Interventions for Students with mTBI

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Why is it important to know mTBI?

- Students with mTBI can "fall through the cracks" if not identified or misidentified.
- mTBI may look similar to other disabilities (e.g. SLD, ADHD, ED, autism) but it is important to note the differences.
- Traditional strategies that work for students with other disabilities may not work for a student with mTBI.

www.whatworks.ed.gov
What Works Clearinghouse

www.CBIRT.org
Center on Brain Injury Research and Training

www.Brainline.org
Brain Line for Kids

www.cdc.gov/traumaticbraininjury/
Centers for Disease Control

Evidence-Based Interventions?

BrainSTARS

Jeanne Dise-Lewis, Ph.D.

The Children's Hospital

720-777-5470

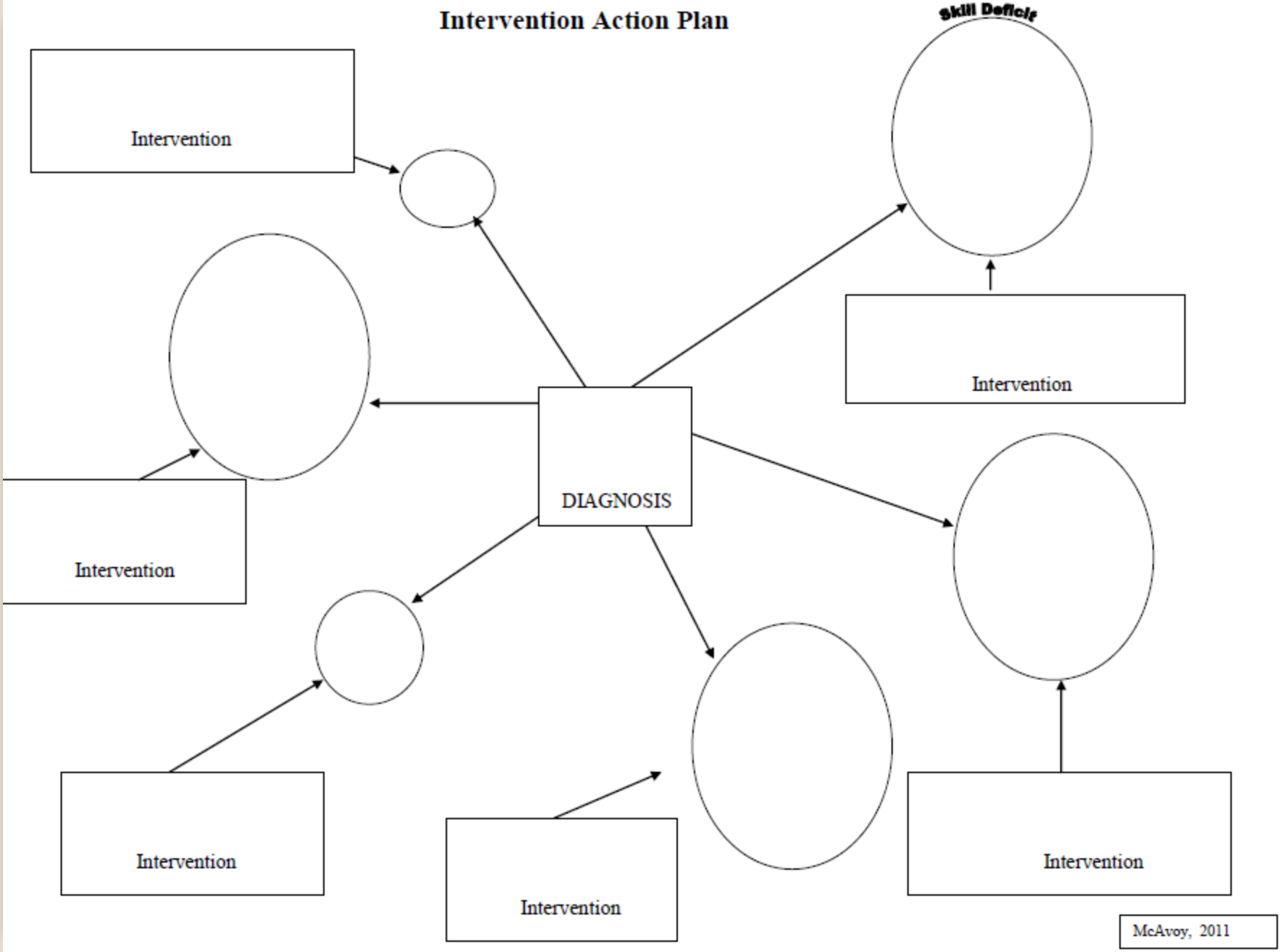
LEARNet

www.projectLEARNet.org

Mark Ylvisaker, New York BIA

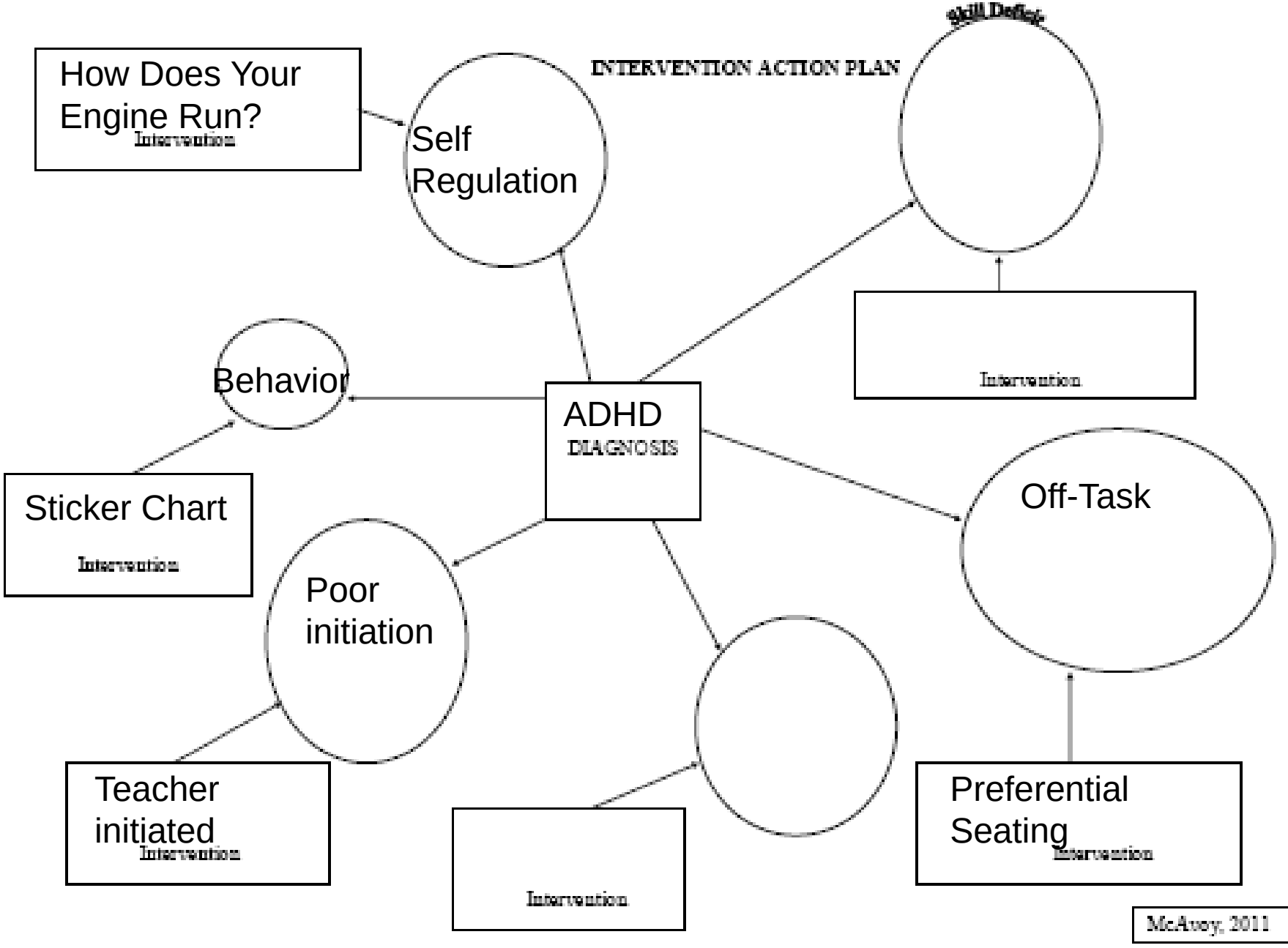
Great mTBI resources

Intervention Action Plan



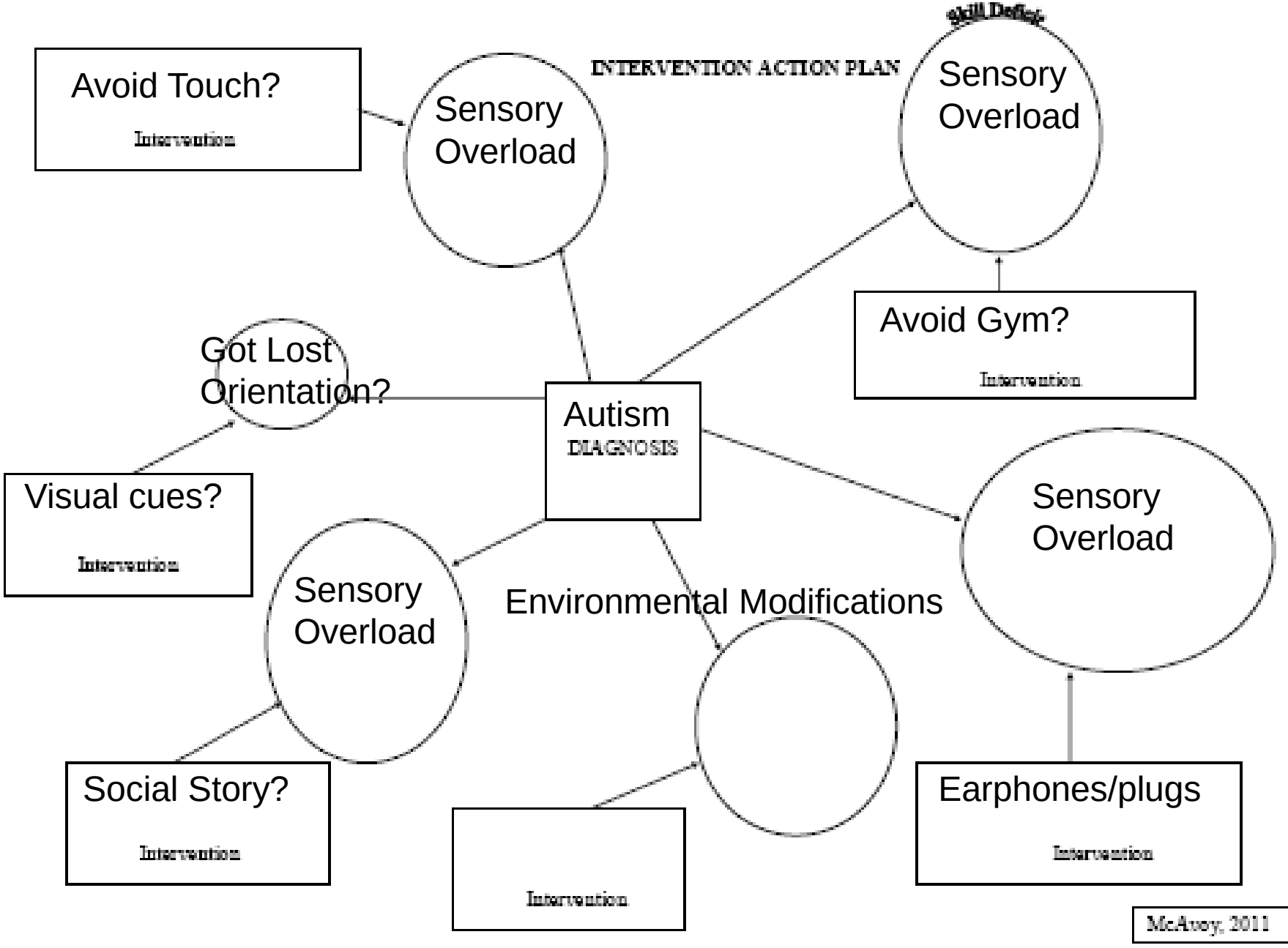
Classroom teacher:
“This student is extremely busy and off-task. When it is time to do academic work, he is always the last to get started. He tries to engage his neighbor in shenanigans, he will try to draw the attention of the class on to him. I always try to keep him to close to me when teaching because I have to give him gentle reminders to start the task, to stay on task, to keep his hands to himself … to sit on his bottom, etc.”

