Using Reinforcement Effectively (ANYWHERE!)

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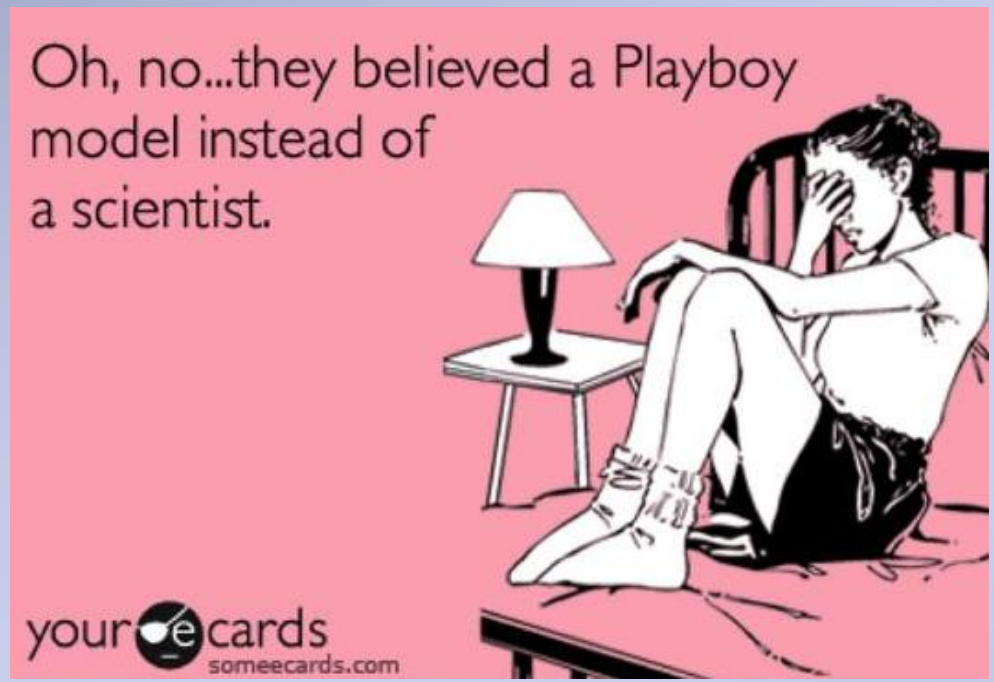
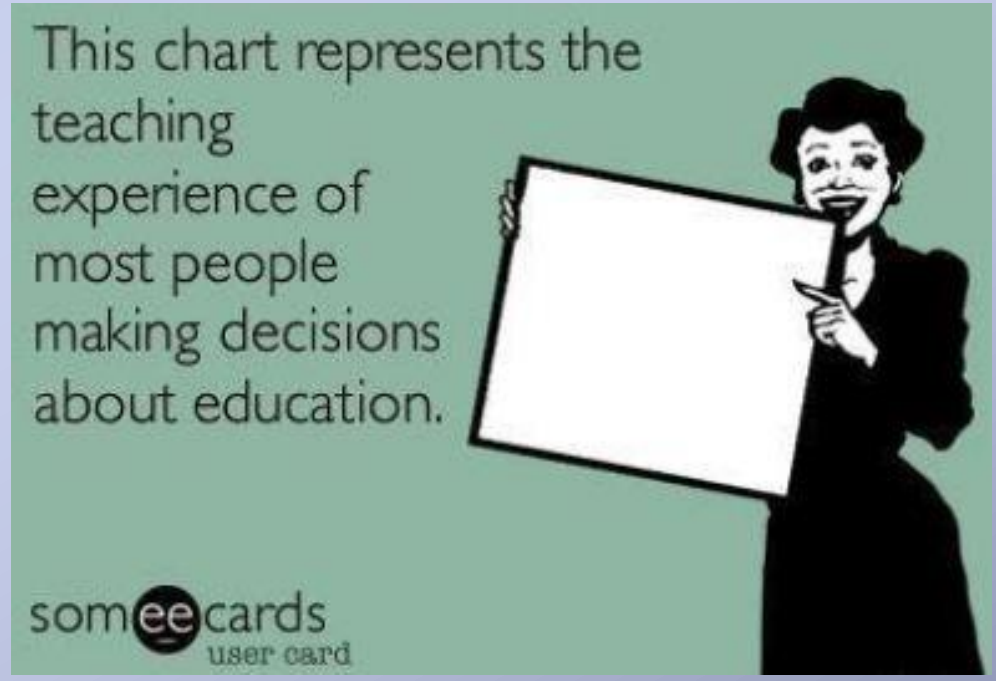
Before I get started on

REINFORCEMENT….

