EDS 245: Psychology in the Schools

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Behavioral Interventions

Behavioral Consultation and Intervention: A Credentialing Standard

Standards for Graduate Preparation of School Psychologists(NASP, 2010)

2.1 Data-Based Decision Making and Accountability

- Areas in which school psychologists have **knowledge**:
  - Assessment and data collection methods …
  - Varied methods of assessment and data collection in psychology and education (e.g., …, direct behavior analysis, ecological)
  - Assessment and data collection methods useful in identifying strengths and needs and in documenting problems of children …

Behavioral Consultation and Intervention: A Credentialing Standard

Standards for Graduate Preparation of School Psychologists(NASP, 2010)

2.1 Data-Based Decision Making and Accountability

- Areas in which school psychologists have **knowledge**:
  - Strategies for translating assessment and data collection to development of effective … interventions …
  - Assessment and data collection methods to measure response to, progress in, and effective outcomes of services

Behavioral Consultation and Intervention: A Credentialing Standard

Standards for Graduate Preparation of School Psychologists(NASP, 2010)

2.1 Data-Based Decision Making and Accountability

- Areas in which school psychologists demonstrate **skills**:
  - Use … data collection strategies, and technology resources as part of a comprehensive process of effective decision making and problem solving …
  - Systematically collect data and other information about individuals, groups, and environments as key components of professional school psychology practice

Behavioral Consultation and Intervention: A Credentialing Standard

Standards for Graduate Preparation of School Psychologists(NASP, 2010)

2.1 Data-Based Decision Making and Accountability

- Areas in which school psychologists demonstrate **skills**:
  - Translate … data …into design, implementation, and accountability for evidence-based … interventions …
  - Use … data collection methods to evaluate response to, progress in, and outcomes for services in order to promote improvement and effectiveness
  - Measure and document effectiveness of their own services for children, families, and schools

Behavioral Consultation and Intervention: A Credentialing Standard

Standards for Graduate Preparation of School Psychologists(NASP, 2010)

2.2 Consultation and Collaboration

- Areas in which school psychologists have **knowledge**:
  - Varied methods of consultation in psychology and education (e.g., behavioral, problem solving, mental health, organizational, instructional) applicable to individuals, families, groups, and systems
  - Strategies to promote collaborative, effective decision making and implementation of services among professionals, families, and others

Behavioral Consultation and Intervention: A Credentialing Standard

Standards for Graduate Preparation of School Psychologists(NASP, 2010)

2.2 Consultation and Collaboration

- Areas in which school psychologists have **knowledge**:
  - Consultation, collaboration, and communication strategies effective across situations, contexts, and diverse characteristics
  - Methods for effective consultation and collaboration that link home, school, and community settings

Behavioral Consultation and Intervention: A Credentialing Standard

Standards for Graduate Preparation of School Psychologists(NASP, 2010)

2.2 Consultation and Collaboration

- Areas in which school psychologists demonstrate **skills**:
  - Apply consultation methods, collaborate, and communicate effectively with others as part of a comprehensive process that permeates all aspects of service delivery
  - Consult and collaborate in planning, problem solving, and decision-making processes and to design, implement, and evaluate instruction, interventions, and educational and mental health services across particular situations, contexts, and diverse characteristics

Behavioral Consultation and Intervention: A Credentialing Standard

Standards for Graduate Preparation of School Psychologists(NASP, 2010)

2.2 Consultation and Collaboration

- Areas in which school psychologists demonstrate **skills**:
  - Consult and collaborate at the individual, family, group, and systems levels
  - Effectively communicate information for diverse audiences, for example, parents, teachers, other school personnel, policy makers, community leaders, and/or others
  - Promote application of psychological and educational principles to enhance collaboration and achieve effectiveness in provision of services

Behavioral Consultation and Intervention: A Credentialing Standard

NASP Domains of School Psychology Training and Practice

2.4 Interventions and Mental Health Services to Develop Social and Life Skills

- Areas in which school psychologists have **knowledge**:
  - Biological, cultural, social, and situational influences on behavior … and behavioral … impacts on learning, achievement, and life skills
  - Strategies in …, behavioral, … services that promote children's learning, academic, and life skills…
  - Techniques to assess socialization, mental health, and life skills and methods and technology resources for using data in decision making, planning, and progress monitoring

