A Collaborative Approach Using Applied Behavior Analysis

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WHAT IS APPLIED BEHAVIOR ANALYSIS?

- A scientifically validated approach to teaching
- Analyzing and modifying human behavior as well as improving and understanding human behavior
ABA

- Applied
  - Change had to be socially meaningful
- Behavior
  - Behavior is the unit of focus and is specifically defined
- Analysis
  - Systematic assessments and interventions to maximize performance and accountability
ABA METHODS:

- Teach skills to replace problem behaviors
- Increase positive behavior and reduce interfering behaviors
- Maintain behaviors
- Increase academic, social, & self-help skills
- Improve ability to focus, comply with tasks and increase motivation to perform
ABA METHODS

- Aim to improve cognitive skills. Helps student be more available for learning
- Generalize or transfer behavior from one situation or response to another (i.e. from completing assignments in the resource room to performing well in the mainstream classroom)
What truly sets ABA therapy apart from other interventions is its reliance on objective information to make programming decisions. Any chosen ABA intervention is constantly evaluated for its effectiveness by an analysis of the data collected. Therefore, it is critical that all members of an ABA team be aware of the criteria for correct responding, that all therapists are consistent in the collection of data, and that all team members be taught to think critically about the strategies used, understanding that lack of progress is not the child's fault, but the lack of having found or applied the appropriate teaching strategy.
Without data, you are just another person with an opinion.

Andreas Schleicher
BEHAVIORAL TEACHING APPROACHES

- Pairing
- Errorless Teaching
- Prompting
- Fading
- Shaping
- Chaining: forward or backward
- Task Analysis
- Differential Reinforcement
- Extinction
- Fluency Drills
- Contingency contracting
- Token economies
- Task analysis
ADDITIONAL BEHAVIORAL TEACHING APPROACHES

- Individualized assessment and intervention program
- Frequent opportunities to respond - ASR
- Use of discrete trial teaching procedures
- Incidental & natural environment teaching procedures
- Data collection
- Behavioral momentum techniques
- Peer and social interaction – peer pairing
- Functional analysis
- On-going analysis of performance by formally trained behavior analysts
WHAT IS VERBAL BEHAVIOR?

- **Verbal Behavior** – coined by B.F. Skinner
- “The ‘VB approach’ is simply normative applied behavior analysis with a few refinements. That is, it incorporates all the standard methodology of applied behavior analysis, but it explicitly adopts Skinner’s interpretive framework for analyzing verbal contingencies. In other words, it is a small variation on a methodology that has an enormous empirical foundation. It is simply hard to believe that a set of procedures guided only by a distinction between receptive and expressive language can be as sharp as one that respects all of the various types of contingencies analyzed by Skinner.” (Palmer, 2005)
VERBAL BEHAVIOR

- Skinner (1957) defined verbal behavior as "behavior that is reinforced through the mediation of another person's behavior"
- Function not form
- Believed the same word has many different meanings based upon the conditions under which you learned to say it.
BEHAVIORAL CLASSIFICATION OF LANGUAGE

- I want a glass of wine (mand)
- I see wine (tact)
- Wine (echoic)
- In response to "What would you like?" (intraverbal)
- Do this (motor imitation)
- Pass me the wine (receptive)
- Which one do you drink? (RFFC)
- Tell me something you drink? (TFFC)
- What do you like to drink? (IFFC)
Positive Reinforcement—a behavior followed by reinforcing stimuli, increases the likelihood that behavior will occur again in the future.
EVERY TIME I WASH THE DISHES, MY GIRLFRIEND PUTS ON ESPN. IS SHE BEHAVIORIZING ME AGAIN?
CHOCOLATE

- https://www.youtube.com/watch?v=ppjlFyGbHTU
REINFORCEMENT

- Negative Reinforcement - the removal of an undesired (aversive) stimulus - which, when removed consistently over time, the target behavior is likely to increase.
NEGATIVE REINFORCEMENT

- Beeping in car to put on seatbelt; driver must put on seatbelt in order to eliminate irritating beeping (the buzz is a negative reinforcer to putting on seatbelt)
- Cleaning your room to stop your mom from nagging (nagging is a negative reinforcer to cleaning)
- Taking aspirin to relieve headache (headache as negative reinforcer to taking medication)
PAIRING WITH REINFORCEMENT

