

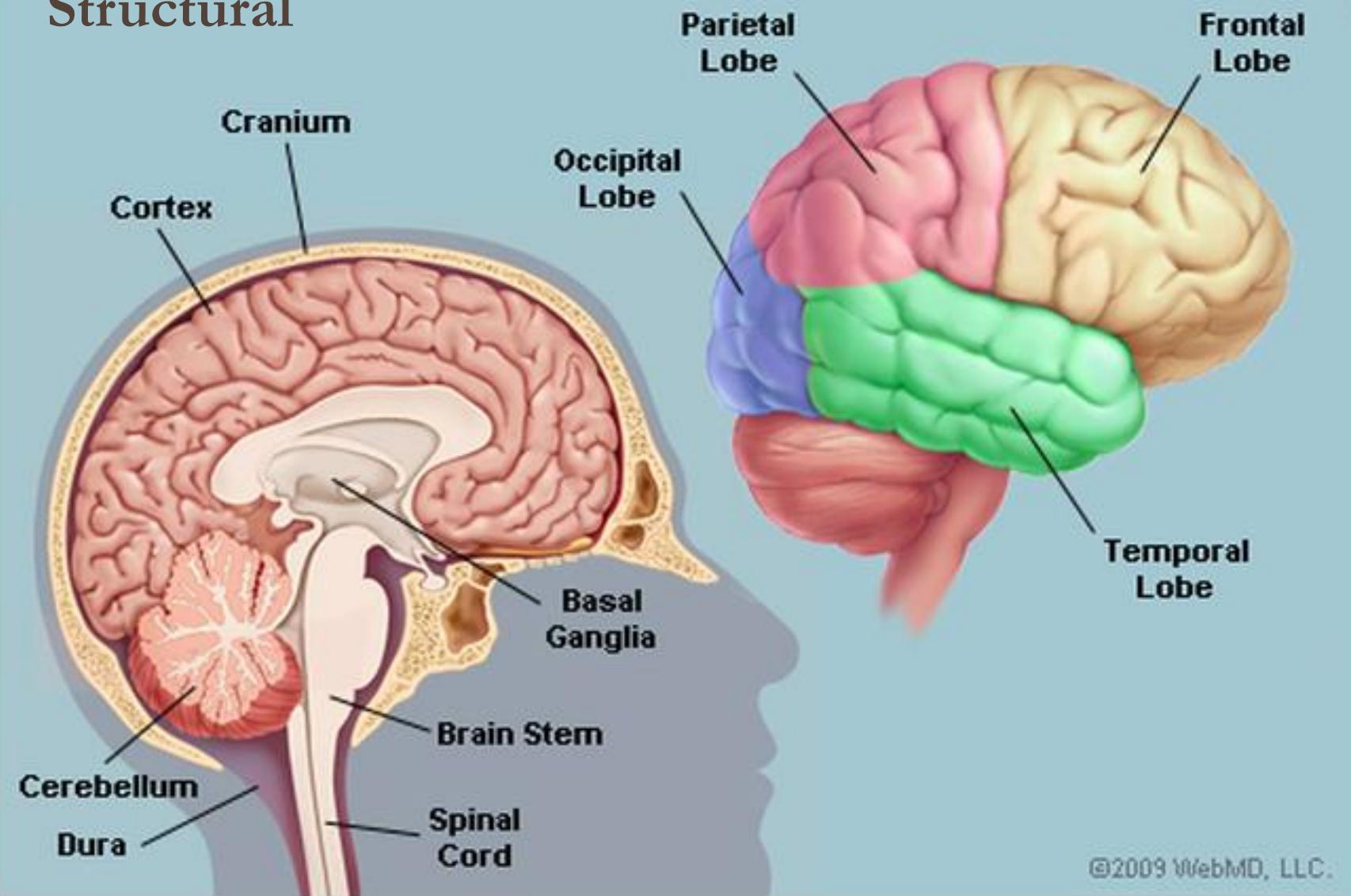
# Brain Injury in the Classroom

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Thank you to my colleagues at the Colorado Department of Education: Heather Hotchkiss, LCSW and Janet Tyler, PhD for the use of some of their slides.

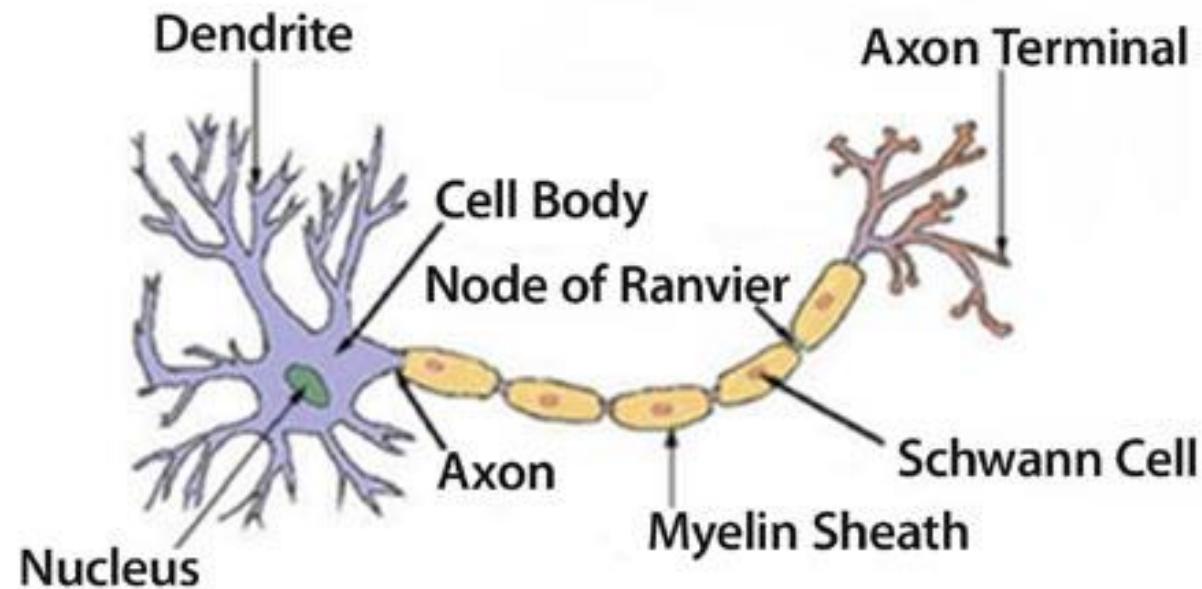
# Structural



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# Biochemical

## Structure of a Typical Neuron



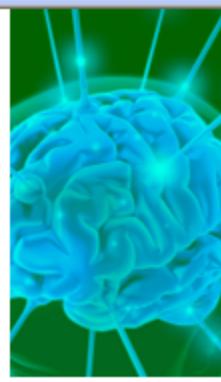
(Figure 1.2) depicts a basic neuron and its components. (Wikieducator, 2008)

# Functional burden of the TBI

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TIME



The  
Brain Injury  
Alliance of  
Colorado



cde  
Improving  
Academic  
Achievement



# Traumatic Brain Injury Networking Team Resource Network

A RESOURCE FOR TEACHERS, CLINICIANS, PARENTS, AND STUDENTS

[MANUAL](#) [TBI IDENTIFICATION PROTOCOL](#) [MATRIX](#) [MILD TBI/CONCUSSION INFO](#) [EVENTS](#) [BLOG](#) [RESOURCES](#) [KEY TERMS](#)

## WELCOME TO THE TBI NETWORKING TEAM

The website was designed through funding from the Colorado TBI Trust Fund. This website should serve as a tool for educators, school administrators, school psychologists, related services professionals, and families. Feel free to join in the discussion and learn more about how to support our kids in Colorado with brain injuries.

## BRAIN INJURY: INTERVENTIONS, STRATEGIES, FACTS

April 15th & 17th

[Click here for copies of the presentations](#)

## UPCOMING EVENTS

- [NO UPCOMING EVENTS](#)  
Check back soon for updates.
- [Check out the full calendar](#)

## ANNOUNCEMENTS

- [Join us for BrainSTARS](#)  
Wed, Mar. 31, 2010
- [Education Grant Applications](#)  
Fri, Mar. 12, 2010
- [Next Case Sharing Meeting Coming Up!!](#)

## JOIN THE DISCUSSION

- Liz Wilburn on [Interesting article about Aspen Ski Cl...](#)
- Paula Denslow on [November 13th Meeting - Website Launch...](#)
- Wendy Zieker on [Helping school professionals](#)

## TRAUMATIC BRAIN INJURY MATRIX

The matrix offers a wide range of suggested assessment tools and intervention strategies for students with TBI. It covers many of the different development areas and how it affects students, as well as how to help.

[Check out the matrix.](#)

- Neuro-Developmental Domain
- Behavioral Impacts
- Cognitive Academic Impacts
- Assessment Suggestions
- Environmental Supports Accommodations
- Resources and Intervention

# Traumatic Brain Injury

## A Manual for Educators



The Colorado Department of Education

# Infancy Stage: Birth to 3 years

## Developmental Characteristics:

### Birth to 3 years:

- ▶ Language acquisition
- ▶ Refinements in sensory and motor systems
- ▶ Regulation of sleep-wake patterns
- ▶ Begin to understand cause-effect relationships
- ▶ Emotionally egocentric
- ▶ Symbiotic relationships with caregivers



## Developmental Disruptions Following Brain Injury: Birth to 3 Years

- ▶ Disruption in the ability to regulate state of arousal and sleep
- ▶ Lack of understanding of cause- effect relationships
- ▶ High reliance on structure, support, supervision and modulation from others
- ▶ Sleep disturbance
- ▶ Lability: moods shift dramatically and quickly
- ▶ Emotional reactions unpredictable, often labeled "irrational"

Jeanne Dise-Lewis, Ph.D.  
Colorado Children's  
Hospital  
Denver, Colorado

# Preschool Stage: 3 years to 6 years

## Developmental Characteristics: 3 to 6 Years

- ▶ Very basic understanding of cause and effect relationships
- ▶ Developing ability to think before acting
- ▶ Focuses on one aspect of the situation at a time
- ▶ Emotional focus is on control and mastery
- ▶ Concrete and rigid thinking, "the terrible two's"



## Developmental Disruptions Following Brain Injury: 3 to 6 Years

- ▶ Disruption in the connections among thinking-emotion-behavior systems
- ▶ Emotional and behavioral extremism
- ▶ "Executive function" difficulties
- ▶ Poor organization of behavior
- ▶ Immediate expression of feelings
- ▶ Temper tantrums and rigid behavior
- ▶ Poor acquisition of preschool concepts: same/different; quantity (some/all); size (big/little); shapes; time concepts (yesterday/next week)
- ▶ Dependence on structure and organization provided by adults

