Strategies for Working with Students after ABI: An Interactive Problem Based Session

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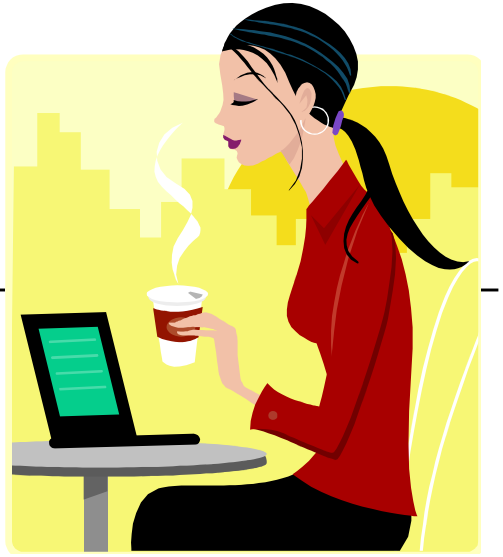
While You are Waiting



- If you have a computer:

  Go to

www.cdc.gov/ncipc/tbi/Coaches_Tool_Kit.htm

And

1. Locate one section of the site you would recommend to others
2. Identify one idea you could share with the group.

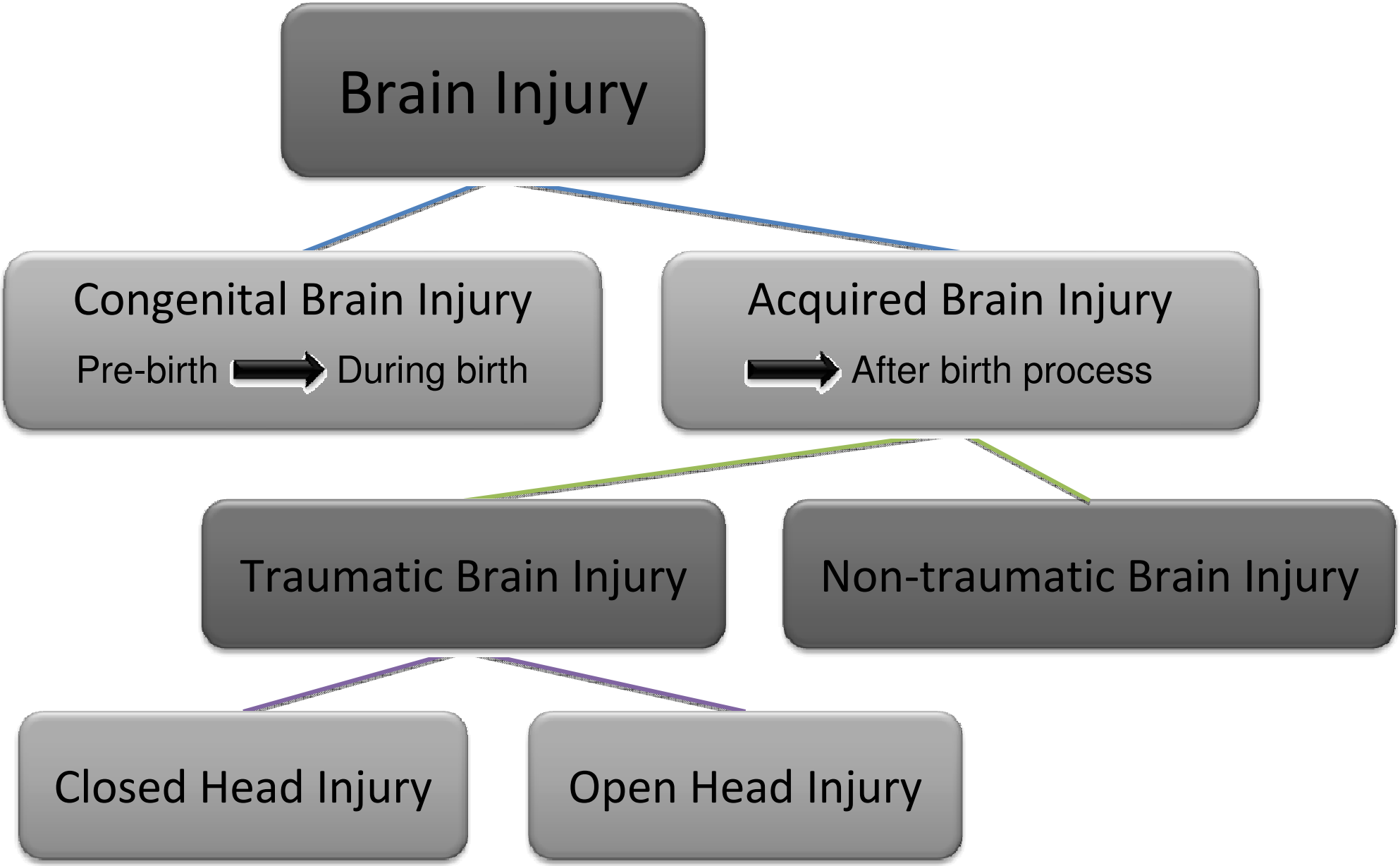
Lives and Dreams are Shattered in a Split Second