Always know/evaluate your source(s)

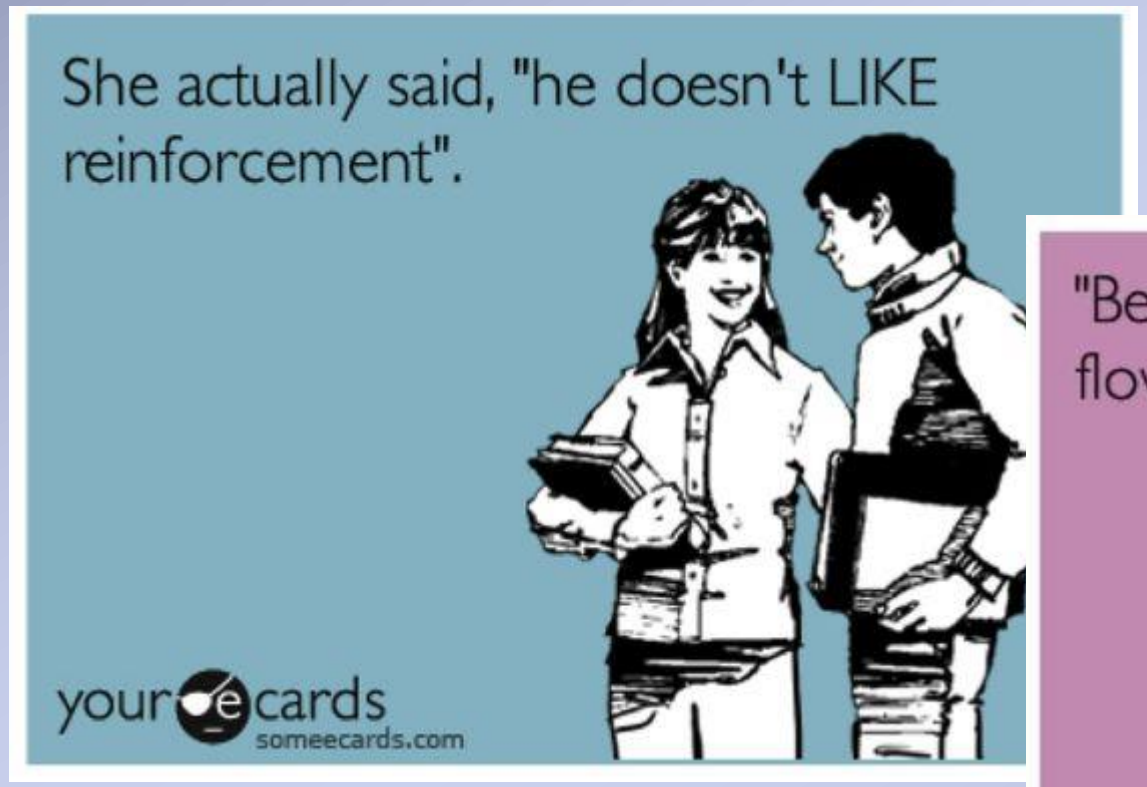




So who am I?

- Background
  - Education
    - B.S. in Psychology – University of Wisconsin – Eau Claire
    - M.S. in Behavior Analysis & Therapy – Southern Illinois University, Carbondale
    - Ph.D. in Behavioral Psychology – University of Kansas
  - Credentials
    - Board Certified Behavior Analyst at the Doctoral Level (BCBA-D)
    - Licensed Behavior Analyst in Wisconsin (LBA-WI)
  - Clinical Experience
    - In-Home – children & adolescents with Autism Spectrum Disorders (ASD)
    - Clinics – children with ASD, Fragile X, Down Syndrome, Attention Deficit Hyperactivity Disorder, & other learning/language delays
    - Schools – consultant, reading teacher, lead teacher/supervisor, & substitute teacher
  - Research
    - Published in *Journal of Applied Behavior Analysis*, *The Behavior Analyst*, *Research in Autism Spectrum Disorders*, & *Research and Training in Autism and Developmental Disabilities*

I tried reinforcement….it didn't work!



