

Overview of the Basic Principles of Applied Behavior Analysis

Key Principles of ABA

(Kerr & Nelson, 2010)

In managing classroom behavior and designing interventions, it is critical that teachers understand these principles:

- Consequences control behavior
- Reinforcement strengthens or maintains behavior
 - Positive Reinforcement
 - Negative Reinforcement
- Consequences that have maintained behavior can also weaken or decrease behavior by being withheld
 - Extinction
- Punishment also weakens behavior

Establish contingencies by consistently and immediately following target behaviors with consequences

Use modeling to strengthen, weaken, or maintain behavior

Systematic Procedures for Influencing Behavior (Consequences)

- **Increase**

- Positive Reinforcement
- Negative Reinforcement

- **Decrease**

- Extinction
- Punishment

Positive Reinforcement

Essential to improving behavior

Positive Reinforcement is the

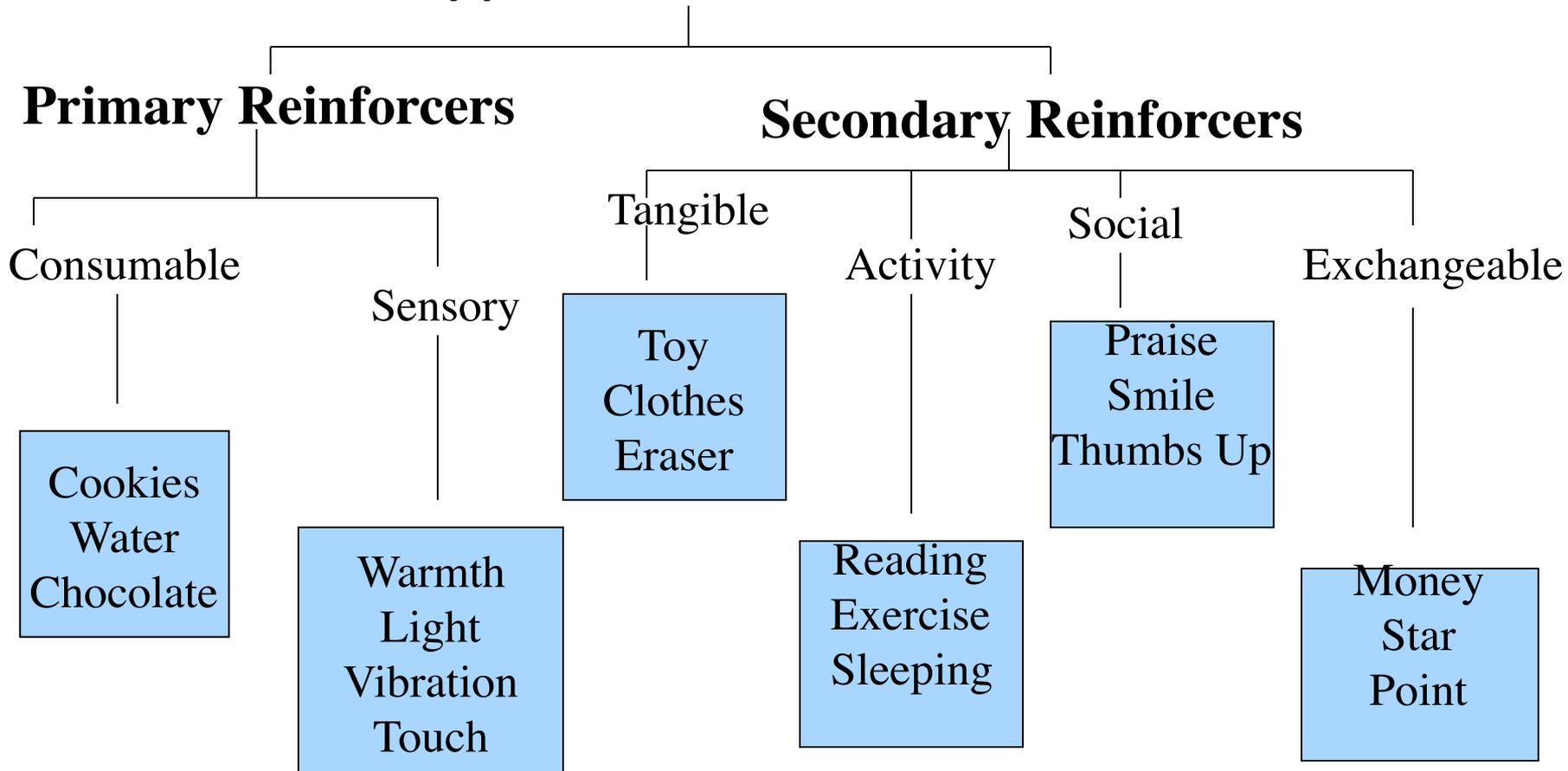
“**Contingent presentation** of a stimulus, following a response, that **increases** the probability or rate of the response.”

