

Applied Behavior Analysis Therapy

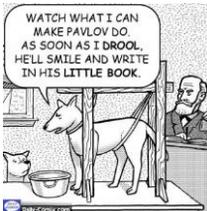
Continuum Autism Spectrum Alliance



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Applied Behavior Analysis (ABA) Therapy Overview

- A Brief History of ABA
- Basic Principles of ABA
- Misconceptions about ABA
- Treatment Strategies for Modification and Maintenance of Behavior
- What ABA Can Do For You

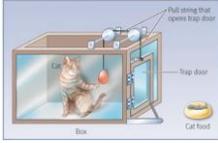


Ivan Petrovich Pavlov (1849-1946)



- Reflex system and digestive glands
- Classical Conditioning
- "Conditional Reflex"

A Brief History



Edward B. Thorndike
 (1874-1949)

- Educational Psychology
- Cat Puzzle Box
- Development of Law of Effect

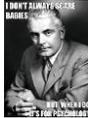


A Brief History



John B. Watson
 (1878-1958)

- Child rearing and development
- Psychological School of Behaviorism
- Little Albert Experiment



A Brief History



Burrhus Fredric Skinner
 (1904-1990)

- Father of ABA and Verbal Behavior
- Science applied to everyday life
- Radical behaviorism
- Founded own school of experimental research psychology- Experimental Analysis of Behavior



Basic Principles of ABA

What is *behavior*?

- The activity of living organisms, including everything that people do
- Always observable and measurable
- Operationally define behavior
- Dead Man's Test- Ogden Lindsley, 1965
 - "If a dead man can do it, it ain't behavior. And if a dead man can't do it, then it is behavior."

(Malott & Trojan Suarez, 2004, p.9)

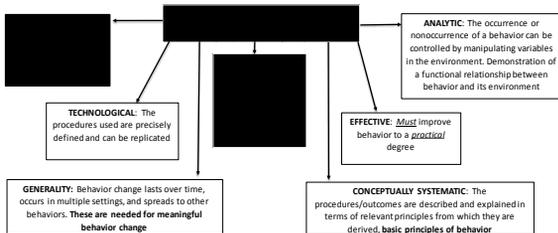
Basic Principles of ABA

What is ABA?

"Applied behavior analysis is the **science** in which **procedures** derived from the **principles of learning** are **systematically applied** to **improve** socially significant **behavior** and to **demonstrate experimentally** that the **procedures used were responsible for the improvement in behavior**"

(Cooper, Heron, and Heward 2007)

Basic principles of ABA



Basic Principles of ABA

Motivating Operations

An environmental variable that (a) alters (increases or decreases) the reinforcing effectiveness of some stimulus, object, or event; and (b) alters (increases or decreases) the current frequency of all behavior that have been reinforced by that stimulus, object, or event. (Cooper, Heron, and Heward 2007)



Basic Principles of ABA

What is *reinforcement*?

A consequence that follows a behavior that **increases** the future frequency of that behavior

- **Primary and Secondary Reinforcement**
- **Positive reinforcement (SR+)**- adding a preferred stimuli as a consequence that increases the likelihood of the behavior reoccurring
- **Negative reinforcement (SR-)**-removing an aversive stimuli as a consequence that increases the likelihood of the behavior reoccurring
- Not all rewards are reinforcers

Basic Principles of ABA

Effective Application of Reinforcement

- **Satiation**- A condition that occurs after having continuous access to a stimuli
- **Deprivation**- A condition that occurs after having limited access to a stimuli
- **Contingency/ no delay**- must be delivered immediately to produce a 1:1 correspondence
- **Schedules of reinforcement**-
 - Fixed and Variable Interval
 - Fixed and Variable Ratio
- **Differential reinforcement**-
 - reinforcing desired behavior while not reinforcing undesired behavior
 - reinforcing best or spontaneous responses, prompted responses receive lower reinforcement
 - Used to shape behavior

Basic Principles of ABA

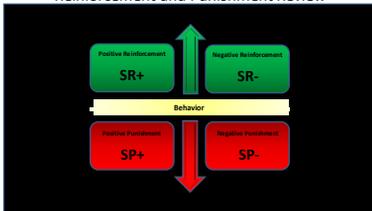
What is *punishment*?

Any consequence that follows a behavior and **decreases** the future frequency of that behavior

- **Positive punishment (SP+)**- adding an aversive stimuli that decreases the likelihood of the behavior reoccurring
- **Negative punishment (SP-)**-removing a preferred stimuli that decreases the likelihood of the behavior reoccurring

Basic Principles of ABA

Reinforcement and Punishment Review



Basic Principles of ABA

Function of Behavior

Why a behavior is occurring

- **Looking at conditions/environments in which a behavior occurs**
 - Alone
 - Demand
 - Attention
 - Play
- **Functions of behavior**
 - Automatic/Sensory
 - Escape
 - Attention
 - Access to tangible