Learning Outcomes for Today

- Participants will:
  - Describe the underlying processes that can affect learning and behavior in the classroom and community
  - Determine functional means for understanding behaviors and establishing positive interventions and supports
  - Use web sites to develop a problem solving method for supporting these students.

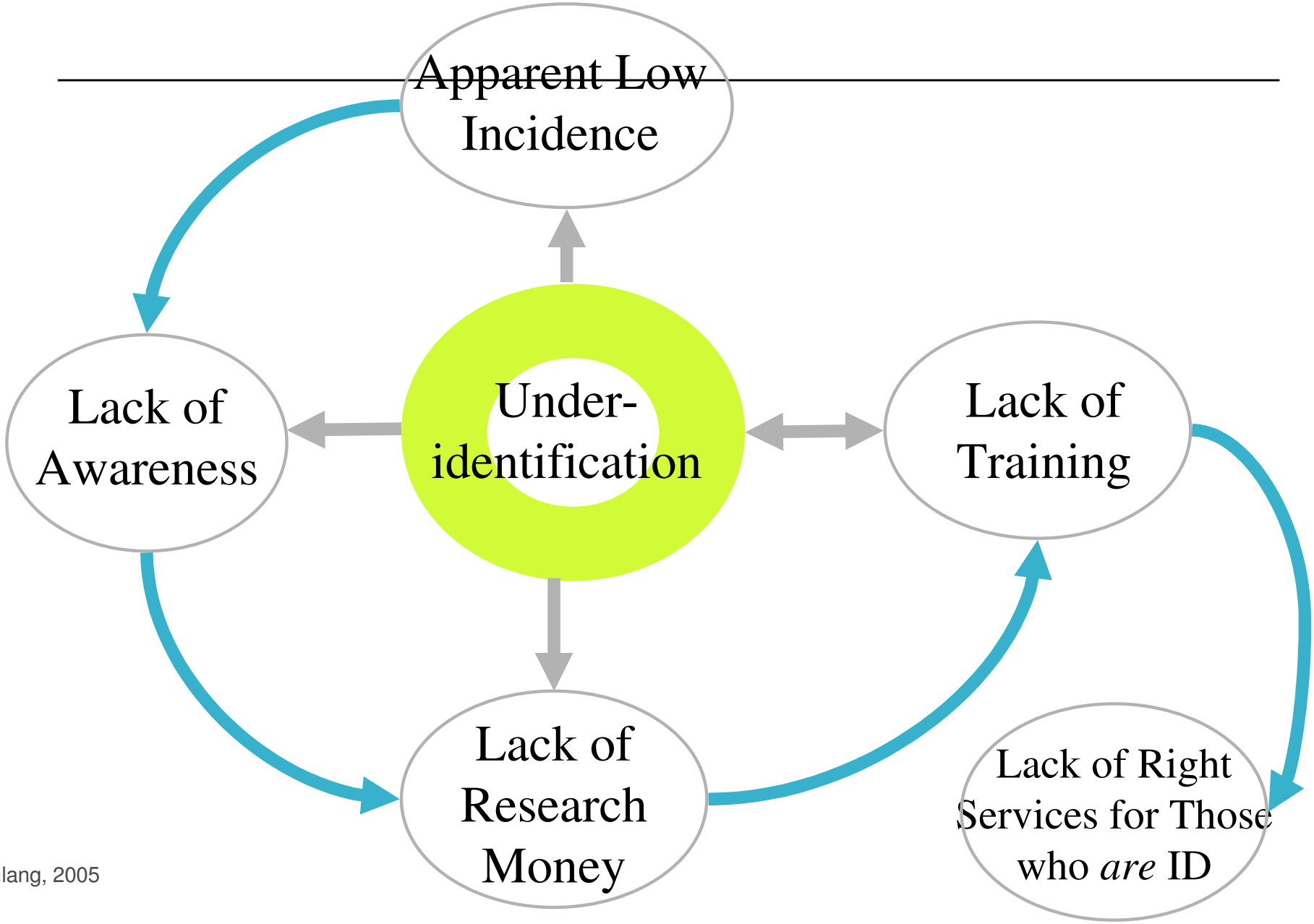
Cognitive-Communication Disorders

- Apply to a number of communication disorders across the lifespan.
- Relate to autism, traumatic brain injury, learning disabilities, adult neurological disorders including right cerebrovascular accident (CVA) and dementia.
- Are focused in underlying processes of attention, memory, organization, planning, pragmatic language, executive functioning.


Brain Injury
Congenital Brain Injury
Pre-birth
During birth
Acquired Brain Injury
After birth process
Traumatic Brain Injury
Non-traumatic Brain Injury
Closed Head Injury
Open Head Injury

Savage, 1991

Under-identification Cycle

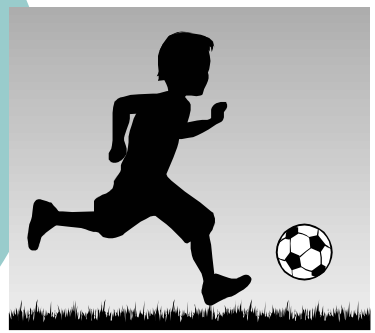


Todis & Glang, 2005

Why Don't We Find Them?

- Lack of medical referral
- Lack of parental recognition
- Developmental bias that they will be OK
- Many "look good" physically
- Lack of public awareness

Early Intervention



- Help support interventions with youth or find these same individuals as adults in:
  - Mental health systems
  - Penal institutions
  - Welfare roles
  - Social service agencies

Strategic Learning

- One of most important brain functions that underlies learning
- Extracting important information while inhibiting unimportant information
- The brain is most effective at abstracting meaning and not storing detail

(Brainert & Reyna, 1998; Gabrieli, 2004)

Strategic Learning

- NOT about how much you learn
- But rather,
  - how efficiently you extract the main point of the central meaning
    (Gabrieli, 2004)
  - how efficiently you exclude irrelevant information so not to use up vital storage capacity
    (Vogel et al 2005)

Strategic Learning Abilities

- Individuals show a bias toward "seeing the forest instead of the trees"
  - Verbatim details fade rapidly
  - Abstracted learning persists over long intervals
- The is a severe impairment in strategic learning after TBI
  - Tasks like summarization, finding main idea, interpretive statements are impaired

