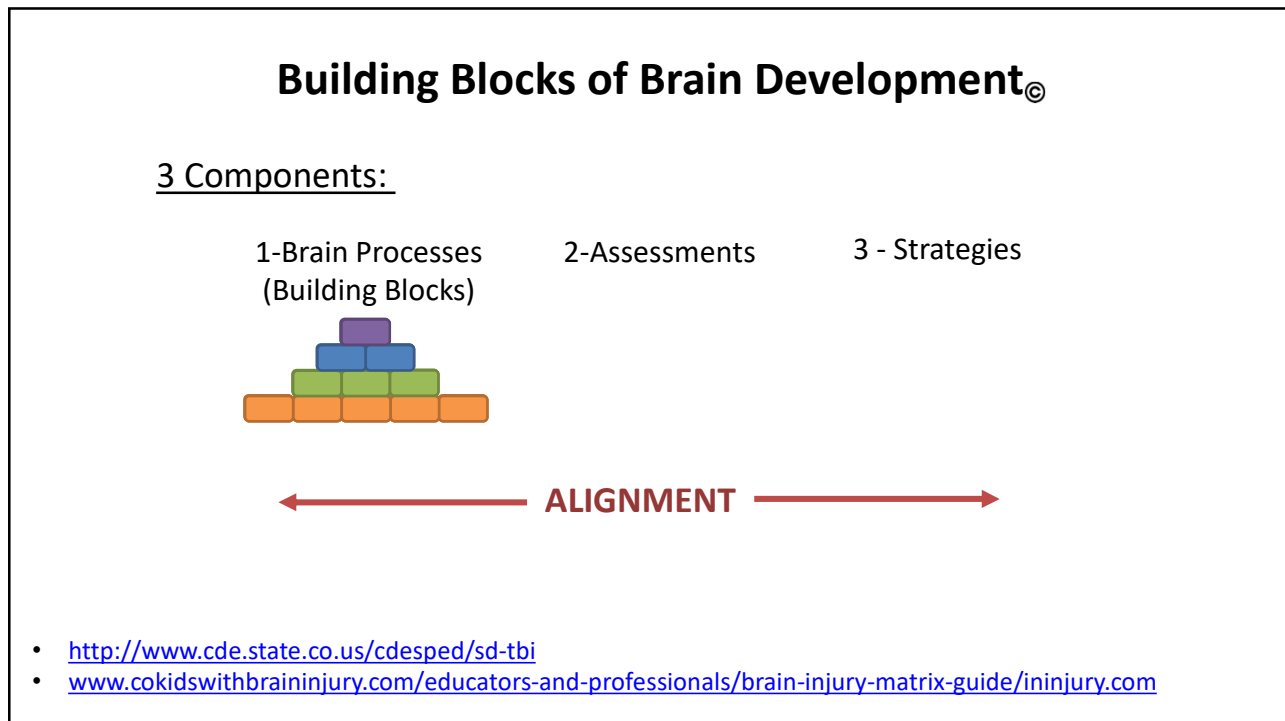
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# REFRAME THE BEHAVIOUR

"KIDS DO WELL IF THEY CAN"  
~ROSS GREENE

WON'T

➔

CAN'T

YET

**ADULT'S MINDSET**

- JUDGMENTAL
- WILLFUL
- DEFIANT

**VIEW OF CHILD**

HE'S LAZY  
SHE JUST WANTS ATTENTION  
...RUDE!

- REWARDS & PUNISHMENTS

**THOUGHTS**

**RESPONSE**

- FIND & REMOVE BARRIERS

**CHILD'S EXPERIENCE**

- FRUSTRATION
- GUILT / SHAME

**ADULT'S MINDSET**

- CURIOUS
- TOO MANY STRESSORS
- SKILLS DEFICITS

WHAT'S GETTING IN THEIR WAY?  
HOW CAN I HELP?

**THOUGHTS**

**RESPONSE**

- SUPPORTED
- STRENGTHENED

<http://northstarpaths.com>

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# WORDS MAKE WORLDS

~DEBBIE MAH

WHAT WE SAY TO AND ABOUT A CHILD  
CHANGES HOW WE THINK ABOUT THEM  
AND HOW THEY THINK ABOUT THEMSELVES.

CHOOSE YOUR WORDS CAREFULLY.  
SPEAK KINDLY.

