In God we trust. All others must provide data.

All swans are white.

All swans are NOT white.

A scientific theory is one which can in principle be falsified. The theory has to make verifiable predictions about evidence. If the statements aren't strong, then the theory fits any evidence, and is unfalsifiable.
Seven Dimensions (Baer, Wolf, Risley, 1968)

- Applied
- Behavioral
- Analytic
- Technological
- Conceptual
- Effective
- General

Applied

Theories have to attempt to solve problems of demonstrated social importance.

Behavioral

They have to address measurable behavior.

Analytic

ABA interventions require an objective demonstration that the procedures caused the effect.

Technological

Interventions are described in operational terms.
<table>
<thead>
<tr>
<th>Conceptual</th>
<th>Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interventions need to be derived from behavioral theories.</td>
<td>Interventions must produce desired change in behavior.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>General</th>
<th>Is a theory useful and parsimonious?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavior change should be durable and long lasting.</td>
<td>• Range of Convenience: Does a theory explain a wide range of phenomena?</td>
</tr>
<tr>
<td></td>
<td>• Focus of Convenience: Does a theory explain particular phenomena more effectively than other theories?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Executive Functions</th>
<th>Executive Functioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Neurologically-based skills involving mental control and self-regulation.</td>
<td></td>
</tr>
<tr>
<td>• A set of processes that have to do with managing oneself and one’s resources in order to achieve a goal.</td>
<td></td>
</tr>
<tr>
<td>• The conductor or “boss” of all cognitive processes.</td>
<td></td>
</tr>
</tbody>
</table>
Foundational Executive Behavior

• Attending (Attention)
• Inhibiting (Inhibition)
• Remembering (Memory)
• Shifting Sets (Flexibility)
• Regulating Emotions (Emotional Regulation)

Complex Executive Behavior

• Managing Time
• Organising Space
• Planning
• Managing Mood
• Managing Energy
• Problem Solving

Verbs vs. Nouns

Executive Behavior is a complex set of processes, not unitary things.

Nominal Fallacy?

“What caused the earthquake?”
“A sudden movement of rocks beneath the earth’s surface”

Attention

• The mental faculty of considering or taking notice of something or someone.
• Behaviorally: A response to a stimuli?

Attention is not a unitary construct

David Palmer:
“Attention is a complex set of behavioral processes.”
Joint Attention (Dube, MacDonald, Mansfield, Holcomb, & Ahearn, 2004)

• Context: Presence of familiar adult
• Interesting event
• RESPONSE: Gaze shift
• REINFORCER: Adult attending Stimuli functions as SD
• Event related behavior
• REINFORCERS Event-related consequences & Adult-mediated consequences

Attention Training

• Contrived
  • Discrete Trials
  • Joint attention training
• Naturalistic
  • Inclusion support
  • Comprehension checks

Inhibition

• Behavioral Inhibition: Following rules in the absence of immediate contingencies.
• Cognitive inhibition: Selectively attending to or ignoring information.

Cognitive Inhibition Training

• Contrived
  • Simon Says
  • Red Light/Green/Light
  • Duck Duck Goose
  • Reading every underlined word silently
  • Signing a song substituting a word with another
• Naturalistic
  • Contingency management

Verbal Operants

• Receptive Language Response: Following instructions or complying with the mandates of others (e.g., touching a picture of a dog when asked to touch a dog).
• Echolalia: Repeating what is heard (e.g., saying “dog” after someone else says “dog”).
• Tact: Naming or identifying objects, actions, or events (e.g., saying “dog” because you see a dog).
• Intraverbal: Answering questions or conversations where your words are controlled by other words (e.g., saying dog when someone else says “Lassie is a...”).

Memory

• The faculty by which the mind stores and remembers information. The “scratch pad” of the brain.
• Behaviorally: An intraverbal with a time delay.
Verbal Memory Training
• Contrived
  • Auditory Memory
• Naturalistic
  • School-home log

Flexibility (Shifting Sets)
• The ability to shift attention from one task to another.
• Behaviorally: The ability to transition between one set of stimulus control conditions or rules to another set of stimulus control conditions or rules.

Wisconsin Card Sorting Test

Flexibility (Shifting Sets) Training
• Contrived
  • Loose training
  • Indiscriminable contingencies
  • No schedules!
  • Changing rules of games
  • Backward day
• Naturalistic
  • Rehearse Snafu

Emotional Regulation
• Discriminating
• Behaving
• Feeling
• Thinking
• Talking

Behavior
Anything that you do!
Coping Skills

Emotion Wheel

Emotions

Emotion
- Angry
- Hit

Coping Skills
Thinking vs. Talking

Complex Executive Behavior
- Time Management
- Spatial Organization
- Planning
- Mood Management
- Energy Management

How do we teach Complex Executive Behavior?
- Pre-requisites
  - Language
  - Instructional Control (concept of the teacher)
  - Foundational Executive Behaviors
- Explain the contingency
- Practice Executive Behavior
- Ensure maintenance through motivation

What is motivation??

Motivation

Self Management

Today’s Total: 28
Possible Points: 35
• I responded correctly and politely to help from instructional assistants and teachers.
• I interacted appropriately with friends (compliments, questions, and comments).
• I did not have rude or disrespectful behaviors.
• I paid attention to my lessons.

### Time Management

- Determine amount of time available
- Estimate how much time an activity would take
- Determine if you have enough time
- Use time effectively via multitasking
- Prioritization

### Getting Things Done: The Art of Stress Free Productivity

By David Allen

The consistent, unproductive preoccupation with all the things we have to do is the single largest consumer of time and energy.

