

---

# SPHSC 500

## Autumn 2009

Clinical Methods  
Lesley B. Olswang, Ph.D.  
"Providing Treatment"

---

## Providing Treatment - Concepts

*For the purposes of providing treatment,  
determine*

- Client/family involvement
- Sequential teaching program - Appropriate variety of activities to work on target behaviors
- Lesson plans for each session
- Performance/success of each session  
treatment data/notes

## Providing Treatment - Tools

---

- Behavioral Observation
  - Treatment Measures
  - Notes

## Sequential Teaching Program

---

- Structured Teaching Programs
  - Taking your client from starting point (baseline) to end goal through sequential steps that he/she must accomplish/master. Based on a task analysis – what does this mean?
  - Drill versus natural
- Treatment paradigm: Behaviorism/Applied Behavior Analysis

## Applied Behavior Analysis

---

**As research paradigm – but also same paradigm as used clinically - Behaviorism:**

- **Applied: Refers to**
  - Studying problems/behaviors that are of importance to society
  - Problems/behaviors that are affected by environment

## Applied Behavior Analysis

---

- **Behavior: Refers to**
  - Focusing on observable and measurable performance of behaviors.
  - Operationally defining behaviors so that independent observer can see, and count them
  - Typically a quantitative approach.

## Applied Behavior Analysis

---

- **Analysis: Refers to**
  - Believable demonstration that events are controlled through manipulation of environmental variables
  - Accounting for the presence or absence of behaviors in question
  - Repeated demonstrations of phenomenon (i.e., relationship of behavior to environmental manipulation)- replication – essence of research, but also for documenting treatment efficacy clinically

## Changing Behavior

---

- **How does this research paradigm transfer to practice?**

DIRECTLY:

  - Selecting socially relevant behaviors for change (WHO)
  - Selecting treatment targets-isolating behaviors and defining them
  - Deciding how you want to change behaviors (Gottlieb)
  - Manipulating the environment to change behaviors (TX)
    - Antecedents
    - Behaviors
    - Consequences (reinforcement schedules)
  - Documenting the change (ABA paradigms and time series data)

## ABA vs. ABC

---

- ABA – Applied Behavior Analysis
  - Science of behaviorism
  - Efficacious techniques for changing behavior
    - Hegde chapters
- ABC – teaching/treatment paradigm – structure for ABA techniques
  - Antecedent – Stimulus (clinician delivered)
  - Behavior – Response (client performance)
  - Consequence – Reinforcement (clinician delivered)

## Topics – Some Major ABA Techniques

---

- Contingencies Increasing and decreasing behavior with reinforcers
- Stimulus control
- Fading assistance
- Time delay
- Antecedent prompt-test
- Generalization
- Maintenance

## Reinforcers (ABC)

---

Define:

- Mechanism of reinforcement:
  - Response Contingency
  
- Two Types of Contingency
  - Conditioned
  
  - Unconditioned

- 
- Two Types of Reinforcers
    - Positive Reinforcement
  
    - Negative Reinforcement

## Reinforcers

---

- Response-contingent (delivery of reinforcer immediately after the response)
  - Primary or unconditioned
  - Secondary or conditioned
    - Social reinforcers
    - Conditioned generalized reinforcers (e.g., tokens, chips)
    - Informative feedback
    - High-probability behaviors (e.g., an event of high probability is used to reinforce a low probably behavior) (using ice cream as a reward for eating vegetables)

## Reinforcers

---

- Positive reinforcement – events, that when made contingent on a response, increase the future probability of that response.
- Negative Reinforcement – removal or postponement of an event in the production of the desired response
  - Removing something aversive with the production of the desired response

## Increasing Performance

---

- List several specific types of contingencies to increase performance

## Decreasing Performance

---

- List several specific types of contingencies to decrease performance



## Changing Behavior – Some ABA Approaches/Techniques (ABC)

### Increasing Behavior – Contingencies

- Social & Verbal praise
- Tokens and Points
- Tangibles
  - Client selected
  - Therapist selected based on how client spends free time
  - Therapist selected –wanting to introduce client to new experiences
- Reinforcement Schedules
  - Fixed
  - Intermittent

## Changing Behavior- Some ABA Approaches/Techniques (ABC)

### Decreasing Behavior

- Extinction – eliminating positive reinforcer
- DRO – Differential reinforcement of other behavior - extinction of undesired behavior while prompting & reinforcing other behavior
- TO – time out from positive reinforcer
- Response cost, over correction, fines, restrictions
- Physical Pain

## Stimulus Control

- List several types of response evocation techniques

## Changing Behavior- Some ABA Approaches/Techniques (ABC)

### **Stimulus Control (Response Evocation Techniques)**

- Physical Stimuli
- Instructions
- Demonstrations
- Modeling and Imitation
  - Direct
  - Indirect
- Shaping
  - Moving the client from the initial response to terminal response via an intermediate response
    - Prompts and cues along the way-verbal, vocal, nonverbal/gestural, physical

## Quick Review

---

- ABC – Antecedent (Stimulus), Behavior (Response), Consequence (Reinforcement and consequences that become antecedents/stimuli to shape behavior)
- Response contingency - reinforcement applied immediately after response and thus behavior is contingent upon the reinforcement
  - In learning – client has learned a new behavior because of the reinforcement
- Reinforcement – increases behavior (positive or negative reinforcement)
  - Decrease behavior (extinction, DRO, other)

## Changing Behavior- Some ABA Approaches/Techniques

---

### **Fading Instructor Assistance (3 ways)**

- Increasing assistance – across items and trials least to most prompts with each error
- Decreasing assistance – across items and trials most to least
- Graduated guidance – within item/trial assistance based upon error

## Changing Behavior- Some ABA Approaches/Techniques

---

### **Time delay (e.g., progressive)**

- Natural cue + prompt concurrently for number of items
- Natural cue + 1 second delay – then prompt
- Gradually increasing delay per item ( so waiting for response to natural cue, reinforce if it occurs)

## Changing Behavior- Some ABA Approaches/Techniques

---

### **Antecedent Prompt & Test**

Natural cue + prompt then several tests over several items, just with natural cue

## Generalization

---

- Stimulus Generalization
- Response Generalization
  
- What are three ways to think about generalization in treatment?

