Interventions for Executive Function Difficulties: Changing the Brain to Change Behaviour

Presented by
George McCloskey, Ph.D.
Philadelphia College of Osteopathic Medicine
gmccloskz@aol.com or
georgemcc@pcom.edu

1

Overview

- What are executive functions/ Executive Control?

- How do executive functions develop during grades K-12?

- How does motivation affect EC?

- How can teachers and parents facilitate the development of EFs?

- What's the difference between a learning disability and a producing disability?
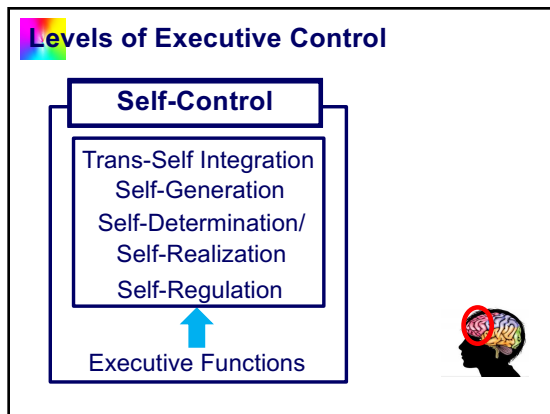
2

Executive Functions

Executive functions represent the parts of neural networks located in the frontal lobes of the brain that

cue awareness of

what to do,

when to do it, and

how to do it.

3

Levels of Executive Control

Self-Control

Trans-Self Integration

Self-Generation

Self-Determination/

Self-Realization

Self-Regulation

Executive Functions

4

Executive Control Is Not a Unitary Trait

Appropriate Metaphors for Executive Control:

- **The management structure of a multinational mind corporation**
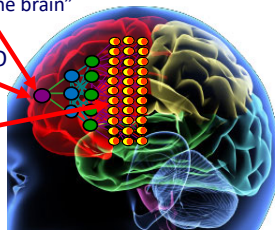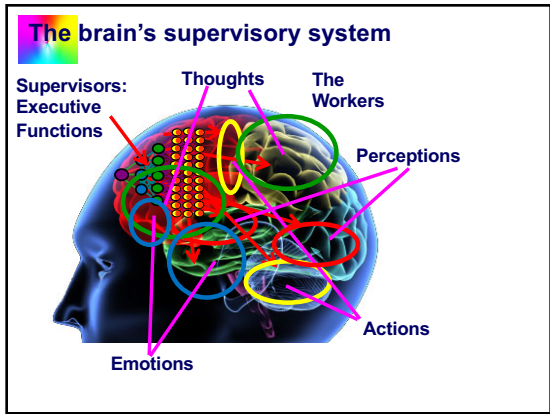- The brain's supervisory system

5

The brain's supervisory system

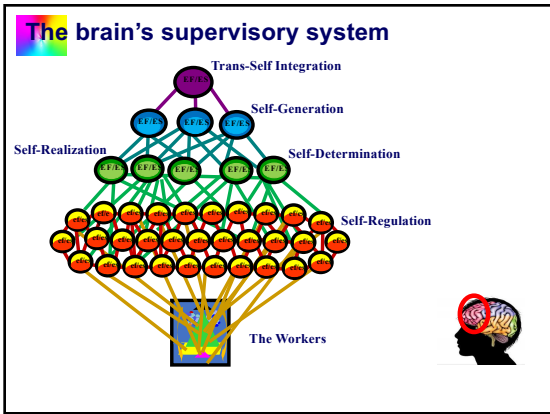Executive Control isn't just a "CEO of the brain"

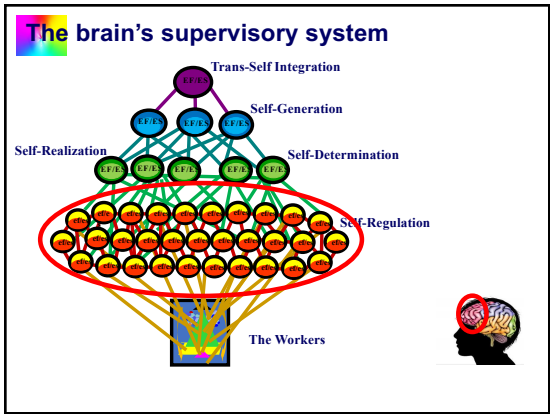It involves the CEO

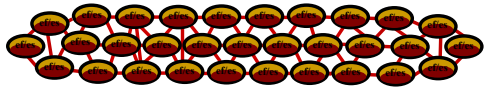and all the other managers in the corporation

6

7

8

9

_____

_____
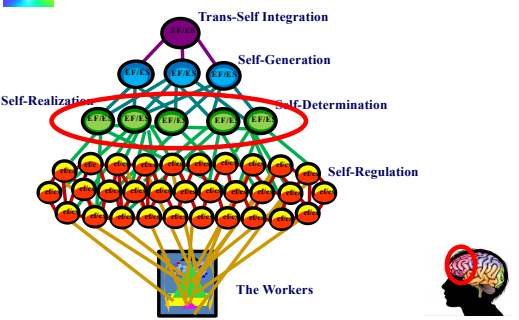
_____

_____

_____

_____

_____

Self Regulation

- A set of control capacities that cue and direct functioning across the domains of perception, emotion, cognition, and action in the present moment.

10

The brain's supervisory system

Trans-Self Integration

Self-Generation

Self-Realization

Self-Determination

Self-Regulation

The Workers

11

Self-Determination

- Foresight/Long-Term Planning and Goal Generation
- Directs the construction of visions of the future and plans for guiding actions over longer periods of time.
- Works to align daily self-regulation with long-term goals and strengthen delayed-gratification.

INDEPENDENCE
AUTONOMY
FREEDOM
SELF-RELIANCE

12

Self-Realization (self & others)

- Cues for awareness of self and others, reflection about self and others and self-analysis.
- Cues for access to accumulated information about self and others and how to apply it to guide self-regulation in specific situations.
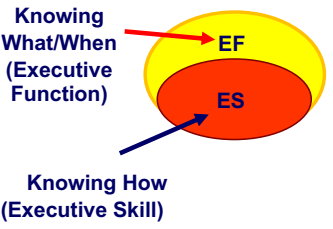
13

The brain's supervisory system

Trans-Self Integration

Self-Generation

Self-Realization

Self-Determination

Self-Regulation

The Workers
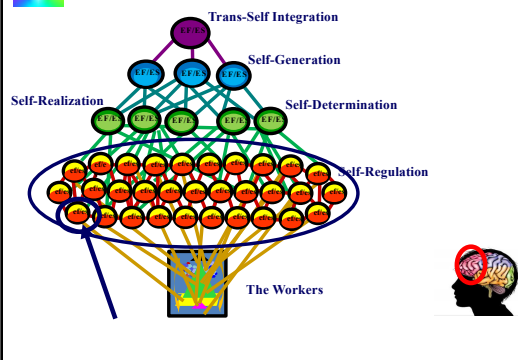
14

Key Concept

It is important to distinguish between

Knowing What/When (Executive Function) → EF

ES

Knowing How (Executive Skill)