Behavioral Consultation and Intervention: A Credentialing Standard

NASP Domains of School Psychology Training and Practice

2.4 Interventions and Mental Health Services to Develop Social and Life Skills

- Areas in which school psychologists demonstrate **skills**:
  - Use assessment and data collection methods to develop appropriate …, behavioral … goals for children
  - Implement services to achieve outcomes related to socialization, learning, and mental health, including, for example, … behavioral intervention …
  - Integrate behavioral supports … with academic and learning goals

Behavioral Consultation and Intervention: A Credentialing Standard

NASP Domains of School Psychology Training and Practice

2.4 Interventions and Mental Health Services to Develop Social and Life Skills

- Areas in which school psychologists demonstrate **skills**:
  - Use evidence-based strategies to develop and implement services at the individual, group, and/or systems levels and to enhance classroom, school, home, and community factors related to children's mental health, socialization, and learning
  - Implement methods to promote intervention acceptability and fidelity and appropriate data-based decision making procedures, monitor responses of children to behavioral and mental health services, and evaluate the effectiveness of services

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The Theory of Behavioral Interventions

Introduction

- Behaviorism: A collection of theories (explaining why certain factors have specific effects) that focus on external observable events (occurring outside of the organism).
- Emphasizes the role of the environment in learning.
- Principles of behaviorism are essential to the understanding and application of functional assessment (EDS 240, 3rd Semester).

The Foundation of Behavioral Intervention

- Pavlov's Classical Conditioning
  - Stimulus ⇨ Response
- Skinner's Operant Conditioning
  - Response ⇨ Stimulus Reinforcing

Pavlov's Classical Conditioning
Stimulus ⇨ Response

- In classical conditioning,
  - a **neutral stimulus** (e.g., a bell, a stimulus that *does not* automatically yield a specific response)

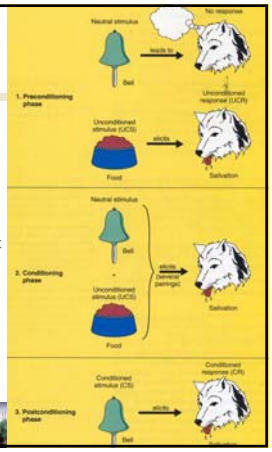
    is paired with
  - an **unconditioned stimulus** (e.g., meat powder, a stimulus that *does* automatically yield a specific response).

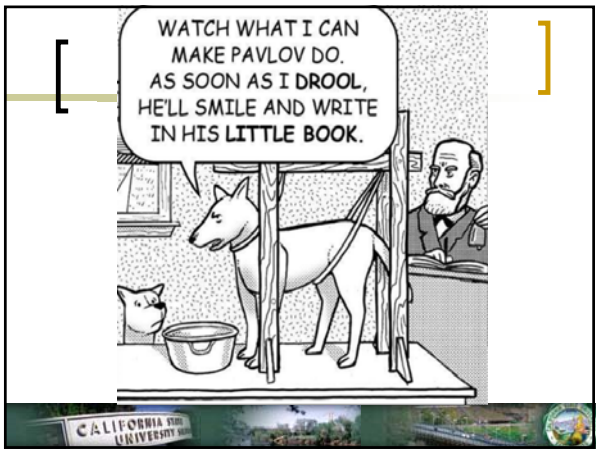
Pavlov's Classical Conditioning
Stimulus ⇨ Response

- The unconditioned stimulus automatically yields an **involuntary unconditioned response** (e.g., salivation).
- Overtime, and with repeated pairings, the neutral stimulus becomes a **conditioned stimulus**.
- This occurs when the conditioned stimulus elicits the same involuntary response as the unconditioned stimulus (e.g., simply hearing the bell elicits salivation).

Pavlov's Classical Conditioning
Stimulus ⇨ Response

Consistent and contingent association is taught





Classical Conditioning and Student Behavior

- Help us to understand how students learn a variety of involuntary responses (especially physiological and emotional responses) or reactions.
- Neutral stimuli within the school environment can be associated with unconditioned stimuli and affect students' physiological and emotional responses.