Reinforcement is just bribery…

Reinforcement versus Bribery

Reinforcement	Bribery
Reinforcement follows a behavior and results in an increase in future responding.	Bribery is the act of offering a preferred item or activity in attempts to influence a behavior in that moment.
Reinforced behaviors result in motivated stimuli after the behavior occurs.	Bribed behaviors occur only after receiving the item or activity first.
Reinforcement strengthens, maintains and increases behavior.	Bribery only influences the behavior in that moment.
Reinforcement increases the likelihood of a behavior occurring again.	Bribery does not result in an increase in future responding.
Learned behaviors are followed by reinforcement.	Influenced behaviors occur due to receiving a bribe before the behavior occurs.
Reinforcement predicts the future probability of the behavior.	Bribery only suggests a moment of the behavior.
Reinforcement- the behavior occurs before access to the reinforcer.	Bribery- the reward is delivered before the behavior occurs.

BEHAVIORAL LEARNING SOLUTIONS

Reinforcement Basics

Positive Reinforcement

- Definition: *when a behavior is followed by the addition of something that increases the likelihood of that behavior*

Factors Influencing Reinforcement

- Contingency: *relationship between events set occasion (S^D), behavior (Bx), and consequences ($S^{R/P}$)*

A ---------- B ---------- C

Discriminative --------- Behavior --------- Consequence Stimulus

S^D ---------- Bx ---------- $S^{R/P}$

Factors Influencing Reinforcement

- Magnitude: *the amount of a reinforcer delivered*
- Quality: *the preferred value of item*
  - *Primary vs. Secondary*

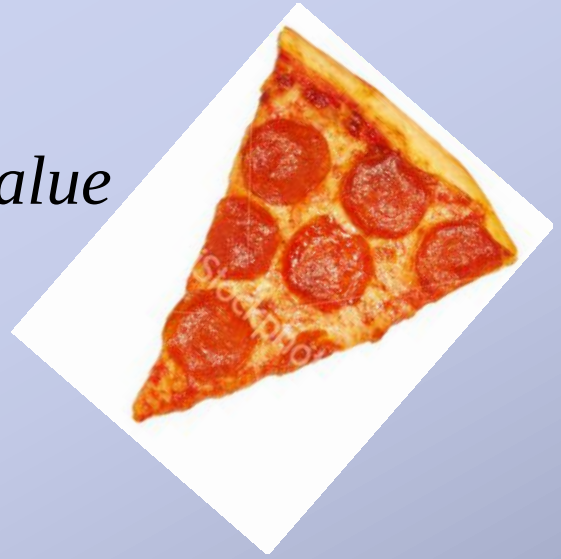
Factors Influencing Reinforcement

- Secondary Reinforcer: *item that functions as a reinforcer after pairing with primary reinforcers*
  - Examples: clicker, tokens, stickers

  - Generalized Reinforcer: *item that functions as reinforcer in multiple conditions*
    - Examples: money, attention/praise

Factors Influencing Reinforcement

- Motivating Operations: *events that increase or decrease the value of reinforcers*
  - Establishing Operation (EO):*increases reinforcing value (deprivation)*
  - Abolishing Operation (AO): *decreases reinforcing value (satiation)*