~KRISTIN WIENS~

@kwiens22

<http://northstarpaths.com>

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## Keys to Teaching Strategies



- Modify the Environment
  - Classroom
  - Student Specific
- Teach new skills systematically and explicitly
- Teach how to apply in real life contexts
- Minimize demands on working memory and processing speed (e.g., routines, structures)
- Provide many opportunities for guided and extended practice with feedback
- Motivational Strategies

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## Selecting Interventions



- Work as a team with student, parents, medical/therapeutic providers, community providers, school staff
- Consider typical developmental expectations
- Consider specific strengths and areas of differences
- Consider culture, language, economic status, etc.
- **Avoid** consequence-based approaches

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## Selecting Interventions

- If the skills were well learned before the injury, they will likely come back the easiest
- If the student was exposed to the skills before the injury, focus on re-teaching those skills
- If the injury occurred before the skills were taught, use basic, sequential training of the skills or use compensatory strategies

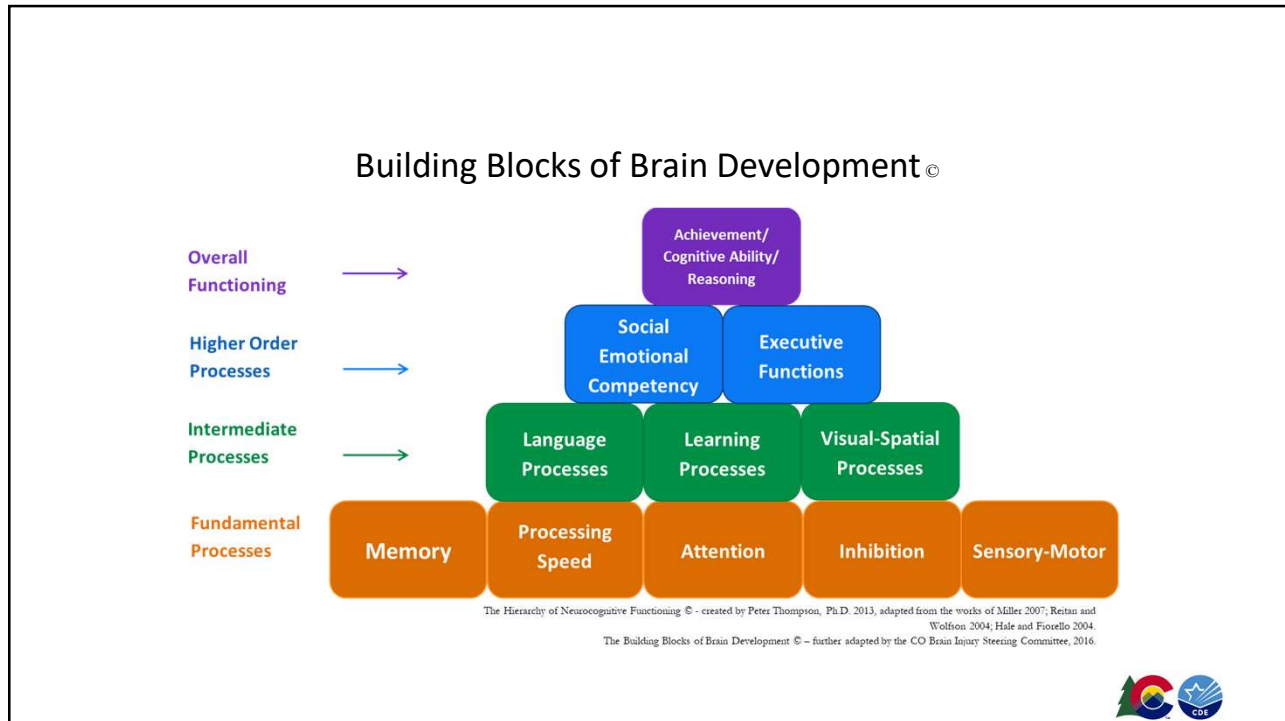
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## Chase the Why or Reason Behind the Behaviors

- Physiological
  - Food- Blood Glucose (sugar) Levels
  - Hydration
  - Sleep
  - Physical and Cognitive Fatigue
  - Medication Side Effects
  - Pain
- Trauma History



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## Brain Injury in Children and Youth

### A Manual for Educators

<http://www.cde.state.co.us/cdesped/SD-TBI.asp>




**COLORADO**

Department of Education

Revised 2018



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## Strategies Attention

Fundamental  
Processes

- Specifically teach and practice what paying attention looks like
- Provide the individual with clear expectations for what he/she is supposed to accomplish during the activity time
- Verbal and visual cues-visual cuing system (hand signal, sticky notes, etc.)
- Brain Breaks
- Crossing the midline activities
- Self-monitoring and self-talk

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## Attention Strategies



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## Learning through Play for All Ages



### Center on the Developing Child Harvard University

#### Enhancing and Practicing Executive Function Skills

<http://developingchild.harvard.edu/resources/activities-guide-enhancing-and-practicing-executive-function-skills-with-children-from-infancy-to-adolescence/>

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## Strategies Attention: Questions/Statements

Fundamental  
Processes



- Let's make a list of distractions and think of ways to deal with them better.
- What are some ways you could motivate yourself to keep working?