Classical Conditioning and Student Behavior

- For example…
  - A student who was exposed to a schoolyard shooting learned to associate the playground itself with being shot at. Subsequently, simply being on the playground elicited the hyper-arousal generated by being shot at (i.e., the fight or flight reaction).
  - A frequently disciplined student learned to associate school itself with punishment. Subsequently, simply going to school elicited the same emotions (i.e., fear and anxiety) that punishment automatically elicits.

Stimulus > Response
SR Theory

Classical conditioning is based on the premise that certain stimuli automatically trigger certain responses.

UC**S**	UC**R**
(Possible triggers of the UCR)	*(Involuntary, automatic, reflexive reactions)*
	Salivation
	Pleasure
	Pain
	Startle
	Exhaustion
	Sleep
	Displeasure

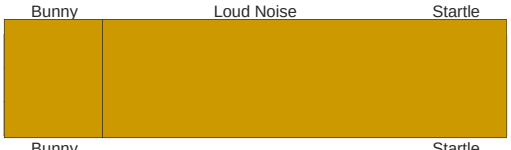
Stimulus > Response
SR Theory

Classical conditioning is based on the premise that certain stimuli automatically trigger certain responses.

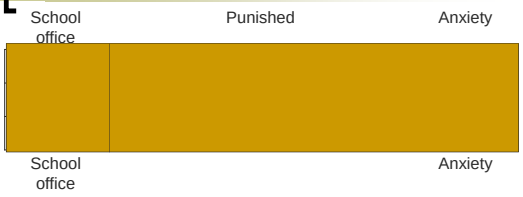
UC**S**	UC**R**
(Possible triggers of the UCR)	*(Involuntary, automatic, reflexive reactions)*
Food, food smells	Salivation
Exercise, intoxication, sex	Pleasure
Injury	Pain
Loud noise	Startle
Strenuous exercise	Exhaustion
Fatigue	Sleep
Nausea	Displeasure

Classical Conditioning

In classical conditioning, a neutral stimulus (NS) is paired with an unconditioned stimulus (UCS). Overtime this association changes the NS to a conditioned stimulus (CS). This occurs when the CS elicits the same response as the UCS [a conditioned response (CR)]



Classical Conditioning



- A NS (office) is paired with an UCS (punishment).
- Overtime this association changes the NS to a CS.
- This occurs when the CS (office) elicits the UCR (anxiety). The UCR is now referred to as a CR.

Classical Conditioning

- Occurs when two stimuli are presented at about the same time.
- For a NS to become a CS it is most effective if it is presented just before the UCS.
- Contiguity may, however, be overly simplistic.
- Contingency is perhaps more important. The potential conditioned stimulus must occur only when the UCS is going to follow.
- Sometimes one pairing is enough for the learning/conditioning to take place.

Classical Conditioning

- The more noticeable the NS, the more likely it is to become a CS.
- Some stimuli are more naturally associated (e.g., food and nausea, playground and school, etc.). This is referred to as associative bias.
- Characteristics of the NS affect the degree to which it becomes and CS. The more noticeable the NS (the principal's office is very unique) the more likely it is to become a CS
- Classical condition is now thought to involve cognitions.

Activity

- Develop real world (preferably school based) examples of Classical Conditioning

US → UR
(Unconditioned stimulus) (Unconditioned response)

US + Stimulus → UR
(Neutral Stimulus)

CS → CR

Eliminating Conditioned Responses

- Extinction
- Counterconditioning
- Systematic Desensitization

Summary: Classical Conditioning

In the school setting it is possible for a variety of NS to be associated with UCS

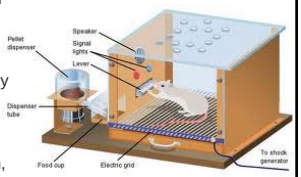
Neutral Stimuli	*Unconditioned Stimuli*	*Unconditioned Response*
School	Punishment	Fear/Pain
Teacher	Failure	Anxiety
School Work	Frustration	Anxiety

Further, CRs can be very durable and difficult to eliminate. **This emphasizes the importance of setting children up for early school success.**

Skinner's Operant Conditioning

Response ⇨ Stimulus Reinforcing

- Classical conditioning accounts for only a small portion of behavior.
- In operant conditioning, a **voluntary response** (e.g., pressing a metal bar) is followed by a **reinforcing stimulus** (e.g., obtaining food).
- As a consequence of having been reinforced, the frequency, duration, and/or intensity of the **voluntary response increases** (frequently pressing the metal bar).