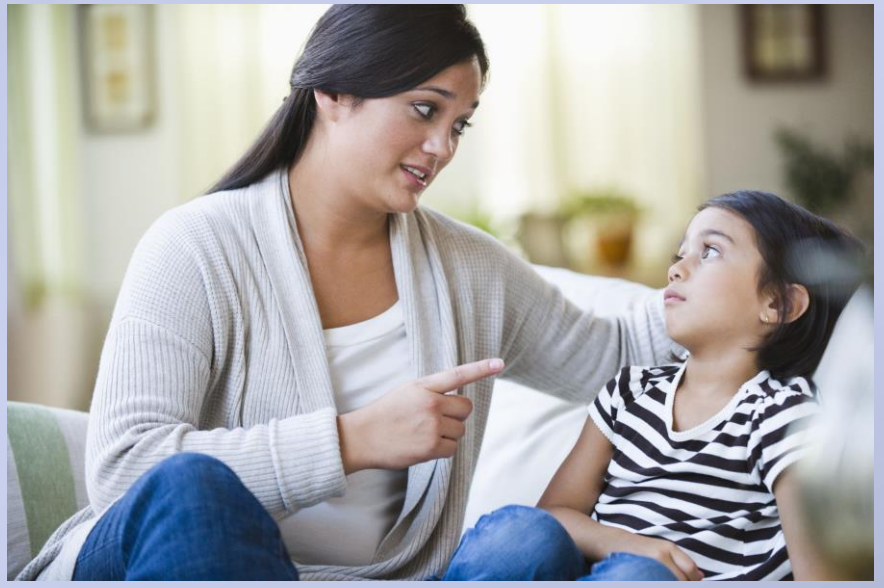
Negative Reinforcement

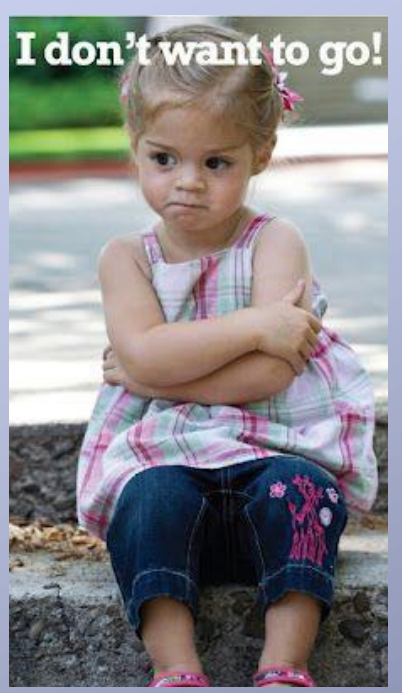
- Definition: *when a behavior is followed by the removal or avoidance of something that increases the likelihood of that behavior*

Escape vs. Avoidance

- Requires a 4-term contingency: *necessary to have an aversive situation*

- Two types of contingencies:
  - Escape: *behavior terminates an ongoing situation*
  - Avoidance: *behavior prevents or postpones the situation*





Reinforcement Recap

- Reinforcement: *when a consequence increases the likelihood a behavior will occur again in the future*

Reinforcement Basics

How to use reinforcement *effectively*

Functional Behavior Assessment

- FBA: *enables hypothesis about the relations among specific types of environmental events and behavior*

- Possible Functions:

Positive Reinforcement		Negative Reinforcement	
Social	Non-social	Social	Non-social
Attention	Automatic (self-stimulatory)	Escape	Automatic (Pain attenuation)
Tangibles			

FBA Methods

- Indirect Assessment
  - Rating scales and interviews
- Descriptive Assessment
  - A-B-C data collection
- Functional (Experimental) Analysis
  - Experimental manipulation of antecedents and consequences

Indirect Assessments

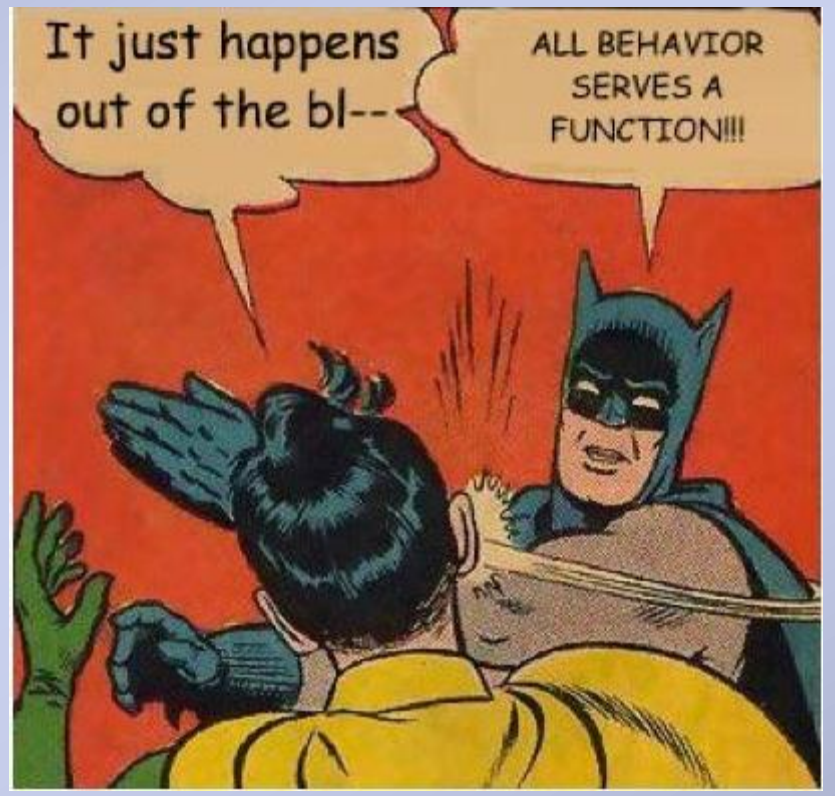
- Indirect FBA: *using structured interviews, checklists, rating scales, or questionnaires to obtain information from those familiar with the client/student to identify possible conditions or events that correlate with target behavior*
  - Examples: FAST & "Pretty" FAST
    - Advantages
      - Can provide useful information
    - Disadvantages
      - May be inaccurate
      - Can take a lot of time