# Elementary School Stage: 6 years to 12 years



- ▶ temper tantrums
- ▶ Robust understanding of cause-and-effect relationships
- ▶ Ready to learn academic skills
- ▶ Focus on effort as important
- ▶ Recognize intention of acts as important

## Developmental Disruptions Following Brain Injury: 6 to 12 Years

- ▶ Disruption in reading, spelling, math skills
- ▶ Poor performance despite hard work
- ▶ School failure/avoidance
- ▶ Behavior problems during unstructured times
- ▶ Depression, social isolation or withdrawal from peers
- ▶ Sleep disturbance
- ▶ Fatigue

# Early Adolescence: 12 years to 16 years



## **Developmental Characteristics: 12 to 16 Years**

- ▶ Considers three or more dimensions simultaneously
- ▶ Abstract reasoning
- ▶ Extremism
- ▶ Increasing autonomy
- ▶ Beginning identity development
- ▶ Social stereotyping
- ▶ Responsibility: able to care for self, babysit, perform jobs for pay

## **Developmental Disruptions following Brain Injury: 12 to 16 Years**

- ▶ Unevenness in cognitive profile
- ▶ New learning deficits
- ▶ Slower rate of mental processing
- ▶ Difficulty organizing complex tasks over time
- ▶ Judgment and reasoning difficulties
- ▶ Increased "frustration" response
- ▶ Depression
- ▶ Fatigue

# Late Adolescence: 16 years to 19 years

## Developmental Stage Characteristics:

### 16 to 19 Years

- ▶ Complex reasoning and judgement
- ▶ Ability to plan and execute complex projects over time
- ▶ Solid sense of own identity based on positive identifications
- ▶ Social sophistication
- ▶ Capacity for altruism

## Developmental Disruptions Following Brain Injury: 16 to 19 Years

- ▶ New learning deficits (e.g., memory for numbers)
- ▶ Mental processing speed deficits
- ▶ Inability to organize complex tasks
- ▶ Conflict between specific challenges and career goals
- ▶ Interference in developmental drive toward independence/separation
- ▶ Social awkwardness
- ▶ Fatigue
- ▶ Defensiveness regarding emotional/cognitive problems
- ▶ Depression
- ▶ Body image/social image



## Hierarchy of Neurocognitive Development

Overall  
Functioning



Higher Order  
Processes



Intermediate  
Processes



Fundamental  
Processes



CO Brain Injury Steering Committee: Adapted from Miller, 2007; Reitan  
and Wolfson, 2004; Hale and Fiorello, 2004

## Hierarchy of Neurocognitive Development

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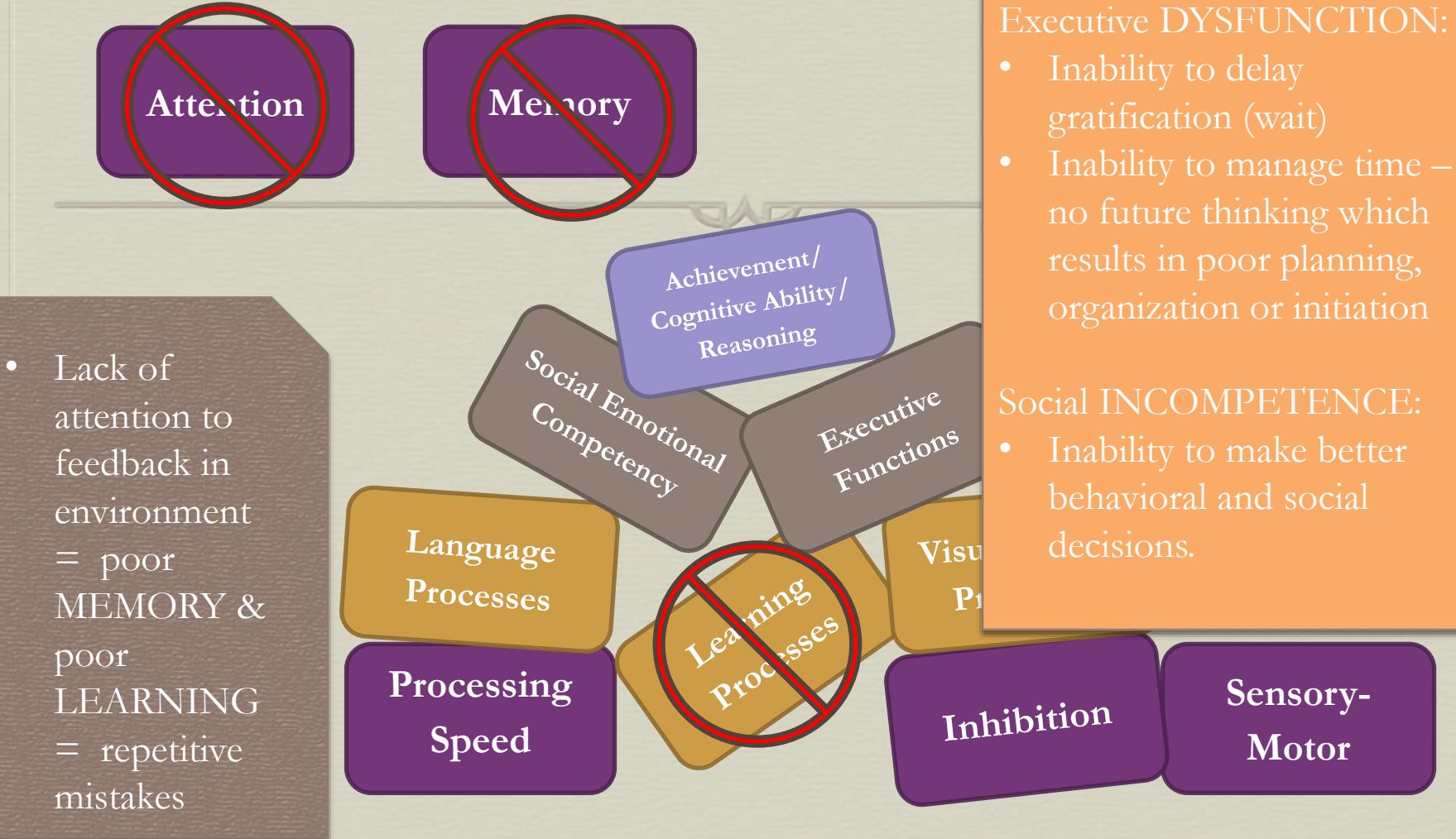


## ATTENTION –

- Inability to **inhibit** to consider and make better behavioral choices

Attention has a close tie with social emotional competence





CO Brain Injury Steering Committee: Adapted from Miller, 2007; Reitan and Wolfson, 2004; Hale and Fiorello, 2004

# Attention

**Attention:** *The ability to sustain focus on the information necessary for learning or completing tasks*

- ❖ There are numerous types of attention: selective, sustained, shifting and divided attention. Being able to attend to a task, to shift from task to task and to ignore competing distractions so that one can stay focused on the original task at hand, explains why attention is a fundamental skill necessary for all levels of learning.
- ❖ The inability to **INHIBIT** an impulse is a problem with attention and is often the underlying issue with Attention Deficit Hyperactivity Disorder (“hyperactivity” is often more about the inability to stop acting upon every impulse that comes to mind).

# Memory



**Memory:** *The mental ability to store and retrieve words, facts, procedures, skills, concepts and experiences.*

- ❖ The general memory process is complex and entails memory creation, storage of information and retrieval. Additionally, there are several types of memory. For example, some primary types of memory are short-term, working, visual, auditory, procedural and declarative memory.
- ❖ Damage to any brain area that assists in the formation, storage or retrieval of information can degrade overall memory performance. Due to the number of areas associated with the memory system, it is important to emphasize there are also numerous ways to impair or damage this process.
- ❖ The inability to remember the steps of appropriate behavior and social skills leads to “inappropriate” events.

# Processing Speed

**Processing Speed:** *How quickly information is received, processed, and/or outputted.*

- ❖ A common consequence of a brain injury is the slowing of information processing. Slowed information processing impacts a person's ability to think efficiently and may hinder the effectiveness of other abilities such as memory. Although there are different reasons for slowed processing after an injury, one major reason is that the “wires” of the brain (neurons) can no longer communicate with each other efficiently.
- ❖ Another reason for slowed processing speed is that the brain might have to re-route signals around the damaged area (takes longer).

# Sensory Motor

Sensory Processing: *Perceiving and responding to what is seen, heard, smelled, tasted, felt and touched.*

- ❖ Generally speaking, the parietal lobe of the brain (top brain area) processes most sensory information and integrates it to construct a picture of one's environment. Damage to the parietal lobe may interfere with body awareness, cause attention problems, and degrade the accurate processing of auditory, olfactory, taste, tactile, and visual information.
- ❖ Fine Motor: *Involves the use of small muscles of the hands to make smooth, coordinated or fine motions.*
- ❖ Gross Motor: *Involves the coordinated use of the large muscles of the body.*
- ❖ “Not comfortable in my skin”

# Learning Processes

Intermediate  
Processes

Intermediate  
Processes



**New Learning:** *The ability to learn new concepts and information.*

- ❖ Receiving and processing new information to create *learning* is a remarkably complex neurological phenomenon. A novel academic task requires several brain areas working in concert to produce understanding. Once new information is processed, the new information is sent to other areas of the brain so the information can be comprehended on a deeper level.
- ❖ The inability to benefit from new learning, and to build on that learning – especially in social situations and behaviorally.

# Visual Spatial Processes

**Visual-Spatial:** *The ability to generate, retain, retrieve and transform well-structured visual images.*

- ❖ Visual-spatial processes are largely associated with the occipital lobe of the brain, which is located at the back of the brain. Damage to the back and left side of the brain can degrade a person's ability to process images of known objects. Injury to the back to upper regions of the brain may cause problems with spatial and location tasks.
- ❖ Inability to recognize social cues.

# Language Processes



**Language-Receptive:** The ability to understand language.

- ❖ Understanding spoken language is typically associated with the left hemisphere of the brain. Young children typically understand what is told to them (receptive language) before they can express themselves, but damage to the left side of the brain hinders their ability to understand language.

**Language-Expressive:** The ability to express one's thoughts and feelings into words and sentences.

- ❖ The ability to speak logically and express oneself using language involves the left hemisphere of the brain.

**Social Pragmatics:** Pragmatics are the verbal and nonverbal rules of social language and interactions.

Higher Order  
Processes

Higher Order  
Processes

# Social Emotional Competency

**Social and Emotional:** The awareness of social issues and one's emotional status. Behavioral self-regulation, control and self-monitoring are also part of this domain.