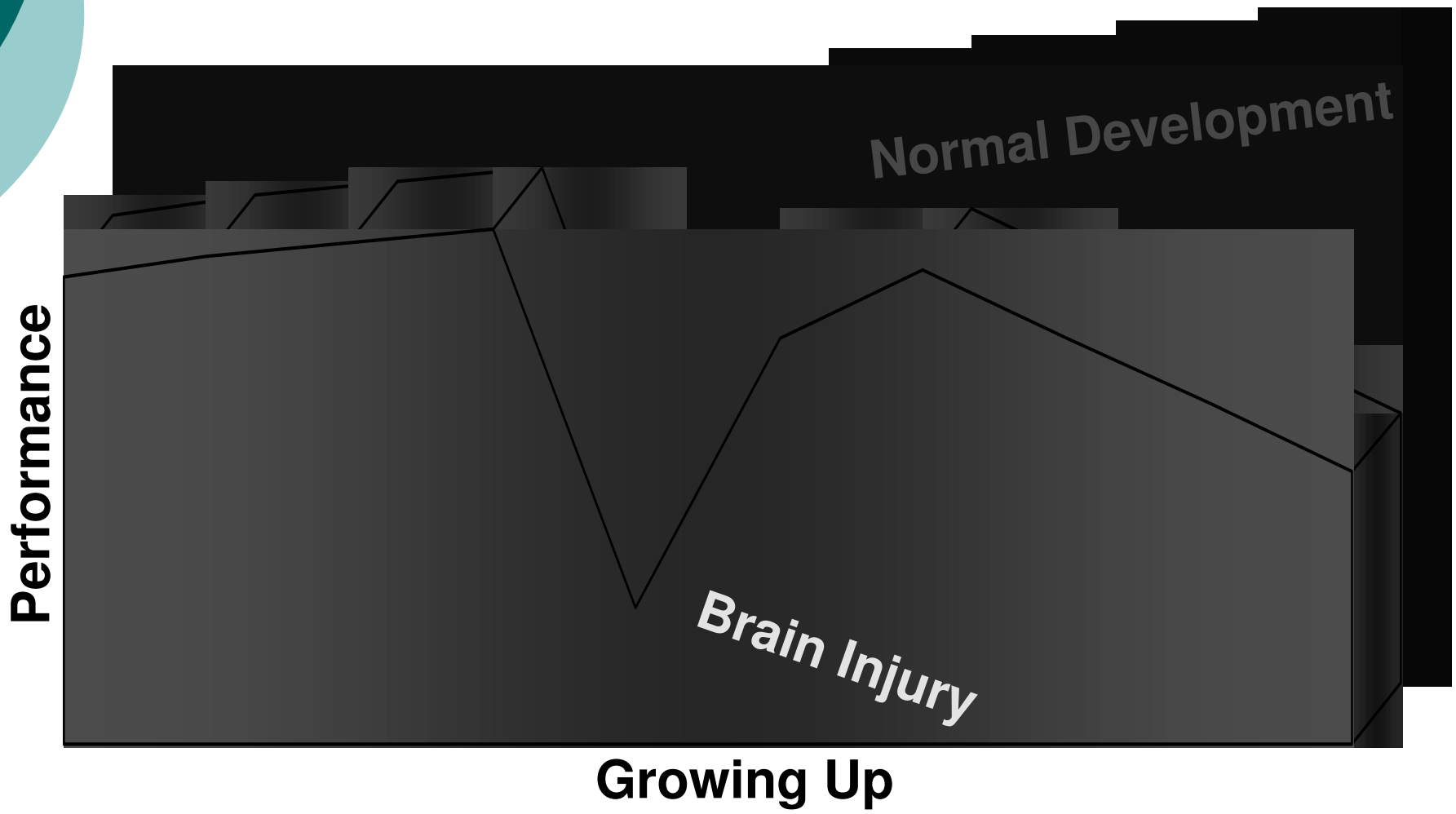
Hypotheses

- High capacity individuals are more efficient at learning only relevant items
- Low capacity individuals (TBI) inefficiently encode and learn irrelevant information
- People with TBI may actually store as much or more information in memory than high capacity people-just the wrong "stuff".

Strategic Learning Starts Early

- Little children should be provided with the tools to begin strategic learning throughout the developmental preschool years
- If there is an ABI, more specific interventions may be needed.

Traumatic brain injury without intervention



Residual Cognitive Deficits

- Disorders of attention
  - Sustaining attention
  - Easily fatigued
  - Impaired selective attention
  - Poor shifting of attention—gets lost in group conversations

Residual Cognitive Deficits

- Disorders of memory
  - Poor rote learning
  - Short term memory difficulties
  - Difficulty organizing information to store
  - Can’t recognize what is “important” to store

Residual Cognitive Deficits

- Disorders of planning
  - Impaired ability to abstract
  - Can’t inhibit action resulting in impulsive or perseverative responses
  - Slowed initiation time
  - Can’t start to solve a problem
  - Can’t sequence information
  - Doesn’t learn from mistakes
  - Doesn’t know when, where or how to ask for help

Residual Cognitive Deficits

- Disorders of judgment
  - Misinterprets actions of others
  - Can't handle multiple bits of information at one time
  - Socially unacceptable verbal and physical behaviors
  - Unrealistic appraisal of self and residual strengths and weaknesses

