Functional Behavior Assessment

Matt Riley M.A. BCBA
Training and Consulting
Chester County Intermediate Unit

Agenda

- Chapter 14 and functional behavior assessment
- When and why is an FBA needed?
- What is an FBA?
- ABA background information and basics
- Overview of how to conduct an FBA
- How to know when you are done?
- Making the process work for you

Legal Obligations

 As a result of new language in Chapter 14 and 711 regulations, school teams are required to develop a Positive Behavior Support Plan (PBSP) based on a functional assessment of behavior.

- If you check yes:
 - The IEP team must develop a <u>Positive Behavior Support Plan</u> that is <u>based on a functional assessment of behavior</u> and that <u>utilizes positive behavior techniques</u>. Results of the functional assessment of behavior may be <u>listed in the Present Levels section of the IEP</u> with a clear measurable plan to address the behavior in the Goals and Specially Designed Instruction sections of the IEP or in the Positive Behavior Support Plan if this is a separate document that is attached to the IEP.

When must a Functional Behavioral Assessment

(FBA) be conducted?

An FBA must be conducted:

- Whenever the Individualized Education Program (IEP) team (1) determines that a student's behavior is interfering with his/her learning or the learning of others, and (2) requires additional information to provide appropriate educational programming.
- When a behavior violates a "code of student conduct" that results in a change of
 placement and is determined by the IEP team to be a manifestation of the student's
 disability.
- When the school refers the student to law enforcement.
- When a student is removed from his/her current placement as a result of weapon possession, and/or illegal drug possession/use, and/or serious bodily injury.
- When the student is removed from his/her placement for more than 10 consecutive or 15 cumulative school days and the behavior is determined not to be related to his/her disability.

When is a Behavior Impeding Learning

- All students have behaviors that my impede learning
 - Poor Study habits
 - Lack of attention
 - Persistence issues
- Questions to consider:
 - Are informal strategies in place and not effective
 - Do academic or social skill deficits contribute to challenging behaviors
 - Is the student losing instructional time?

First Steps

- Evidence Based Strategies:
 - Scheduling
 - Clear and Consistent (not just posted)
 - Present schedule in a format which works for the student
 - Intersperse preferred with non-preferred activities
 - If it is broken, fix it
 - Classroom Rules
 - Posted within classroom
 - Taught to students
 - Plan in place to reward compliance with rules

First Steps

- Evidence Based Strategies:
 - Physical arrangement of classroom
 - Eliminate clutter (and potential projectiles!)
 - Spread students out and maximize grouping by need
 - Sensory (lighting, temperature, noise level)
 - Instruction
 - Fast pace
 - High rates of active engagement
 - Organized materials and structured lesson

First Steps

- Evidence Based Strategies:
 - Praise
 - Frequency
 - Behavior specific
 - Make sure the kids are rewarded by it
 - Reward System
 - Token system
 - Point system

What to do when the basics do not work

- Define target behaviors
- Examine and document what has been tried
- Talk to Staff and Care givers to identify potential environmental explanations
- Determine if an FBA is needed and what level FBA should be conducted

What is an FBA?

- In the most simple terms, an FBA is a process of gathering and evaluating information to determine why an individual is engaging in a targeted behavior.
- An FBA must result in a solid hypothesis as to the function a behavior serves for an individual.
- This hypothesis guides <u>all</u> interventions to be selected to address this behavior

FBA in context

- An FBA is one level on a continuum of methods to assess and analyze behavioral function
- There are three main methods to assess behavioral function
 - Functional Analysis (Experimental)
 - Descriptive Assessment (FBA)
 - Indirect Assessment (Interviews, checklists, behavior rating scales)

What is Descriptive Assessment

- Includes direct observation of behavior in the natural setting without experimental manipulation of variables
- Functional Behavior Assessment is the focus of this training and is the method school staff should be using to evaluate behavioral function

The Five Primary Outcomes of an FBA

- 1. A clear description of the behavior targeted for change
- 2. Identification of events, times and situations that predict when behavior will and will not occur
- 3. Identification of the consequences that maintain the problem behavior
- 4. Development of one or more summary statements
- Collection of direct observation data to support the summary statements

O'neill, Horner, Albin, Sprague, Storey and Newton, 1997.