15

Self-Regulation Executive Functions

Executive Function Managers are the parts of the executive network that signal the Executive Skill Managers about what to do and when to do it (e.g., knowing when to make a plan, knowing when to inhibit)

16

Self-Regulation Executive Skills

Executive Skill Managers are the parts of the executive network that are used to cue the rest of the neural network ("the workers") needed to perceive, feel, think and act effectively (e.g., the Plan executive skill manager activates the parts of the brain needed to make a plan.)
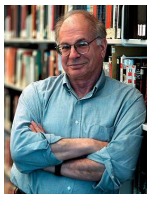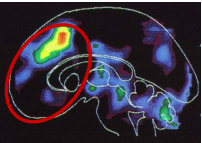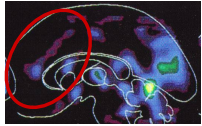
17

THINKING, FAST AND SLOW

DANIEL KAHNEMAN

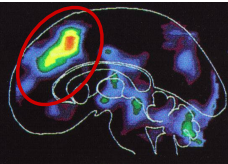WINNER OF THE NOBEL PRIZE IN ECONOMICS

18

**System 2 –
Slow, effortful,
non-automatic**
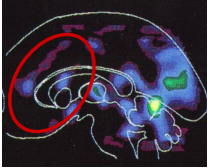
**System 1 –
Fast,
effortless,
automatic**

19

**Figuring out
what, when and
how with a new
task**

**Practicing
what, when
and how to
automaticity**

20

**Figuring out
what, when and
how with a new
task**

**Same task, new
items**

**Using EFs to
recognize when,
then engaging
already learned
how**

21

_____   _____   _____

_____   _____   _____

_____   _____   _____

_____   _____   _____

_____   _____   _____

_____   _____   _____

Knowing When vs Knowing How

- Executive skills (knowing how) can be practiced to automaticity, reducing frontal lobe demands.
- Executive functions cannot be practiced to automaticity, the when is always changing and needs to be identified.

22

Self-Regulation Executive Control

Executive Control enables the conscious self-regulation of

- perceptions
- feelings
- thoughts
- actions

23

Executive Control within Arenas

Executive Control can vary based on contexts (Arenas of Involvement)

24

Arenas of Involvement

Intrapersonal
Control of Self in Relation to Self

Interpersonal
Control of Self in Relation to Others

Environment
Control of Self in Relation to Surroundings

Symbol System
Control of Self in Relation to Communication (Reading, Writing, Math)

25

Self-Regulation

Trans-Self Integration

Self-Generation

Self-Realization

Self-Determination

Self-Regulation

The Workers

26

Self-Regulation Clusters

ATTENDING
Perceive
Focus
Sustain

ENGAGING
Energize   Initiate
Inhibit
Stop   Pause
Flexible   Shift

MONITORING & ADJUSTING
Monitor
Modulate
Balance
Correct

Self-Regulation Executive Functions
Organized within 7 Clusters

PERFORMING EFFICIENTLY
Sense Time   Pace
Sequence   Use Routines

MANAGING MEMORY
Hold   Store
Manipulate   Retrieve

INQUIRING REFLECTIVELY
Anticipate   Gauge
Estimate Time
Analyze   Compare

SOLVING PROBLEMS
Generate   Associate
Plan   Organize
Prioritize   Decide

27

Slide 28

Executive Capacity Demands Increase Gradually by Cluster Across Pre-K to Grade 12 Educational Programs

Managing & Solving Problems

Inquiring Reflectively

Managing Memory

Performing Efficiently

Monitoring & Adjusting

Engaging

Attending

Pre-K K 1 2 3 4 5 6 7 8 9 10 11 12

28

Slide 29
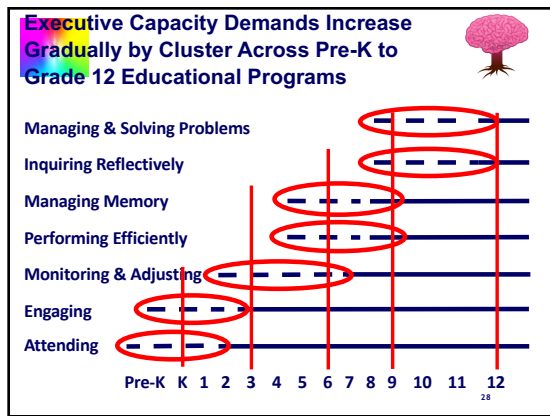
Accommodation Plans

When specially designed instructional strategies are implemented, whose frontal lobes are engaged?

29

Slide 30

Intervention Continuum

N
W E
S

Orienting Strategies

External Control Strategies

Bridging Strategies

Internal Control Strategies

30

Framework for Interventions
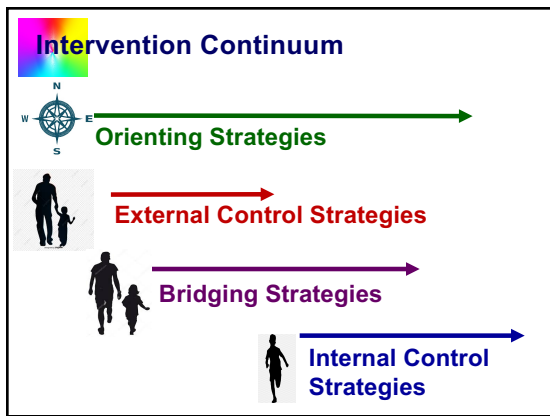
- Orienting – help child become aware of need to change and set goals for change.
- External Control –show child when and how to produce and guide child's efforts to produce.
- Bridging Strategies – teach student strategies for how and when and provide feedback about child's use of strategies (feedback gradually faded).
- Internal Strategies – child self-cues use of strategies that increase self-regulation.

31

Orienting Strategies
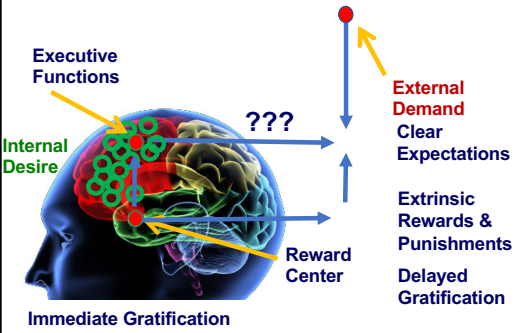
Orienting Strategies:
- increase awareness of executive functions and expectations for their use and
- provide self-regulation goals for students or
- facilitate students' development of their own goals.

32

Self-Regulation and Motivation

Executive Functions

Internal Desire

???

External Demand

Clear Expectations

Extrinsic Rewards & Punishments

Reward Center

Delayed Gratification

Immediate Gratification

33

34

Bronson & Merryman discuss their observations of the Tools of the Mind curriculum in Chapter 8 Can Self-Control Be Taught?

35

36

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Self-Regulation and Motivation

(External Demand)

Executive Functions

Teach how to self-regulate in a way that increases the desire to self-regulate

External Demand

Internal Desires

Delayed Gratification

Nucleus Accumbens

Immediate Gratification

37

Buckingham Palace Guard

38

39

40

41

42

_____   _____   _____

_____   _____   _____

_____   _____   _____

_____   _____   _____

_____   _____   _____

_____   _____   _____

43

Let's pretend we are Buckingham Palace Guards and stand still without moving as if we were guarding the palace.