Case #1


INTERVENTION ACTION PLAN
How Does Your Engine Run?
Intervention
Self Regulation
Behavior
Sticker Chart
Intervention
ADHD
DIAGNOSIS
Poor initiation
Teacher initiated
Intervention
Intervention
Off-Task
Preferential Seating
Intervention
Intervention
McAvoy, 2011

Specials PE:
“I first met David when PE came up as specials in the middle of September. The first time he came to the gym, he walked over to the side of the gym with his hands over his ears. He walked around with his hands on his ears, humming to himself and walking and walking. I tried to go over and touch him and he kind of shrieked and pulled away. I didn’t know what to do so I asked the TA for another kid to go over and follow him around the gym. She was finally able to get him to calm down and she asked him to go to the nurses office. Later I found out that he never made it to the nurse office because he said he got lost.”

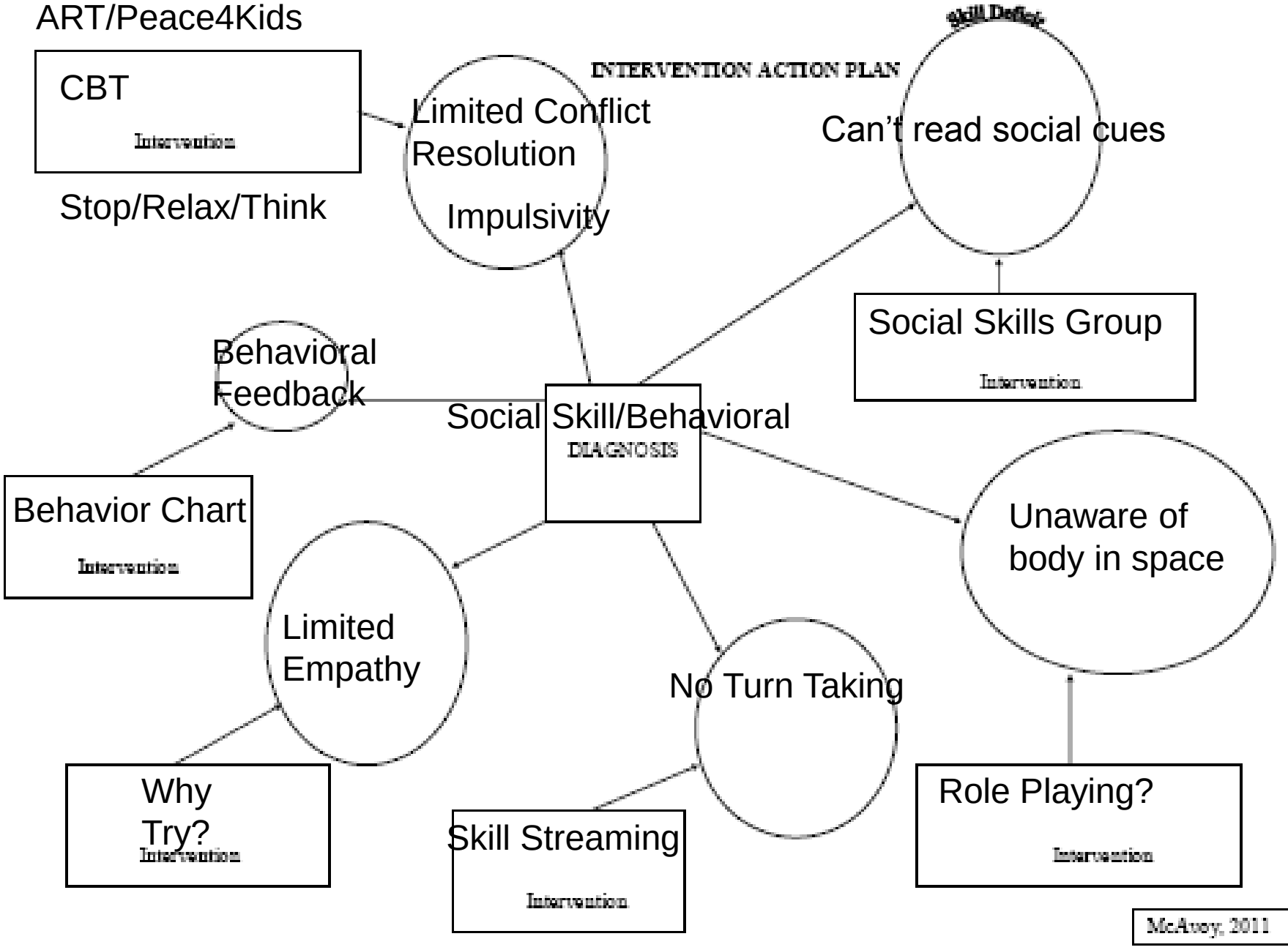
Case #2


INTERVENTION ACTION PLAN
Avoid Touch?
Intervention
Sensory Overload
Sensory Overload
Avoid Gym?
Intervention
Got Lost Orientation?
Autism
DIAGNOSIS
Visual cues?
Intervention
Sensory Overload
Environmental Modifications
Sensory Overload
Social Story?
Intervention
Intervention
Earphones/plugs
Intervention
McAvoy, 2011

Playground Aid:

"I am always writing up referrals on this kid. He charges out of the classroom onto the playground and he just runs over everyone else in his way. He is rough with other kids. It's like he doesn't care. It always happens that by the end of recess, he will come up to me pouting or crying or mad. He says that no one will play with him or he'll say that someone was mean or unfair to him. So I started paying more attention and I saw him run right up to a kid, grab the ball away from him and run off with it. When the other kid ran after him, he yelled and kicked and screamed… I don't know how that kid is going to get any friends that way."

Case #3


ART/Peace4Kids
CBT
Intervention
Stop/Relax/Think
INTERVENTION ACTION PLAN
Limited Conflict Resolution
Impulsivity
Can't read social cues
Social Skills Group
Intervention
Behavioral Feedback
Social Skill/Behavioral
DIAGNOSIS
Behavior Chart
Intervention
Unaware of body in space
Limited Empathy
No Turn Taking
Why Try?
Intervention
Skill Streaming
Intervention
Role Playing?
Intervention
McAvoy, 2011

Discussion

- Story of David
- How would your interventions have been different if you had known that the problems described stemmed from a mTBI?