Applied Behavior Analysis

- "Applied behavior analysis is a science devoted to the understanding and improvement of human behavior." (Cooper, Heron and Heward, 2007)
- The science focuses on objectively defined behaviors of social significance.
- It is a scientific approach to uncover environmental variables that influence behaviors

Defining Behavior

- Behavior is the activity of living organisms
 - It is observable
 - It is able to be objectively definable
 - Most importantly for us, it is measurable
- Examples:
 - Walking, reading, breathing, yelling, hitting, crying
- Anything an person does to interact with the environment
- · In general, behavior occurs outside of the skin.

What behavior is not

- Feelings, states, traits or any inferred mental condition is not behavior
- Non-Examples of behavior:
 - Angry, depression, anxious, stressed, overwhelmed, "Adhd", dis-regulated or out of control
- These are labels attached to collections of behaviors, they are hard to conceptualize and measure and should never be the focus of an FBA
- How do we know someone is anxious, depressed, stressed or overwhelmed?

Explanatory Fictions and other things we make up to explain our confusion

- Explanatory Fiction "A fictitious variable that often is simply another name for an observed behavior that contributes nothing to an understanding to the of the variables responsible for developing or maintaining the behavior." (Cooper, Heron and Heward, 2007)
- "It must be a full moon tonight"
- "Oh he is nuts today because I wore my orange shirt"
- "Its just a bad day because he was at Dad/Mom's this weekend

Explanatory Fictions

- Circular reasoning
 - Student in the corner of the room reciting Aladdin and flapping his arms has Autism. How do we know he has Autism? Because he is in the corner of the room flapping his arms and reciting Aladdin.

The label adds nothing to our understanding of this behavior.

Components of Behavior

- Two main components of behavior: Form and Function
 - Form
 - Topography is the physical "map" of what a behavior looks like.
 - Function
 - The purpose a behavior (or collection of behaviors) serves for an individual

Form

- Operationally defining behavior
 - "A good definition of a target behavior provides an accurate, complete and concise description of the behavior to be changed (and therefore measured)." (Cooper, Heron and Heward, 2007)
 - Examples:
 - Banging on Objects: Defined as any occurrence or attempt of the student to use his hand or an object to forcefully contact a surface from a distance greater then 2 inches.
 - Example: striking his desk with an open hand or book
 - Non-example: Tapping an eraser on his desk from a distance less then one inch

Complex Form Examples

- Examples (con't):
 - <u>Verbal Threats-</u> Defined as anytime the student makes a hostile verbalization directed at any student or staff member. Hostile verbalizations are to include threats of physical harm.
 - Examples: "I am going to kill this person" or "I will get you"
 - Non-examples: "You are a loser" or "I don't like you"
 - <u>Inappropriate Verbalizations</u>: Defined as anytime the student makes a verbalization towards staff or students without an appropriate request for attention that denies compliance with task demands or off task comments or repeated verbalizations to students.
 - Examples: "I am not doing it", "Leave me alone"
 - Non-example: Requesting to do the activity in another way, requesting additional materials.