- ❖ The ability to interact successfully with other people and control one's emotions involves a higher order cognitive skill set. There are two primary areas associated behavioral and emotional regulation.
- ❖ 1) The frontal cortex, is implicated in pro-social behaviors. Specifically, the front part of the brain, near the eyes, assists with impulse control.
- ❖ 2) The limbic system. The limbic system is made of several smaller parts that are associated with creating all emotions. When these deep brain structures are damaged, it is common that the person develops severe emotional difficulties.

# Executive Functions: Mental Flexibility

Higher Order  
Processes

Higher Order  
Processes

**Mental Flexibility:** The ability to easily shift from one idea, train of thought, activity or way of looking at things.

- ❖ Controlling the thoughts and actions of the brain falls under the function of the frontal lobe. Although there are different brain areas that also help with initiation, organization, planning and flexibility, these four “executive functions” are primarily regulated by the upper brain areas located behind the forehead. People with damage to the frontal lobe may become more rigid in their thinking and less adaptable to change.

# Executive Functions:

Higher Order  
Processes

## Planning

Higher Order  
Processes

**Planning:** The ability to set a goal, identify a sequence of actions to reach the goal and carry out that sequence of steps.

- ❖ Planning is a future oriented process requiring forethought, estimation and problem solving similar to the same neurological structures involved with regulation, organization, and problem solving, the upper frontal lobe is intimately tied to planning.

# Executive Functions:

Higher Order  
Processes

## Organization

Higher Order  
Processes

**Organization:** The ability to create and maintain orderliness in thoughts, activities, materials and the physical environment.

- ❖ The upper frontal region of the brain, behind the forehead, controls planning and organization of thoughts and activities. The ability to sequence thoughts in a logical fashion and translate those thoughts into action to organize a person's environment involves communication between the frontal cortex and left hemisphere of the brain. Damage to the front and/or the left hemisphere of the brain may cause disorganized thinking and ordering of materials.

# Executive Functions:

Higher Order  
Processes

## Initiation

Higher Order  
Processes

**Initiation:** The ability to independently start an action or activity.

- ❖ Since the frontal regions of the brain are largely responsible for action and movement, it is not surprising these same areas are responsible for initiation. It is also not surprising that emotions help start actions, so the deeper emotional centers of the brain are implicated in initiation. A child's inability to get tasks completed may be related to problems with initiation within the brain.

# Executive Functions:

## Reasoning

Higher Order  
Processes

Higher Order  
Processes

**Reasoning:** The use of deliberate and controlled mental operations to solve novel and on the spot problems

- ❖ Many aspects of reasoning are similar to the process of new learning. Reasoning is the foundation for problem solving and ultimately overall intelligence. Higher order reasoning involves the effective integration and processes of the entire cerebral (brain) structure. Since the frontal cortex is considered the “manager” of the brain, this region is typically needed in reasoning as it orchestrates how information is processed. However, many areas of the brain are needed for deep thinking.

# Cognitive Ability Adaptive Living Skills

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Adaptive living skills, including but not limited to with Activities of Daily Living (ADL).

Some Examples:

- ❖ Personal hygiene and grooming
- ❖ Housework
- ❖ Managing money
- ❖ Use of telephone or other form of communication
- ❖ Community mobility
- ❖ Care of pets
- ❖ Meal preparation and cleanup
- ❖ Safety procedures and emergency responses

# Cognitive Ability Achievement – Academic and Work Skills

- ❖ The client exhibits delays in academic skills, including but not limited to reading, writing, and math delays that cannot be explained by any other disability. They may also demonstrate an extremely uneven pattern in cognitive and achievement testing, work production and academic growth.

# Teacher Input/Functional Observation(s)

## Brain Injury Observation Form

Less positive ..... More Positive

| ATTENTION SUBTYPE                                   | 1                           | 2                      | 3       | 4                      | 5                           |
|---|-----------------------------|------------------------|---------|------------------------|-----------------------------|
| SELECTIVE/FOCUSED                                   | Significantly Below Average | Slightly Below Average | Average | Slightly Above Average | Significantly Above Average |
| Focuses on teacher lecture                          |                             |                        |         |                        |                             |
| Attends to detail                                   |                             |                        |         |                        |                             |
| Orients to speaker/staff                            |                             |                        |         |                        |                             |
| Looks at board appropriately                        |                             |                        |         |                        |                             |
| Responds to questions with on-topic answers         |                             |                        |         |                        |                             |
| Resists subtle classroom distractions-noise, lights |                             |                        |         |                        |                             |
| SUSTAINED   |                             |                        |         |                        |                             |
| Focuses for long periods of time                    |                             |                        |         |                        |                             |
| Completes in-class assignments                      |                             |                        |         |                        |                             |
| Looses train of thought when talking or writing     |                             |                        |         |                        |                             |
| Looses place when working on task or when reading   |                             |                        |         |                        |                             |
| SHIFTING/DIVIDED                                    |                             |                        |         |                        |                             |
| Can multitask-note taking while listening           |                             |                        |         |                        |                             |

# Assessments

## Attention

Suggestions:

- ❖ Neuropsychological Assessment,  
Focusing on Attention and  
Executive Functioning Subtests
- ❖ Behavior Rating Inventory of  
Executive Function (BRIEF), up to  
age 18 years.
- ❖ Continuous Performance Tests
- ❖ TOVA – Test of Variables of  
Attention
- ❖ Functional Observations or  
reports from boss, co-  
workers, spouse:
  - ❖ Settings: home?
  - ❖ Work?
  - ❖ Community?

# Interventions

## Attention

Suggestions:

- Schedule most important work during times when the child has displayed their greatest concentration abilities.
  - Seat nearest the location of instruction and away from distractions (e.g. doors, windows, high traffic areas, and other off-task children).
- ❖ Seat next to positive peers with age appropriate attention abilities.
  - ❖ Clear desk and area of everything except what is needed for the task at hand.
  - ❖ Connect new learning to prior knowledge or with areas of interest.

# Interventions

## Memory

### Suggestions:

- 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 and encourage students to form a mental visual picture of verbal information.
- ❖ Use verbal prompts and auditory modalities.
- ❖ Teach the concept and then ask the student to teach you or others - having them teach others activates numerous areas of the brain.

# Interventions

## Processing Speed

### Suggestions:

- 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.
- 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.

# Interventions

## Sensory-Motor

### Suggestions:

- 
- 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).
  - Strategies for written work
    - Break written work into chunks.
    - Reduce the amount Provide multiple choice test format.
    - Allow student to use computer
  - Ensure the student's table and chair provide optimal support to reduce the amount of energy devoted to maintaining balance. A firm seat with arm rests and table at elbow level are often optimal.
  - Have the student warm up their hand/finger muscles
  - Reduce the number of problems or visual stimulation on the page.

# Interventions

## Learning Processes

Suggestions:

- ❖ Teach outlining and highlighting of most important concepts.
- ❖ Provide copies of guided notes and outlines.
- ❖ Extra time to complete tests and assignments.
- ❖ Encourage student to review what has been learned daily.

- Provide student/parents with upcoming topics, notes and materials (preview and reinforce concepts at home).
- Use real world examples-make connections between new learning and information student already knows.
- Teach the concept and then ask the student to teach you or others.

# Interventions

## Visual-Spatial Processes



### Suggestions:

- ❖ Verbal focus on learning-provide directions and content verbally.
- ❖ Provide precise and clear verbal directions.
- ❖ Frequent checks for understanding.
- ❖ Highlight what visual information needs to be focused on.
- ❖ Visual planners (webs, diagrams) may be too confusing.
- ❖ Enlarge written materials.
- ❖ Consider if visual presentation of worksheets needs to be modified.
- ❖ Provide support/graph paper in aligning math problems.

# Interventions

## Language Processes

Suggestions:

- 
- Stimulate strategic learning for children and adolescents
  - Identify main ideas/concepts
  - 2-3 supporting details
  - State main concepts and supporting facts/ideas
  - Demonstrate main directions/ideas
  - ❖ Focus on the ability to abstract gist-based meaning
  - Teach how to eliminate unimportant information
  - Teach how to ask/develop questions about material to be learned
  - Teach multiple meaning words
  - ❖ Focus on strategic learning and gist related information
  - ❖ Introduce social interactions with other children, peers and family
  - ❖ Teach receptive and expressive vocabulary
  - ❖ Teach social language experiences in a variety of environments
  - ❖ Teach turn-taking
  - ❖ Teach responsibility and organizational skills

## Social-Emotional Competency

Suggestions:

- ❖ Give clear and simple direction
  - ❖ Avoid time outs (the student is not likely to independently regroup or calm down or connect the behavior)
  - ❖ Build on existing strengths
  - ❖ Build in peer feedback and modeling (the student may be more receptive)
  - ❖ Minimize verbalizations and logical explanations
  - ❖ Maximize hands-on demonstrations
- 
- Teach strategies and how to use them rather than offering assistance
  - Discuss and practice age-appropriate behaviors in real life situations
  - Create structured social activities (a school/community friendship group focused on the student, for example)
  - Assume limited ability to generalize from one setting to another
  - Label the emotion and direct the student to show the acceptable behavior

## Executive Functions: Reasoning

### Suggestions:

- ❖ Teach the student how to develop a step-by-step guide for problem solving by identifying the problem, considering relevant information, listing and evaluating possible solutions, creating a plan of action, and evaluating the plan of action.
- ❖ When considering solutions, review at least two alternatives then let the student select one of the solutions, eventually move them to developing their own possible alternative solutions.
- ❖ Give consistent, neutral feedback.
- ❖ Teach use of self-monitoring questions- “What else could I do?”
- ❖ Present information in concrete and concise manner- avoid language using puns, sarcasm, and double meanings.
- ❖ Check for understanding and the need for assistance.
- ❖ Break tasks into smaller and shorter segments.
- ❖ Use graphic organizers to show relationships.
- ❖ Provide copy of guided notes or outlines with most important points highlighted.

# Interventions

## Executive Function: Mental Flexibility

### Suggestions:

- ❖ Evaluate the assignments, worksheets and tests to see if they are requiring too many shifts in the type of questions the student is required to complete. Either reduce the different types of questions required of the student or help support them as the task demands change.
  - ❖ Teach coping strategies.
  - ❖ Use social stories to help teach solutions or coping strategies to different situations.
- ❖ Structured social skills groups to help identify, practice and learn more flexible coping and problem solving strategies.
- ❖ Teach thought stopping, relaxation or coping strategies (e.g., deep breaths, calming self-talk, leaving the situation until calm, etc.).
- ❖ Help them understand why strategies used in one setting or for one task may not work for another. Role-play situations ahead of time to help generate more than one outcome and more than one potential solution.