Dawson and Guare, 2010

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## Strategies Inhibition

Fundamental  
Processes

- Student repeat question before answering
- Fidgets, wiggle seats, exercise balls, etc.
- Allow to stand while working
- Classroom jobs that allow movement
- Brain breaks
- Provide structures and routines
- Fading external support to internalization of routine and systems
- Intentional adult movement through the room (Fred Jones Tools for Teaching)
- Cueing Systems

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## Strategies Inhibition

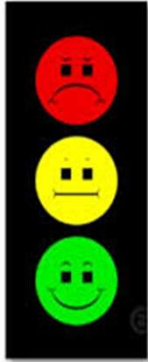
Fundamental  
Processes



Duck, Duck, Goose  
Capture the Flag  
Red Light, Green Light  
Simon Says  
Freeze Dance

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# Inhibition Stoplight



- **Green Behavior (Go)**
  - Being nice and kind
  - Doing my work
  - Listening
  - Using my good strategies when I am frustrated
  - Staying focused
  - Being quiet
- **Yellow Behaviors (warning to stop)**
  - Not listening
  - Not doing work
  - Refusing to do my work
  - Arguing with others
  - Annoying others (making noises, waving hands, being silly getting in people's space)
  - Pushing my work away
  - Not using my good strategies
- **Red Behaviors (Stop Immediately)**
  - Threatening others
  - Hurting others
  - Yelling or screaming
  - Leaving class without permission and not staying right outside the classroom
  - Throwing items
  - Throwing myself of the floor
  - Damaging property (school or others)
  - Not using my good strategies

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## What Zone Are You In?

Blue	Green	Yellow	Red
			
Sick Sad Tired Bored Moving Slowly	Happy Calm Feeling Okay Focused Ready to Learn	Frustrated Worried Silly/Wiggly Excited Loss of Some Control	Mad/Angry Mean Yelling/Hitting Disgusted Out of Control

Available at Blendspace: <https://www.tes.com/lessons/OA9zFaY2FRb7Vw/zone-toolbox>

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## Strategies Memory

Fundamental  
Processes

- Encourage students to develop a visual picture of information they have learned or read
- Teach the concept and then ask the student to teach you or others
  - having them teach others activates numerous areas of the brain.
- Break instructions and assignments into manageable pieces-limit amount of information give at one time
- Present information in several ways (verbal, written, visuals, modeling)
- Use visuals, graphic information, sticky notes
- Make connections with previous learning

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## Strategies Memory

Fundamental  
Processes

- Focus one concept or cognitive demand at a time
  - Only focus on one letter per week
  - Only focus on learning letters- once those are mastered, move to numbers
- Dora Approach
  - Use limited words or only one word requests
  - Identify target word and use throughout day



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## Strategies

### Memory: Building Self Awareness

Fundamental  
Processes

- What are some ways you could remember everything you have to take home after school?
- What is something you could do to remember to put your homework in your backpack?
- What do you remember about the directions?

Dawson and Guare, 2010

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## Strategies

### Processing Speed

Fundamental  
Processes

- Provide written directions and combine verbal information with visuals
- Frequent checks for understanding
- Reduce other distractions, so your student does not have to screen them out or share his/her focus with anything but your words
- Give instructions one at a time and focus on the essential or most important parts
- Give time between parts of a direction for the child to process and provide a response
- If the child appears “blank” or is not doing what you have asked, repeat the main points. Do not elaborate or add details

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## Strategies Processing Speed

Fundamental  
Processes

Do not pressure the student, urge them to hurry up, or get exasperated.

If you need something done quickly, it is better not to assign it to the student.



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## Strategies Sensory-Motor

Fundamental  
Processes

- Have the student warm up their hand/finger muscles
- Use of adaptive scissors, silverware, pencil grips, etc.
- Reduce the number of problems or visual stimulation on the page
- Support with physically navigating hallways or alternative transition times
- Allow the student to stand up and lean on the table when reading or lie on the floor to do work
- Encourage heavy work activities (e.g. standing pushups against wall, carrying boxes or books, stacking chairs)

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## Strategies Sensory-Motor

Fundamental  
Processes

- **Sounds**
  - Avoiding-respond strongly to sounds, can hear things others do not notice, avoid crowds or busy environments
  - Seeking-love loud noises and places with lots of action, put items up to ears
- **Smells**
  - Avoiding-strong reaction to smells others do not notice or perceive as mild
  - Seeking-regularly explores objects through smelling
- **Visual**
  - Avoiding-do not like bright or unnatural lighting
  - Seeking-fascinated by flashing lights and moving objects
- **Tactile**
  - Avoiding-bothered by particular fabrics, seams on socks, avoid feeling objects
  - Seeking-explore by touching objects or people, chewing and putting things in mouth
- **Taste**
  - Avoiding-particular about foods
  - Seeking-willing to try eating anything, even non-edible objects