Reinforcement

- An environmental change following a response that increases or maintains future frequency of that response
 - Behaviors followed by preferred outcomes (for the individual) are more likely to be repeated.
 - Reinforcement can be planned or accidental
 - Reinforcement can be presented (positive) or the result of the removal (negative) of a stimulus

Types of reinforcers

- Primary Reinforcers
 - Effective without prior learning
 - Often biologically-based stimuli, but not always
 - Examples: food, water, sleep, sensory stimulation
- Secondary Reinforcers
 - A neutral consequence that becomes a reinforcer through association (*pairing*) with a previously established reinforcer
 - Examples: praise, money, people

Positive Reinforcement

- Presentation of a stimulus, following a response, that increases the future likelihood of a response
 - Tangible
 - Social
 - Activity
 - Automatic

Negative Reinforcement (S^{R-})

- The removal or attenuation of a stimulus, following a response, that increases the future likelihood of a response
 - Must be a preceding, aversive condition whose removal would be reinforcing

Factors Influencing Reinforcement

- Quantity
- Quality/Variety
- Duration
- Timing

Differential Reinforcement

- Presenting reinforcement for some responses and withholding reinforcement for others dependent on the conditions under which the responses occur
 - To address problem behavior
 - To teach new skills

Function of Behavior According to PDE

- Gain access to:
 - Social Attention
 - Tangible items or activities
 - Avoid, postpone or escape
 - Task demands or activities
 - Social attention
 - Automatic Reinforcement
 - The behavior is reinforced without the involvement of others

- Gaining access to social attention
 - The behavior occurs in order to get a person in the environment to attend to the individual
 - Typically, attention is absent before the occurrence of the behavior
 - The consequence is typically attention in some form (Glances, verbal attention directed to the student, verbal attention about the student)
- Examples:
 - Verbalizations, unintelligible noises, large abnormal gross motor movements or any action performed in view of individuals that is likely to be commented on.

- Gaining access to tangible items or activities
 - This behavior occurs to get a desired item or activity
 - Typically, access to a preferred item or activity is denied or an activity terminates
 - The consequence is usually gaining an item or activity or maintaining access to an item or activity
- Examples include: Taking an item, refusing to transition, eloping, hiding or hoarding and engaging in behaviors that delay activity termination

- Avoiding, postponing or escaping task demands or activity
 - This occurs to stop, delay or postpone an activity
 - This will occur when a child is required to perform an action or activity
 - The consequence is that the activity is interrupted or terminated
- This can include cursing to get thrown out of class, ripping up work, physically resisting activity, putting head down on desk and many others

- Avoiding, postponing or escaping social attention
 - This type of behavior terminates social contact of some kind
 - Typically, a person is receiving direct attention of some kind
 - In general, this behavior leads to a person being left alone
- Examples include Saying leave me alone, running away, physical aggression, hiding or eloping

- Behavior that is maintained by automatic reinforcement
 - This type of behavior does not require anyone in the environment to be reinforcing
 - Typically occurs at very high rates across environments or in the absence of other stimulation
 - The consequences in not always observable
- Examples include picking the skin, rocking, waving arms in the arm, manipulating eye ball

Why is Function of Behavior so Important?

- George, an only child, often cries and bangs his head in the evenings when his mother is making dinner.
- Val, in the check out line at the grocery store, will cry and bang her head if her mother won't buy her a candy bar.
- Michael will cry and bang his head during math class when given worksheets that contain long division problems.

How to Conduct an FBA

- The sole purpose of an FBA is to develop a hypothesis statement
- There are many methods to determine function
- PDE outlines three levels of FBA based on the complexity of the functional relation
- The Level of FBA should be determined by the level of difficulty determining function not based on the behavior.

Levels of of FBA

Complex

Behaviors impede learning or that of others is checked and behavior is more complex and may require the use of physical restraint

Indirect/Simple

Behaviors impede learning or that of others is checked and universal strategies are not effective enough

Informal

Behavior strategies present as part of best practice across all classrooms and sufficient for addressing behavior

Informal FBA

- Conducted by Teacher
- Archival Review
 - Review IEP, RR, Records and Teacher collected data
- Problem Solving Meeting
 - Informal team meeting

Indirect/Simple FBA

- Teacher or Specialist conducted and includes
 - Rating Checklists (FAST, MAS or QABF-MI)
 - Functional Assessment Interview (F-BSP)
 - Brief Observation/Scatter Plot
 - Teacher collected ABC data