16 areas that are very sensitive to a TBI:

Motor/Language:

- Fine Motor
- Gross Motor
- Receptive Language
- Expressive Language

Cognitive

- New Learning
- Memory
- Processing Speed
- Initiation

Reorganization of COKids

Sensory

- Visual-spatial

Attention and Organization

Executive Functioning

- Reasoning
- Planning
- Mental Flexibility
- Social/Emotional/Behavioral

16 Domains

Fine Motor

- Access to computer for written work
- Adapted pencils, scissors, etc.
- Extra time for written work
- Teacher/peer notes or outline

- BrainSTARS Chapter 3 and Sections:
  - #5 Fine motor control
  - #12 New learning- written language
  - #16 Praxis

- LEARNet

Gross Motor

- Assess safety
- Early passing period

- BrainSTARS Chapter 3 and Sections:
  - #6 Gross Motor Control
  - #16 Praxis

- Adaptive Sports/PE

- Clear, concise directions
- One direction at a time
- Have student repeat back instructions
- Reinforce with visual cues

- BrainSTARS Chapter 3 and Sections:
  - #12 New Learning- Reading, Written Language
  - #17 Receptive Language

Receptive Language

- Ask open-ended questions
- Allow time for response
- Teach appropriate expression/role play

- BrainSTARS Chapter 3 and Sections:
  - #4 Expressive Language
  - #12 New Learning- Reading, Written Language
  - #21 Word Retrieval

Expressive Language

Initiation

Provide assistance
Provide frequent check-in's
Provide written routine

BrainSTARS #7 Initiation

LEARNet

Executive Skills:

- Initiation: Table 4.10 Page 54

Initiation at the time and Planning for later initiation

Smart but Scattered

New Learning

Is it a Memory Issue?

- Repeat instructions – have child repeat back
- Multi-modal learning – teach to learning strength and different types of learning
- Thematic learning –make it meaningful
- Teach new material in context
- Labels in classroom
- Preview new material
- Review daily material
- “Chunking”

BrainSTARS #12 New Learning

LEARNet

Executive Skills:

- Working Memory: Table 4.7 Page 49

Element of attention, huge overlap with memory concerns

Easy to want to see inconsistent learning as "willful misbehavior"

(not a linear progression)

New Learning

Memory

Routine, routine, routine!

Repeat instructions – out-loud, multi-modal, have child repeat back

Mnemonic strategies

Pictures or visual cues

Compensatory strategies:

- Daytimers, iphone…

BrainSTARS #9 Memory

LEARNet

Executive Skills: Working Memory: Table 4.7
Page 49

Repeat instructions
Tape record lectures
Give one instruction at a time
Be brief and concise – short directions
Allow for delay in response
Extra time

BrainSTARS #11 Mental Processing Speed

LEARNet

Processing Speed

- Provide verbal instruction
- Reduce visual “clutter”
- Modify worksheets to reduce info on page
- Adaptive paper
- Ruler for tracking

Visualspatial

Sensory

- Can be over-stimulation or under-stimulation
- Reduce visual and auditory distractions
- Preferential seating
- Deep joint pressure

- Alert Program- How does your engine run?
- BrainSTARS Chapter 3 and Section:
  - #19 Sensory Processing
- LEARNet

Attention

Routine
Preferential Seating
Make sure you have focus before instructing
Reduce auditory and visual distractions

BrainSTARS #2 Attention

LEARNet

Executive Skills:

- Response Inhibition: Table 4.6 Page 47
- Sustained Attention : Table 4.9 Pages 52 and 53
- Goal-Directed Persistence: Table 4.14 Page 62

Organization

Teach organizational skills (folders, planners)
Support home-school plan
Use “zipper” folder
Color Code folders

BrainSTARS #14 Organization &#15 Planning

Smart but Scattered

Executive Skills:

- Organization: Table 4.12 Page 58
- Time Management: Table 4.13 Pages 60 and 61
- Homework Checklists, Planning Sheets

Avoid sarcasm
Use multiple choice instead of essay tests
Scaffolding
Meaningful concepts

BrainSTARS #8 Judgment or LEARNet
#12 New Learning
#13 Non-Verbal Learning
#20 Social Skills

Executive Skills:

- Metacognition Table 4.16 Page 65 and 66
  (take a birds eye view)

EF - Reasoning

Anticipate transitions
Antecedent Management
"Planning Sheets" – organizational planning

BrainSTARS #15 Planning

LEARNet

Executive Skills:

- Planning Table 4.11 Page 55

EF - Planning

Routine, routine, routine
Anticipate transitions
Plan for situations that require mental flexibility
Teach coping stratgies

BrainSTARS #10 Mental Flexibility

LEARNet

Executive Skills:

- Flexibility Table 4.15 Page 63

EF – Mental Flexibility

Relaxation techniques

- Counting
- Visualization
- Breathing
- Calm down/time-outs

BrainSTARS

- #1 Adolescent Self-Regulation
- #3 Emotion Regulation
- #18 Self-Regulation
- #20 Social Skills

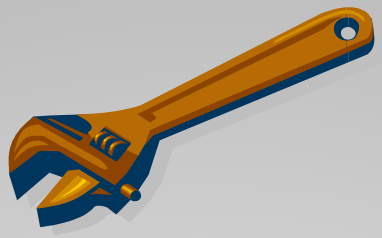
LEARNet

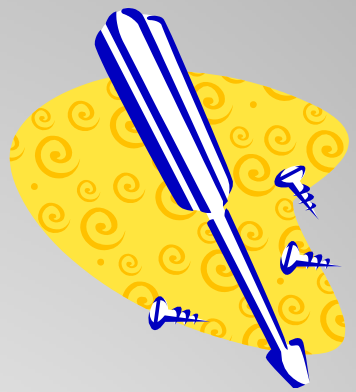
Executive Skills – Self-Regulation: Table 4.8 Pages 50 and 51

EF – Social/Emotional/Behavioral

- Positive Behavior Support
- Cognitive Behavioral Therapy
- Aggression Replacement Treatment
- Why Try
- Collaborative Problem Solving
- Second Step
- PATHS
- Skill Streaming
- Tools for Teaching
- Journaling

EF – S/E/B





“If this group is functionally identified as an adolescent with disinhibited and potentially XXXX behavior associated with frontal lobe pathology, then evidence of effectiveness of this intervention is directly applicable to those adolescents with TBI who meet the same functional description”