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## Strategies Sensory-Motor

Fundamental  
Processes

- **Vestibular**-knowing where body is in space, which direction we are moving and how fast, balance
  - Avoiding- avoid swings, prone to motion sickness
  - Seeking- excessive movement (jumping, spinning, climbing, upside down), engage in rough play
- **Proprioceptive**-joint and muscle awareness, tells you what your body or parts are doing without having to look at them
  - Avoiding-cautions in play, dislikes tight clothing, sensitive to touch
  - Seeking- tight hugs, squeezes, run into things
- **Interoceptive**-knowing and understanding what is happening inside your body
  - Avoiding-difficulties knowing when hungry, thirsty, temperature, when to go bathroom
  - Seeking-very in tune with body and notice sensations or pain others would ignore

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## Strategies Sensory Avoiding

Fundamental  
Processes

- Limit overwhelming sensory information when possible
- Prepare for environments that can be overwhelming and support with coping strategies
- Desensitize- Introduce small amounts of sensory information while supporting them in using their calming strategies
  - Let them be involved in determining how long and how much
- Get the OT involved to suggest strategies or provide direct support if appropriate

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## Strategies Sensory-Motor

Fundamental  
Processes

### Flexible Seating

- Standing
- Therapy Balls
- Wiggle Seats
- Cube Chairs
- Stools
- Cushions on floor



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## Strategies

### Sensory Motor - Sensory Basket

Fundamental Processes

**Fidgets**

- Balls
- Mad Mattr
- Tangles
- Bean/Rice Bags

Lavender Lotion  
Linen Spray







**Weighted Items**

- Vests
- Blankets
- Stuffies

**Compression Items**

- Body Socks
- Compression Vests

**Visual Soothers**

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## Strategies

### Learning Processes

Intermediate Processes

- Encourage to read aloud when studying text
- Competitive games may activate emotional system and enhance learning
- Provide multimodal learning opportunities
- When possible, allow child to master one concept before introducing another
- Errorless Learning

[https://www.youtube.com/watch?v=WQ\\_SM26Wz3I](https://www.youtube.com/watch?v=WQ_SM26Wz3I)

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## Strategies Visual Spatial Processes

Intermediate  
Processes

- Verbal focus on learning-provide directions and content verbally
- Provide precise and clear verbal directions
- Highlight what visual information needs to be focused on
- Visual planners (webs, diagrams) may be too confusing
- Consider if visual presentation of worksheets needs to be modified

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## Strategies Visual Spatial Processes

Intermediate  
Processes

- Provide support/graph paper in aligning math problems
- Provide support organizing writing from left to right and organizing/expressing thoughts
- Social skills group

Addition		
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## Strategies Language Processes

Intermediate  
Processes

### Receptive:

- Give directions slowly and one at a time
- Reinforce verbal concepts with visual cues
- Identify target vocabulary and integrate throughout classroom lesson
- Start with concrete concepts then introduce related abstract concepts
- Teach through song

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## Strategies Language Processes

Intermediate  
Processes

### Expressive:

- Teach student to rehearse silently before replying
- Model and encourage participation in natural conversations
- Provide word banks
- Provide picture cues to support memory
- Frequent repetition and review of concepts to create automatic response

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Dear Visuals,  
I ♥ you.  
That's all.

@kwiens62

<http://northstarpaths.com>



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## Strategies Language Processes

Intermediate  
Processes

### Social Pragmatics:

- Pictures, photographs, visuals and modeling to teach recognition of emotions based on facial expressions, nonverbal cues, tone of voice, etc.
- Practice and reinforce skills in naturally occurring situations
- Role play and model how to behave and communicate in common social situations
- Teach appropriate space between people (public, social, personal, intimate)
- Teach social problem solving
- Thoughtful placement in workgroups or pairs

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## Strategies Language Processes

### Social Narratives



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## Purposeful Structures & Routines