*As a last step, collect baseline measures for comparison

Complex FBA

- Conducted by Trained Behavioral Professional
 - Includes components of both Informal and Simple FBA's in addition to other data
 - ABC Data gathered, reviewed and graphed
 - Structured Direct observations
- May include very informal experimental manipulation as a last step
- Results in an Functional Behavior
 Assessment and possibly a Behavior
 Improvement Plan

Outcomes of an FBA

- Define the Target behavior
- Identify Setting Events
- Identify consistent antecedents
- Identify consequences
- Develop a hypothesis that will serve as the basis of the PBSP
- Hypothesis statement
 - When Matt is presented with a task demand he will scream, kick and fall to the ground in order to escape the task demand.

- What do you do?
 - Develop an operational definition of the target behavior.
 - Collect interview information
 - Record observation data
 - Organize and summarize observation data and other information.

- Operational definition of behavior
 - A precise description of observed actions
 - Expressed as a measurable unit
 - Includes classes or sequences of responses that occur together
 - All people observing the child can reliably agree when the behavior occurs
 - Excludes inferred mental/emotional states

- Collecting interview information
 - Sources should include the student, instructional staff, and parents
 - Structured interviews and rating scales/checklists may be helpful
 - A review of the student's records (previous behavior plans, evaluation reports, I.E.P.) may provide additional information

- Collecting interview information
 - Structured interviews
 - Student-Directed Functional Assessment Interview
 - Functional Assessment Interview
 - Functional Assessment Checklist for Teachers and Staff
 - Rating Scales/Checklists
 - Setting Event Checklist
 - Motivation Assessment Scale
 - Child Behavior Checklist

- Basic interview questions
 - What does the behavior look like (operational definition)?
 - How often does the behavior occur?
 - When does it occur? When does it not occur?
 - Where does it occur? Where does it not occur?
 - With whom does it occur? With whom does it not occur?
 - How would you trigger/avoid the occurrence of the behavior?
 - What typically happens in reaction to the behavior?

- Basic interview questions
 - How does the student communicate?
 - What does the student seem to like/dislike?
 - What choices are available to the student throughout daily activities?
 - How often are preferred items/activities made accessible to the student?
 - Are there any health or medical issues that may be affecting the behavior?

Functional Behavior Assessment

- Advantages of interviews/indirect methods
 - Quick method of obtaining information
 - Sources are usually familiar with the student & the behavior
- Disadvantages of interviews/indirect methods
 - Reports are subject to bias
 - Information is not always accurate
 - No actual observation of the student/behavior involved
- Behavior plans should not be based on interview/ indirect methods of assessment alone!

Functional Behavior Assessment

- Direct observation
 - Involves systematic observation of the student's behavior across typical settings.
 - Data are collected on specific variables regarding the behavior.
 - Recording a variety of instances of the behavior allows for analysis of potential patterns.
 - Data and analysis are used to understand the function(s) of the behavior and to design effective intervention plans.

- Direct Observation
 - Structured Anecdotal Reports (logs, incident reports, etc.)
 - A-B-C Charts
 - Event Recording (Tally or Count)
 - Duration Recording
 - Latency Recording
 - Interval Recording

The Three Term Contingency (A-B-C)

- Antecedent: a stimulus that immediately precedes the occurrence of a behavior
- Behavior: the action or series of actions made by an individual
- Consequence: a stimulus which occurs immediately following a behavior

- Descriptive assessment (A-B-C data)
 - Antecedent: The event immediately before the behavior occurred
 - Any specific event that immediately preceded the behavior
 - Presentation of demands or engaged in a task
 - Item removed or activity stopped
 - Student was alone/no one giving attention
 - The environment
 - Noisy/quiet, crowded/spacious, warm/cold