# Interventions

## Executive Function: Planning

### Suggestions:

- ❖ Teach the student how to develop a step-by-step guide for problem solving by identifying the problem, considering relevant information, listing and evaluating possible solutions, creating a plan of action, and evaluating the plan of action.
- ❖ Model appropriate planning by verbalizing your own step by step process as you complete a task.
- ❖ Teach time management and prioritizing.
- ❖ Provide step-by-step visual directions and instructions.
- ❖ Teach how to develop short term and long term goals.
- ❖ Teach use of graphic organizers and other planning strategies to organize their thoughts.
- ❖ Support student in connecting new information with what they already know.

# Interventions

## Executive Function: Organization

### Suggestions:

- ❖ Establish a daily routine as much as possible. Particularly for young students, the ability to predict what is going to be happening will help them to organize their behavior better.
- ❖ Teach the student how to develop a step-by-step guide for problem solving by identifying the problem, considering relevant information, listing and evaluating possible solutions, creating a plan of action, and evaluating the plan of action.
- ❖ Use picture schedules, planners, checklists, or electronic organizers to help them organize their day and prepare themselves for transitions.
- ❖ Use a “check-in/ check-out” system to ensure that student has assignments and materials.
- ❖ Help the student break down long-term and larger projects. Start with the due date and then work backwards to determine when the smaller steps need to be completed. Mark those dates in their planner or on a calendar.

# Interventions

## Executive Function: Initiation

### Suggestions:

- ❖ Provide assistance with getting started on school tasks - have the child then identify the first thing they are going to do.
- ❖ Provide more frequent check-ins to ensure student is completing work and to provide “jumpstarts” as the task demands change.
- ❖ Seat next to a positive peer to help them get started or if they get stuck as the task changes.
- ❖ Provide a written routine with an outline of tasks and time frame.
- ❖ Break large projects or tasks into smaller steps.
- ❖ Help student develop planning skills.
- ❖ Teach organization strategies: checklists, graphic organizer or a series of pictures indicating steps needed in task.
- ❖ Teach self-advocacy skills: “Can you help me get started?” “Could you help me get started at \_\_\_\_ time?”
- ❖ May need lunch groups or support building relationships if initiation is interfering.

## Hierarchy of Neurocognitive Development

Overall  
Functioning



Higher Order  
Processes



Intermediate  
Processes



Fundamental  
Processes



CO Brain Injury Steering Committee: Adapted from Miller, 2007; Reitan and Wolfson, 2004; Hale and Fiorello, 2004

# Consequence-Based Strategies

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Thus, behavior management techniques can be classified into two categories:

- (1) antecedent strategies, which are used before a behavior occurs in an effort to prevent or elicit a behavior, and
- (2) consequent strategies, which are used after a behavior occurs in an effort to prevent the continuation and recurrence of a behavior or to reinforce a behavior.**

# Antecedent Management

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Thus, behavior management techniques can be classified into two categories:

- (1) **antecedent strategies, which are used before a behavior occurs in an effort to prevent or elicit a behavior, and**
- (2) consequent strategies, which are used after a behavior occurs in an effort to prevent the continuation and recurrence of a behavior or to reinforce a behavior.

Although both can be effective ... in their own way, when applied at the right times.

**Crisis Prevention instead of Crisis Management**

# Collaborative Problem Solving CPS

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People Do Well If They Can This is the most important theme of Collaborative Problem Solving: **the belief that if a person *could* do well, they *would* do well.** In other words, if the person had the skills to exhibit adaptive behavior, he/she wouldn't be exhibiting challenging behavior. That's because doing well is always preferable to not doing well.

## What's Your Explanation?

Your explanation for challenging behavior has major implications for how you'll try to help. If you believe a person's behavior is challenging because of lagging skills and unsolved problems, then rewarding and punishing may not be the ideal approach. Solving those problems and teaching those skills would make perfect sense.

# Going Beyond FBA



## Functional Behavioral Assessment (FBA)

Behavior of concern:  
Aggression or non-compliance

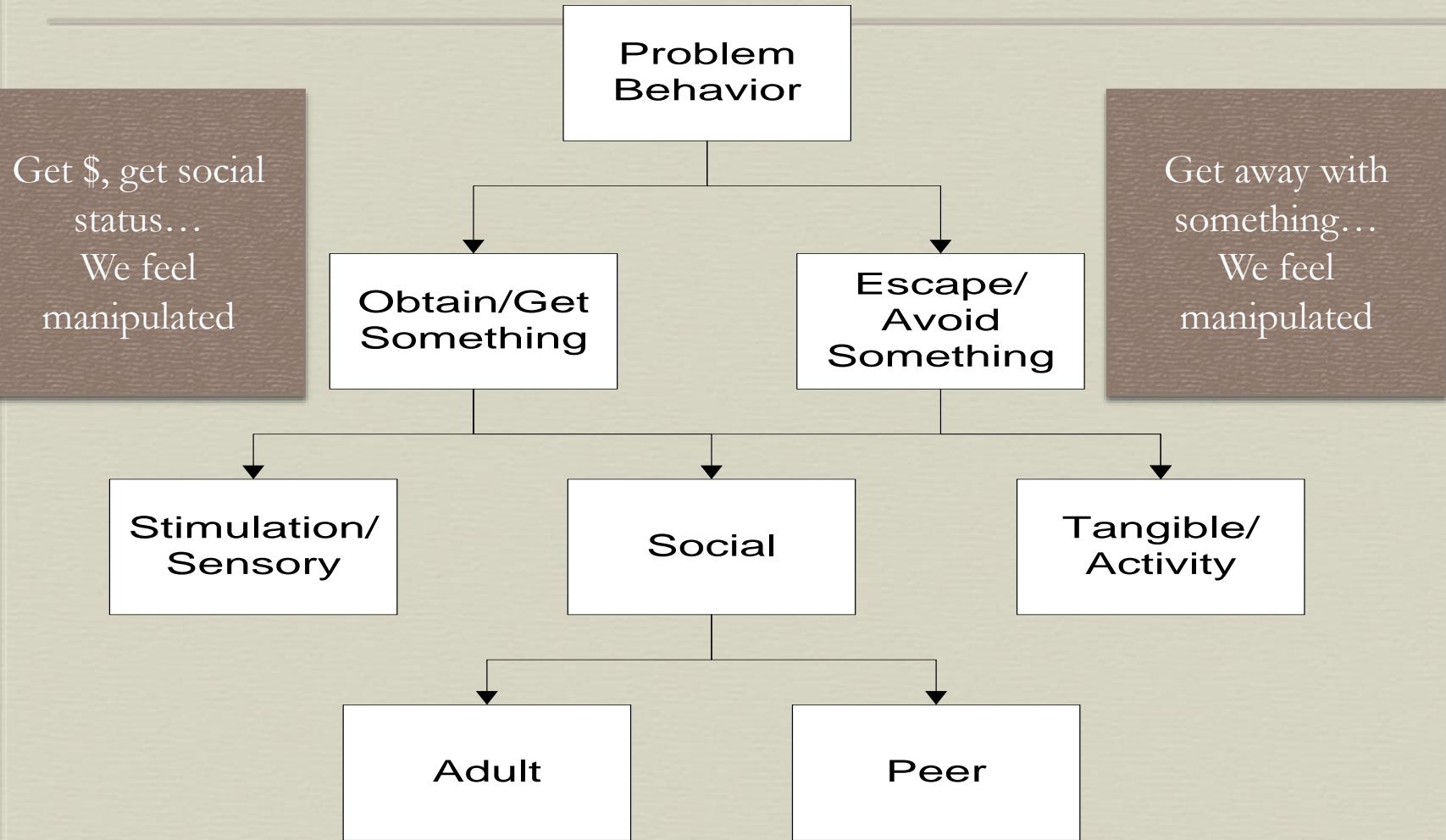
- Behaviors serve a function and have a purpose, usually:
  - To get something (e.g., attention, money, good grades, power, control)
  - To avoid/escape something (e.g., punishment, embarrassment, out of work)

Presupposes “will”

- [www.BehaviorAdvisor.com](http://www.BehaviorAdvisor.com)

## Function of the Behavior

# Look Fors: The Function of the Behavior





- Lack of attention to feedback in environment = poor MEMORY & poor LEARNING = repetitive mistakes



### Executive DYSFUNCTION:

- Inability to delay gratification (wait)
- Inability to manage time – no future thinking which results in poor planning, organization or initiation

### Social INCOMPETENCE:

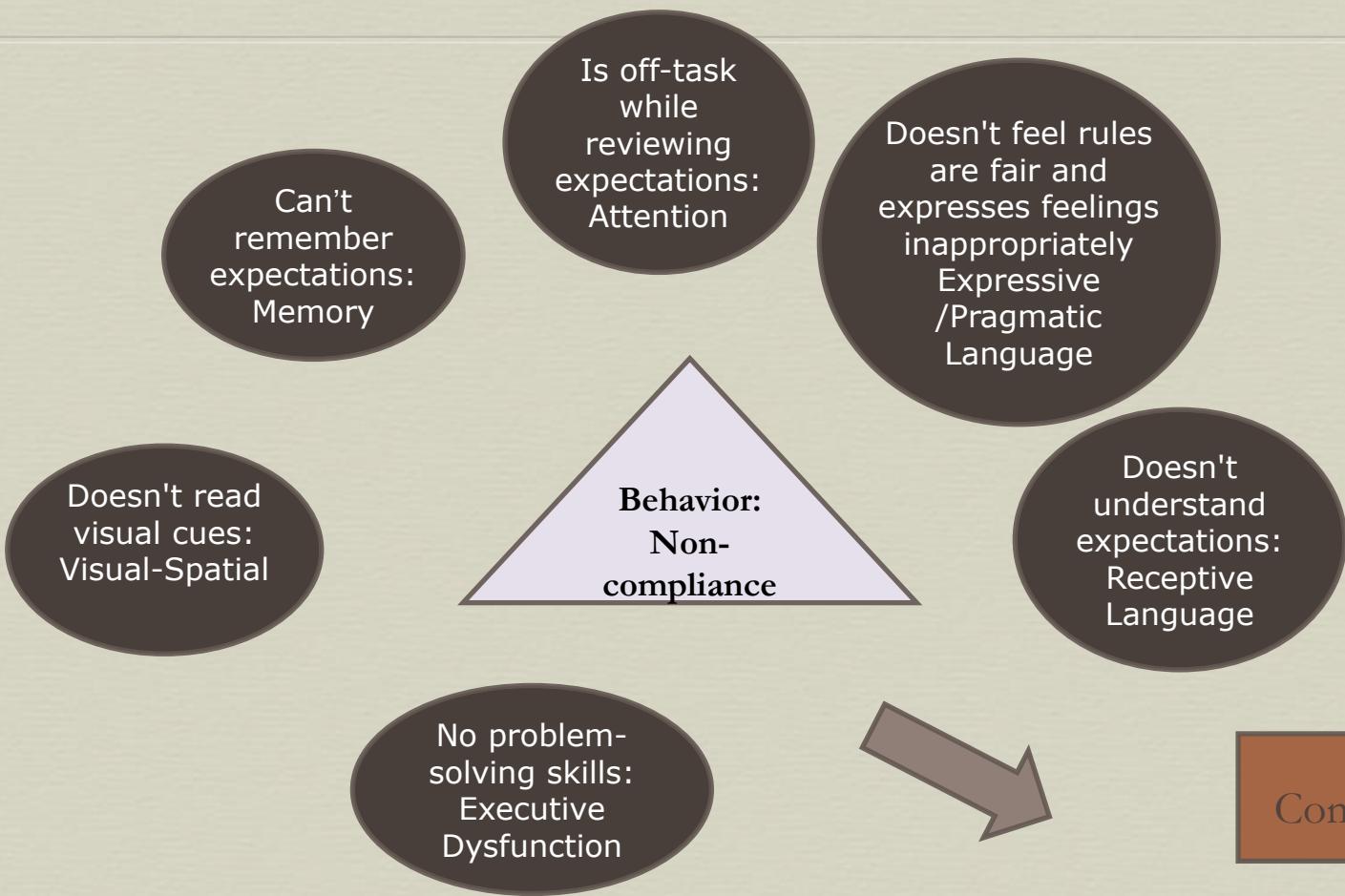
- Inability to make better behavioral or social decisions.