44

Recommended Background Reading

45

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Orienting Strategies for Adolescents

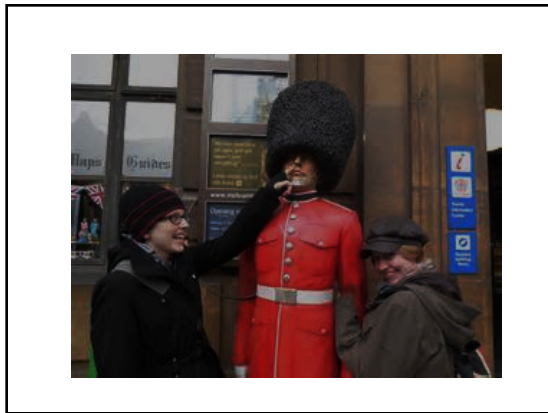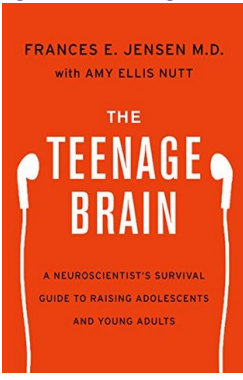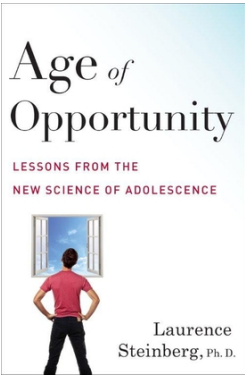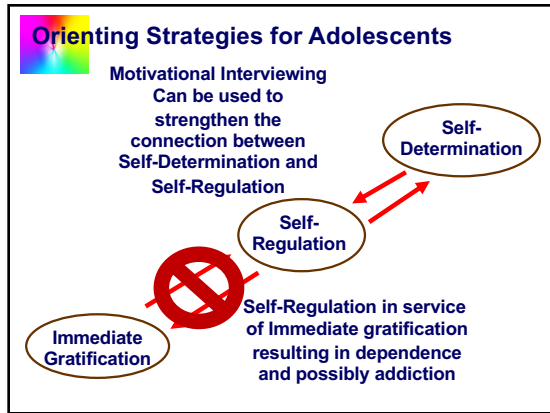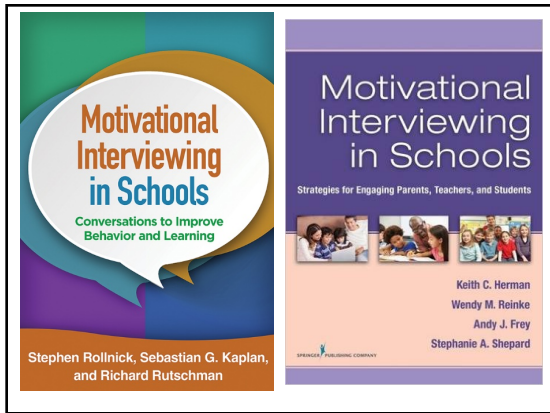Motivational Interviewing Can be used to strengthen the connection between Self-Determination and Self-Regulation

Self-Determination

Self-Regulation

Immediate Gratification

Self-Regulation in service of Immediate gratification resulting in dependence and possibly addiction

46

Motivational Interviewing in Schools
Conversations to Improve Behavior and Learning

Motivational Interviewing in Schools
Strategies for Engaging Parents, Teachers, and Students

Keith C. Herman
Wendy M. Reinke
Andy J. Frey
Stephanie A. Shepard

Stephen Rollnick, Sebastian G. Kaplan, and Richard Rutschman

47

Self-Regulation and Motivation

Self-Determination

Self-Determination

Executive Functions

Teach how to self-regulate in a way that increases the desire to self-regulate

External Demand

Internal Desires

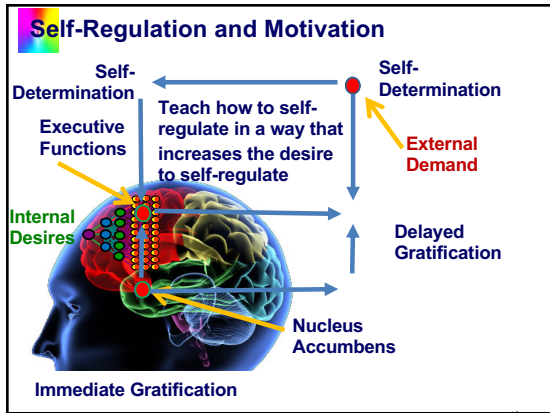Delayed Gratification

Nucleus Accumbens

Immediate Gratification

48

Key Concept

Self-Realization is greatly enhanced through mindfulness and meditation practices. Several Mindfulness-based interventions are being used to treat various mental disorders.

N
W E
S

49

49

JAMES O. PROCHASKA, PH.D.
JOHN C. NORCROSS, PH.D.
CARLO C. DICLEMENTE, PH.D.