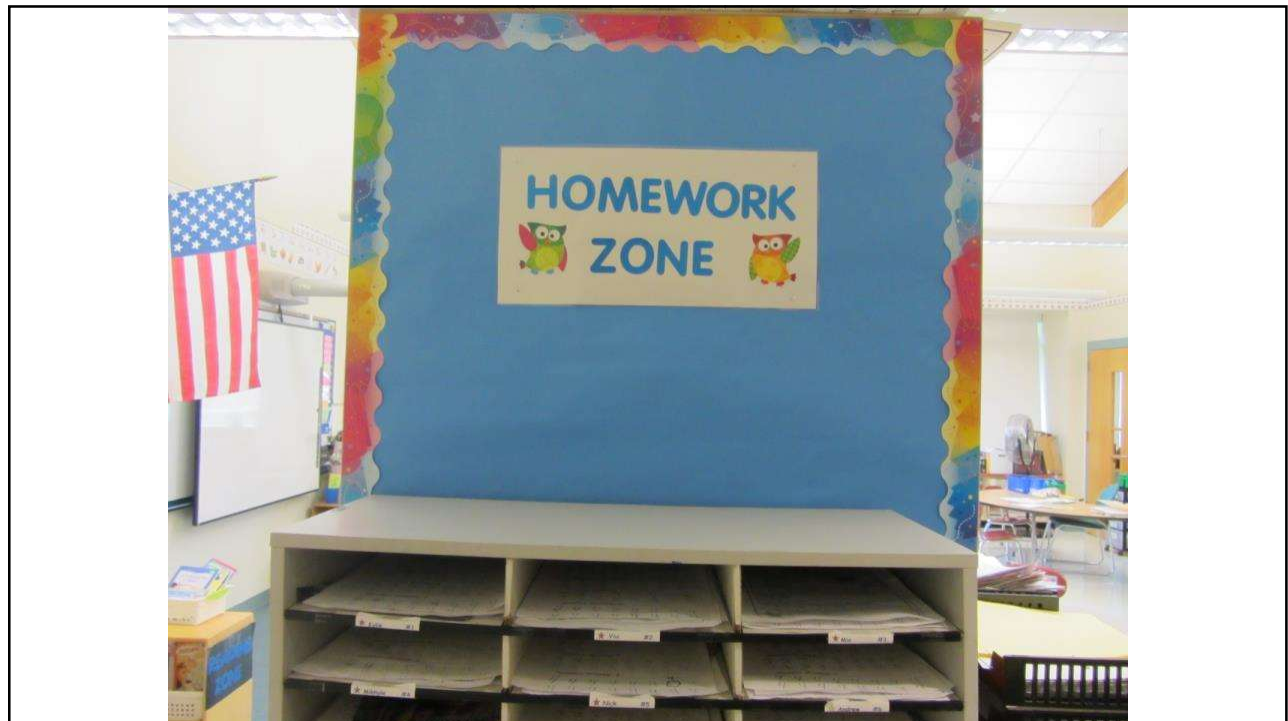
Higher Order  
Processes

- Classroom Zones: Identify the name and the process for each zone (Sarah Ward, 2014)
  - Explicitly teach each zone – purpose, expectations, how they can use the setup to think in an organized way
- During the year involve students: keep the areas useful and dynamic
  - Have the students take down already learned materials (or move to a strategy zone) and replace with new learning visuals
  - Explain the purpose of the change
  - Demonstrate how to use the new materials

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## Purposeful Structures & Routines

Higher Order  
Processes

- Walls: ensure they have educational or motivational value
  - Some areas are left undecorated in order to provide visual “rest” when students look up from their work to think or reflect
  - Students should be activity engaged in organizing their space
  - Help students to know where they are in the curriculum
- Create a Strategy Wall:
  - Post specific strategies that are in use in the classroom
  - Helps students get “unstuck”
- Use Borders: to create mental organization and visual rest
  - Colored tape on whiteboards
  - Paper borders on walls

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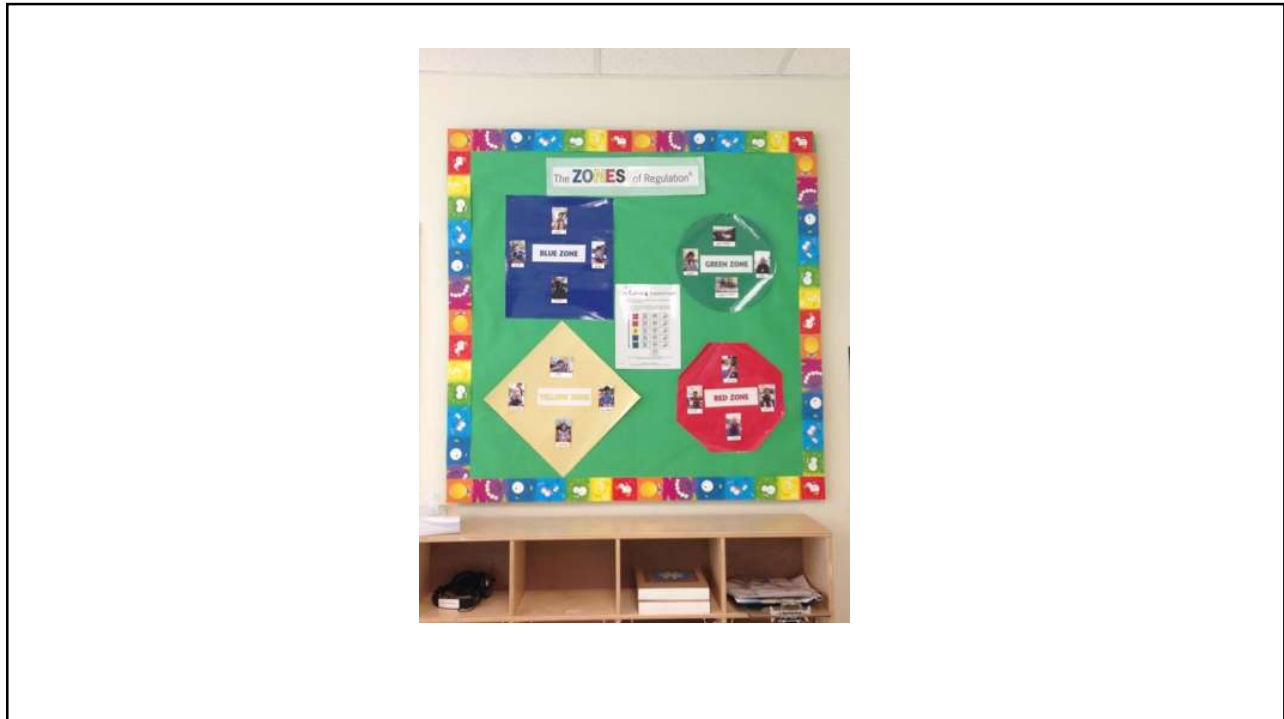
**Before**