- Descriptive assessment (A-B-C data)
 - Behavior: The operational definition
 - Data collection should be clear as to the start/end of the behavior
 - When does a response or an episode end and another begin?
 - Other important characteristics of the behavior may include duration, intensity

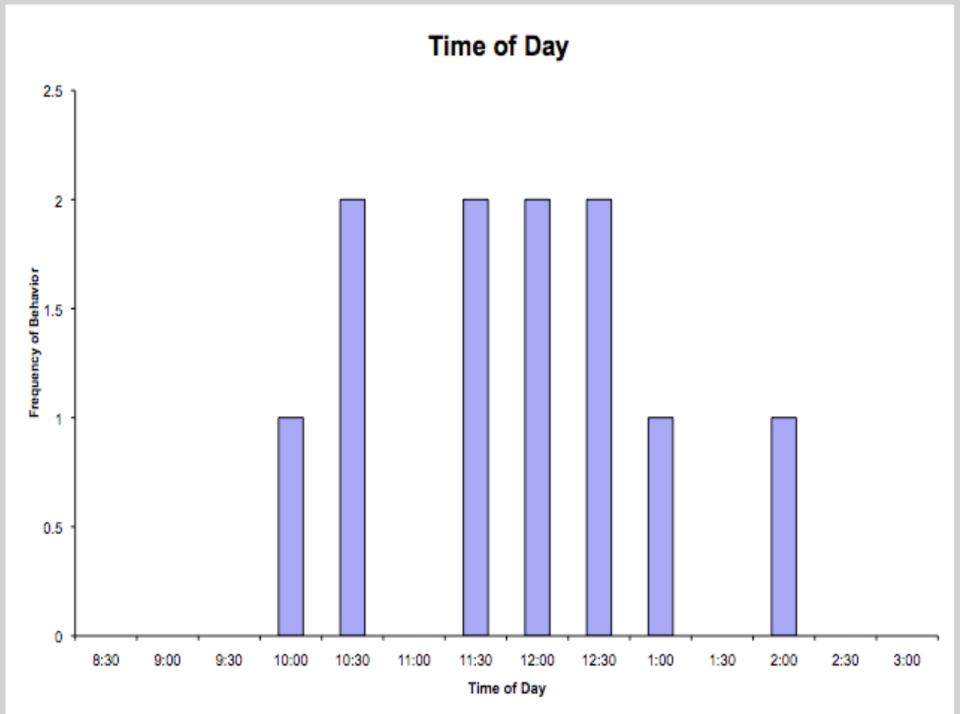
- Descriptive assessment (A-B-C data)
 - Consequence: The event that occurred immediately following the behavior
 - Reaction of others to the behavior
 - What is the student observed to gain?
 - Brief break from work
 - Attention (reaction) from others
 - Access to preferred items/activities
 - Ignored