Includes audio downloads
of guided meditations

CHANGING FOR GOOD

A REVOLUTIONARY
SIX-STAGE PROGRAM FOR
OVERCOMING BAD HABITS
AND MOVING YOUR LIFE
POSITIVELY FORWARD

SECOND EDITION

Mindfulness-Based
Cognitive Therapy
for Depression

Zindel V. Segal
J. Mark G. Williams
John D. Teasdale

50

Intervention Continuum

N
W E
S

Orienting Strategies ✔

External Control Strategies

Bridging Strategies

Internal Control Strategies

51

Assessing Skills

Learner is Unable to Do

Learner Can Do with Guidance
Zone of Proximal Development

Learner Does Unaided

52

Teaching Skills

Learner is Unable to Do

Learner Can Do with Guidance
Zone of Proximal Development

Learner Does Unaided

53

Teaching Skills

External Control

Bridging Strategies

Zone of Proximal Development

Internal Self-Control
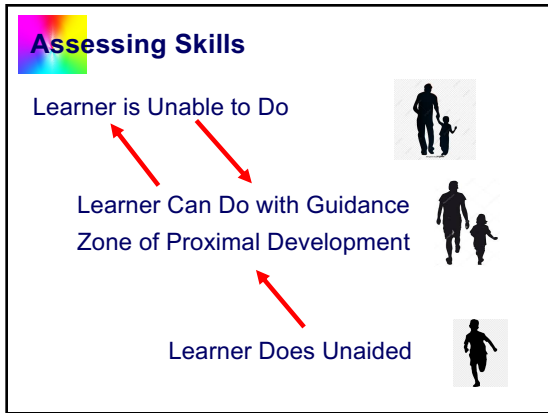
54

Slide 55

Intervention Continuum

Orienting Strategies
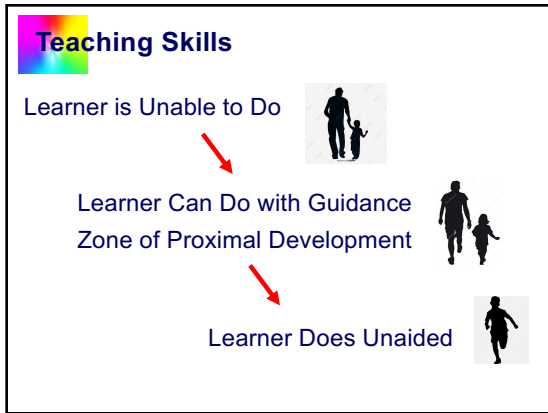
External Control Strategies
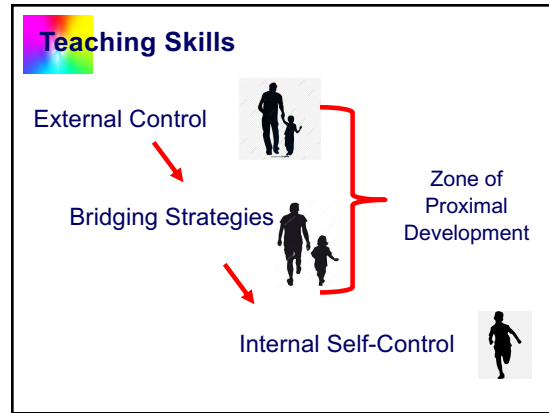
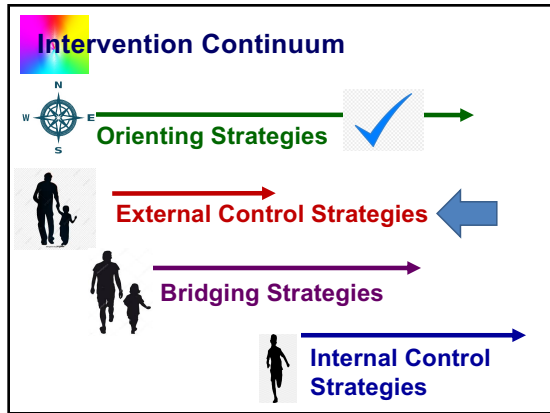Bridging Strategies

Internal Control Strategies

55

Slide 56

External Control Strategies

External Control strategies enable an individual to perform more effectively but often they don't help to improve an individual's capacity for self-regulated production.

56

Slide 57

External Control Strategies

Provide external prompts and cues as a substitute for self-regulation.

57

_____

_____

_____

_____

_____

_____

_____

Using Language

Using language when externally controlling often requires a deeper understanding of the language of executive control.

58

The Language of External Control

Pay attention!

Can you be more specific?

59

Self-Regulation Clusters

ATTENTION
Perceive
Focus
Sustain

ENGAGEMENT
Energize   Initiate
Inhibit
Stop   Pause
Flexible   Shift

OPTIMIZATION
Monitor
Modulate
Balance
Correct

EFFICIENCY
Sense Time   Pace
Sequence   Use Routines

MEMORY
Hold   Store
Manipulate   Retrieve

INQUIRY
Anticipate   Gauge
Estimate Time
Analyze   Compare

SOLUTION
Generate   Associate
Plan   Organize
Prioritize   Decide

60

Paying Attention SREFs

- Perceiving (looking, listening, touching)
- Focusing Attention
- Sustaining Attention

61

61

Pay Attention, specifically speaking

Prompts for attention should include:
- a cue for Perception (P),
- a cue for Focusing (F) and
- a cue for Sustaining (S)

62

Pay Attention, specifically speaking

Instead of "Pay attention" you could say:
- "Listen (P) to me (F) until I am done talking (S)."
- "Look (P) at the book (F) until we are done with this example (S)."
- "Use [Touch] (P) the blocks (F) until you have finished building your model (S)."

63

Prompting for Problem Solutions

Task directions: I am going to say two words and I want you to tell me how they are alike.

For example, if I say Red and Blue, you could say they are both…

64

What workers are you using?

Retrieval of verbal information from long-term storage

vs

Reasoning with verbal information

65

What supervisors are involved?

Performance on the Similarities task may or may not involve the engagement of one or more executive functions (e.g., gauge, flexible, shift, associate).

66

Key Concept

Task Performance is directed by Executive Functions or an Executive Functions substitute.

The neural networks used to perform a task depend on perceptions about how the task should be done.

67

Key Concept

Most of what a teacher, therapist, or work supervisor says to student, client, or worker is intended to activate specific neural networks within that person's brain.

68

Key Concept

The more specific the language used by a teacher, therapist or supervisor the more likely it is that the student, client or worker will be activating the brain networks needed for effective performance.

69

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

External Control Strategies

Rewards can be a tremendous benefit to an individual who has difficulty aligning internal desires with external demands. Use rewards, but heed the following cautions:

70

Using Rewards to Increase Production

- Rewards do not teach how to reflect on and alter perceptions, emotions, thoughts or actions, they simply reward the presence of desired behaviors.
- Reward programs imply that one can do it if he/she wants to or is motivated enough. This often leads away from the realization that many persons who are motivated and do want to change their behavior don't know what to do to change it.

71

External Control Strategies

Punishment in mild form can be an effective means of obtaining compliance with external demands. When choosing to use punishment, heed the following cautions:

72

Using Punishment to Increase Production

- Punishment does not teach how to reflect on and alter perceptions, emotions, thoughts or actions, they simply punish the presence of undesired behaviors.
- Punishment implies that a person can do it if he/she wants to or is motivated enough. This often leads away from the realization that many persons who are motivated and do want to change their behavior don't know what to do to change it.

73

External Control Strategies

Provide predictable, consistent structure to classroom environments and routines:

- Post and discuss class rules and schedules
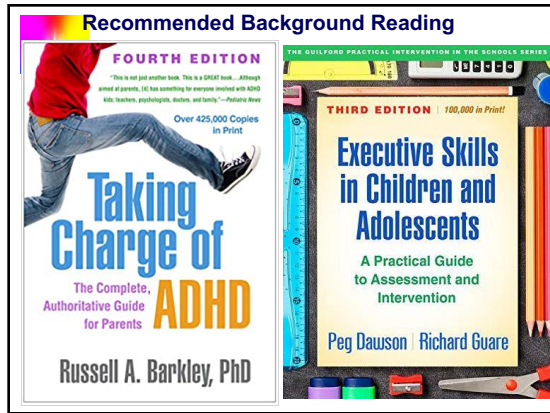- Review and rehearse routines
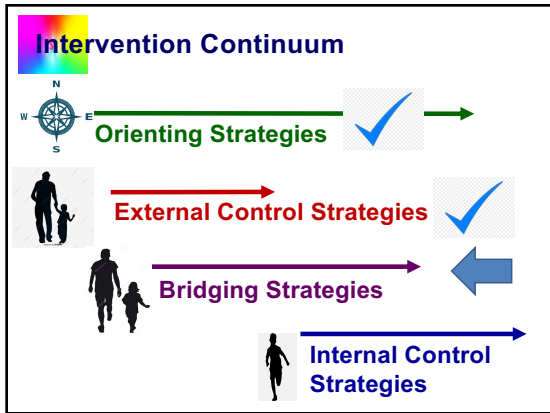- Maintain basic room arrangement

74

External Control Strategies

Provide time management aids, such as calendars, clocks, timers, schedules, peer leaders and coaches, work teams, etc.