Descriptive Assessments

- Descriptive FBA: *direct observation of behavior; however, only under naturally occurring conditions*
  - ABC Recording & Narrative
    - Advantage: *uses precise measures similar to FA*
    - Disadvantage: *only provides probability, ABC Narrative utility not yet assessed*

Time	Antecedent **(What happened immediately before the behavior occurred?)** ***Circle ALL that apply.*** ***Provide additional comments if necessary.***	Behavior **(Describe what relevant behavior looked like.)** ***Circle ALL that apply.*** ***Provide additional comments if necessary.***	Consequence **(What did you do after the behavior occurred?)** ***Circle ALL that apply.*** ***Provided additional comments if necessary.***
	1 2 3 4 5 6 7	**1 2 3 4**	**1 2 3 4 5 6 7**

Functional Analysis



- Experimental FA: *manipulates antecedents and consequences to evaluate the effects on problem behavior*
  - 4-5 Conditions (typically)
    - Manipulate antecedents and consequences
      - How many conditions do you need?
        - How long do they need to be?
  - Advantage:
    - Clear demonstration of variables affecting behavior (usually)
  - Disadvantage:
    - Professional expertise necessary to implement correctly (usually)

Procedures

Condition	Antecedent	Consequence	Result
Attention	*Therapist ignores client*	*Th. attends to problem behavior*	*Social Positive Reinforcement (attention)*
Demand	*Therapist presents work/trials*	*Everything removed*	*Social Negative Reinforcement (escape)*
Alone/No Interaction	*Therapist absent OR Therapist ignores client*	*Nothing changes*	*Non-social Reinforcement (Sensory Stim/Pain Attenuation)*
Play (Control)	*Toys available Therapist delivers noncontingent attention*	*Nothing changes*	*Non-social Reinforcement (Sensory Stim/Pain Attenuation)*
Tangible	*Therapist has high preferred toys*	*Gives client the toys*	*Social Positive Reinforcement (tangible)*

Group Activity

- Circle Time
  - Target Behavior: Yelling out answers and talking out of turn
  - What might the reinforcer(s)?
  - What conditions might be use?

- Transition to bathroom
  - Target Behavior: Tantrum (Screaming and flopping)
  - What might the reinforcer(s)?
  - What conditions might be use?

- Free choice
  - Target Behavior: Taking toys from another child
  - What might the reinforcer(s)?
  - What conditions might be use?

Strategies that WORK (and when to use them)

Healthy Contingencies

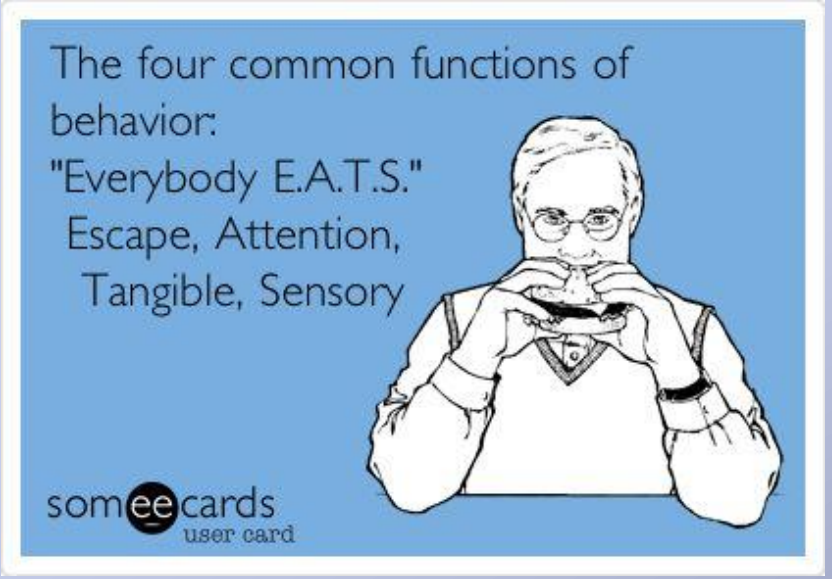
- **Function: What purpose does the behavior serve?**
  - Most behaviors are *learned*
  - Adaptive and maladaptive behavior have common functions

- **Positive reinforcement -** *increase in future frequency of behavior due to the addition of something following that behavior*
  - Social (mediated by others; attention, access to tangible materials)
  - Automatic (sensory stimulation; pain attenuation)