Steps in teaching a skill

Environment

- What are the environmental factors affecting the behavior? Can the environment be changed?
- Or is it in the child's best interest to learn this skill sooner rather than later?
- Antecedent Management

Skill Acquisition

- Identify the skill deficit – teach the skill
- Break the skill down to reasonable "chunks" for more impressive acquisition

Skill Generalization

- Generalize the skill to other environments
- Practice in various settings and under various circumstances

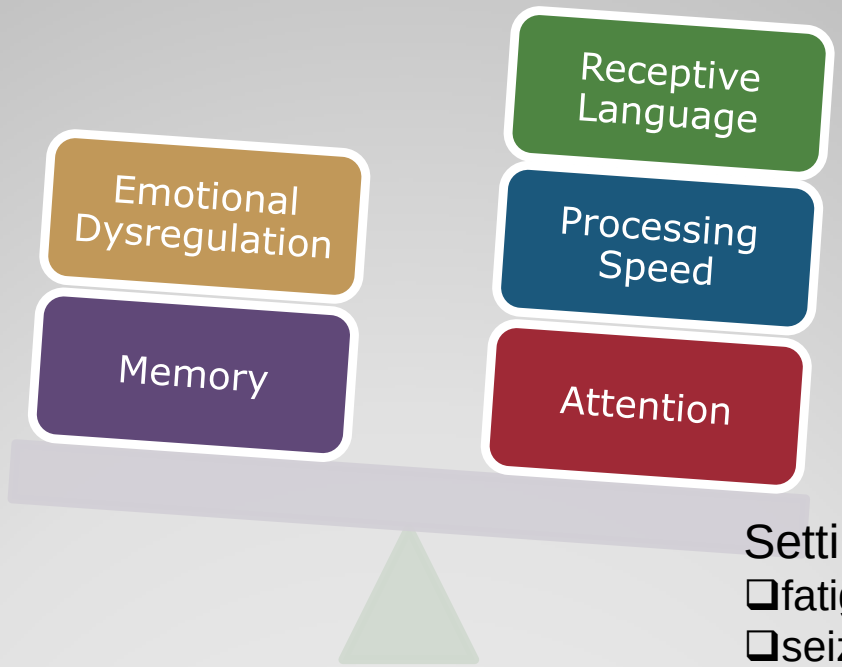
Performance Deficit

- Assumes the child has the skill but is making a choice not to perform the skill as requested

Reinforce the skill and consequence the behavior

Generalization

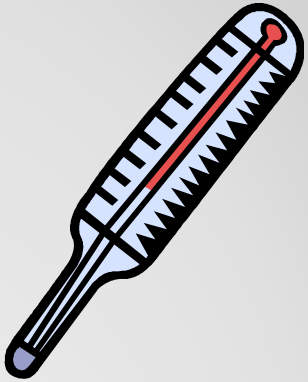
Skill Acquisition (New Learning)



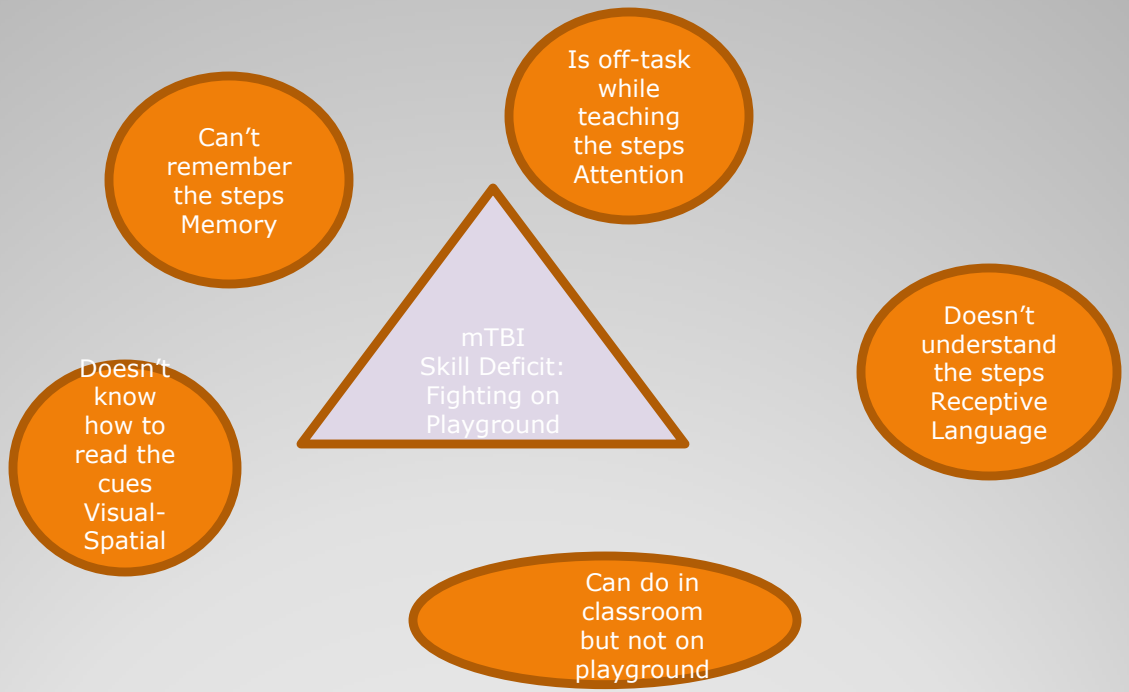
The events that students experience as reinforcing and punishing are always changing based on both the presence and absence of many different environmental and social situations. The term Setting Event is used to describe the events that momentarily change the value of reinforcers and punishers in a student's life. The occurrence of a setting event can explain why a request to complete a task results in problem behavior on one day but not on the next.

Setting Events:

- ❑fatigue
- ❑seizures
- ❑pain
- ❑mental “fogginess”
- ❑hunger
- ❑sensory over- load
- ❑sensory under - load



FBA – Function of the Behavior?



And what about the setting events?

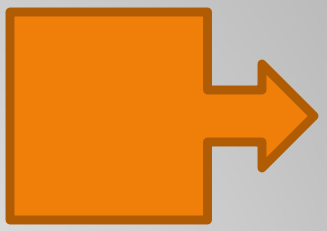
Function of the Behavior

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, antecedent techniques are used more often than consequent strategies with older adults (and students with executive functioning disabilities) because they are easier to apply, require less caregiver time, and are generally considered less manipulative, and therefore more acceptable, by caregivers and professionals.