Residual Cognitive Deficits

- Disorders of speed of information processing
  - Extreme slowness in reaction time
  - Slowed in psychomotor activities—talking, writing etc

Residual Cognitive Deficits

- Disorders of communication
  - Anomia
  - Inefficient word retrieval
  - Hyperverbal
  - Use of peculiar words or phrases
  - Uninhibited choice of words

Underlying Cognitive Impairments Which May Affect Learning and the Behaviors that Represent Them

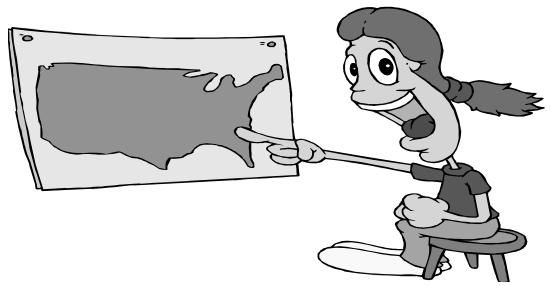
- Impaired attention, perception, and/or memory
  - Daydreaming, bothering another student, playing with materials from desk
- Inflexibility, impulsivity, and/or disorganized thinking, or acting
  - Speaking out, interrupting with non relevant topic

Underlying Cognitive Impairments Which May Affect Learning and the Behaviors that Represent Them

- Inefficient retrieval of old or stored information
  - Poor test taker; inconsistent memory for information-recalls facts one day and not the next

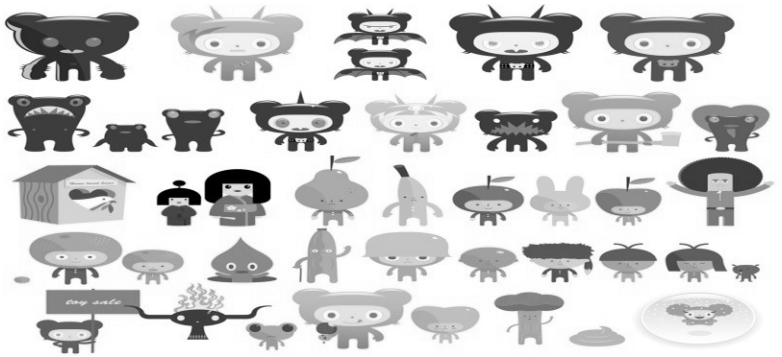
Underlying Cognitive Impairments Which May Affect Learning and the Behaviors that Represent Them

- Inefficient processing of information: Rate, amount, & complexity
  - Asking for repeats of information; acting rude; doodling on paper; bolting the classroom/work station



Underlying Cognitive Impairments Which May Affect Learning and the Behaviors that Represent Them

- Difficulty processing abstract information
  - Does not get double meanings of words, humor, puns
- Difficulty learning new information, rules and procedures
  - Can’t learn a new game. Only sorts by shape, can’t convert to color

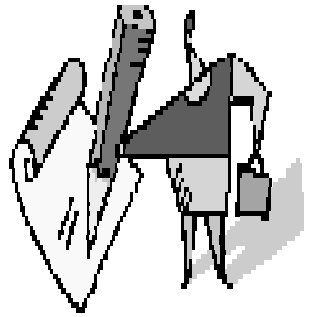


Underlying Cognitive Impairments Which May Affect Learning and the Behaviors that Represent Them