**After**

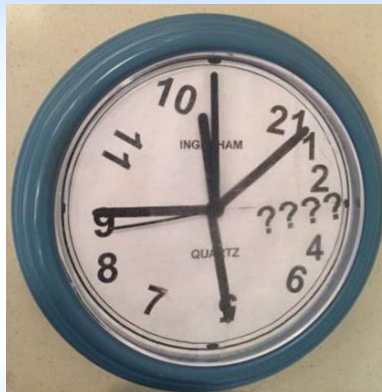


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## Building Time Management Skills



An essential component to all executive function areas

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## Working Clock

Higher Order  
Processes

### See and Sense the Passage of Time

- Draw how much time the student has on a task (5 min increments)
- Identify/sketch the “future picture image”
- Factor in time to ‘get ready’ and ‘close out’ (‘get done’) task
- Create Time Markers:
  - Start Time
  - Stop Time
  - Mid Point



(Sarah Ward, 2014)

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## Working Clock

### Time Management Steps

- Step 1: Get Ready
  - Place the GET READY magnet on the current time to mark the start of the planning time.
- Step 2: Create Time Markers
  - Place the START magnet to mark the beginning point of a task on the clock.
  - The 1, 2, and 3 magnets can be placed when/if parts of a task or different tasks will be started within the hour.
- Step 3: Identify When to Stop
  - Place the END magnet next to the START magnet, then slide it around the clock to the identified END time on the clock.

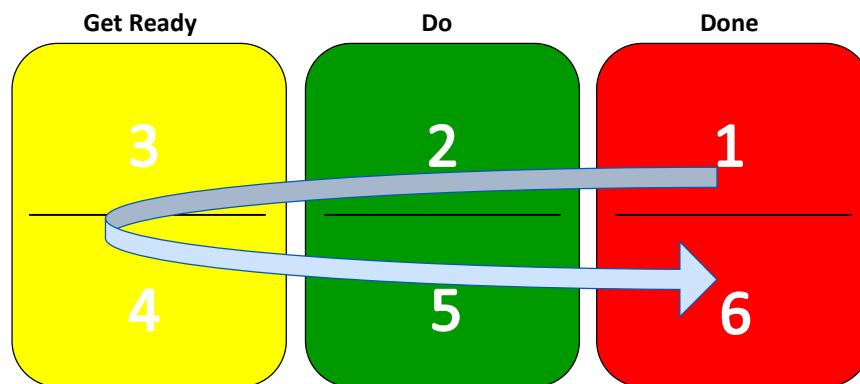
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## Working Clock Time Management Steps Continued

- Step 4: Create a Checkpoint
  - Slide the yellow mark on the clock to mark the 1/2 way check-point of the first part of the task.
- Step 5: Self Monitor
  - Am I on track with my predicted time?
  - Am I half way done?
  - Am I still focused on the goal?
  - Has my priority changed?
  - Am I still answering the question?
  - Do I have any Time Robbers?
    - Identify, Remove, Re-Plan
    - Do I need a faster or a slower pace?

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## Get Ready, Do, Done (Sarah Ward, 2014)



### Steps 1-3: Task Planning

1. **Done** – what will it/I look like?
2. **Do** – what do I need to do?
3. **Get Ready** – what materials will I need?