75

Recommended Background Reading

FOURTH EDITION

THE GUILFORD PRACTICAL INTERVENTION IN THE SCHOOLS SERIES

"This is not just another book. This is a GREAT book....Although aimed at parents, [it] has something for everyone involved with ADHD kids: teachers, psychologists, doctors, and family."—*Pediatric News*

Over 425,000 Copies in Print

THIRD EDITION | 100,000 in Print!

Taking Charge of ADHD

The Complete, Authoritative Guide for Parents

Russell A. Barkley, PhD

Executive Skills in Children and Adolescents

A Practical Guide to Assessment and Intervention

Peg Dawson | Richard Guare

76

Intervention Continuum

N
W · E
S

Orienting Strategies ✓

External Control Strategies ✓

Bridging Strategies

Internal Control Strategies

77

Key Concept

Bridging strategies effect the gradual transition from external control to self-regulated internal control.

78

Reflective Questioning

Encourage the engagement of executive capacities through the use of reflective questioning.

79

Reflective Questioning

Repeat the individual's question back to them instead of providing an answer.

In situations where the client seems unaware of the need to be asking questions for adequate engagement, reflective questioning involves the mediator asking the client a question that is intended to make the client aware of the need to engage executive functions.

80

Feedback about Performance

Provide immediate and frequent feedback about the effectiveness of attempts to engage self-regulation executive functions.

Providing individuals with feedback about their performance enables them to engage executive capacities more effectively to learn from their mistakes and improve future performance.

81

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Feedback About Performance

When providing feedback, be sure to emphasize the importance of effort (Growth Mindset).

Make sure the individual realizes that self-regulation is not simply something you have or don't have – it can be increased by applying techniques and strategies.

The more effort placed into applying the techniques, the more likely the improvements.
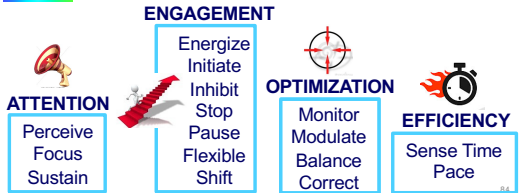
82

Practice & Rehearsal

Practice and rehearsal of the use of executive skills.

This is the single best way to increase engagement and efficiency of the use of some executive skills.

83

Improving Executive Skills

ENGAGEMENT

ATTENTION
Perceive
Focus
Sustain

Energize
Initiate
Inhibit
Stop
Pause
Flexible
Shift

OPTIMIZATION
Monitor
Modulate
Balance
Correct

EFFICIENCY
Sense Time
Pace

- Practice and rehearsal are best suited to strengthen executive skills in the Attention, Engagement, Optimization and some Efficiency Cluster EFs
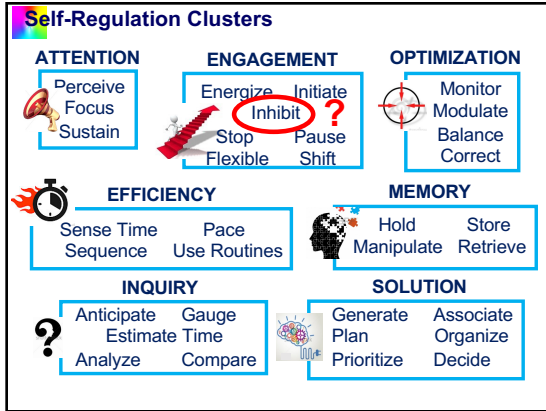
84

85

Case Example:

Billy

Lack of Inhibition?

86

Self-Regulation Clusters

ATTENTION
- Perceive
- Focus
- Sustain

ENGAGEMENT
- Energize Initiate
- Inhibit ?
- Stop Pause
- Flexible Shift

OPTIMIZATION
- Monitor
- Modulate
- Balance
- Correct

EFFICIENCY
- Sense Time Pace
- Sequence Use Routines

MEMORY
- Hold Store
- Manipulate Retrieve

INQUIRY
- Anticipate Gauge
- Estimate Time
- Analyze Compare

SOLUTION
- Generate Associate
- Plan Organize
- Prioritize Decide

87

Key Concept

The more specific the language used by a teacher, therapist or supervisor the more likely it is that the student, client or worker will be activating the brain networks needed for effective performance.

Self-Regulation Clusters

ATTENTION
Perceive
Focus
Sustain

ENGAGEMENT
Energize   Initiate
Inhibit
Stop   Pause
Flexible   Shift

OPTIMIZATION
Monitor
Modulate
Balance
Correct

EFFICIENCY
Sense Time   Pace
Sequence   Use Routines

MEMORY
Hold   Store
Manipulate   Retrieve

INQUIRY
Anticipate   Gauge
Estimate Time
Analyze   Compare

SOLUTION
Generate   Associate
Plan   Organize
Prioritize   Decide

88

Learning How and When

- Teacher provided specific cues for when to modulate.
- Psychologist and Counselor helped Billy **learn how to modulate** voice level through practice with feedback.
- Psychologist and Counselor helped Billy **learn when to modulate** voice level through rehearsal with feedback and teacher faded cues for when to modulate.

89

89

Enhance Motivation

Whenever possible, use game formats and game strategies to practice the use of executive capacities.

90

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Collaborative Problem-Solving

Ross Greene's Collaborative & Proactive Solutions approach teaches techniques for improving behavior through the use of **collaborative problem-solving** as a bridging strategy.

91

Ross Greene's Collaborative & Proactive Solutions (CPS)

lost at school

Why Our Kids with **Behavioral Challenges** Are Falling Through the Cracks and How We Can Help Them

Ross W. Greene, Ph.D.
author of The Explosive Child
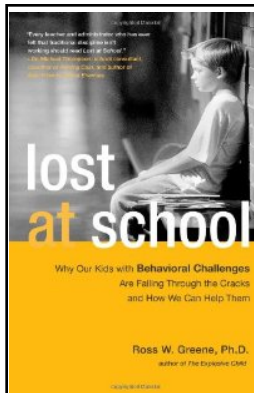
92

CPS Approach

- Listen empathetically to the child's perspective on the problem.
- Offer the adult perspective on the problem.
- Work collaboratively with the child to identify a strategy or plan of action that is realistic and mutually satisfactory.

93

Cognitive Strategy Instruction

Teach self-regulation capacities with specific skill routines using Cognitive Strategy Instruction approaches (e.g. Graham & Harris Self-Regulated Strategy Development approach for Written Expression).

94

Cognitive Strategy Instruction

1. Explain the purpose.
2. Model the strategy.
3. Student memorizes the steps.
4. Mediate student's use of each step; scaffold as needed.
5. Student uses strategy guided by self-talk.
6. Teacher and student collaboratively evaluate student's efforts.