1. Identify the student’s reinforcers
2. Sanitize the environment
3. Approach the learner with something FUN
4. Pair your voice and environment with reinforcement
5. Make sure what you are offering is more desirable than their current situation
6. Make activities MORE FUN
7. Become a conditioned reinforcer
ERRORLESS TEACHING

- Turns difficult tasks into easy tasks
- Use a 0 second delay
**Prompts**

- **Prompts**: Used to evoke behavior. A prompt is used to increase the likelihood that a person will engage in the correct behavior at the correct time. (Miltenberger, 2001).
- The function of prompts is to produce an instance of the correct behavior so that it can be reinforced.
- The use of prompts makes teaching more efficient. Waiting for trial and error can be very slow.
- The use of prompts increases the chances that a correct response will occur.

TYPE OF PROMPTS

- Physical/Partial
- Physical
- Model
- Verbal
- Gestural
- Positional
- Visual/textual
PROMPTs

- https://www.youtube.com/watch?v=xA6yaIPnQF8
A most-to-least strategy is typically used when a student is first learning a skill; the first trial is prompted with the most intrusive prompt appropriate to accomplish the skill successfully. The first trial is followed by a second using a lesser intrusive prompt; this second, less-prompted successful trial is reinforced.
A least-to-most- trial is typically used when a student has shown in the past an ability to accomplish successfully a task (e.g., usually 80% or more of trials). No matter which strategy is used, it is critical to remember to fade prompts as quickly as possible. Finally, remember to differentially reinforce those responses that require less prompting.
The process by which a prompt is removed gradually across learning trials until the prompt is no longer provided.

Once correct response has occurred, prompts must be eliminated!
DIFFERENTIAL REINFORCEMENT

Provide reinforcement that is differentiated across:

- **Quantity** – Provide more reinforcement for new or difficult tasks
- **Quality** – Provide “better” reinforcers for new or difficult activities
- **Students** – Reinforce the students displaying the desired behavior if or when one student is not (peer pressure)
https://www.youtube.com/watch?v=CPOQEdDe48Q
SHAPING

- Reinforce improvement rather than perfection
- Identify to what degree the child can display this behavior
- When the child approximates the behavior, reinforce the approximation
- As the child consistently approximates behavior require a closer approximation
- Reinforce only behaviors that are closer steps toward the target behavior
- Return to previous step if unsuccessful
- If child does not progress troubleshoot
- Highly reinforce spontaneous instance of target behavior
CHAINING

- Forward Chaining - involves breaking a complex behavior down into a sequence of steps and teaching the first step first, then the second, third, etc.

- Backward chaining – involves breaking complex behavior down into a sequence of steps and teaching the last step first, followed by the next to last step, followed by the preceding step. The steps being taught prior to these are all prompted
FORWARD
MAKING PB&J

1. Get bread and jelly from refrigerator
2. Put bread and jelly on kitchen table
3. Get peanut butter from cabinet
4. Put peanut butter on kitchen table
5. Get a knife and a plate from cabinet
6. Bring knife and plate to table

This forward chain would continue until sandwich was complete

BACKWARD
PUTTING ON SHORTS

1. Child pulls up shorts from just below waist
2. Child pulls shorts up from around knees
3. Child pull shorts up from around ankles
4. With one leg in already in shorts, child inserts leg and pulls shorts up all the way
5. Child puts both legs through shorts and puts them on all the way
TASK ANALYSIS

- Breaking a task down into small teachable units
- Take data on each step
- Calculate % done independently
PRACTICE
**INCIDENTAL TEACHING**

- Defined by Jed Baker as the following: “Incidental teaching refers to teaching a student about a social situation as it is occurring rather than in a structured lesson. The goal is to amplify the social environment as it is unfolding so the student picks up on social cues, rules, others’ feelings, and perception that are all part of the social situation…”

- In other words, capture a teachable moment as it is occurring because this is more concrete and applicable when compared to looking at pictures or role-playing a pretend situation
NATURAL ENVIRONMENT
TEACHING

- Teach within the context of the activities which are reinforcing and motivating for the child.
- Utilize Skinner’s analysis of verbal behavior and teach across all meanings of the word.
GENERALIZATION

- Programming for generalization takes into account the need for behaviors to occur across all environments, with different people different stimuli independently, and spontaneously.
MANAGING PROBLEM BEHAVIOR

- Behavior that poses a danger or harm to self and/or others
- Behavior that causes property damage
- Behavior that interferes with an individual’s ability to learn and function in society
- Behavior that if not reduced, will decrease opportunities for an individual to contact reinforcement
FAIR PAIR RULE

- For every behavior targeted to decrease choose at least one behavior to increase!
The first goal is to identify **the cause or function** of the inappropriate behavior.