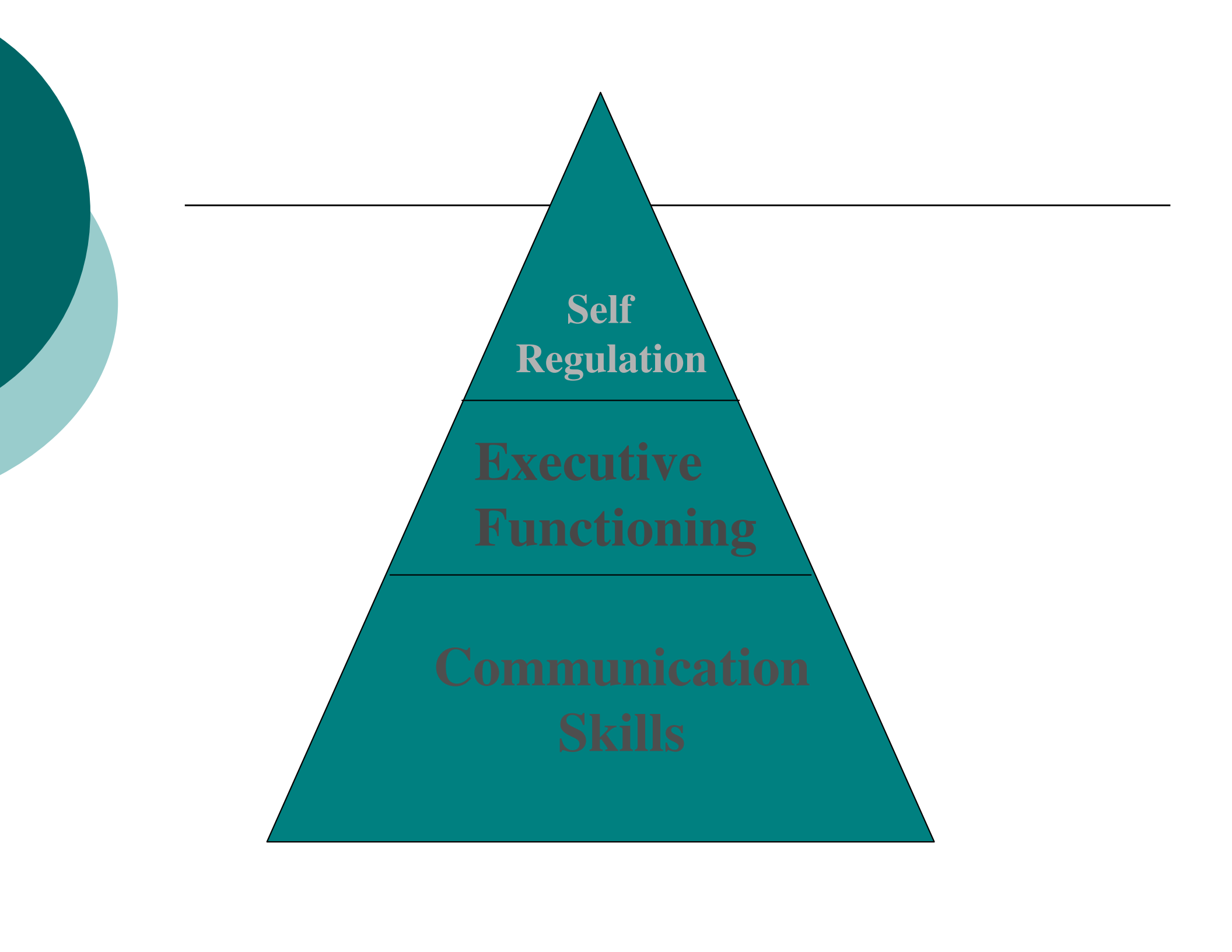
- Ineffective problem solving and judgment
  - May have temper tantrums like much younger aged person; sticks to only one solution and will not change mind
- Inappropriate or unconventional social behavior
  - Quick to lose temper, uses foul language at the wrong times; poor social interactions

Underlying Cognitive Impairments Which May Affect Learning and the Behaviors that Represent Them

- Impaired "Executive" Functions:
  Self-awareness of strengths and weaknesses, goal-setting, planning, self-initiating, inhibiting, monitoring & evaluating either do not develop as they should or are ineffectively used




Self-Observation
Monitoring
Self-Judgment
Evaluating
Self
Regulation
Behaving
Self-Reaction


Self
Regulation
Executive
Functioning
Communication
Skills

Growing Into It

- Immediately after the injury, previous knowledge base aids in testing within normal limits - losses over time not related to the injury.
- Developmental milestones are not achieved-no-one equates this lack of development to injury years earlier.
- Child's brain continues to develop and change over time - sometimes not in a positive manner. Children have to recover at each new stage of development.