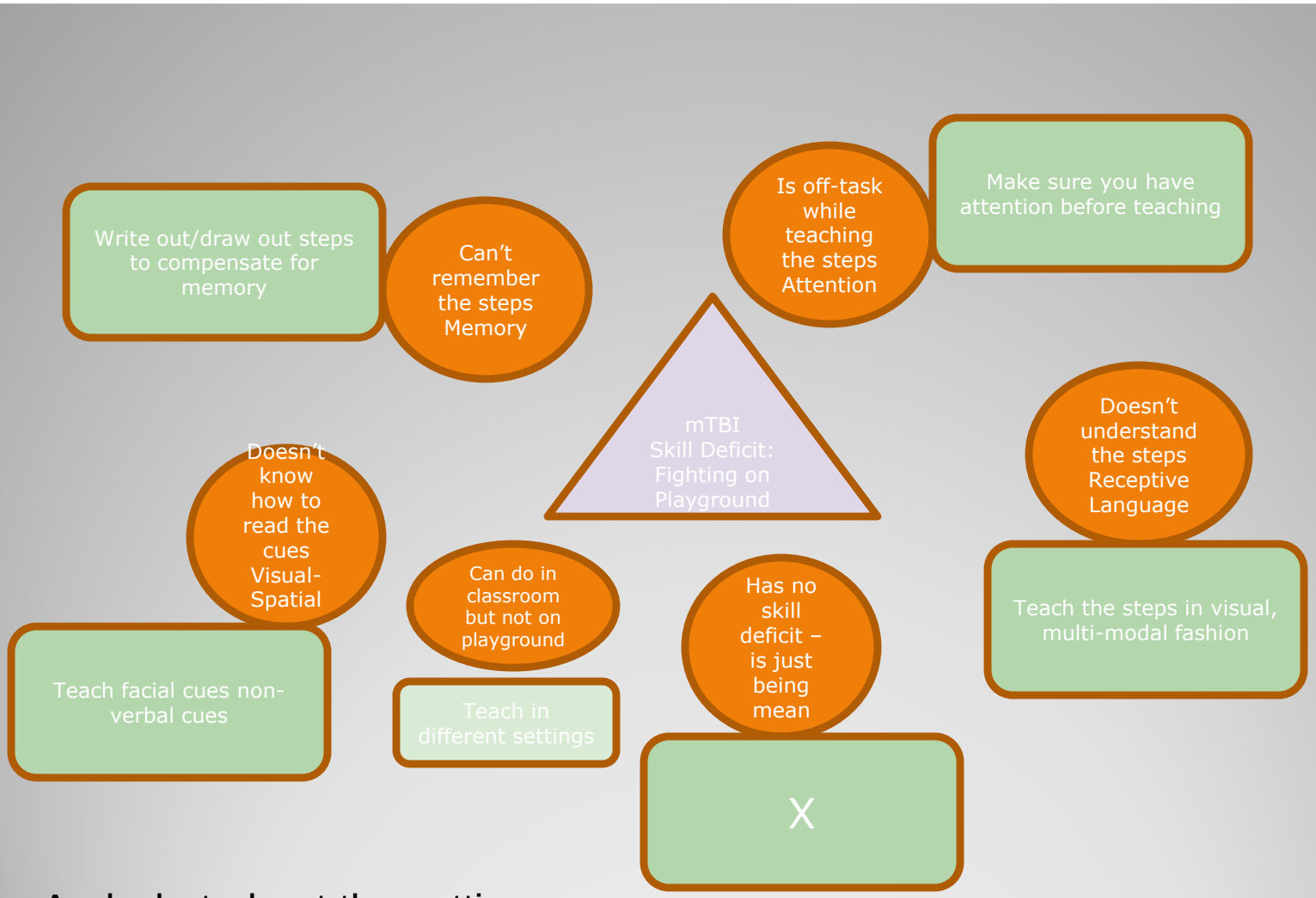
Internal & external environment -
Constantly asking … what about the setting events? Sensory and physical/emotional dysregulation?

Teach – understand language?
Need visual cues?
Have their attention?
Ability to make new learning?
Ability to remember?



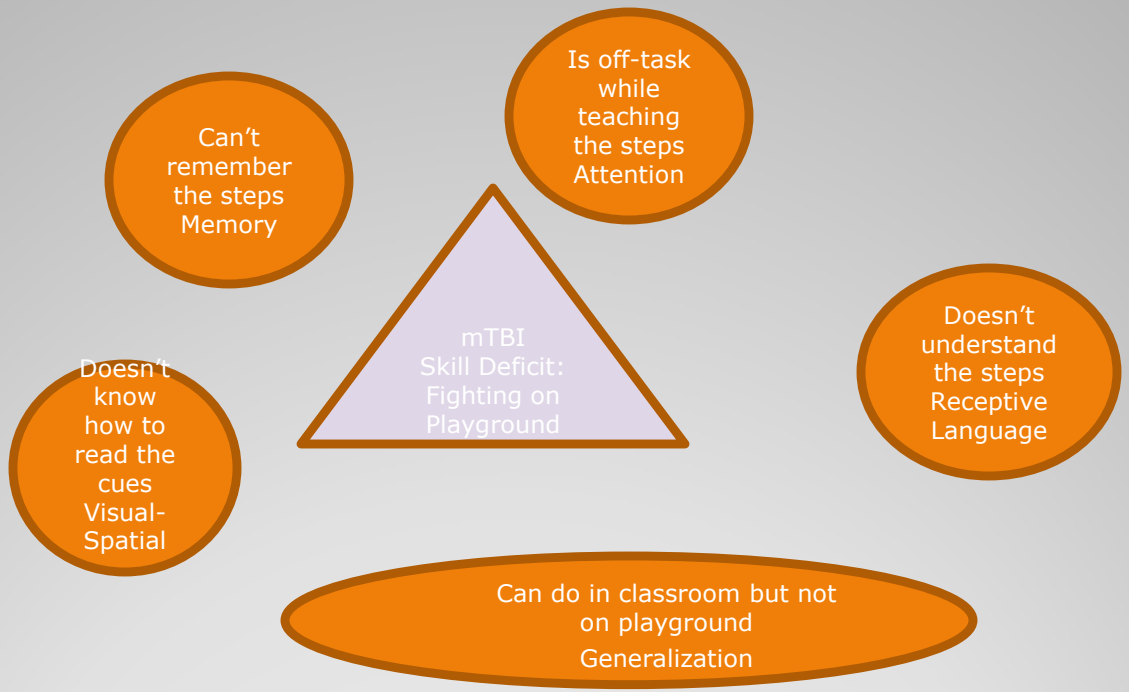
Generalize – new places, new people, varied situations – how does that affect the setting events?