# What do you know (suspect) about your student?

---

- ❖ Toxic stress?
- ❖ Mental health issues?
- ❖ FASD?
- ❖ Traumatic Brain Injury or Non-Traumatic Brain Injury?  
Assault? In a gang?
- ❖ Risky Behavior? Motor vehicle accident? Motorcycle accident?  
Falls?
- ❖ A victim of domestic violence? The abuser? The victim of  
child abuse?
- ❖ Substance Abuse?





And what about the setting events? = Internal Interferences

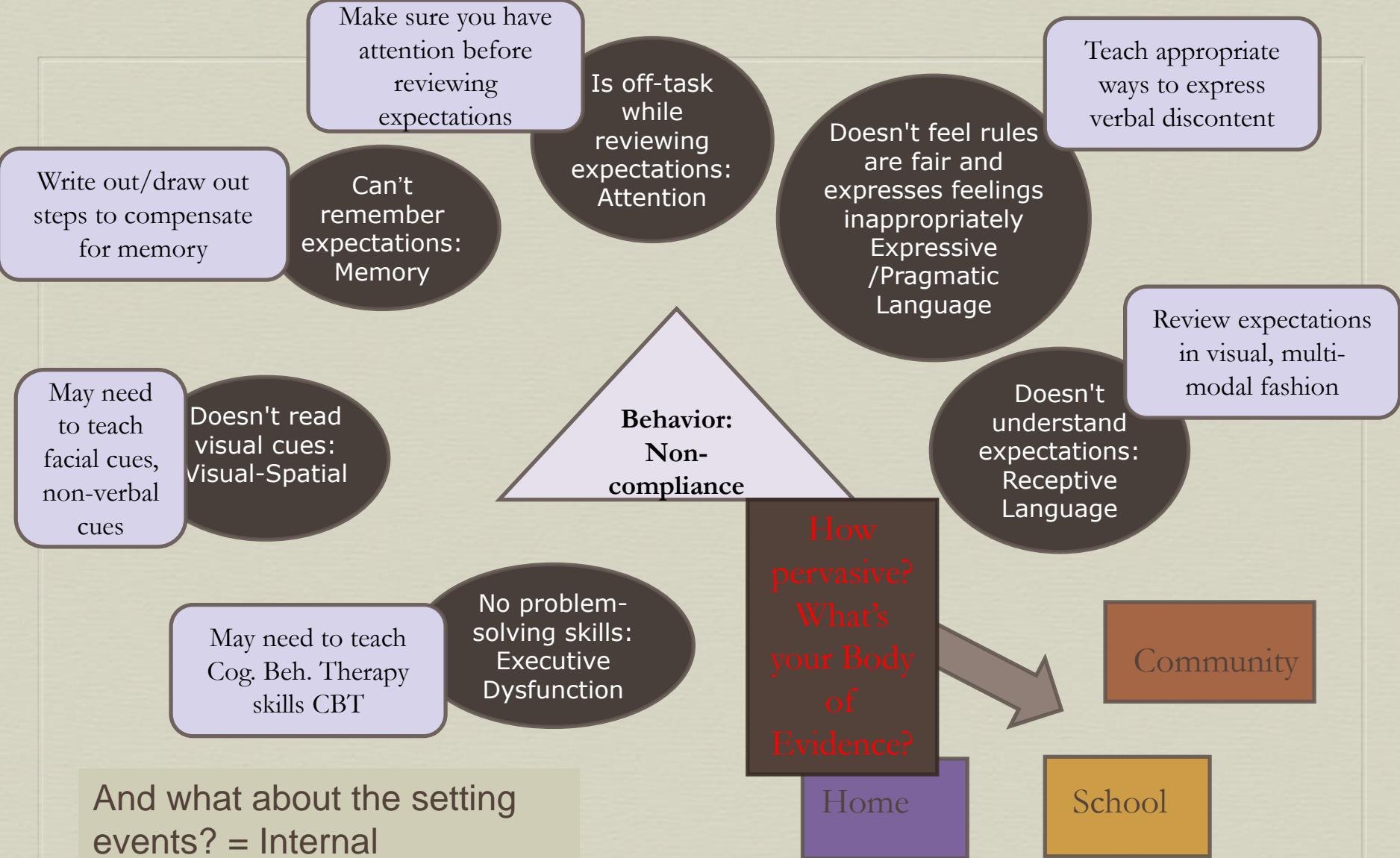
# Function of the Behavior

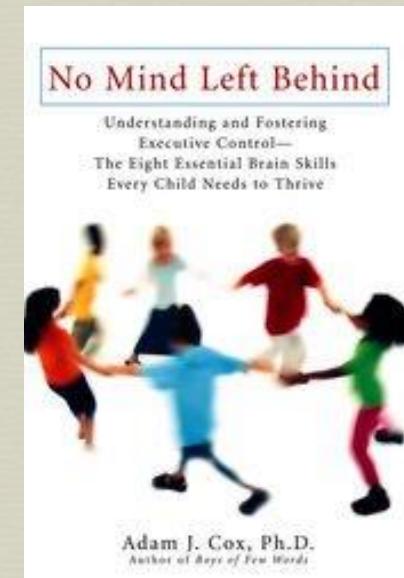
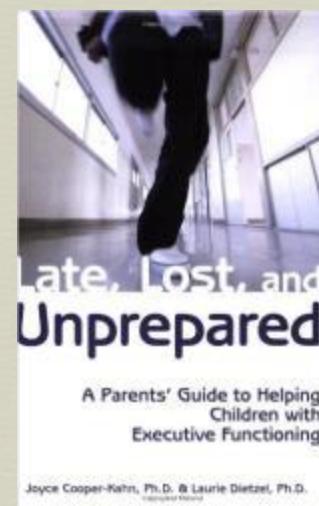
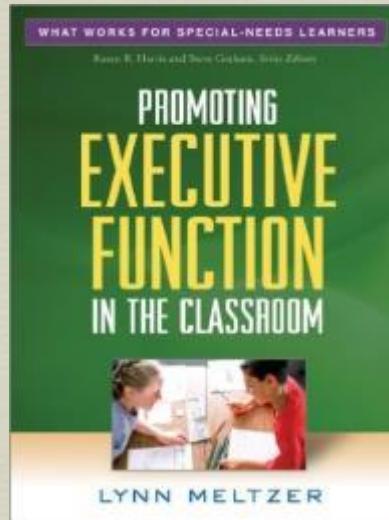
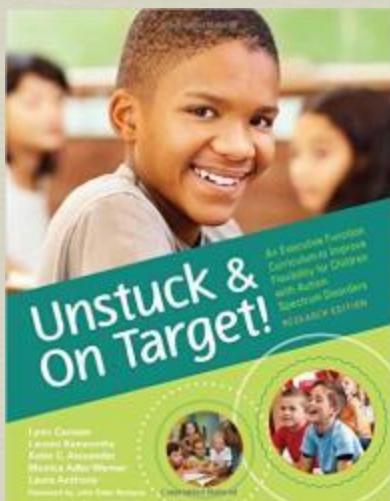
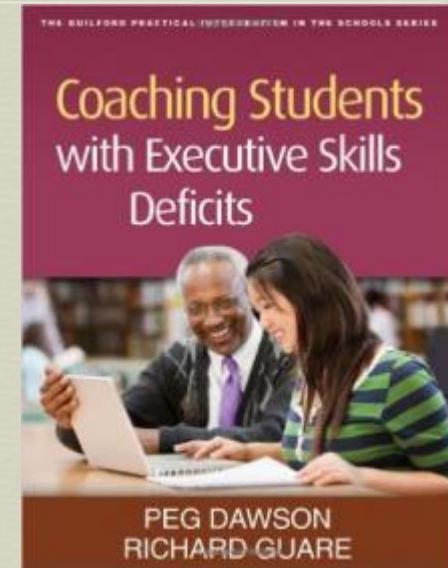
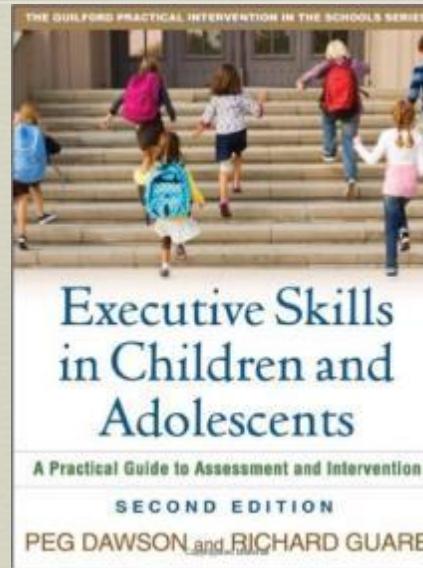
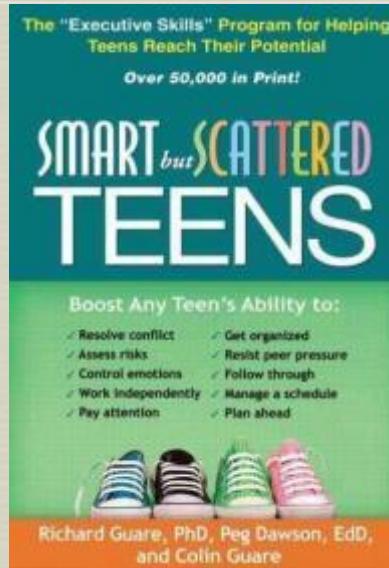
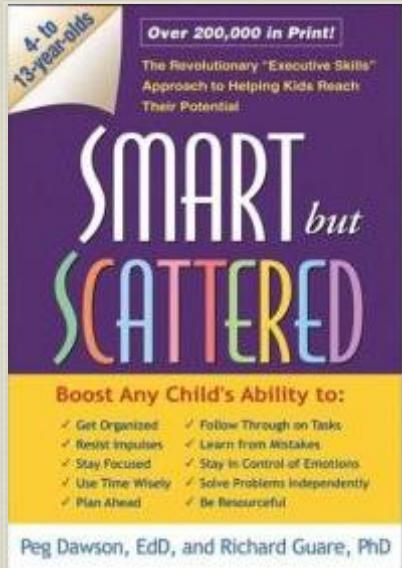
# Function of the Behavior