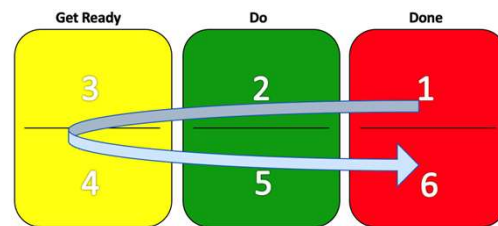
### Steps 4-6: Task Execution

4. **Get Ready** – gather materials
5. **Do** – create time markers/check points
6. **Done** – stop and review

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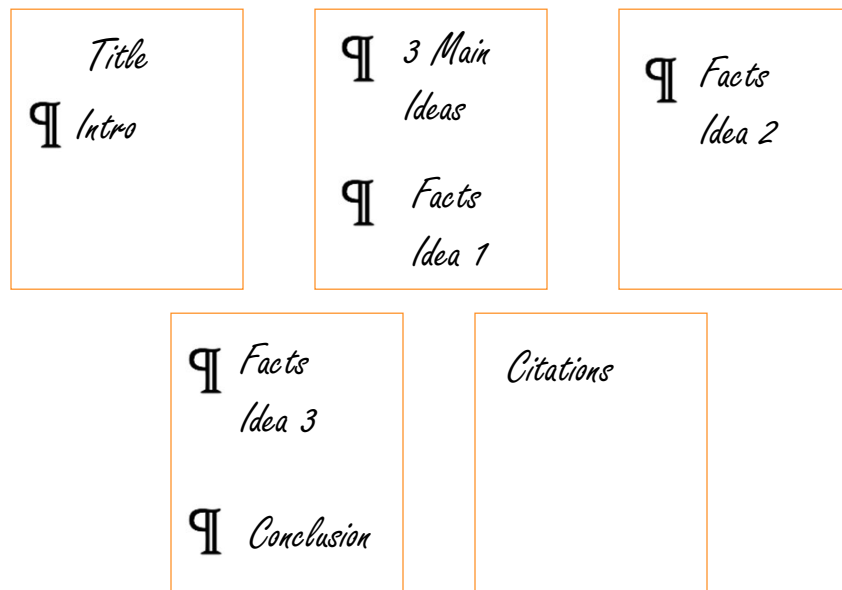
## Get Ready, Do, Done Essay Example

- 4-5 page essay
- Double spaced
- Must have a minimum of 3 ideas
- Must include citations



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### 1. What will it look like when it's **done**?



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## 2. What do I need to **do**?

- Create outline
- Schedule time on calendar to do research
  - online, library, etc.
- Arrange for time on the computer
  - Family computer, lab, etc.
- Write, edit, revise essay
- Print essay or submit electronically

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## 3. What materials do I need to **get ready**?

- Paper & pencil for outline
- Computer
- Paper and printer ink

### Steps 1-3: Task Planning

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## 4. Get Ready – gather materials

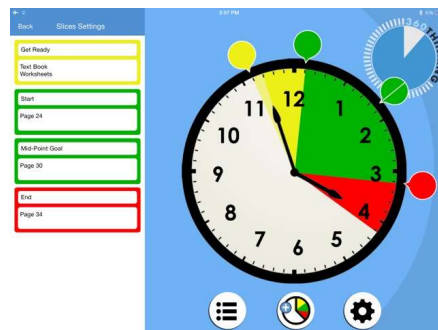
- Paper and pencil for outline
- Computer
- Paper and printer ink



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## 5. Do – time markers and check points

- Create outline
- Research
- Write
- Edit
- Revise
- Include citations



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## 6. Done – stop and review

- Recheck instructions
- 4-5 pages long
- Double spaced, correct margins
- 3 ideas and supporting information
- Citations correct
- Turn in on time – date \_\_\_\_\_

## Steps 4-6: Task Execution

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Higher Order  
Processes  
Additional Online  
Modules

### CDE Understanding the Brain Series

- Understanding Can't Versus Won't Behaviors
- Brain Injury and Mental Health Conditions
- And more...

[http://www.cde.state.co.us/cdesped/sd-tbi\\_online](http://www.cde.state.co.us/cdesped/sd-tbi_online)

### CDE Autism Spectrum Disorder

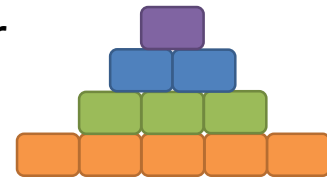
- Executive Function Webinars

<http://www.cde.state.co.us/professionaldevelopment/onde-mandtopic/Autism>

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## Take Aways

- When selecting strategies and interventions we want to take a Student-Centered Approach
- Which Building Blocks are areas of need?
- Consider additional physical, health, background, or environmental factors
- Consider culture, language, and other factors



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## Resources: Further Your Learning



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## Additional Brain Injury Modules

- Brain Injury 101: Laying the Framework
- Understanding the Building Blocks of Brain Development
- Brain Injury Special Education Eligibility
- Understanding Brain Injury and “Can’t versus Won’t” Behavior
- Understanding the Intersection between Brain Injury and Mental Health Conditions
- And others...