Fluid FBA



Function of the Behavior

And what about the setting events?



What if the function of behavior changes? What if you have to teach the skill accommodating every skill deficit?

Collaborative Problem Solving CPS

Kids Do Well If They Can This is the most important theme of Collaborative Problem Solving: the belief that if kids *could* do well they *would* do well. In other words, if the kid had the skills to exhibit adaptive behavior, he 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 a kid's is challenging behavior has major implications for how you'll try to help. If you believe a kid 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

Check Your Lenses Challenging behavior occurs *when the demands of the environment exceed a kid's capacity to respond adaptively*. In other words, it takes two to tango. But many popular explanations for challenging behavior place blame on the kid or his parents. Not Collaborative Problem Solving. **www.livesinthebalance.org**

EF – Mental Flexibility

Performance Deficit?

Skill Generalization

- Generalize the skill to other environments
- Practice in various settings and under various circumstances

Skill Acquisition

- Identify the skill deficit – teach the skill
- Break the skill down to reasonable "chunks" for more impressive acquisition

Environment

- What are the environmental factors affecting the behavior? Can the environment be changed?
- Or is it in the child's best interest to learn this skill sooner rather than later?
- Antecedent Management

Are you sure you taught the skill?

Did you teach 1 skill at a time and give it enough time?

Did you adjust the teaching PRN?

Did you generalize the skill?

Were you consistent or were there mixed messages?

FBA – Function of the Behavior?

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.**

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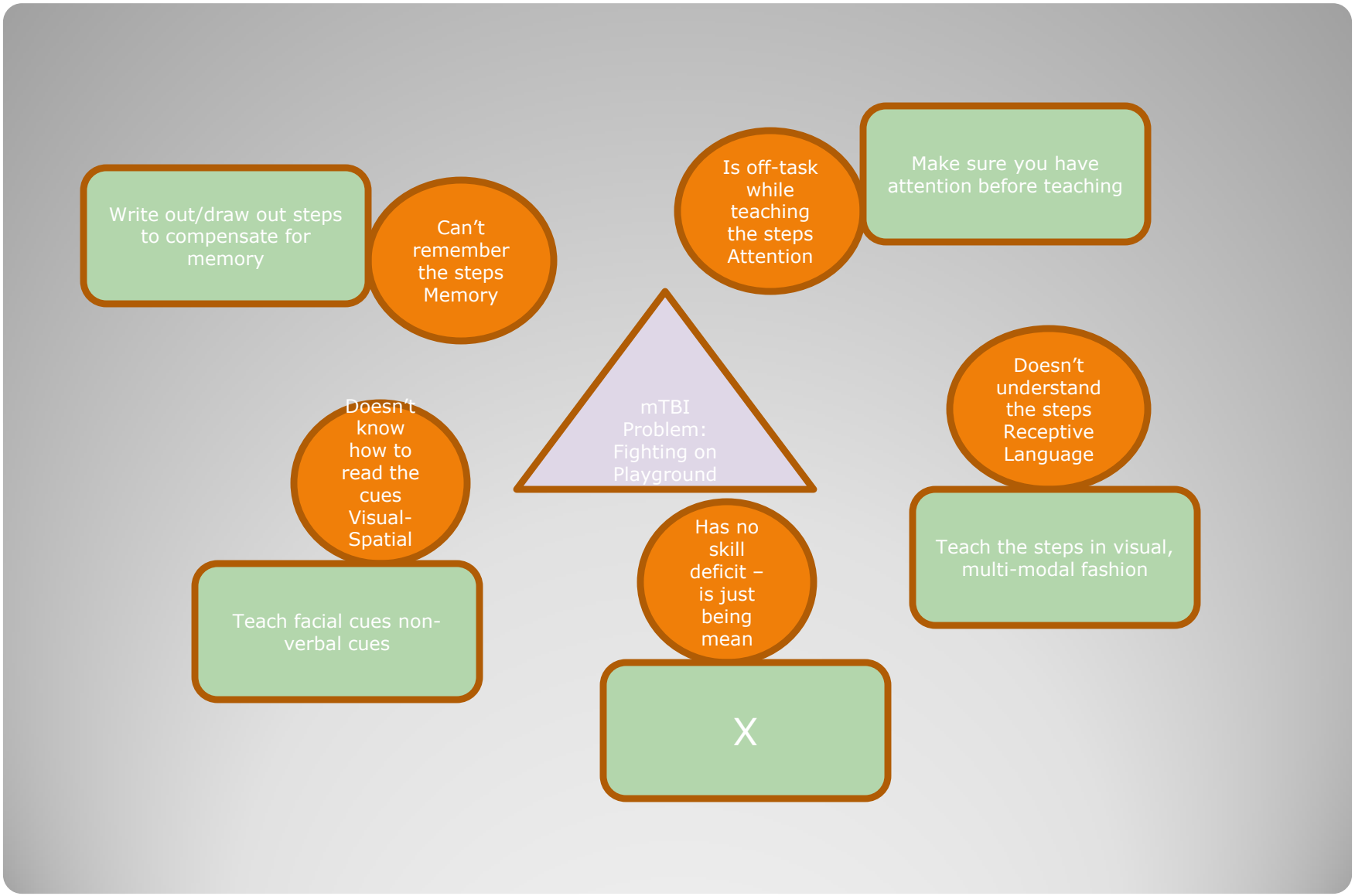
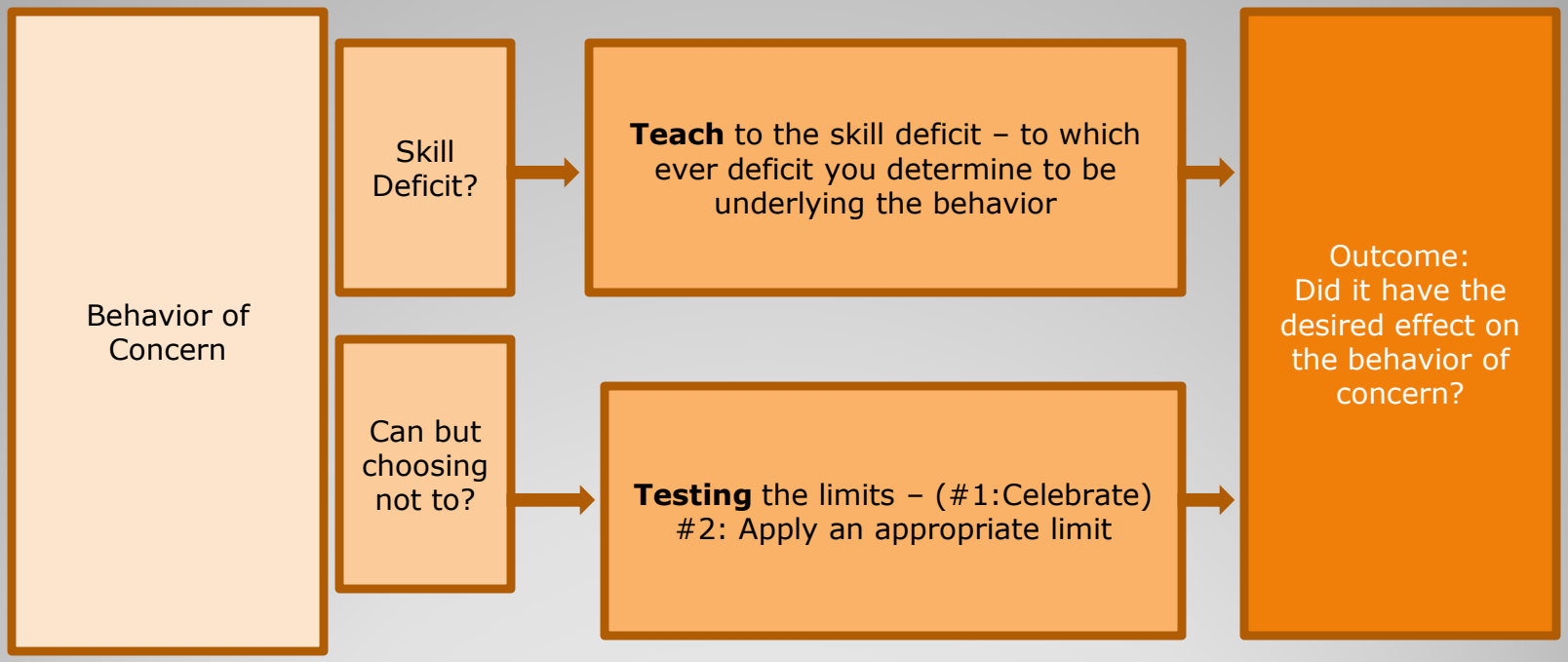