- **Negative reinforcement** *- increase in future frequency of behavior due to removal of (escape or avoid) something aversive/painful following that behavior*
  - Social (escape from undesirable situation)
  - Automatic (pain attenuation)

Function-Based Behavior Management

- Based on common functions of ***ALL*** behavior
  - Antecedent (Proactive) Strategies to decrease the likelihood of the behavior *occurring at all*
    - Eliminate antecedent event
      - Decrease motivation to engage in problem behavior



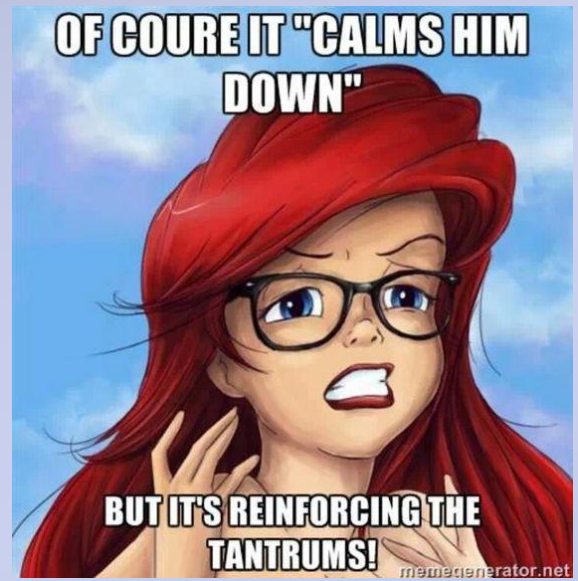
  - Consequence (Reactive) Strategies to decrease the *future* likelihood of the behavior
    - Eliminate reinforcer for problem behavior
    - Replace behavior with alternative response

Strategies Targeting Problem Behavior for Social Positive Reinforcement

- Problem behavior ***outside*** of the instructional context
  - Antecedent (Proactive) Strategies
    - Class schedule with lots of activities throughout the day (intersperse varied & preferred activities)
    - Provide choices (materials, toys, free-choice activities)
    - Noncontingent Attention (e.g., providing chi interactions every 3-5 min)
      - Used with
        - Positive Reinforcement
        - Negative Reinforcement

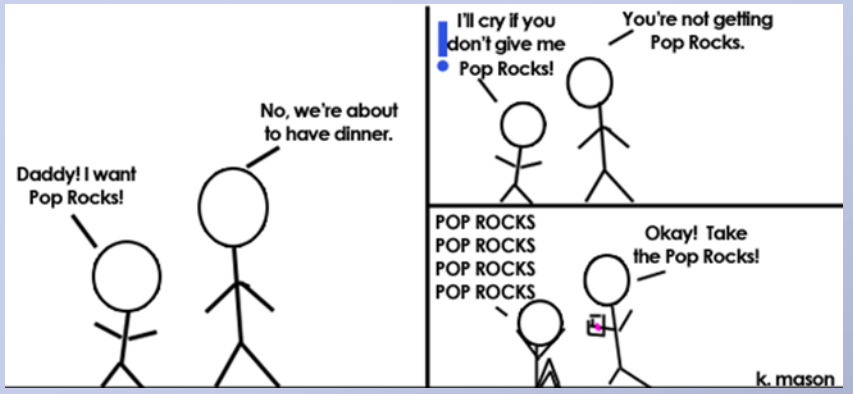
Strategies Targeting Problem Behavior for Social Positive Reinforcement

- Problem behavior outside of the instructional context
  - Consequence (Reactive Strategies)
    - Differential Reinforcement of Alternative Behavior: Reinforce a behavior other than the pr behavior
      - Extinction: Withholding items/attention previ reinforce behavior



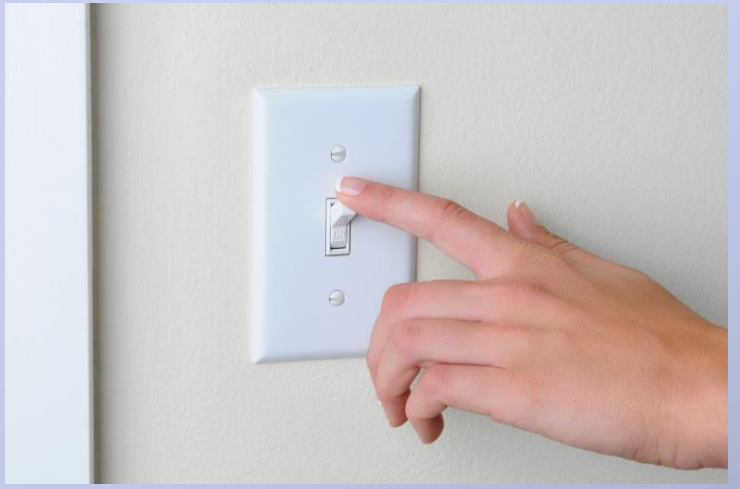
Extinction can be tricky….