-Kerry Gleeson

### Why are things in your mind?

- You have not decided what the outcome should be.
- You have not operationalized the next action step.
- You have not developed effective reminder systems.
Workflow Management
1. Capture
2. Clarify
3. Organize
4. Reflect
5. Engage

Inbox (Capture) Tools
- A Physical In-Tray
- Device Inbox

Two Minute Rule
- <2 minutes, do it!
- >2 minutes
  - Schedule
  - Delegate

Project List
- A project is any result that can be accomplished within a year that requires more than one action step.
- Must be in digital format if collaboration with others is required.

Project List
- Next Actions
- Waiting For
- Done
- MUST BE REVIEWED ONCE A WEEK
Choosing Actions in the Moment

• Context
• Time Available
• Energy available
• Mood

Teaching Workflow to Teens

• Make a list of assignments.
• Estimate time for each.
• What is easiest? What is already started?
• How much time do I have?

Teaching Workflow to Teens

• How is my energy?
  • 90-100: On fire
  • 60-89: Pretty good
  • 40-59: Sort of kind of good
  • 0-39: Not good

Teaching Workflow to Teens

• How is my mood?
  • 90-100: Super happy
  • 60-89: Pretty happy
  • 40-59: Kind of sad or angry
  • 0-39: Not in a good place

Stress and Executive Functioning

• Stress impairs working memory and cognitive flexibility (Shields, Sazma, Yonelinas, 2016)

Stress and Executive Functioning

• Cognitive inhibition, which is sometimes called interference control, refers to selectively attending to or ignoring information.

• Stress-induced enhancements in inhibition have often used tasks requiring response inhibition (Schwabe et al., 2013).
Stress and Executive Functioning

• Studies that have found stress-induced impairments have often used tasks requiring cognitive inhibition (Sänger et al., 2014; Vinski and Watter, 2013).

Complex Executive Behavior

The set of behaviors that result in the desired modification of one’s own behavior.

Self-Management

• The personal and systematic application of behavioral principles that result in the desired modification of one’s own behavior (Cooper, Heron, & Heward, 1987).

Self Control: Skinner, Science and Human Behavior (1953)

• Controlling responses are used by the individual to influence his/her controlled responses.

Guest Speaker
Physical Interventions

• The manipulation of the environment to make some responses easier to physically execute and others more difficult.

Changing the stimulus

• Changing behavior by manipulating the occasion for behavior (stimulus control).

Manipulating emotional conditions

• Manipulating emotional conditions in order to induce certain ways of responding via classic conditioning processes.

Reinforcement

• Using reinforcement to increase the probability of occurrence of a desired behavior.

Using aversive stimulation

• Aversive stimulation is used as a means of increasing or decreasing the likelihood of target behavior.
Reinforcement and Punishment

<table>
<thead>
<tr>
<th>Reinforcement</th>
<th>Punishment</th>
</tr>
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<tbody>
<tr>
<td>Subject to satiation</td>
<td>Subject to habituation</td>
</tr>
<tr>
<td>Must be varied</td>
<td>Variety is ethically constrained</td>
</tr>
<tr>
<td>Will generalize to the setting and person</td>
<td>Will generalize to the setting and person delivering</td>
</tr>
<tr>
<td>delivering</td>
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Doing Something Else

• Differential Reinforcement

DRO: Differential Reinforcement of Other Behavior

The Rf is delivered following intervals of time in which the problem behavior does NOT occur.

DRA: Differential Reinforcement of Alternative Behavior

Alternatives that serve the same function as the problematic behavior are taught and reinforced. These alternatives may include functional communication the child can use to express the need that is motivating the behavior.
DRL: Differential Reinforcement of Low Rates of Responding

The reinforcer is delivered when the rate of behavior is decreased to a criterion level.

Depriving and satiating

- Manipulating our own behavior by changing states of deprivation and satiation.

Executive Functioning Services

- Grid A: Consultation by a Behavior Analyst, SLP, or a School Psychologist
- Grid B: Push in services by Behavior Technician, Behavior Analyst SLP, or a School Psychologist
- Grid C: Pull out services by Behavior Analyst, SLP, or a School Psychologist

IEP Objectives

- The student will use a self-monitoring rubric to check assignments for accuracy and completion with increased independence as evidenced by teacher and parent checks three times per week.

IEP Objectives

- Given multi-step instructions, tasks, or projects, the student will demonstrate planning skills by independently initiating the instruction within 5 minutes and completing 90% of the task accurately in 80% of opportunities.

IEP Objectives

- The student will make a plan for homework assignments and projects by identifying the amount of time he expects each task to take, execute each task, identify how much time it actually took, and reflect upon corrective action to take in the future as evidenced by teacher and parent checks three times per week.
IEP Objectives

• Given a difficult task, the student will indicate that it is difficult, explain why some tasks are easy/difficult for him, and request help as evidenced by self-monitoring and teacher checks.

• Given support and visual cues, the student will create a system for organizing personal items in his locker, desk, and binder.

• Given a specific work checking routine, the student will identify errors in his work without teacher assistance with 80% accuracy across six consecutive days.

• Given concrete training and visual supports, the student will appropriately label “flexible” and “stuck” behaviors in himself 80% of opportunities across one quarter.

• Child will make a plan for homework assignments and projects by identifying the amount of time he expects each task to take, execute each task, identify how much time it actually took, and reflect upon corrective action to take in the future as evidenced by teacher and parent checks three times per week.

• The student will use a structured recipe or routine for generating new ideas to respond successfully to open ended assignments 4/5 opportunities as evidenced by permanent products.
IEP Objectives

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We are hiring!

Send resume to info@ablspartners.org