Let’s be sure we are on the same page

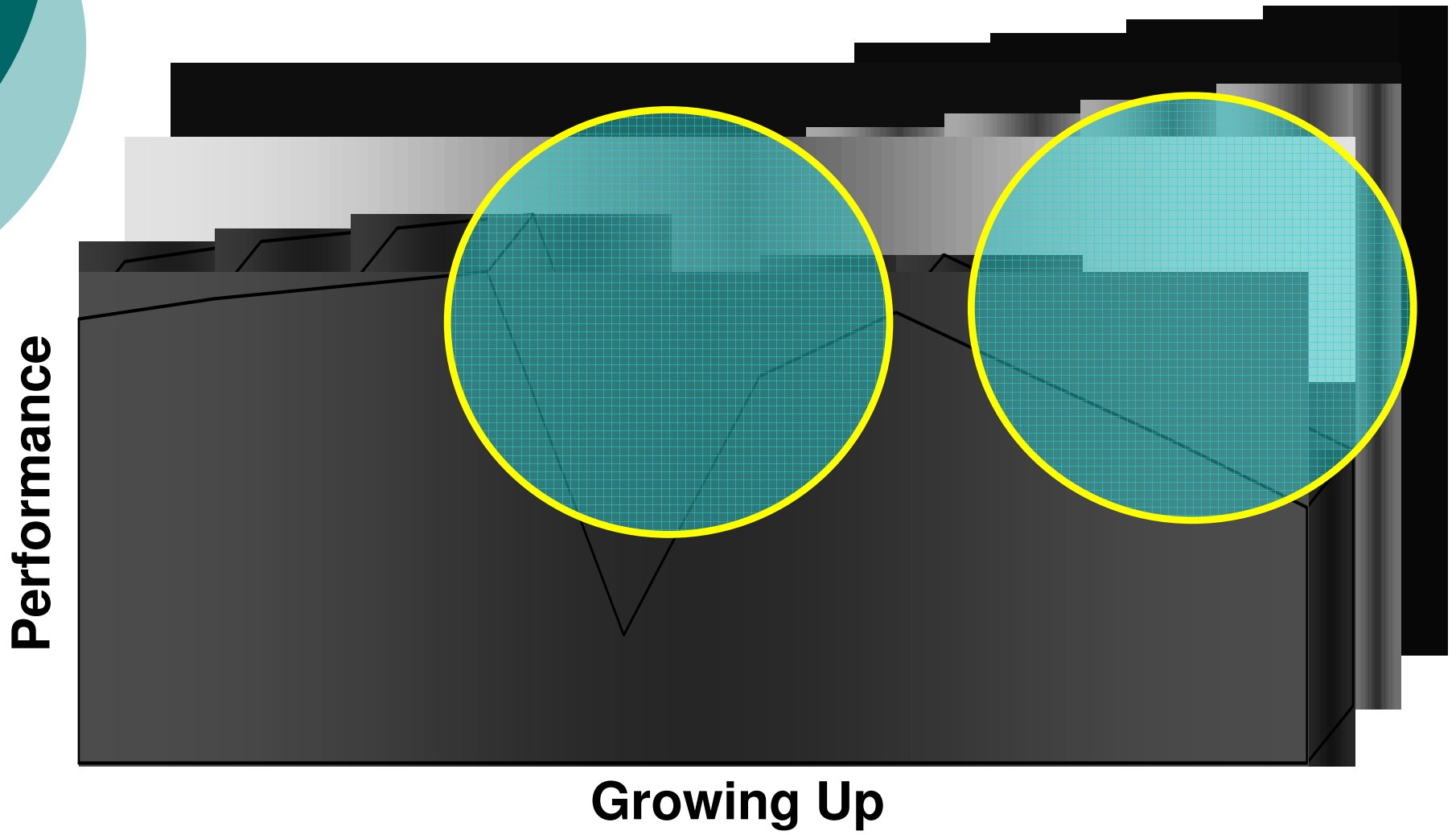
- We have fifteen minutes for this discussion. What questions about ABI/ TBI do you have?

How do these students get into trouble in school?

Watch the video to see what underlying processes are involved and identify behaviors that indicate issues for the student.