- Extinction Bursts: *an initial increase in operant behavior following the beginning of extinction*
- Emotional Responding: *increase in behaviors characteristic of certain emotions (ex. crying = sad)*
- Magnitude of Response: *increased force of behavior*
- Operant Variability: *behaviors become inconstant*



Strategies Targeting Problem Behavior for Social Negative Reinforcement

- Problem behavior (including noncompliance) in the instructional context
  - Antecedent (Proactive) Strategies
    - Provide choices (materials, reinforcers, etc.)
    - Warnings to signal transitions (end of one activity & start of new activity)
    - Rule reminders (never after problem behavior)

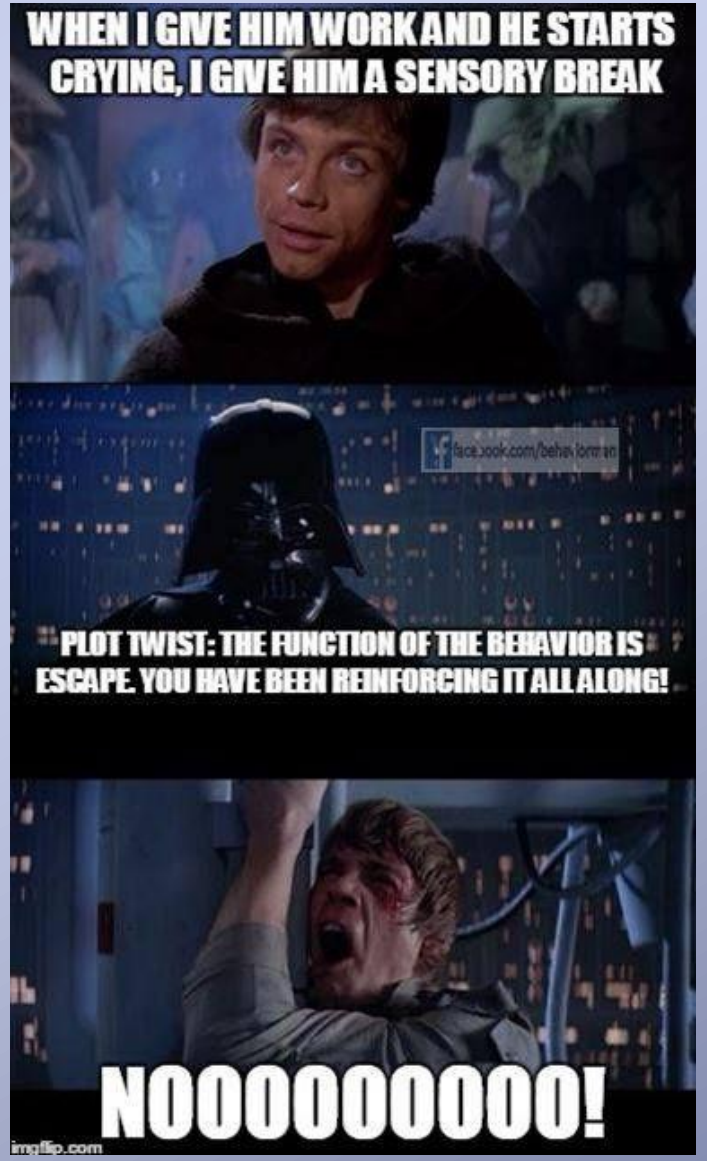


High-Probability Request Sequence

- Presenting a series of demands with a high-probability of compliance before a demand with a low-probability of compliance
  - Behavioral momentum
- Guidelines
  - Select from current repertoire
  - Present demands rapidly
  - Acknowledge compliance
  - Always use as an ***ANTECEDENT***