(Alberto & Troutman, 2009 p. 217)

Positive Reinforcers

- Types of reinforcers
 - Primary: innately motivating, natural, unlearned (e.g., food, liquids)
 - Secondary: conditioned & learned (e.g., tokens)
 - Selecting reinforcers
 - Can not say for sure something is a reinforcer until the impact on the behavior can be determined
 - Consider student age, reinforcement history, development, & interest
 - Reinforcer sampling
 - Ask student
 - Rank order by student
 - Distribute reinforcer menu
 - Conduct object sampling
 - Observe duration of gaze, engagement
- (Alberto & Troutman, 2009)

Types of Reinforcers



Considerations for using Reinforcers

- Reinforcement must be contingent (if then...).
- Work to replace primary reinforcers with secondary reinforcers.
- As much as possible, let student select reinforcers
- Assign reinforcer to specific tasks or behaviors (not one for the entire day).
- Watch for signs of satiation and change reinforcers as needed.
- Decrease the size of edible reinforcers to prevent satiation.
- Utilize schedules of reinforcement – do not provide a reinforcer for each correct response or instance of behaviors.

(Alberto & Troutman, 2009)

Elementary Reinforcer Menu With Key

Student Name _____

Instructions:

Ask the student to write a check (✓) next to at least eight items/activities he/she would most like to earn in class. (Read the list to non-readers, and help them mark the items they select.)



- | | |
|---|---|
| <input type="checkbox"/> 1. Blow bubbles | <input type="checkbox"/> 13. Video or computer games |
| <input type="checkbox"/> 2. Ice cream | <input type="checkbox"/> 14. Be in a program or play |
| <input type="checkbox"/> 3. Coloring/drawing | <input type="checkbox"/> 15. Extra recess time |
| <input type="checkbox"/> 4. Extra P.E. time | <input type="checkbox"/> 16. Lollipop/sucker |
| <input type="checkbox"/> 5. Play with friends | <input type="checkbox"/> 17. Carry messages to the office |
| <input type="checkbox"/> 6. Puzzles | <input type="checkbox"/> 18. Legos, blocks, or puzzles |
| <input type="checkbox"/> 7. Stickers | <input type="checkbox"/> 19. Time with a grown-up/mentor |
| <input type="checkbox"/> 8. Use tape recorder | <input type="checkbox"/> 20. Listen to a story on tape |
| <input type="checkbox"/> 9. Cookie | <input type="checkbox"/> 21. Story time |
| <input type="checkbox"/> 10. Draw on chalkboard | <input type="checkbox"/> 22. Send a "good" note home |
| <input type="checkbox"/> 11. Computer time | <input type="checkbox"/> 23. Soft drink or fruit juice |
| <input type="checkbox"/> 12. Pudding | <input type="checkbox"/> 24. Popcorn |



Secondary Reinforcer Menu With Key

Student Name _____

Instructions to Student: Write a check (✓) next to at least six items/activities you would most like to earn in class.

- ___ 1. Listening to music
- ___ 2. Skipping a homework assignment
- ___ 3. Talk to a friend
- ___ 4. Soft drink
- ___ 5. Ticket to a school sporting event
- ___ 6. Watching a movie
- ___ 7. Pizza
- ___ 8. Listen to iPod/MP3 Player
- ___ 9. Class trip
- ___ 10. Fast food coupon
- ___ 11. Snack food
- ___ 12. School supplies
- ___ 13. Playing a video or computer game
- ___ 14. Computer time
- ___ 15. Playing basketball or another sport
- ___ 16. Reading a favorite book
- ___ 17. Ticket to a school dance
- ___ 18. Participate in an assembly
- ___ 19. Class party
- ___ 20. Drawing



Visual Menus

The image cannot be displayed. Your computer may not have enough memory to open the image, or the image may have been corrupted. Restart your computer, and then open the file again. If the red x still appears, you may have to delete the image and then insert it again.

