ABA & Teaching Methods

CHAPTER 7
EASTER SEALS SOUTHEAST WISCONSIN
START EARLY, START STRONG PROGRAM
ABA

ABA = Applied Behavior Analysis
Science “devoted to investigating factors that influence behavior”
Science of behavior
Applied = in a real world setting
ABA

- Investigates people’s interactions with their environment
- Develops intervention strategies to:
  - decrease inappropriate behaviors
  - increase socially appropriate behaviors
- Focus of work with children with disabilities is teaching behavior in small, measurable units
Early Intervention

- Optimal age is before 5
- Best results with 30+ hours per week
- Based on principles of ABA can produce meaningful improvements
  - Increased IQ
  - Integration into more inclusive settings
  - Research and evidence based
Behavioral Approach

- Substantial literature showing positive effects of behavioral approach with children with disabilities

- Two effective teaching strategies:
  - Discrete Trial Training (DTT)
  - Naturalistic Teaching
Teaching Methods

- Recommend a blend of both DTT & Naturalistic Programming should be individualized.
- May want to start with DTT to establish “good learner”
- Use Naturalistic to train for generalization of skills taught using DTT or novel skills
DTT

- Discrete Trial – four term contingency
  - Presented stimulus cues response
  - Response
  - Consequence
  - Followed by brief inter trial interval
Cueing the Response

- Can be verbal or non-verbal
  - Instruction
  - Object
  - Picture

- Discriminative stimulus: Stimulus that signals availability of reinforcement
Object Cueing a Response
Target Response

- A child can respond in 3 ways
  - Correctly
  - Incorrectly
  - No response

- Does not have to be ultimately desired behavior
  - Target approximations for difficult skills
  - Target steps in a chain of responses
Consequence

• Depends on response
  ○ Correct = reinforcement
  ○ Incorrect or no response = error correction & prompt
  ○ Extinction

• Immediate
DTT

- Often thought of as a rigid procedure based on Lovaas
- Many people use DTT in a flexible, natural method
- DTT can still allow child initiations and doing child specific interventions
Advantages of DTT

- High # of trials (lots of opportunities to practice a skill)
- Easy to implement
- Good way to develop skills across different uses of language
- Easy to run in classroom
Advantages of DTT

- Can be used in group
  - Allows for peer interaction
  - Learning in a group
- Target responses known and easily identified
- Contrived consequence easy to deliver
Advantages of DTT

- Data collection straightforward
- Easy to observe progress
- Helps to establish good learner
DTT: Establish good learner

- Increase attention to task
- Increase responding appropriately because of reinforcement
- Increase discrimination ability
- Increase ability to sit and work
- Increase child’s tolerance to increased demands
Disadvantages of DTT

- Requires training for generalization of skills
- May evoke problem behavior
- Often uses stimuli & reinforcers not present in natural environment
Clearing Up Any Misconceptions

- DTT can take place anywhere
  - Does NOT have to occur at a table

- DTT can take place in a group setting
  - Does NOT have to be 1:1 therapy

- DTT ≠ Applied Behavior Analysis

- DTT does NOT have to include mass trials of same targets
Motivating Operations

- Anything that temporarily alters reinforcing value of item or activity
  - Deprivation
  - Satiation
  - Illness
  - Side effects of medicine
Clear environment of distractions
Have a data sheet ready & evaluate data prior to session
Evaluate Procedures
Asking a Friend to Play

![Graph showing the percent correct over sessions.](image-url)
Asking A Friend to Play

Percent Correct

Session
Asking a Friend to Play

Percent Correct

Session
DTT: In Session
Block & correct errors
Position yourself to manage challenging behavior
Task Instructions

- Do not repeat the instruction without a prompt
- Use appropriate level of language
  - DON’T - “Can you come over to the table and sit down for me?”
  - DO - “Sit down”
Use antecedent prompts

- Prompt simultaneously with initial instruction
- Prompt before the child responds
- Eliminates opportunity for errors
Use prompt that evokes the target response

- Verbal Prompt
- Placement Prompt
- Gesture Prompt
- Hand Over Hand Prompt
Prompting Hierarchies

- **Acquisition task:**
  - Most-to-least prompt hierarchy
  - Example: Full verbal → Partial verbal
  - Example: Full physical → Partial physical point

- **Maintenance task:**
  - Least-to-most prompt hierarchy
Fade the Prompts

- Children may become prompt dependent if they are not systematically faded.