And what about the setting events? = Internal

Interferences

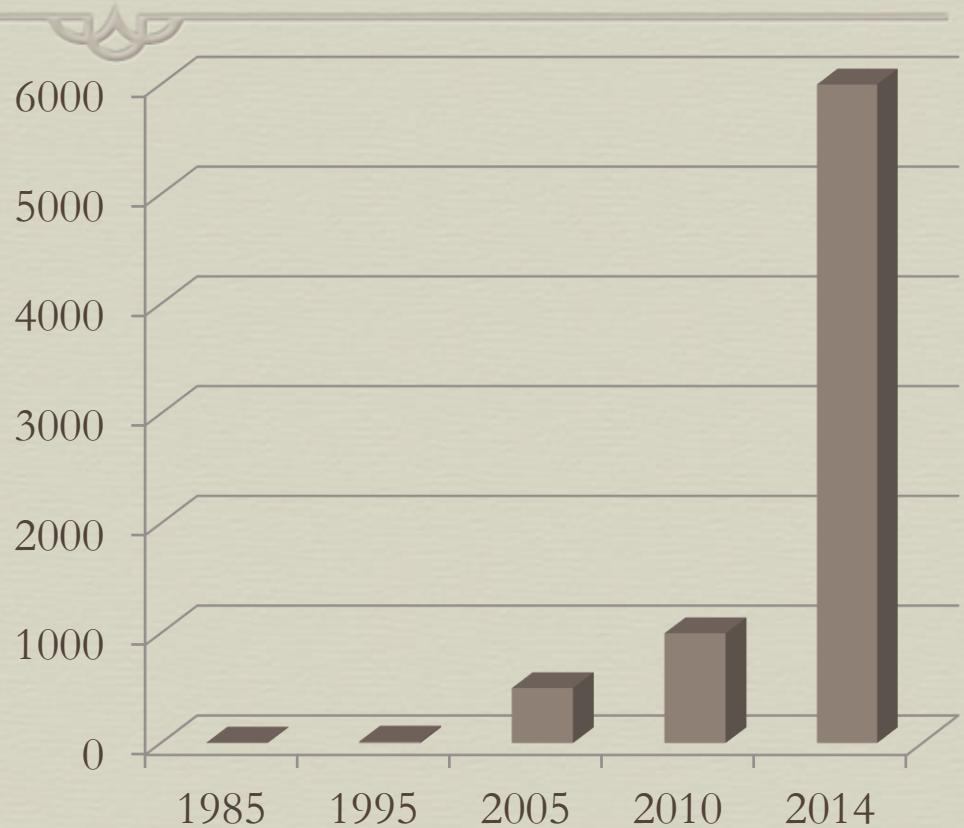
Be mindful of Rx interactions, family stress, financial stressors, medical/neurological factors





# Interest in Executive Function

- ❖ 5 articles in 1985
- ❖ 14 articles in 1995
- ❖ 501 articles by 2005
- ❖ >1000 articles by 2010
- ❖ >6000 articles by 2014



Bernstein & Waber In Meltzer (2007) Executive Function in Education

# WebMD



**Executive function helps you:**

- Manage time
- Pay attention
- Switch focus
- Plan and organize
- Remember details
- Avoid saying or doing the wrong thing
- Do things based on your experience

# Dysfunction of the Frontal Lobe

---

- ❖ Little spontaneous facial expression (Kolb & Milner, 1981)
- ❖ “Behavioral sponteneity” (Kolb & Milner, 1981); dramatic change in social behavior (Blumer & Benson, 1975)
- ❖ Difficulty interpreting feedback from the environment ... peseverating on a response (Milner, 1964), risk taking and non-compliance with rules (Miller 1985)
- ❖ Impaired associated learning (difficulty using external cues to help guide behavior) (Drewe, 1975)

# Executive Dysfunction

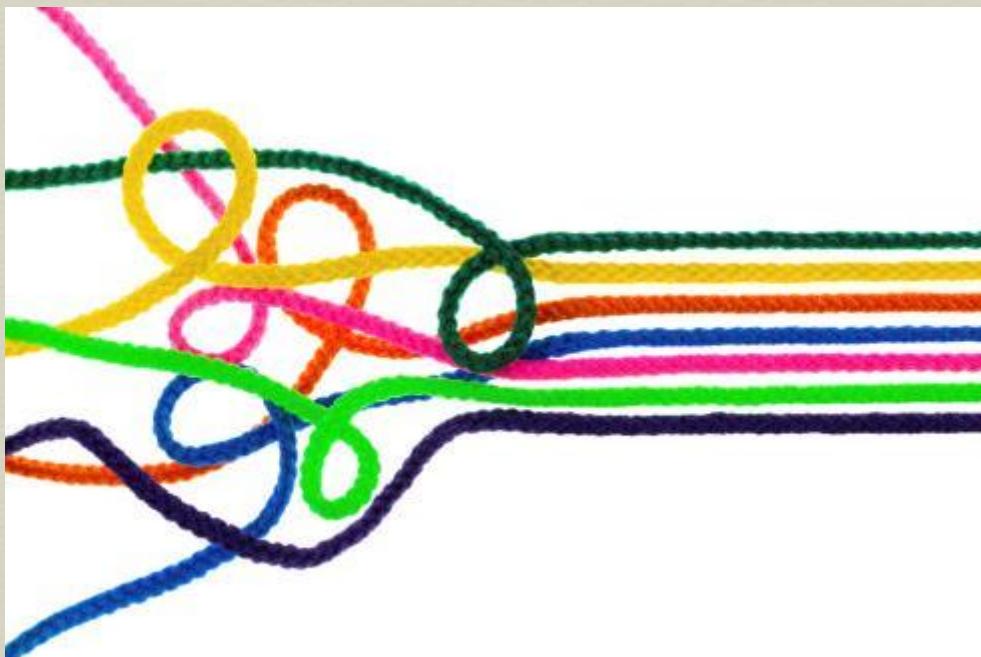
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- ❖ MRI studies have shown that the frontal area is the most common region of injury following mild to moderate traumatic brain injury (Levin et al., 1987)
- ❖ An interesting phenomenon of frontal lobe damage is the insignificant effect it can have on traditional IQ testing.. An injury to the frontal lobe often has an effect on **flexibility of thinking** and **problem solving ability** (**executive functioning**) There is also evidence showing lingering interference with **attention** and **memory** even after good recovery from a TBI (Stuss et al., 1985).

# Principle #1:

## Purposeful Structures and Routines



...  
**rou**th (rōoth, rōōth) n.  
Plenty; abundance.  
**rou**·**tine** (rōō-tēn) n.  
procedure, method; course of action; usual methods.

# Before



# After



# Principle #2:

## Building Time Management Skills



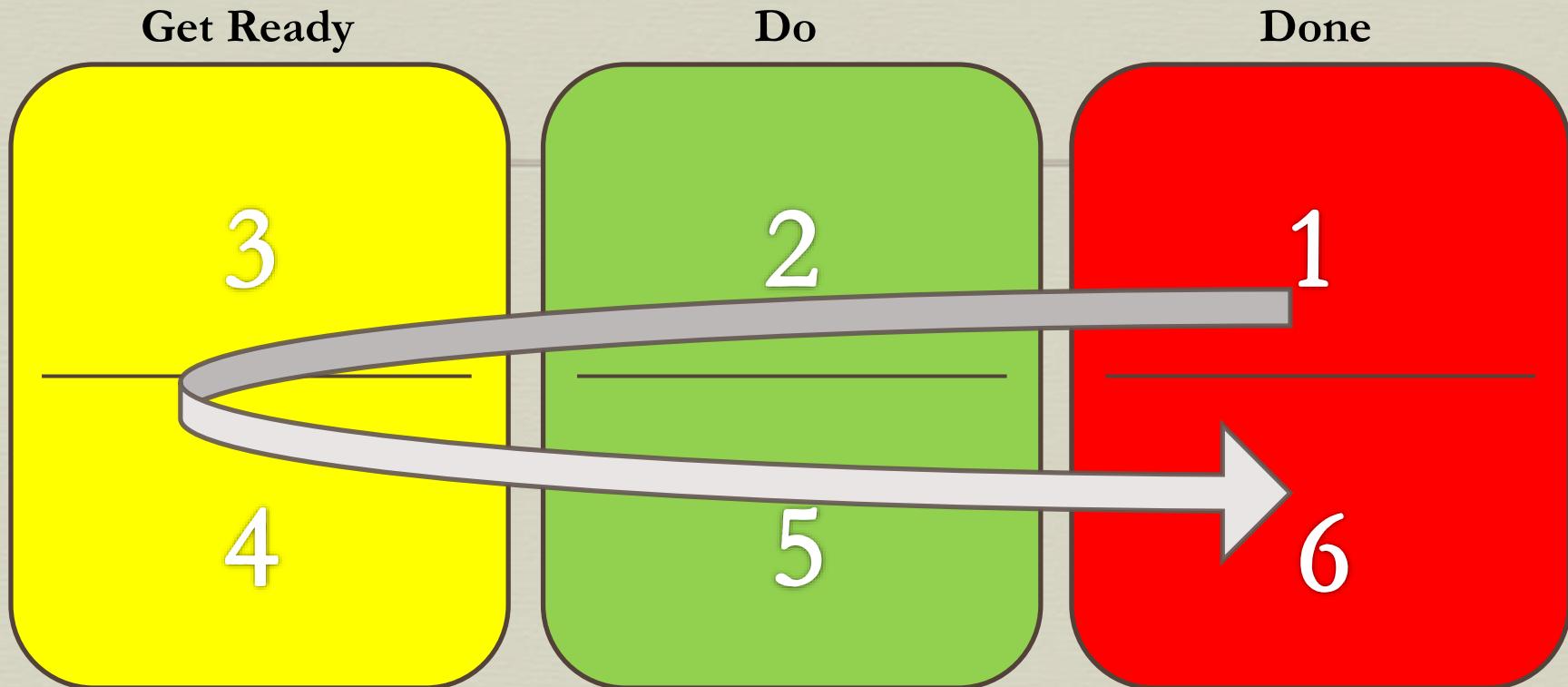
# Principle #3:

## Create Future Thinkers



# Get Ready, Do, Done

(Sarah Ward, 2014)



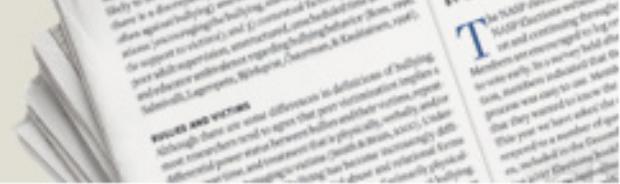
## Steps 1-3: Task Planning

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

# COMMUNIQUÉ Online



## Research-Based Practice

### Return to Learning: Going Back to School Following a Concussion

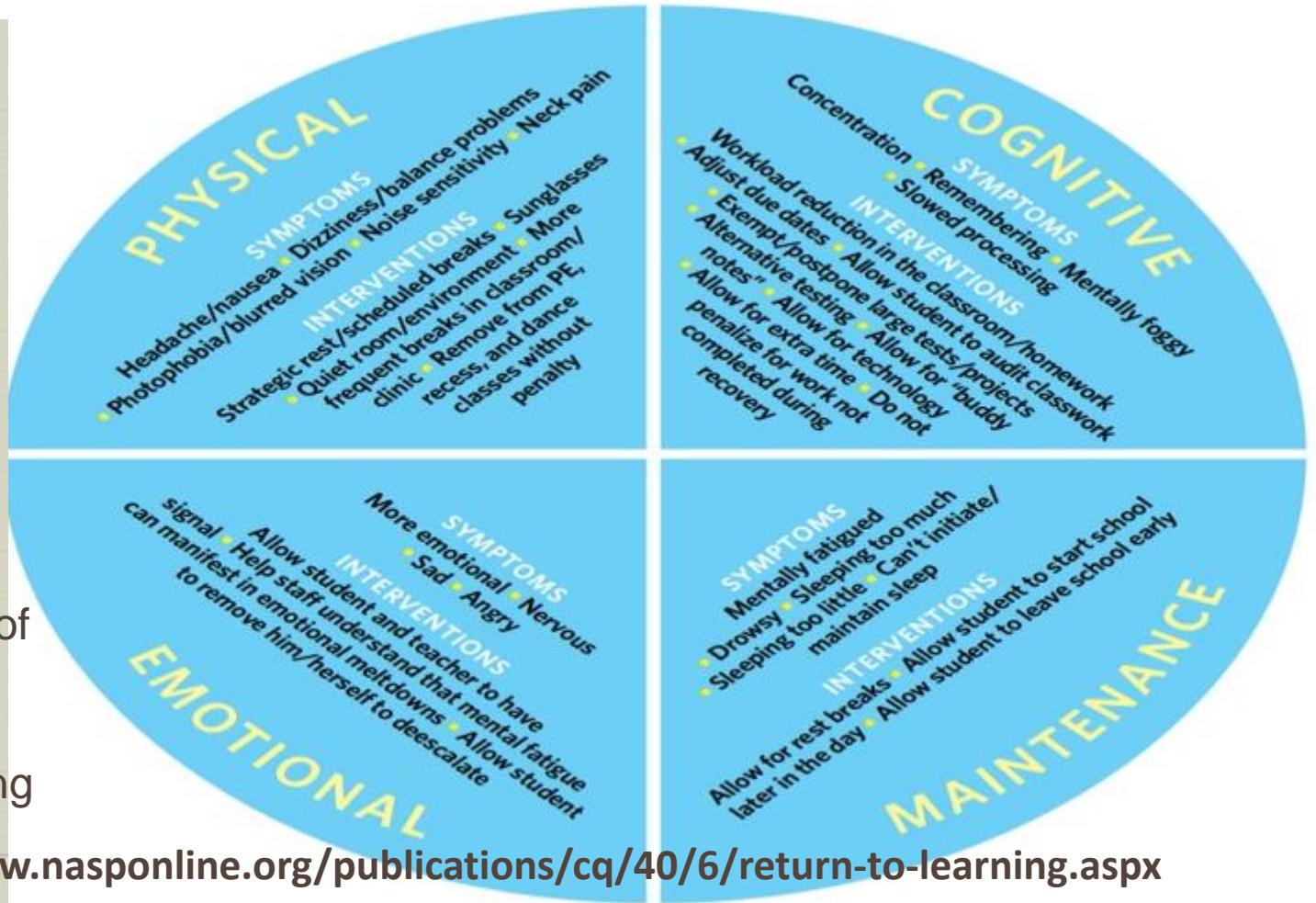
By Karen McAvoy

Mental Fatigue

Slowed Processing Speed

Difficulty converting memory

Inefficiency of learning – especially NEW learning



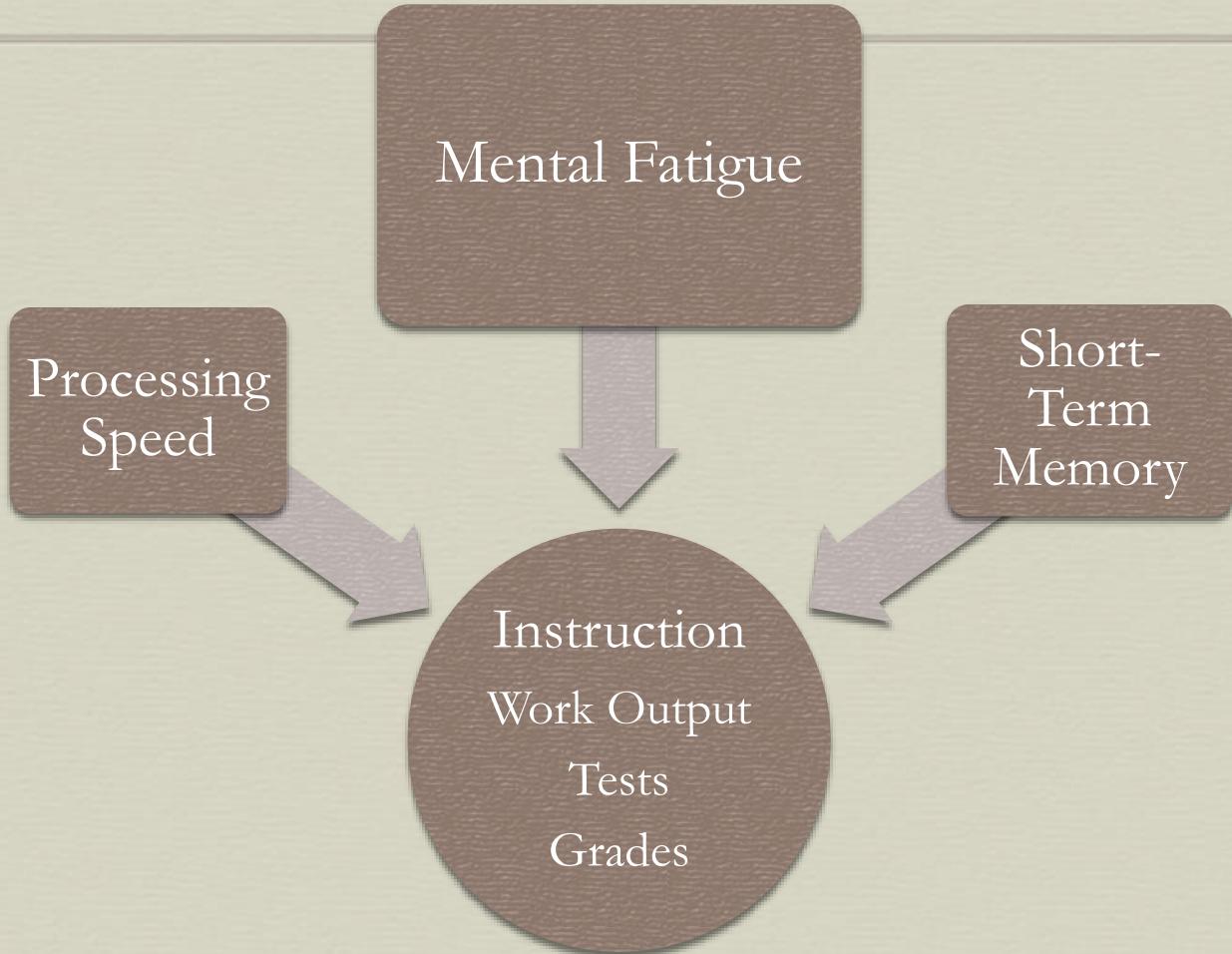
# Most common complicating factors

- ❖ Headache
- ❖ Oculomotor
- ❖ Vestibular
- ❖ Dysautonomia

Increase water  
and salt and avoid  
caffeine

- ❖ Convergence Insufficiency





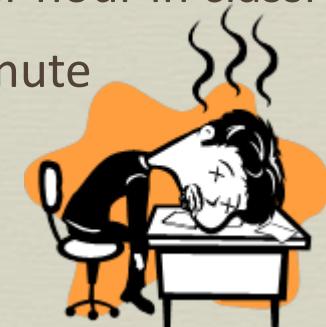
# Mental Fatigue/Headache

- ❖ *Out of school if needed – but only for a **limited time** – (few days)*
- ❖ *Shortened day if needed – but only for a **limited time** – (few days)*

Be at school, stay at school, keep symptoms at bay!

Rest breaks:

- ◆ “Pacing” - Eyes closed/head down 5 to 10minutes per hour in classroom
- ◆ “strategic rest breaks” – rest in clinic for 15 to 20 minute
  - ◆ 1X mid-am and 1X mid-pm
- ◆ Listen and Learn with less output
- ◆ Be physically and cognitively present for instruction
  - ◆ Remove non-essential work
  - ◆ Reduce semi-essential work



Adapted from  
[GetSchooledOn  
Concussions.com](http://GetSchooledOnConcussions.com)

# Mental Fatigue

Oculomotor concerns:

- ◆ Eye strain, especially with computer screen
- ◆ Print notes
- ◆ Large print
- ◆ Audio books
- ◆ Colored lenses/corrective lenses

Adapted from  
GetSchooledOn  
Concussions.com

Vestibular concerns:

- ◆ Notes to boards
- ◆ Print notes/teacher outlines/buddy notes
- ◆ Quiet passing in hallways
- ◆ Preferential seating

Bathroom breaks!