- Focus on *function* of the behavior not *form*.
- Ask yourself: WHAT is the student trying to communicate through the problem behavior?
It's all fun and games until someone figures out the function of your behavior.
<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>What it does for me</th>
<th>When does it happen?</th>
</tr>
</thead>
<tbody>
<tr>
<td>SENSORY</td>
<td>Provides sensory experiences – feels good</td>
<td>Anytime - anxious, bored, don’t know what else to do</td>
</tr>
<tr>
<td>ESCAPE</td>
<td>Removes undesired activities or interactions</td>
<td>When task is too hard, easy, boring or scary</td>
</tr>
<tr>
<td>ATTENTION</td>
<td>Provides access to people or interactions</td>
<td>When I want attention/social interaction</td>
</tr>
<tr>
<td>TANGIBLE</td>
<td>Provides preferred items or activities</td>
<td>When I want something</td>
</tr>
</tbody>
</table>
FUNCTIONS OF BEHAVIOR

- **Tangible:** child wants a specific item
  - For example: “I want to watch a video,” or “I want juice.”
- **Attention:** child wants your attention
  - For example: “Pay attention to me”
- **Avoid or Escape:** child is trying to avoid or escape a situation
  - For example: “I don’t want to do this.” “I don’t like this situation.”
- **Self-stimulatory/stereotypic behaviors:** may increase pleasure or decrease discomfort
  - “This feels good.” “I don’t know what else to do.” “I’m bored.”
REINFORCEMENT OR BRIBERY?

- [Link] http://1.bp.blogspot.com/-WBQekBgeQ4o/UG-ReFgg1sI/AAAAAABACg/k3ivvzet3i0/s1600/Reinforcement+vs+bribery.png
A – B – C.....Learning Theory

- Antecedent – Behavior – Consequence
- We can use antecedents and consequences to affect behavior
- Antecedents set the occasion for a behavior to occur
  - If the antecedent changes, the behavior may change
- A consequence is any change in the environment that occurs as a result of the behavior
  - If it is a desirable consequence, it is likely the behavior will occur again in the future
Baseline data can assist in:

- Developing realistic objectives
- Establishing performance criteria
- Evaluating the effectiveness of an intervention
- Determine whether the intervention is warranted at the current time
WHAT TO MEASURE

- Frequency
- Duration
- Intensity
- RPM
- %
NAME THE BEST MEASUREMENT

- Out of seat
- Humming
- Rude, disrespectful words
- # of math problems correct
- Tantrums – screaming, flopping to floor, kicking, hitting, biting
- # of social interactions
With good assessment and teaching, most behaviors can be changed without ever needing to use aversive procedures.
EXTINCTION

- A behavior that has been reinforced for a period of time is no longer reinforced and therefore, the behavior stops occurring.

(Miltenberger, 2001:87).
I find your lack of attention to my attention-seeking behavior terribly upsetting.
RULES OF EXTINCTION

- As long as behaviors are reinforced, they will continue to occur. If a behavior is no longer followed by a reinforcing consequence, the person will stop engaging in the behavior.

- Extinction burst

- Common misconception- extinction simply means ignoring the behavior. Extinction – removing the reinforcer for a behavior.

- Ignoring the problem behavior functions as extinction only if attention is the reinforcer.

- Example: Child is crying for attention from adults
  Extinction = removing adult attention whenever the child cries
  Adults give attention when child is not crying
ESCAPE EXTINCTION

- Use when the function is ESCAPE or AVOIDANCE of demand
- Keep *original* demand on the student until compliance
- Remain calm and use a neutral voice – avoid eye contact
- When compliant, place other demands on child until they are responding within 2 seconds
- REINFORCE!
\begin{quote}
\textbf{B.F. Skinner}

\begin{itemize}
\item \textquote{Many instructional arrangements seem "contrived," but there is nothing wrong with that. It is the teacher's function to contrive conditions under which students learn. It has always been the task of formal education to set up behavior which would prove useful or enjoyable later in a student's life. \textquote{}}
\end{itemize}
\end{quote}
Thank you for Attending!