- You want natural stimuli controlling responding, not your prompts.
  - Called “transfer of stimulus control”

- Fade prompts by
  - Gradually increasing delay to prompt
  - Reducing a property of prompt (intensity, length, duration, etc.)
Provide Reinforcement

- Increases likelihood of behavior occurring again
  - Immediately
  - Contingently
  - Differentially
    - More reinforcement for better, more independent responses
    - Don’t reinforce prompted response if child typically does task independently
Amount of Reinforcement

- A whole cookie vs. a bite
- 4 minutes of TV vs. a 30-second clip
- More of a reinforcer for a better response
  - Requiring less prompts
Score Data

- After small blocks of trial
- Want to be meaningful & reliable
- Practical
- Do while child is occupied (working independently, consuming reinforcer)
Re-present Prompted Trials

- If child does not respond, or responds incorrectly & you prompt them
  - Do an easy activity
  - Re-present instruction with an antecedent prompt

- Able to reinforce correct responding & teach skill
Minimize Inter-trial Intervals

- This is wait time between removal of consequence and next instruction
- Being prepared with data sheets, materials, etc.
- Keeps child’s interest high
Intersperse Easy & Difficult Tasks

- Easy – something you’ve seen them do before
- Difficult – a new task
- Keeps child experiencing success & independence
- Builds behavioral momentum
Use behavior specific praise
End Session with Fun/Easy Task

- If child leaves on a good note, he/she will be more willing to come back later
DTT Practice

- **Teaching**
  - **Acquisition:**
    - Receptive identification of colors using cards
  - **Maintenance:**
    - Motor imitation with arms and hands (pat table & clap)
    - Request reinforcers using one word (sticks & stickers)
Expand Stimulus and Response Classes

- Training for generalization
- Expand stimulus class or group of stimuli that evoke same response
- Expand response class or different responses evoked by same stimulus
Ways to Practice for Generalization

- Practice loosely
  - Different stimuli and instructions with advanced child
- Practice multiple exemplars
  - Reinforce different responses
  - Train different stimuli after goal is mastered with beginning child
- Practice across settings and teachers
Using DTT in a group

- Trials can be:
  - Presented to each child individually
  - Randomly presented to children in the group
  - One instruction presented to group requiring a choral response from group
Naturalistic Teaching
What is Naturalistic Teaching?

- Emphasis on following child’s interest, lead, or pace when presenting learning trials

- Trials are less structured (training loosely & accepting diverse responses)

- Incorporating natural activities and natural reinforcers and consequences (less arbitrary)

- Incorporating functional mediators
What is Naturalistic Teaching?

- Emphasis on following child’s interest, lead, or pace when presenting learning trials
  - Captures momentary MO
    - Take advantage of natural deprivation
    - Prevents satiation
  - Preventing problem behavior
  - Represents naturally occurring contexts
What is Naturalistic Teaching?

- Trials are less structured (practicing loosely & accepting diverse responses)

  Continuum of Stimulus Control

  DTT  NTAs

- Similarities between teaching environment and speaking environment (LeBlanc et al., 2006)
What is Naturalistic Teaching?

- **Practice Loosely**
  - Use a variety of antecedent prompts or instructions, reinforce variety of responses
  - Use a variety of stimuli (loose stimulus control): multiple stimuli, settings, trainers
  - Consider thinning reinforcement schedules or increase the delay before reinforcement
What is Naturalistic Teaching?

- Incorporating natural activities and natural reinforcers and consequences
  - Show items to child to increase motivation
  - Follow looks, reaches & approaches (signals learning opportunity)
  - Prompt appropriate response
  - Language = access to item of interest
What is Naturalistic Teaching?

- Incorporating functional mediators
  - Use stimuli from the child’s environment (common items)
    - Ex: practice in natural settings or use items from home or school
    - Ex: involve parents, siblings, peers, or teacher as the change agents
What is Naturalistic Teaching?

- Incorporating functional mediators
  - Practice behaviors that will contact natural reinforcement
    - Requesting, question-asking ("Where is it?" "Is it yours?")
    - Initiating social interactions ("Can I play?" "Can I have a turn?" "Want to play?" "Hello, _____")
    - Recruiting attention as a reinforcer ("Look at me!" "See, I’m finished!" "How is this?")
Advantages of Naturalistic Teaching?

- Decreased problem behavior
- May be easy to implement at home or at school by parents, siblings, teachers.
- Increases exposure to therapy since training extends beyond the therapy setting
- Address generalization of skills to natural environment
Pivotal Response Training (PRT)

- Pivotal response training has proven to be a naturalistic training method that is structured enough to help children learn simple through complex play skills, while still flexible enough to allow children to remain creative in their play. The child can be reinforced for single or multiple step play. The therapist has the opportunity to model more complex play and provide new play ideas on his/her turn. Research indicates that children with autism who are developmentally ready to learn symbolic play skills can learn to engage in spontaneous, creative play with another adult at levels similar to those of language-age matched peers via pivotal response training.

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