Functional Behavior Assessment- ABC Data Sheet

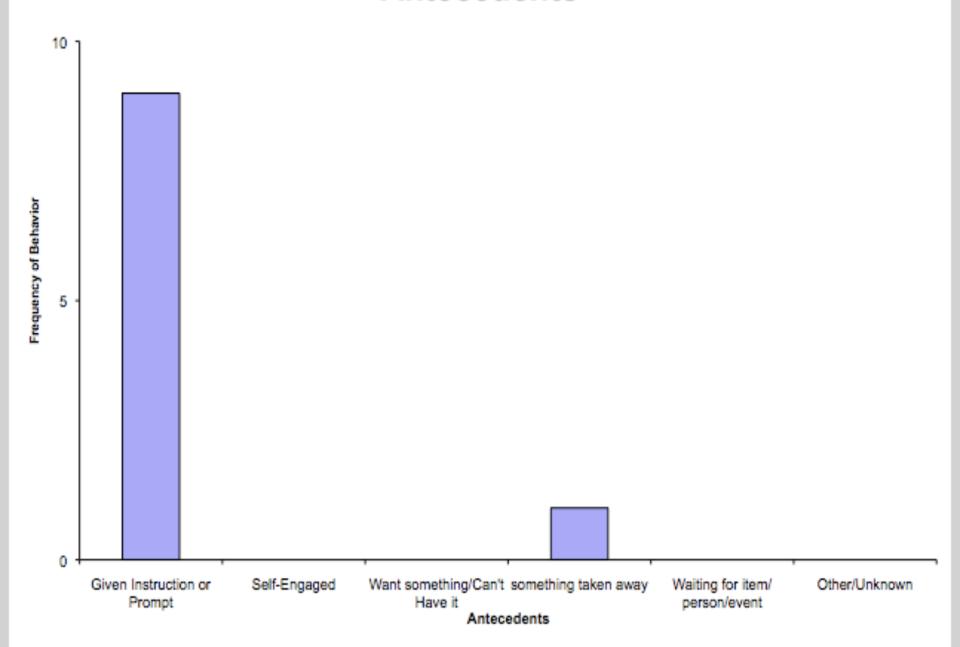
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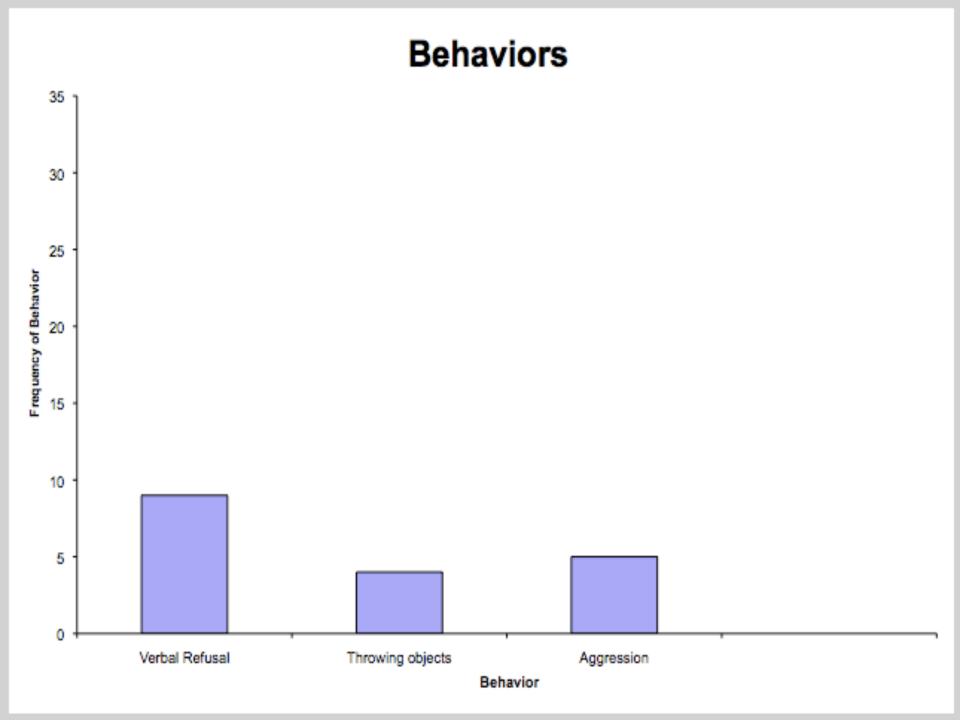
Student: QL									
	Setting Events	Antecedent Events	Behavior(s)	Consequence Events	Behavior Change				
	(background info)	(what happened immediately before?)	(what did you see?)	(what did you do?)					
Date:	Location Activity type:	Given instruction or prompt	Verbal Threats Withdraw	Say something to student (repeat direction, reprimand, etc.)	□ Behavior Continued				
Time Start:	Gross motor activity Table activity	2. Student engaged with task/activity 3. Want something and can't have it	3. Disrespect Other:	Negotiate a compromise (Change activity or performance expectations)	Behavior Increased in frequency or				
	Teacher-directed	4. Something taken away	Other.	Offer encouragement or reward for compliance	intensity Behavior Stopped and student				
End:	Student-initiated Snack/Lunch	5. Waiting for item/person/event		4. Physically prompt/assist student5. Remove student from the situation or	complied with original directive				
Staff:	Transition Other	6. Other/unknown:		setting to speak with disciplinarian, principal, teacher or counselor	☐ Behavior Stopped and student did not				
				6. Remove student to isolated environment7. Stop the activity/task	comply with original directive				
				Give student an item or activity that he wants	☐ Student engaged in new behavior				
				Ignore behavior but continue activity as if nothing happened	Student exited Room voluntarily				
				10. Stop attending to the child11. Other:	Student was directed to leave by staff				
					□ Other:				