Strategies Targeting Problem Behavior for Social Negative Reinforcement

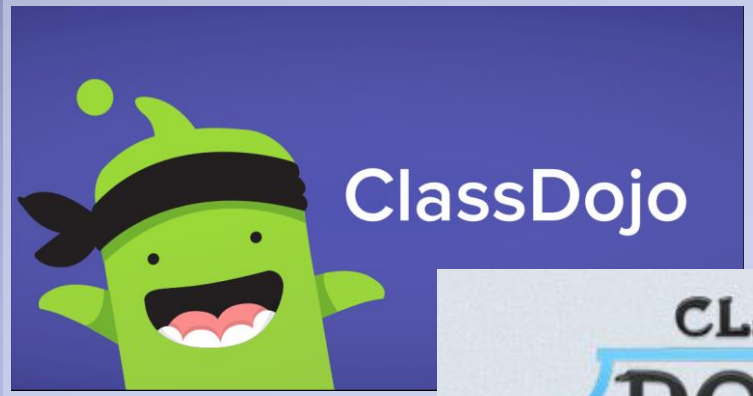
- Problem behavior (including noncompliance) in the instructional context
  - Consequence (Reactive Strategies)
    - DRA/DRI (escape/breaks)
    - EXT (3-step prompting)



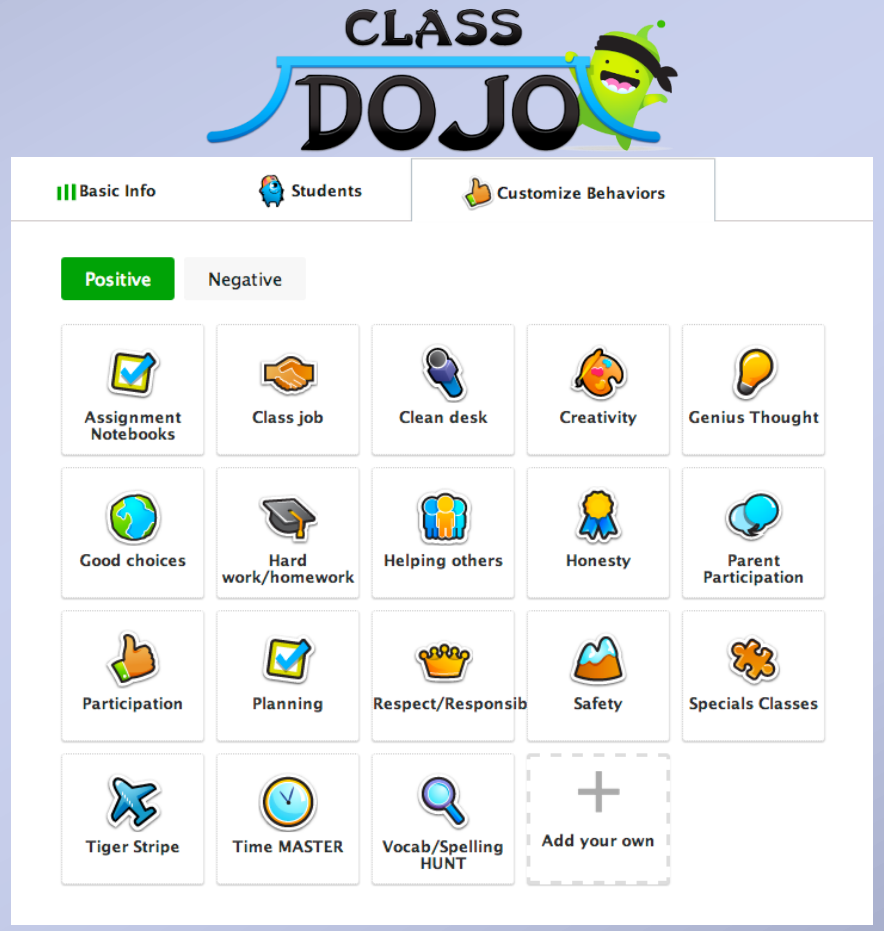
Perhaps the most common technique…

Token Economies

- Token economy: *a system using conditioned and back-up reinforcers to increase a desired behavior and/or decrease an undesired behavior*
  - Back-up reinforcers: *stimuli for which tokens are traded*



Token Economies



Guidelines for effective use :

1) Preparation (training)
2) Selecting the tokens
    a) safe, unique, durable, accessible, not itself desirable
3) Define rules
    a) schedule of reinforcement
    b) performance criteria (define target behaviors)
4) Select backups: use highly preferred stimuli

Final words of advice

Helpful tips

- Be consistent
- Do not threaten consequences that you are not likely to follow through with
- Use clear & simple instructions
- Always praise appropriate behavior – “catch them when they’re good”
- Hang tough! If you say “no” → do not change your mind after bargaining or problem behavior!