Skinner's Operant Conditioning

Response ⇨ Stimulus Reinforcing

General Principle	a response occurs	which produces	an outcome or consequence	which	affects the likelihood the response will be repeated
Eg. 1	A student studies		Gets a good grade/teacher praise		More likely to study
Eg. 2	A student studies		Gets a bad grade/told he's stupid		Less like to study

Operant Conditioning and Student Behavior

- Students can learn that certain behaviors are followed by what they perceive to be positive consequences. Consequently, they are likely to continue to display the behavior.

Operant Conditioning and Student Behavior

- For example…
  - A frequently disciplined student, who has learned to find the school environment to provoke feelings of anxiety, fear, and pain, will find the result of being "sick" to be *negatively* reinforcing as it allows him to avoid unpleasant stimuli (i.e., school).
  - A student who is likes candy, will find the result of being given candy for completing her school work to be *positively* reinforcing as it allows her to obtain pleasant stimuli.
  - A student who is likes candy, will find the result of being given points for completing her school work to be *positively* reinforcing as it allows her to obtain pleasant stimuli (i.e., after earning a given number of points, she can "purchase" candy).

Factors Influencing the Power of Reinforcement

- Timing
  - Reinforcement is either immediately presented or if presentation of the reinforcer is going to be delayed, the behavior is acknowledge and the timing of the reinforcer indicated.
- Contingency
  - Perhaps more important than timing is the learner's awareness that a specific behavior has a specific reinforcing consequence.

Factors Influencing the Power of Reinforcement

- Magnitude and appeal
  - The reinforcer is desired by the student AND is viewed as being of such a magnitude that behaving in a specific way is judged to be worthwhile.
  - This is why it is important to determine the function of the behavior
- Consistency
  - Initially the reinforcer needs to be presented every time the behavior is displayed. However, once a behavior is established intermittent reinforcement is most effective at maintaining the behavior.

Punishment & Student Behavior

- Students can learn that certain behaviors are followed by what they perceive to be negative consequences. Consequently, they are unlikely to continue to display the behavior.
- For example…
  - A student who dislikes negative attention will find being verbally reprimanded for talking out in class to be punishing, and will talk out less frequently.
  - A student who likes peer attention will find being placed in a time-out (away from his peers) for off-task behavior to be punishing, and will be off-task less frequently.

Types of Punishers & Reinforcers

Reinforcers	**Increase the frequency of behavior**
Primary	Primary satisfy basic physical needs.
Secondary	Secondary become reinforcing via learned associations (classical conditioning) with primary reinforcers.
Punishers	**Decrease the frequency of behavior**
Punishment I	PI (or positive punishment) = presentation of an aversive.
Punishment II	PII (or negative punishment) = removal of a pleasant stimulus

Types of Reinforcers

Positive Reinforcement	Obtaining desirable stimuli.
Negative Reinforcement	Escape - terminating an aversive stimuli Avoidance - learning to stay away from an aversive stimuli

Types of Reinforcers

	Primary Automatic reinforcers	*Secondary* Learned reinforcers
Positive Obtaining desired stimuli	•Physical pleasure	•Money
Negative Escape/avoid undesired stimuli	•Physical pain	•School

Types of Reinforcement Schedules

"Continuous reinforcement is clearly the most effective way of ***teaching a new response***. Once the terminal behavior has been reached, however, … intermittent reinforcement schedules – ratio, interval, and differential – can be beneficial both in ***preventing extinction*** (the DRO schedule excepted and in controlling the frequency and pattern of that response" (Ormrod, 1999, p.56).