95

Improving Executive Skills

- **Cognitive Strategy Instruction** is best suited to enhance executive skills in the Memory, Inquiry, Solution and some Efficiency Cluster EFs

EFFICIENCY

Sequence
Use Routines

MEMORY

Hold
Manipulate
Store
Retrieve

INQUIRY

Anticipate
Gauge
Analyze
Estimate Time
Compare

SOLUTION

Generate
Associate
Prioritize
Plan
Organize
Decide

96

Internal Desire vs External Demand

Executive Control activation can be internally or externally driven; EFs can cue the use of learned strategies.

97

Internal versus External Control

The neural circuits for executive function activation are routed differently depending on whether the activation is based on an internally driven desire or command versus an external demand.

98

Internal versus External Control

Because internally driven production is much easier to accomplish than externally demanded production for children with "producing difficulties" their lack of production on demand often stands in stark contrast to their seemingly effortless production "when the spirit moves them."

99

Internal versus External Control
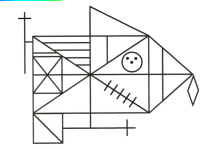
The on-demand deficiencies observed by others are often attributed to negative personal characteristics such as lack of responsibility, apathy, passive aggressive stance, or oppositional defiance.

100

Production based on External Demand:

Production based on Internal Command:
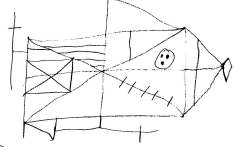
101

James Age 10, Rey Complex Figure Copy:

Self-initiated   **Verbally Mediated**

102

Modeling

Modeling the appropriate use of self-regulation executive functions.

103

Cognitive Strategy Modeling

Teaching Study Skills

through

Cognitive Strategy Modeling

104

Enhance Motivation

Align external demands with internal desires to maximize motivation.

- Allow self-selection or choice of assignments whenever possible
- Use high interest material to illustrate application of new knowledge and skills

105

Create a Common Vocabulary

Develop a common vocabulary and set of nonverbal symbols for describing or signifying self-regulation capacities and signaling their use (e.g., using the phrase "dig a little deeper" as a cue for engaging reasoning abilities for problem-solving).

106

Storytelling and Discussion

Telling a story or reading a story along with students and leading a discussion about "take-aways" from the content (e.g., reading *The Day Frankie Left His Frontal Lobes at Home*).

107

Telling a story or reading a story along with students and leading a discussion about "take-aways" from the content.

108

Frankie Book Synopsis

What happens when Frankie forgets to put the **frontal lobes** of his brain into his head and tries to make it through his day without them? Spend the day with Frankie as he discovers just how important that part of our brain really is! It all comes to a head when a day that started out pretty bad gets decidedly worse! But help is on the way and Frankie gets a crash course on "frontal lobes" that blows his mind!

Hang out with Frankie as he learns how **self-regulation** helps us "run our own show"!

109

Intervention Continuum

Orienting Strategies ✓

External Control Strategies ✓

Bridging Strategies ✓

Internal Control Strategies

110

Internal Control Strategies

Once learned and practiced, **Internal Control Strategies** enable students to effectively "run their own shows."

111

Internal Control Strategy

Once learned, the child can use **internalized "self-talk"** as a means of increasing awareness of executive functions and of when and how to use them (e.g., modified Berninger mantra for writing: "What I can think I can say. What I can say I can write. What I can write I can revise.")

112

Internal Control Strategy

Once learned, the child can make use of **self-administered reward routines** to increase the use of self-regulation executive functions (e.g., teach the child how to "bargain with yourself" to get homework accomplished).

113

Internal Control Strategy

Teach the use **self-monitoring routines.** These routines can be used to monitor and correct perceptions, feelings, thoughts and actions.

114

Internal Control Strategies

- Self-reflection on moral and ethical development
- Meditation

115

Intervention Continuum

Orienting Strategies ✓

External Control Strategies ✓

Bridging Strategies ✓

Internal Control Strategies ✓

116

Intervention Continuum

Orienting Strategies

External Control Strategies

Bridging Strategies

Internal Control Strategies
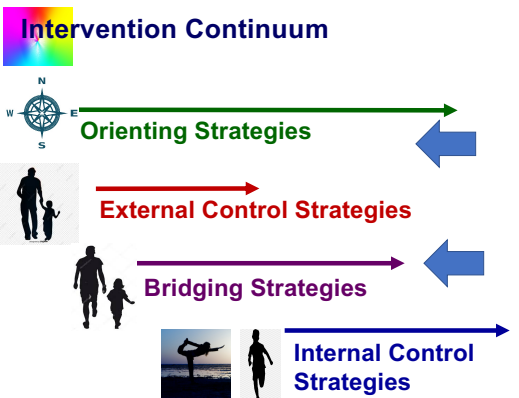
117

Multifaceted Intervention

Case
Example:
Zach

118

Motivational Interviewing with Zach

"I'm here to help you get what you want, but in order to do that I need to know what it is that you want."

119

Goal Setting with Zach

Zach's self-selected long-term goals:

- Pass all classes in 8th grade
- Get promoted to 9th grade and attend 9th grade at the district Senior High School

120

Collaborative Problem-Solving with Zach

"When I was observing you in Science class, I saw that you just put your head down on the desk and stayed that way for most of the class. What happened?"

121

Collaborative Problem-Solving with Zach

When asked specifically about his refusal to do classwork that day in Science class (as observed by the psychologist), Zach offered that he was not purposefully refusing to do the work, but that he was unable to get himself to do it, stating: "It feels like I am hitting a wall and the harder I try, the more it hurts."

122

Collaborative Problem-Solving with Zach

Using Zach's own descriptive metaphor, the psychologist explained to Zach that he was going to teach Zach strategies that would enable him to stop hitting the wall, step back and find the door in the wall, open the door and go through it; "Once inside the door, you are now in the control room of the brain and you can take control and make your brain do the things you want to achieve your goals."

123

_____

_____

_____

_____

_____

_____

Goal Setting with Zach

Goals developed through discussion with Zach about how to achieve his long-term goals:

- **Improve my mood; get engaged with class**
- **Pay attention in class**
- **Complete class work and home work**

124

Cognitive Behavior Therapy

It was also explained to Zach that it is possible to improve the capacity to respond on demand, especially if he were to have a strategy worked out that he could use in situations where demands were being made of him, such as the demands for participating in class and doing homework.

125

Cognitive Strategy Instruction

The Psychologist met with Zach and his mother to come up with strategies that he could use to achieve his immediate goals. After the strategies were developed, the psychologist summarized them in a powerpoint file.

126

Cognitive Strategy Instruction

The Powerpoint file was used to teach Zach how to use the strategies and used with school staff to help them understand how Zach was going to work on improving his behavior.

127

Cognitive Strategy Instruction

**Zach's
Cognitive Strategy
Powerpoint**

128

Long-term Goals

Get passing grades in all subjects

Get promoted to 9th grade

Immediate Goals

Improve my mood; get engaged with class

Pay attention in class

Complete class work and home work

129

Ask: How am I doing right now?
Do I feel good?
Am I doing what I need to do for class?