Basic Principles of ABA

Understanding Function of Behavior

Conditions	Function	Reinforcing Value	Why It is Occurring
Demand	Escape	Negatively Reinforcing- Removes undesired demand/activity/interaction	Demand is too easy, hard, boring, confusing, scary, etc.
Alone/Play	Attention	Positively Reinforcing-Provides access to people of interactions	Individual desires attention, can be positive or negative attention
Play	Access Tangible	Positively Reinforcing- Provides access to preferred items	Individual wants preferred item
Alone/Play	Sensory/Automatic	Positively Reinforcing- Provides sensory experiences that are internally satisfying	When there is a need for more sensory input, to expend excess energy

Basic Principles of ABA

The ABCs- Three Term Contingency

- **Antecedent**- What is happening directly before the behavior occurs (things that are said, what is going on in the environment, noises, light level, etc.)
- **Behavior**- What the individual is doing (what it looks like, how many times it is occurring, how long, what he or she is saying)
- **Consequence**- What occurs immediately after the behavior (what is said or done by you or others)



Basic Principles of ABA

Additional Terminology

- **Extinction**: A previously reinforced behavior is no longer being reinforced and as a result, the behavior is decreased
 - *Extinction Burst*: Target behavior and topography of behavior increases before it decreases when an extinction procedure is initially implemented
- **Shaping**: Reinforcing successive approximations of a behavior until the final targeted behavior is demonstrated
- **Generalization**: Responses/behavior occurring across
 - Settings, people, time

Misconceptions about ABA

- ABA is an experimental treatment and not scientifically demonstrated to be effective.
- ABA does not teach a learner HOW or WHY to do something; it only trains them to behave in a certain way.
- ABA is just animal training adapted for use with people.
- ABA just uses food and toys to bribe kids into doing things / ABA gets learners hooked on edible rewards.
- ABA is a specialized Autism therapy and is not useful for people with other diagnoses.
- ABA turns learners into "robots".
- ABA addresses "behavior" only, it's not about teaching.
- ABA doesn't "work" with older kids.
- ABA is all table work.
- ABA uses aversives / physical punis
- ABA takes childhood away from the child.
- Discourages socialization by keeping the child at the table.
- Skills only "work" at the table, with no generalization.



Comprehensive treatment

- **Verbal Behavior**- Why we bother to communicate
 - Verbal Operants
 - Mand
 - Tact
 - Echoics
 - Intra-verbal
 - Receptive
- **Discrete Trial Teaching (DTT)**
 - Behavior Momentum
 - Stimulus Demand Fading
 - Mix and Vary
- **Complex Behavior Chains**
 - Task Analysis (TA)
- Problem Behaviors
- Reinforcement Schedule
- Generalization
- Maintenance
- Reinforcement fading
- Natural Environment Teaching
- Social Skills Training
- Caregiver Training



Treatment strategies for Modification and Maintenance of behaviors

How to Teach

- Start and build on success
- Ensure attending before delivering demand
- Use simple and direct language
- Visual Strategies
- Errorless Learning
- Prompt Strategies
- Error Correction
- Be adaptable
- Use creative problem solving
- Engage the learner through play or interests
- Teach individual how to interact with the environment
- Use naturally occurring S^p to promote generalization
- Follow through with all demands

Treatment strategies for Modification and Maintenance of behaviors

How to Reinforce

- Token Economy
- Reinforcement Schedules
- Differential Reinforcement Procedures
 - Differential Reinforcement of Alternative behavior (DRA)
 - Differential Reinforcement of Other Behavior (DRO)
 - Differential Reinforcement of Lower Rates of Behavior (DRL)
 - Differential Reinforcement of Incompatible Behavior (DRI)
- Response Cost
- Keep value of preferred stimuli high to maintain reinforcing value by creating a state of deprivation
- Keep reinforcement (tangible, edible, praise) varied
- Shape and reinforce best responses
- Incidentally reinforce eye contact, social interaction, etc.

What ABA can do for you:

- Systematically address and treat behavior concerns
- Teach new skills and improve areas of learning de
- Clear and concise treatment
- Evidence-Based treatment plans
- Data driven
- Provide a solid foundation on which to build skills
- Address a variety of concerns: Daily Living Skills, Social Skills, Academic Skills, Pre-Academic Skills, Problem Behavior
- Teach you the skill set to address areas of concern



Considerations

- **Assessments**
 - Functional Behavior Assessment (FBA)
 - Assessment of Basic Language and Learning Skills-Revised (ABLLS-R)
 - Verbal Behavior Milestone Assessment and Placement Program (VB-MAPP)
 - Assessment of Functional Living Skills (AFLS)
 - Preference Assessments
- **Data Driven**
 - Data, graphs inform the clinician
 - Evidence that treatment is effective
- **Program Integrity**
 - Interobserver Agreement (IOA)/Reliability
- **Everyone is unique**
 - All Home programs need to be individualized
- **Not all BCBA's are created equally**
 - Having a BCBA does NOT mean that he/she has direct training in autism, any specific developmental disability, problem behavior, or in-home programs. Do your research, ask questions, Curriculum Vitae (CV) and references
- **www.BACB.com** (Behavior Analyst Certification Board website)



Questions?