Intervention

Improving Brain Functioning



Intervention

- Attention
  - Task analysis
  - Task completion
- Memory
  - Internal aides
  - External aides
- Organization and Planning

Attention and Concentration Strategies

- Reduce distractions in work area
- Divide work into smaller sections
- Have person summarize new information
- Use cue words to alert person to pay attention
- Develop a nonverbal cueing system

Memory Strategies

- Repeat information often and summarize it
- Carry an assignment sheet for each class
- Use devices as self-reminders
- Categorize or chunk information
- Use special words as reminders
- Link new information to prior knowledge
- Give examples with instructions

Organizational Strategies

- Extra time for review
- Written checklist of steps for complex tasks
- Instruction for checking each step when done
- Written schedule of daily routine
- Person to meet with at start and end of school/ work day

Organizational Strategies

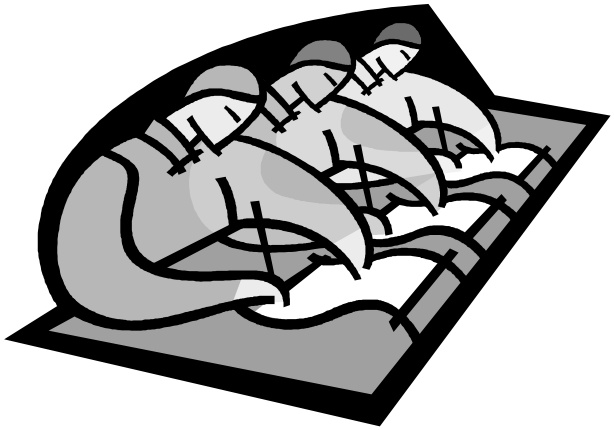
- Written cues to organize activities
- Practice sequencing material
- Outline to match lectures with notetaking sections
- Color coded materials for each class
- Practice organizing activities

Strategies for Organization

- Oral and written directions
- Have person repeat instructions
- Underline important part of written directions
- Break directions down into simple steps
- After client does task, check work and give feedback
- Slow pace of instruction

Provide Strategic Learning Skills

- Identify main idea
  - Find 2-3 supporting pieces of information
  - State main ideas and supporting facts/ideas
  - Highlight main ideas and supports if reading information
  - Discuss main ideas if verbal
  - Demonstrate main directions/ideas



Intervention

- Problem Solving
  - How did I do it?
  - What was right about what I did?
- Language
  - Receptive
  - Expressive
  - Pragmatic
  - Technology
- Self-Advocacy

Interventions with Young Children

- Play, Play, Play!
- Introduce social interactions with other children and family
- Stimulate receptive and expressive vocabulary
- Start vocational transitions
  - Teach turn taking
  - Teach responsibility
    - cleaning up, organizing toys

Let's Work on a Case

- Read the following case.
- What question do you have about the case?
- What observations do you have?

Questions to Answer

1. Name two underlying processes that the behaviors of the client made you think could be a problem.

2. Discuss what the behaviors were that led you to decide what the underlying processes of concern were.

3. Where should you focus initial treatment efforts?

Questions to answer for each case

3. List the section of the website that you would use to find information about the underlying concern/behavior
4. List several interventions or ideas for assessment that are suggested on the website that you might try with this client and tell me why you selected them.

Web sites we will be using

- http://www.bianys.org/learnet
- www.braininjurypartners.com

References

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- Gabrieli, J.D. (2004). Memory: Pandora's hippocampus? Cerebrum, 6 (4) 39-48.
- Vogel, E.K., McCollough, A.W., Machizawa, M.G. (2005). Neural measures reveal individual differences in controlling access to working memory. Nature, 438/24, 500-501.

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Web Sites with Information About ABI

- www.biausa.org
- www.nashia.org
- www. lapublishing.com
- www.cdc.gov
- http://www.tndisability.org/brain/cd/ProjectBrain/mediaframeset.html
- www.braininjurypartners.com

Community Based Web Sites

- http://www.bianys.org/learnet/
- http://www.cdc.gov/ncipc/tbi/physicians_tool_kit.htm
- http://www.cdc.gov/ncipc/tbi/Coaches_Tool_Kit.htm
- http://www.helpingkidsbrains.com/
- http://www.mitbitraining.org/
- http://www.cdc.gov/ncipc/tbi/FactSheets/VictimizationTBI_FactSheet4FriendFam.htm
- www.dvbic.org