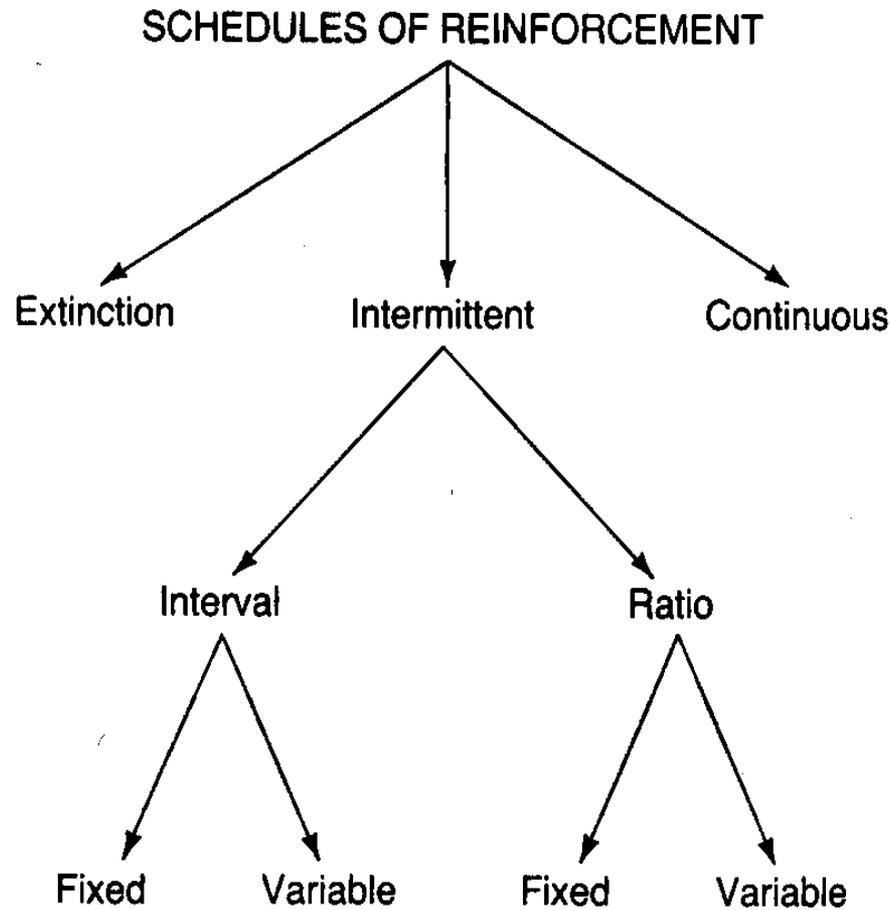


Schedules of Reinforcement

- Timing patterns for delivery of reinforcement
- When teaching and establishing a new behavior, reinforce each instance (i.e., continuous reinforcement)
- Once a behavior is established, make reinforcement less predictable
 - Move from high rates of reinforcement to variable rates
 - Be careful not to reduce the reinforcement too quickly
- Intermittent reinforcement refers to reinforcement that is not given for each instance of a response

(Alberto & Troutman, 2009; Kerr & Nelson, 2010)

Schedules of Reinforcement



Schedules of Reinforcement

- **Continuous** reinforcement: every instance of a behavior is reinforced
- **Intermittent** reinforcement: some - not all responses are reinforced
 - Ratio schedules: Reinforcement is based on the number of behaviors required
 - Interval schedules: Reinforcement is based on the passage of time
 - Duration schedules: Reinforcement is based on the continued performance of a response for a period of time
 - Fixed schedules: The requirements for reinforcement are always the same
 - Variable schedules: The requirements for reinforcement change randomly

(Alberto & Troutman, 2009)

Negative Reinforcement

“The contingent removal of an aversive stimulus immediately following a response that increased the future rate and/or probability of the response.”