130

Say: I need to use the
Purple Elephants Strategy

131
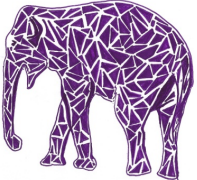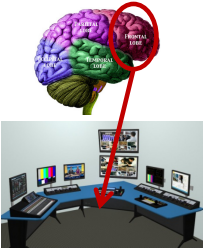
Take a deep breath and relax.

Say: I need to adjust my attitude
so I can have a good day.

Say: Looking at my Purple Elephants file
will help me feel better.

132

133

Say: I am in control now!

Say: I feel better.
I'm ready to do what
I need to do for class.

134

Ask: What should I be doing for class?

Say: OK, I'm on it.
or
Say: I'm not sure.
I will ask for help.

135

How am I doing right now?
Do I feel good?
Am I doing what I need to do for class?

I need to use the
Purple Elephants Strategy

I need to adjust my attitude
so I can have a good day.

Looking at my Purple Elephants file
will help me feel better.

I am in control now!
OK, I feel better.
I'm ready to do what
I need to do for class.

What should I be doing for class?

OK, I'm on it.   I'm not sure.
                      will ask for help.

Ask: Am I paying attention right now?

**Say: I need to use
the Focus Strategy**

Yawn and Stretch.

136

137

138

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

139

140

141

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Ask: Am I doing my class work?

142

**Say: I need to use the
Just Do It Strategy**

143

**Say: I need to do my class work
so I can earn a passing grade
and go on to 9th grade next year.**

144

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

145

146

147

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Slide 148

Cognitive Behavior Therapy

The psychologist created a list of cognitive distortions and related cognitive corrections that was used with Zach to discuss how he could change his thinking about school and academic tasks. The list was shared with Zach's counselor who also worked with Zach on cognitive corrections.

148

Slide 149

Cognitive Distortion	Cognitive Correction
Dichotomous Thinking: "I'm either a good student or a failure."	**Contextual Thinking:** "Sometimes I perform poorly but many times I perform well."
Overgeneralizing: "I hit the wall in class today and couldn't find the door. I have no control over my emotions."	**Specifying:** "I hit the wall today and couldn't find the door. The next time I hit the wall, I will use my Purple Elephant strategy and find the door."
Mindreading: "I didn't do all of the assigned work. I know the teacher is disappointed with me."	**Mindsharing:** "I didn't do all my work. I'll let the teacher know that I plan to finish all of it if that is ok with him/her."

149

Slide 150

YOU ARE IN CONTROL!
Cognitive Distortions and
Counteracting Cognitive Corrections Worksheet
Developed by George McCloskey, Ph.D. Philadelphia College of Osteopathic Medicine

Cognitive Distortion	Cognitive Correction

150

Teacher Training

Zach's teacher's met with the psychologist for 90 minutes to receive training on how to use a series of prompts to cue Zach to use the strategies he was learning to improve his engagement, attention and work completion during classes.

151

Teacher Training

- Deliver 1-3 prompts during class
- Provide daily ratings of engagement, attention and work completion based on need for and response to prompts

152

Teacher Training

- Prompt 1: Self-awareness cueing (Zach, you seem to be having some trouble with…)
- Prompt 2: Zach, you need to use your _ strategy.
- Prompt 3: Zach you need to use your reset strategy.

153

Cognitive Strategy Implementation

- Zach self-cues engagement, attention and work completion
- If prompt 1 is used: Zach realizes the need to use his strategies
- If prompt 2 is used: Zach, uses his strategy as suggested by teacher
- If prompt 3 is used: Zach leaves the room and uses his reset strategy.

154

Progress Monitoring Form for Zach T   Date: _____

Goal 1: Managing Frustration and Engagement

3	Fully engaged without frustration	Maintained positive engagement throughout class and no frustration was apparent.
2	Frustration managed with self cued strategy	Frustration was apparent but was effectively managed and positive engagement occurred likely due to self-cued use of strategies.
1	Frustration managed with teacher cue	Frustration was apparent but was effectively managed and positive engagement occurred after teacher provided a cue for strategy use.
0	Frustration not managed	Frustration was apparent and strategy use was cued by teacher but positive engagement did not occur and student left class.

155

Class: _____

Frustration Management	3	2	1	0	**Work** Comments: **Modified:** Yes No
Attention	3	2	1	0	**Work completed**
Work Completion	3	2	1	0	**with extended time?** Yes No

156

157

Staff Collaboration/Consultation

- Staff requested to have the psychologist meet with Zach on a regular basis to reinforce the strategies and consult with teachers and staff.
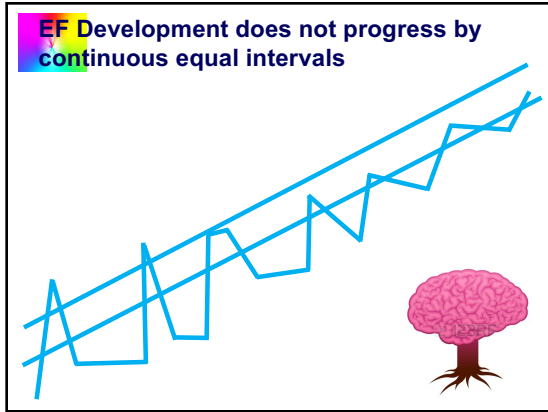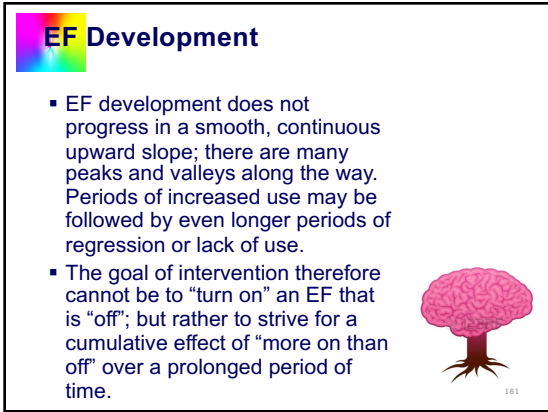
158

Progress Monitoring

- Weekly ratings were summarized to help school staff monitor progress and provide Zach with feedback about his performance.
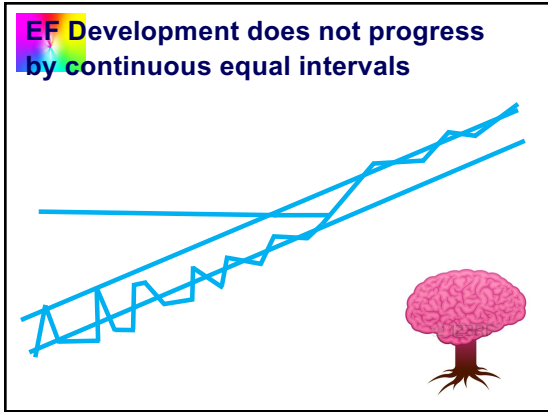
159

EF Development does not progress by continuous equal intervals

160

EF Development

- EF development does not progress in a smooth, continuous upward slope; there are many peaks and valleys along the way. Periods of increased use may be followed by even longer periods of regression or lack of use.
- The goal of intervention therefore cannot be to "turn on" an EF that is "off"; but rather to strive for a cumulative effect of "more on than off" over a prolonged period of time.