Dysautonomia Concerns:

- ◆ Extreme fatigue
- ◆ Postural Faintness/dizziness

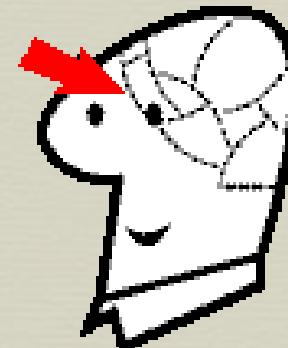
Emotional reactions are often signs of mental fatigue  
Melt downs in younger children/Irritability in older  
children

# Slowed Processing Speed

Learning but at a slower pace. If learning is at a slower pace, it is not possible to cover as much territory.

- ◆ Cut back on the amount of work.
- ◆ Go for quality, not quantity
- ◆ Go for comprehension, not memorization
- ◆ Prioritize what is most important:
  - ◆ To teach during these 4 weeks and
  - ◆ To learn during these 4 weeks

Adapted from  
GetSchooledOn  
Concussions.com



# Slowed Processing Speed

Eliminate NON-essential in-class and homework load

- ◆ If work is essential, consider:
  - ◆ Extra time on projects and tests
  - ◆ Adjust (some, not all) due dates. Do not carry over work if possible

Reduce in-class and homework load

- ◆ Reducing # of problems
- ◆ “Auditing” lecture material
- ◆ Oral vs written output
- ◆ Focus on mastery of material – not work output



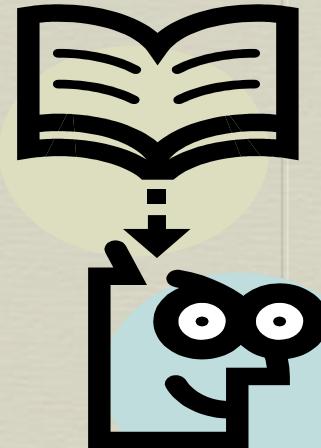
It is NOT possible to keep up on or make-up all missed work!

Prioritize current *learning* instead of make-up *work*

# Difficulty Learning New Material

Be thoughtful about your teaching. What is most important for the student to know at this time?

- ◆ Testing: mastery and grades
  - ◆ Was material learned? Physically and cognitively present?
  - ◆ Is material essential for end of level, next level and grading?
  - ◆ If not, eliminate
  - ◆ If yes, re-teach only what is essential, then assess mastery
    - ◆ does it have to be a test?
- ◆ If a final is a must, no more than 1 final per day, with 1 day of rest between finals
- ◆ **No** carry over make-up work or tests into school vacations; we need that time for cognitive rest and healing
  - ◆ A small amount of “practice” work may be OK for reinforcement of skills



Adapted from  
[GetSchooledOn  
Concussions.com](http://GetSchooledOnConcussions.com)

# Front Load your interventions ... and then

taper back

May be out of school Day 1 until  
Day 3 or 4?

Adapted from  
GetSchooledOn  
Concussions.com



Most generous interventions  
upon return to school in Week 1

Begin to expect more from  
student at school and with  
homework into Week 2

Back almost to 100% in Week 3  
May just be making up  
reasonable amt of make-up wk.



# Get Schooled On Concussion

"Fading Academic Adjustments"   March 2016 Issue # 21

## Week\$

Maximize academic adjustments  
Remove non-essential work  
Reduce semi-essential work  
"Pacing" - Give FREQUENT eye/brain breaks - 5 to 10 minute breaks in the classroom after focusing for 20 to 30 minutes on reading or computer  
"Strategic Rest Breaks" -Allow a mid-morning and a mid-afternoon break (20 minutes each) in clinic at pre-determined times to keep symptoms at bay  
Keep symptoms low and tolerable  
Focus on just keeping the concussed student in class - listening & learning - with very little or no work output

## Week\$

Begin to "dip toe" in water; slowly try more  
Continue to remove majority of non-essential work  
Continue to reduce majority of semi-essential work – Do not PILE on make-up work  
Consider extending timeframes for essential work  
Continue to allow eye/brain breaks in class, space out when/if not needed  
Wean back "strategic rest break" visits to clinic  
Keep symptoms improving  
Continue to prioritize comprehension and learning over work output  
Continue to prioritize current work over make-up work

## Week\$\$

Continue to pull back adjustments  
Continue to remove and reduce some work - continue to add in more work  
Continue to pull back breaks  
Continue to focus on comprehension  
Continue to focus on current work rather than make-up work  
It is not possible to keep up with current work and also make-up all missed work - prioritize what work is most important and make sure it is a reasonable amount  
Continue to assure that symptoms are resolving

Eighty to Ninety percent of concussions will resolve in 3 to 4 weeks with just good management (removal of physical activity and a reduction in home stimulation and academic demands).

Once a concussed student comes to your attention, FRONTLOAD your academic adjustments (see Symptom Wheel) during week 1 and week 2. Be as generous as you can be in the beginning of a concussion. As week 1 progresses to week 4, the concussion should slowly resolve. Wean back your academic supports slowly over 1 to 4 weeks.

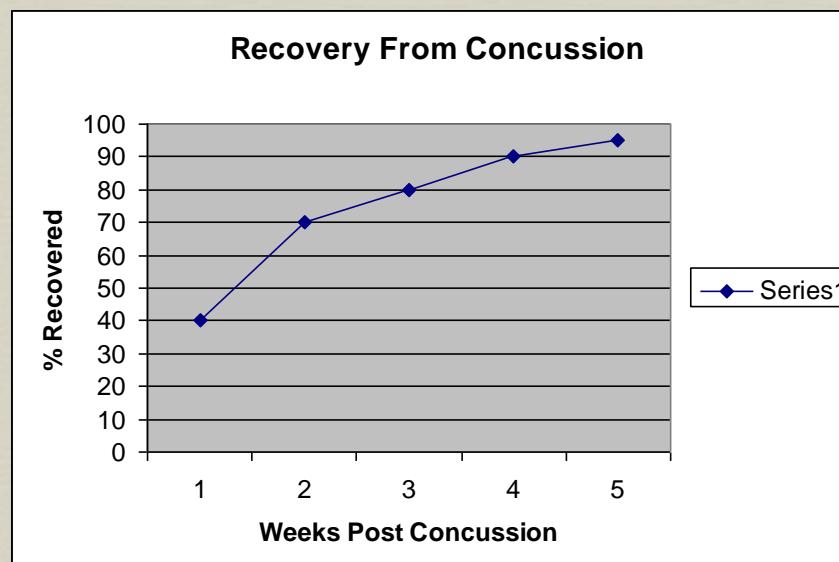
If the concussed student does not show a resolution of symptoms and/or the ability to add back in more academic expectations by week 4, talk to your Concussion Management Team Point Person, or school nurse/counselor/administrator.

#RTLB4RTP

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Kid Tested Teacher Approved

# Timeframe for Recovery

Good news...Kids will and should be back to school usually within days...



**Collins et al, (2006), Neurosurgery.**

7 to 10  
days

Zemek  
70%  
recovered in  
28 days

2009

2016

# Longer Recovery?

History of headaches



Family history of migraines

History of past concussions

Learning issues

Attentional issues

Underlying neurological issues (spectrum)

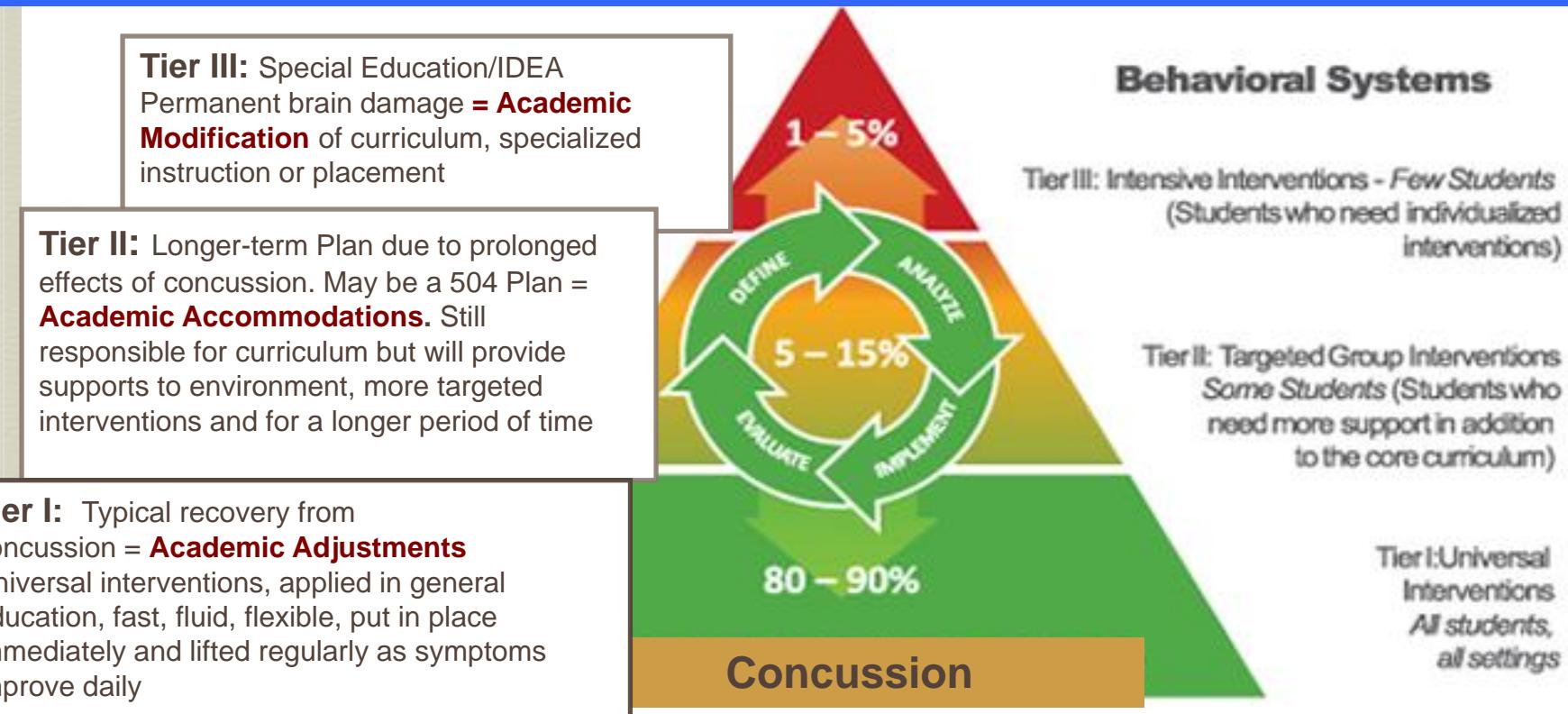
Underlying psychological issues (anxiety/depression)

Misattribution of Symptoms

30%?

- Oculomotor
- Vestibular
- Dysautonomia
- Convergence Insufficiency

# Ascending Levels of Support Applied to Concussion





# ROCKY MOUNTAIN HOSPITAL *for* CHILDREN



Questions?

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720-979-0840