<https://www.cde.state.co.us/cdesped/sd-tbi>

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<http://www.cde.state.co.us/cdesped/SD-TBI.asp>



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# www.COKidswithBrainInjury.com



**Brain Injury Alliance** COLORADO | **MINDSOURCE** BRAIN INJURY NETWORK | **COLORADO** Department of Education

## COLORADO KIDS with Brain Injury

Stay Connected! Join our Listserv

HOME | FOR EDUCATORS AND PROFESSIONALS | FOR PARENTS | UPCOMING EVENTS | KEY TERMS | CONTACT US

**Educators and Professionals**  
ENTER HERE

**WELCOME TO THE COLORADO KIDS WITH BRAIN INJURY WEBSITE**

This website serves as a tool for educators, school administrators, school psychologists, related services professionals, community partners, and families to help support our kids in Colorado with brain injuries. The design of this website was funded through a community grant from MINDSOURCE Brain Injury Network within the Colorado Department of

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- Brain Injury School Consulting Program
- In many Districts/BOCES across the state
- Inter-disciplinary Consultation Team
- Trained in brain injury and The Building Blocks of Brain Development©
- Funded in partnership by:



For more information go to: <http://www.cde.state.co.us/cdesped/brainsteps>

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**Brain Injury Alliance**  
C O L O R A D O



**MINDSOURCE**  
BRAIN INJURY NETWORK

**Services**

- ❖ Education Consultation
- ❖ Resource navigation
- ❖ Outreach and education
- ❖ Juvenile/criminal justice
- ❖ Self-management & skill building
- ❖ Classes and workshops
- ❖ Recreation and social programs
- ❖ And more – when in doubt, refer to us!
- ❖ **ALL AGES CAN ACCESS THIS FREE SUPPORT!**

**BIAColorado.org** **303-355-9969**

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## CO Brain Injury Resources

- CO Department of Education – Exceptional Student Services Unit:
  - Brain Injury in Children & Youth: A Manual for Educators  
<http://www.cde.state.co.us/cdesped/sd-tbi>
  - Building Blocks of Brain Development -  
[www.cde.state.co.us/cdesped/sd-tbi\\_buildingblocks](http://www.cde.state.co.us/cdesped/sd-tbi_buildingblocks)
- Colorado Kids Brain Injury Resource Network: Includes an online, user friendly, clickable version of the Building Blocks of Brain Development with the Assessment component - <http://cokidswithbraininjury.com/educators-and-professionals/brain-injury-matrix-guide/>
- Article: [Neuroeducational Evaluations – The School-Based Answer to Pediatric Neuropsychological Assessments](#) (2017. Crawford, N., Hotchkiss, H., McAvoy, K.)
- Website for Parents and Professionals: [www.COKidswithbraininjury.com](http://www.COKidswithbraininjury.com)
- Brain Check Survey: <http://www.lobi.chhs.colostate.edu/index.aspx>

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## Website Resources

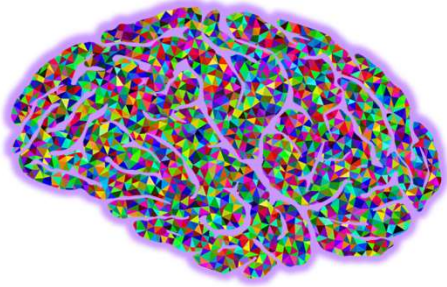
- CDE FASD: <http://www.cde.state.co.us/cdesped/fasd>
- Brain Injury in Youth – Supports for School Success Community of Practice – <https://youthbraininjury.obaverse.net/welcome>
- LEARNet - A Problem Solving System for Teachers, Clinicians, Parents, and Students (Brain Injury Association of New York State): [www.projectlearn.net.org](http://www.projectlearn.net.org)
- Brainline & Brainline Kids - [http://www.brainline.org/landing\\_pages/features/blkids.html](http://www.brainline.org/landing_pages/features/blkids.html)
- The Center on Brain Injury Research and Training – [www.cbirt.org](http://www.cbirt.org)
- Center on The Developing Child: Executive Functions - <https://developingchild.harvard.edu/resources/activities-guide-enhancing-and-practicing-executive-function-skills-with-children-from-infancy-to-adolescence/>

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## Book Resources

- Cooper-Kahn and Dietzel (2008) Late, Lost, and Unprepared: A Parents' Guide to Helping Children with Executive Functioning
- Dawson and Guare (2012) Coaching Students with Executive Skill Deficits.
- Dawson and Guare (2018) Executive Skills in Children and Adolescents-Third Edition
- Dawson (2011) Smart but Scattered: Executive Dysfunction at Home and School.
- Dawson and Guare (2012) Smart but Scattered Teens
- Dawson and Guare (2016) The Smart but Scattered Guide to Success
- Guare, Guare, and Dawson (2019) Smart but Scattered and Stalled
- Jones (2017) Tools for Teaching: Third Edition

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