161

EF Development does not progress by continuous equal intervals

162

LD Identification

163

164

165

END OF YEAR SUMMARY ALL CLASSES

	%
ENGAGEMENT	**%**
Rated 3, 2, or 1	78%
Rated 0	22%
ATTENTION	**%**
Rated 3, 2, or 1	78%
Rated 0	22%
WORK COMPLETION	**%**
Rated 3, 2, or 1	70%
Rated 0	30%

166

8th Grade Outcomes

- Zach passed all of his classes.
- Zach's progress toward behavior goals were judged as reflecting adequate improvement
- Zach was promoted to 9th grade at the high school instead of being transferred to an alternative program

167

Executive Function Development

Some EF-based clinical syndromes, such as ADHD, demonstrate clear patterns of delayed developmental progression. Barkley (1998) estimates developmental delays of about 30% associated with various EF processes such as Inhibit, Manipulate, Shift, Sustain, Time, Monitor, Correct.

168

Developmental Progression with a 30% Delay

Chronological Age
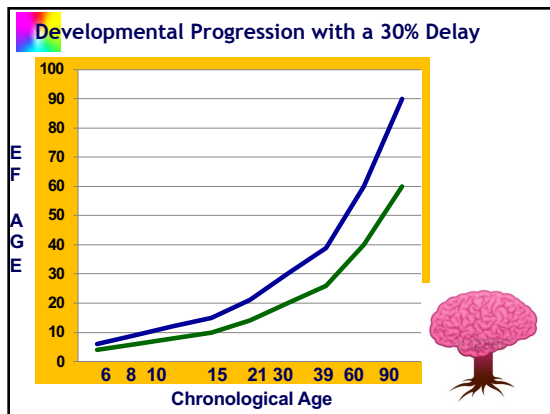
169

Case

Example:

Martin

170

Martin Age 9, Rey Complex Figure Copy:

Self-initiated
Nov, 2010

Verbally Mediated
August, 2011
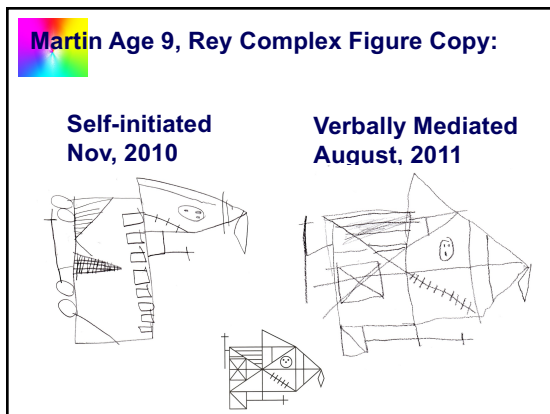
171

Questions about Intelligence

- Do you believe it is possible to raise a child's FSIQ from 70 to 100 through intervention?
- Can it be done in 6 months? A year? Two years?

172

Martin's WISC Score Changes

	11/2010	4/2013	9/2015
FSIQ	70	99	103
GAI	83	105	108
VCI	73	95	106
PRI/FRI	94	117	112
VSI	--	--	111
WMI/AWMI	62	97	94
PSI	68	85	98

173

Martin's Achievement Score Changes

	11/2010	4/2013	9/2015
Wd Reading	71	94	98
Wd Decoding	81	97	98
Rdg Fluency	66	95	100
Rdg Comp	--	87	82
Rdg Vocab	--	93	112

174

Executive Control and School

- Although executive functions can be used to guide new learning, many new learning situations are structured in ways that reduce the need for strong executive direction.
- Teachers become the supervisory system of children's brains and lead them through the learning process.

175

Executive Control and School

Teacher-Directed New Learning

The Teacher as Executive Control Supervisory System

The Workers

176

Executive Control and School

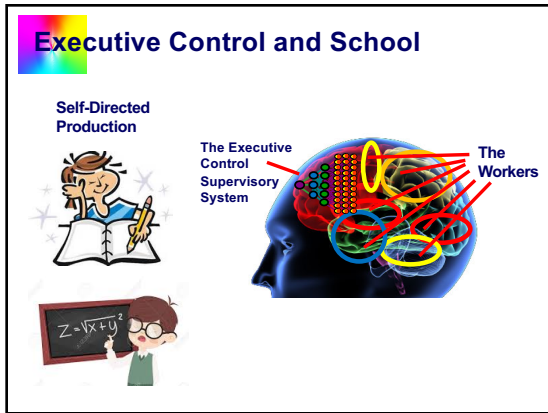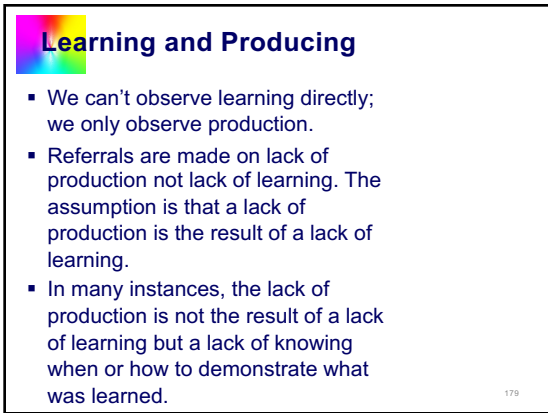- In contrast, **producing** (demonstrating what you have learned) usually requires a lot of involvement of executive control processes.
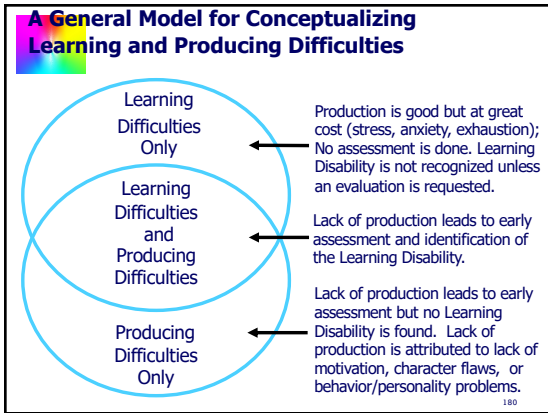
177

Executive Control and School

Self-Directed Production

The Executive Control Supervisory System

The Workers

$Z = \sqrt{x + y}$

178

Learning and Producing

- We can't observe learning directly; we only observe production.
- Referrals are made on lack of production not lack of learning. The assumption is that a lack of production is the result of a lack of learning.
- In many instances, the lack of production is not the result of a lack of learning but a lack of knowing when or how to demonstrate what was learned.

179

179

A General Model for Conceptualizing Learning and Producing Difficulties

Learning Difficulties Only

Learning Difficulties and Producing Difficulties

Producing Difficulties Only

Production is good but at great cost (stress, anxiety, exhaustion); No assessment is done. Learning Disability is not recognized unless an evaluation is requested.

Lack of production leads to early assessment and identification of the Learning Disability.

Lack of production leads to early assessment but no Learning Disability is found. Lack of production is attributed to lack of motivation, character flaws, or behavior/personality problems.

180

180