Eliminating Undesired Behaviors

Extinguishing Responses	Removal of the reinforcer.
Reinforcing Other Behaviors	Reinforcement for **not** displaying a behavior/response.
Reinforcing Incompatible Behaviors	Reinforcement for displaying a behavior that is incompatible with the target behavior.

When these prove ineffective a form of punishment will need to be considered.

Explaining the Failure of a Reinforcement System

1. The "reinforcer" is not reinforcing.
2. Reinforcement is inconsistent.
3. The response (new behavior or behavioral change) is not worthwhile.
4. Shaping takes place too rapidly.

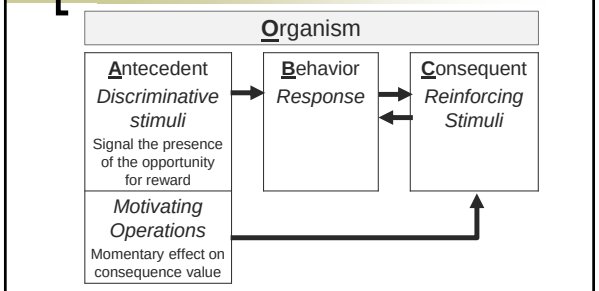
Punishment Options

1. Time out
2. Response cost
3. Verbal Reprimand
4. Restitution and
5. Overcorrection

Applied Behavior Analysis

- Applied behavior analysis uses the methods of ***Functional Assessment*** to identify antecedent and consequent events of behavior and uses this information to design interventions to change behavior.
- Behavior analysis is more concerned with the function of the behavior than the behavior itself (Thus use of the term functional assessment).
- In other words, in functional assessment the "***why***" is more important than the "***what***."

Functional Assessment



Functional (ABC) Assessment

Antecedents ⇨ **Behavior** ⇦ Consequences

- **Behavior**
  - A functional assessment begins with a clear and objective description of the problem behavior.
  - Behaviors must be defined so that **any** observer could recognize and measure its occurrence.

Functional (ABC) Assessment

Antecedents ⇨ Behavior ⇦ **Consequences**

- **Consequences**
  - Voluntary behaviors occur as a function of their consequences.
  - The function of a behavior may be either positive (obtaining desired stimuli) or negative (escaping/avoiding undesired stimuli) reinforcement.
  - Functional assessment identifies the consequences (or reinforcing stimuli) of target behavior.
  - Replacement behaviors are selected and must be incompatible with the target behavior.
    - Replacement behaviors ideally achieve the same goal, or serve the same function, as the target behavior.

Functional (ABC) Assessment

Antecedents ⇨ Behavior ⇔ **Consequences**

- **Consequences**
  - The functions of behavior are not typically judged inappropriate. Rather, it is the behavior itself that is considered appropriate or inappropriate.
    - For example, getting high grades and acting-out may serve the same function (i.e., obtaining adult attention), yet the behaviors that lead to good grades are judged to be more appropriate than those that are associated with acting-out behaviors.

Functional (ABC) Assessment

Antecedents ⇨ Behavior ⇔ Consequences

- **Antecedents**
  - A functional assessment carefully examines environmental variables that precede the target and replacement behaviors.
  - Establishing operations and immediate antecedents are different types of antecedents to behavior/consequent contingencies.
    - An antecedent is potentially any stimulus that precedes a given behavior.

ABC Analysis

Antecedents ⇨ Behavior ⇔ Consequences

Antecedents	Behavior	Consequences
MO [(S^D) → R → S^R]		

MO = Motivating Operations

These events provide the motivation for behavior and by virtue of their presence or absence make it more or less likely that a behavior will be displayed.

S^D = Immediate Antecedents

These events provide opportunity for behavior and act as signals or cues that a given behavior will bring about rewarding stimuli (reinforcement). They are predictors of behavior.

ABC Analysis

Antecedents ⇨ Behavior ⇔ Consequences

Antecedents	Behavior	Consequences
MO [(S^D)	⇨ R ⇔	S^R]

R = Behavior

This is the response a student offers that is prompted by Antecedents and supported by Consequences.

S^R = Consequences

These are the events that typically follow behavior and are necessarily viewed by the student as contingent upon behavior. By virtue of their presence or absence Consequences make it more or less likely that a behavior will be strengthened (i.e., displayed with more or less frequency).