Function of the Behavior



Caveat: You can only assume it is “testing the limits” once or maybe twice. After that, if you do not get the desired change in behavior, you HAVE to go back to the question of a skill acquisition problem, a skill generalization problem or a question of inconsistent teaching.

T2 – Teach or Test?

After you are 100% sure your child has:

- acquired the skill
- generalized the skill

Then you want to **strenghten** the skill:

Increase the demonstration of the skill or the generalization of the skill with reinforcements

Easier to teach TO the replacement skill

If you find you are using reinforcers too much…

Decrease the use of inappropriate conflicting behaviors by the use of punishment

Harder to teach to the absence of a behavior

If you find you are using consequences too much…more than once or twice

Go back to the question of skill

Go back to the question of the:

- The environment
- The function of the behavior
- The teaching of the skill
- The generalization of the skill

Behavior charts (use of rewards) and Behavior Plans (use of consequences – “do this …or else”) presupposes “skill is in place and will is at play”

Sticker Charts and Consequences are to be used ONLY when you are 100% sure that the skill is in place! If you have doubt about the acquisition or the generalization of the skill, err on the side of skill.

Go back and teach!

When you are ready to use behavior charts, let the child be in charge of setting goals and charting.

Success begets success! Success builds self-esteem!

Our BIP is just our road map for 1 year:

Goal: To increase or decrease …

Objective:	**By applying XYZ Intervention… (which we picked based upon our assessment of the function of the behavior)**
Baseline:	10% (where we are now)
Goal in 1 year:	90% (where we want to be in 1 year)
Progress Monitoring:	Quarterly

BIP– Fluid?

Our BIP is just our road map for 1 year:

Goal: To lose 12 pounds by Dec. 31, 2011

Objective:	**By: – in food and + in exercise**
Baseline:	125 lbs
Goal in 1 year:	113 lbs
Progress Monitoring:	Quarterly

Behavior Intervention Plan


119
June
Weigh
+ exercise
- food
116
Sept
Weigh
+ exercise
- food
125
Jan
Weigh
+ exercise
- food
122
March
Weigh
+ exercise
- food

Great Plan…

Function of behavior:
Spring: Get outside walking
Graduation: Family in town, less time to exercise…worry less about overeating, increase exercise after they leave

119

Function of behavior:
Summer! Ride bike to work, move from walking to jogging
Goal: ½ marathon!

116

Sprained ankle:
Adjust Plan

Function of behavior:
Less time to run, keep riding bike as long as possible, exercise less
Coming up on Holidays: Focus on not overeating

125

Function of behavior:
Eat less after the Holidays
Cold outside: go to gym, stationary bike

122

Be Specific, Be Fluid, Adjust…

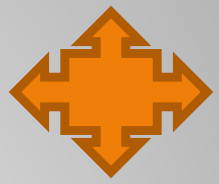
Goal:
Help David increase social skills

Why would we assume that motivation and function of behavior (and setting events) wouldn't fluctuate for a child over a 1 year period? The same intervention will not work for the entire year.

In Summary:

- Worry less about the disability group
- Worry more about the "skill deficit"
- Borrow interventions from our friends in ADHD, Autism and Social/Emo/Beh

Here is the hard work:



- Understand Environmental Accommodations
- Focus on Skill Acquisition and Generalization
- Focus less on pure Performance Deficits (rewards and consequences
- Understand all the potential pitfalls where characteristics related to a TBI can trip up your teaching and generalization of skills
- The function of the behavior is a moving target – adjust, adjust, adjust – teach, teach, teach!
- Once you're sure they got it, then reinforce it!

REMEMBER the belief:

If kids *could* do well, they *would* do well!

If parents *could* do well, they *would* do well!

If teachers *could* do well, they *would* do well!

Wouldn't you? ☺

Questions?
Discussion?

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Thank You!