(Alberto & Troutman, 2009, p. 254)

Examples:

Steve will put on seat belt to stop buzzer.

Luke will clean up his room to stop escape parent nagging.

Mark completes his work to avoid having to stay in the classroom during PE.

The term “reinforcement” means a behavior will increase

- Both positive and negative reinforcement are associated with increases in behavior

(Alberto & Troutman, 2009)

What things are aversive to students in the classroom?

- Certain academic tasks
- Certain peers
- Unclear teachers directions
- Nagging or negative teachers

Student may misbehave to “escape” these aversive stimuli. If allowed to “escape” and the teacher observes an increase in disruptive behavior, the student’s disruptive behaviors have been negatively reinforced (i.e., the aversive stimuli has been removed).

(Alberto & Troutman, 2009)

Negative Reinforcement

Be careful. Consider this scenario ...

Teacher gives student an assignment (the assignment is aversive to the student)

- Student is disruptive
 - Teacher removes work (i.e., removes aversive stimulus)
 - Teacher has negatively reinforced the disruptive behavior
 - The next time the teacher presents the work, the cycle is repeated because the student has learned that disruption *works* in getting the teacher to remove the assignment.
- Teachers need to understand how their behavior reinforces and teaches the *wrong* student behaviors

(Alberto & Troutman, 2009)

Effective Use of Negative Reinforcement

- If students are motivated by escape from or avoidance of aversive stimuli, teach students a more appropriate way to “escape” or “avoid”
 - For example: Teach students to request a break or ask for help

Extinction

“Withholding reinforcement for previously reinforced behavior to REDUCE the occurrence of the behavior”

(Alberto & Troutman, 2009, p. 424)

Most often used to decrease problem behaviors that have been reinforced /maintained by teacher attention

Considerations for Extinction

- Extinction is not a fast way to decrease a behavior
 - Targeted behavior will typically continue before it decreases (i.e., resistance to extinction)
 - Targeted behavior may increase or get worse before it decreases (i.e., extinction burst)
- Some students may respond to extinction with aggression (i.e., extinction-induced aggression)
- Extinguished behavior may temporarily reappear at some point (i.e., spontaneous recovery)
- Peers may also be reinforcing a target behavior
- Extinguished behaviors do not generalize to other settings well

(Alberto & Troutman, 2009)

Effective Use of Extinction

- Use extinction in conjunction with the reinforcement of appropriate behaviors
 - Remember that an “absence” of behavior is not the goal of classroom management. Instead, the goal is for students to learn and use socially appropriate behavior.
- Once a behavior has been put on extinction, do not reinforce – this will only make it harder to eventually extinguish
- To control for peer attention, peers can be reinforced for withholding attention for problem behavior
- To increase generalization, adults in multiple settings must also use extinction

Punishment

- “The contingent presentation of a stimulus immediately following a response, which decreases the future rate or probability of the response” (Alberto & Troutman, 2009, p. 426).
- Example: Time-out from free play (preferred activity) after hitting; hitting decreases
- To be defined as a “punisher”, there must be a decrease in the behavior

(Alberto & Troutman, 2009)

Considerations for Punishment

Benefits of Punishment

- Stops behavior
- Instructive to peers

Disadvantages of Punishment

- Overuse
- Negative self-esteem
- Withdrawal or escape
- Increase in aggression and antisocial behavior
- Peer reactions
- Damages student/teacher relationships
- What is the student learning?

Punishment should be used on a limited basis and in conjunction with procedures to increase socially acceptable behavior

Key Behavioral Principles

Stimuli	Increase	Decrease
Presented	Positive Reinforcement	Punishment
Removed	Negative Reinforcement	Extinction

**Behavior principles can only be identified
by their impact on behavior**

References

- Alberto, P. A., & Troutman, A. C. (2009). *Applied behavior analysis for teachers* (8th ed.). Upper Saddle River, NJ: Merrill.
- Kerr, M. M., & Nelson, C. M. (2010). *Strategies for addressing behavior problems in the classroom* (6th ed.). Boston, MA: Pearson.