## Generalization

---

- Spontaneous Generalization
  - Teach target behavior and generalization occurs on its own
- Preplanned Generalization
  - Treatment includes plan to facilitate generalization
- Post-hoc programmed generalization
  - Adding to treatment when generalization is stubborn and not occurring

## Maintenance

---

- What is maintenance?

## Maintenance

---

- Sustaining a behavior with natural contingencies – i.e., within the natural environment/context
- Recall: Generalization and Maintenance can be targets.

## Data Collection - Tools

---

- Behavioral Observation
- Maybe interviewing

- Behavioral Observation
  - Structured
    - Treatment data

## Application – Treatment Examples

---

- Kyle
- Assignment #2 – Vaughn
- Supported Communication
- Examples from your clients

## Kyle

---

- Recall treatment objective:  
Kyle will produce at least 10 different agent + action two-word utterances during two 20-minute free play sessions. The clinician will be familiar but not the treatment clinician. The materials will be toys that have not been used in treatment. This session will take place in the clinic.



## Treatment Approach

---

- Script or Joint Action Routines (JAR)  
(Lee Snyder McLean)
- Concept: Mapping words onto predictable situations. Child doesn't need to think about the environment, just the linguistic mapping
- Learning through naturalistic play, BUT with antecedents (opportunities) and consequences clear – reinforcement contingent upon correct response  
(Script handouts)
- Similar to Milieu Teaching Approach (difference- Milieu happens in the natural environment)

## Sequential Teaching Program

---

- Take the idea of script and put into a Sequential Teaching Program.
- Merely a way to sequence the learning
- Examples – both illustrate Fading Instructor Assistance (decreasing across items, increasing across trials).
  - Example 1 to follow – Kyle – highly stimulable (small ZPD)
  - Example 2 to follow – a child who is not highly stimulable (larger ZPD) – you'll see more steps – starting with more cues

| <b>Antecedent</b>  | <b>Behavior</b>                | <b>Consequence</b>  | <b>Reinf. Sch.-Criteria</b>  |
|--|--------------------------------|---|--|
| 1. Introduce script – verbalize all aspects  | Child listens, plays with toys | + Reinforce attention and allow to play   | 1:1 Go through each script 2 times   |
| 2. Go through script – Visual cues and verbal cues of general statement, elicitation question, or cloze procedures<br>Must provide at least 10 opportunities per script. | Agent + Action                 | + “yes, imitate child’s response” “good, you told me X+X”) – child plays<br>-No response – repeat visual antecedent, provide a indirect model, direct model, direct model + elicitation<br>-- NR shape two word utterance | Intermittent 1:3<br>5 different agent + action productions in response to general statement, elicitation question move to step 3 |
| 3. Introduce sabotages to script<br>-- Visual cues and verbal elicitations as above<br>Introduce different sabotages every two sessions                                  | Agent + Action                 | Same as above   | Intermittent 1:3; 1:5<br>10 different agent + action productions in response to general statement, elicitation question          |

| <b>Antecedent</b>   | <b>Behavior</b>                | <b>Consequence</b>  | <b>Reinf. Sch.-Criteria</b>  |
|---|--------------------------------|---|--|
| 1. Introduce script – verbalize all aspects –   | Child listens, plays with toys | + Reinforce attention and allow to play   | 1:1 Go through each script 2 times   |
| 2. Go through script – Visual cues and verbal cues of direct model and shaping two word utterance<br>Must provide at least 10 opportunities per script. | Agent + Action                 | + “yes, imitate child’s response” “good, you told me X+X”) – child plays – “tell me again, what’s happening”<br>-NR repeat visual antecedent, and shape two word utterance<br>-- NR – Repeat visual cue, model verbal, elicit each single word. | Intermittent 1:3<br>7 different agent + action productions in response to direct model, move to step 3             |
| 3. Go through script – Visual cues and verbal cues of indirect model and cloze procedure  | Agent + Action                 | Same as above   | Intermittent 1:3;<br>5 different agent + action productions in response to indirect model or cloze, move to step 3 |

| Antecedent  | Behavior       | Consequence  | Reinf. Sch.-Criteria   |
|---|----------------|--|--|
| 4. Go through script – introduce sabotages. Visual cues and verbal cues of general statement and elicitation question<br>Must provide at least 10 opportunities per script. | Agent + Action | + “yes, imitate child’s response” “good, you told me X+X”) – child plays --<br>- NR repeat visual antecedent, and provide indirect or direct model<br>-- NR – Provide direct model + “tell me” | 1:1 Go through each script 2 times<br>10 different agent + action productions in response to general statement, elicitation question |



- Remember time delay – how could you apply this technique to the programs?
- Remember Antecedent Prompt + Test – how could you apply this technique to the programs?

## Vaughn – Assignment #2