Behavior Intervention Plan Goals

- *BIPs manipulate antecedents and make problem behaviors **irrelevant.***
  - By altering antecedent conditions the need, motivation, and/or opportunity to display the problem behavior is eliminated or minimized.
  - Students are set up for success.

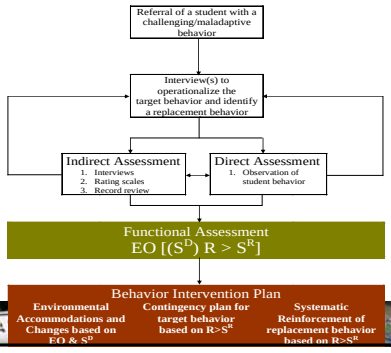
Behavior Intervention Plan Goals

- *BIPs manipulate consequences and make problem behaviors **ineffective.***
  - The target behavior **IS NOT** reinforced.

Behavior Intervention Plan Goals

- *BIPs manipulate consequences and make target behaviors **inefficient.***
  - The replacement behavior **IS** reinforced.
  - By reinforcing replacement behaviors it becomes easier to obtain behavioral goals via the replacement behavior.
  - It becomes much more effortful to obtain behavioral goals via the problem.

The **Functional Assessment** and the **Behavior Intervention Plan**



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The Practice of Behavioral Intervention

Using Functional Assessment Data

- Making use of the handout titled "ABC's of Behavior Analysis" identify the Behaviors, Consequences, and Antecedents reported.
- From these observations what behavior interventions would you recommend?

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Ethical and Legal Issues in Behavioral Intervention

Ethical Issues in Behavior Intervention[1]

- Interventions should be constructive and proactive rather than suppressive and reactive.
- The primary positive gain should be for the student with the serious behavior problem.
- Interventions should provide both immediate and long-term benefits for the student.
- As a result of implementing the behavioral intervention plan, the student should have the potential for increased independence and access to more activities of interest.
- Emergency procedures should protect the safety and personal dignity of all parties.

[1]From *Positive Interventions for Serious Behavior Problems* by D. Browning Wright and H. B. Gurman. Sacramento, CA: California Department of Education, 1998

Ethical Issues in Behavior Intervention[1]

- Behavioral goals that are developed as a result of the functional assessment should be reasonable and attainable for the student, and the IEP team should be able to implement them within the context of meaningful instructional activities.
- Any changes required to provide a meaningful, accessible, and appropriate curriculum and environment should be made before an attempt is made to directly modify the student's behavior.
- Emergency procedures should be applied only when safety requires them, and they must not be used as either consequence of punishment or in lieu of a systematic positive behavioral intervention plan.

[1]From *Positive Interventions for Serious Behavior Problems* by D. Browning Wright and H. B. Gurman. Sacramento, CA: California Department of Education, 1998

Functional Assessment Under Federal Law Functional Behavior Assessment (F.B.A.)

(34 CFR 300.346(a)(2)(i) & 300.520) I.D.E.A. 1999

- Addresses
  - Special education students who display any behavior that impedes learning.
  - Appropriate for any student who . . .
    - ✓ Is suspended for 10 consecutive days.
    - ✓ Experiences change of placement, i.e., 10 cumulative days of suspension.
    - ✓ Is placed in IAES for bringing a weapon to school.
    - ✓ Exhibits problem behaviors that impede his or her learning or the learning of others.

Functional Assessment Under Federal Law Functional Behavior Assessment (F.B.A.)

(34 CFR 300.346(a)(2)(i) & 300.520) I.D.E.A. 1999

- Prescriptions
  - Assessment procedures **not** prescribed.
    - ✓ Data Sources: Determined by the IEP team based on student needs. **May** include record review, interview, and observation.
    - ✓ Behavioral Observation: Behaviors **may** be observed only once or infrequently.
    - ✓ Assessment Roles: **No** prescribed roles.
- Goals
  - Identify underlying causes of behavior.
  - Develop positive alternative behaviors.
  - Identify environmental modifications and behavioral supports needed.

Questions?