Brief narrative of inc	ident (if neede	ed):		
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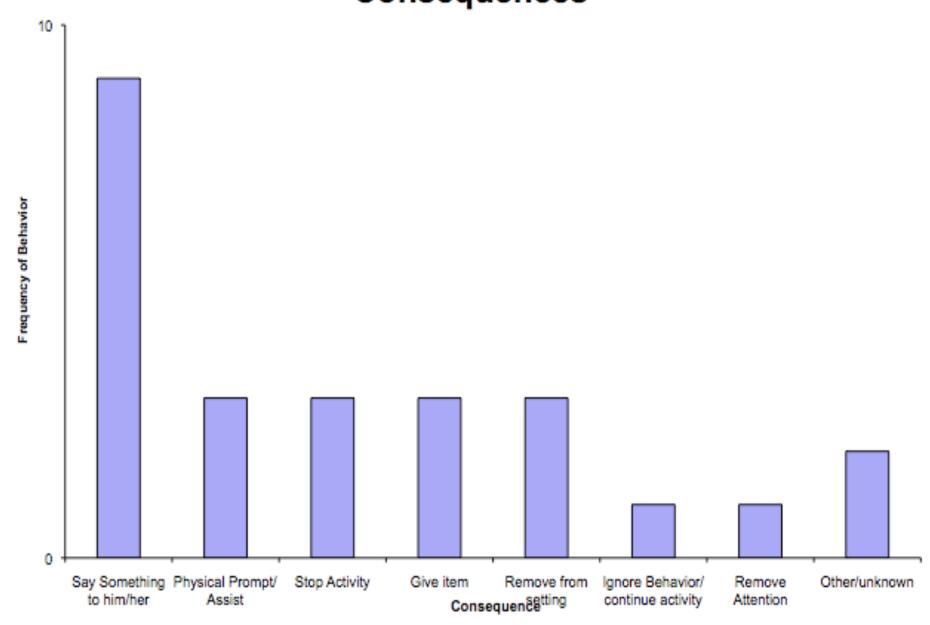


Antecedents





Consequences



FBA Leads to the Development of a Positive Behavior Support Plan

- An effective behavioral intervention plan:
 - Is assessment-based and hypotheses-driven
 - Is comprehensive, including multiple intervention components
 - Antecedent (preventive) strategies
 - Teaching strategies (replacement behavior)
 - Consequence strategies (+ and -)

Positive Behavioral Support Plan

- The goal of the PBSP is to make the problem behavior:
 - irrelevant
 - ineffective
 - inefficient
- We need to change the environment, teach new, adaptive behaviors and reinforce the new behavior, while reducing the problem behavior

- What do you do?
 - Directly link assessment to intervention.
 - Intervention strategies are based on the principles of Applied Behavior Analysis.
 - Plan multiple components.
 - Manipulate the antecedent events to reduce the likelihood that the target behaviors will occur.
 - Remove the reinforcer for the target behaviors.
 - Increase the reinforcement rate and value for a functionally equivalent behavior.

- Antecedent modifications
 - Purpose: To reduce the likelihood that the target behaviors will occur.
 - Environmental adaptations
 - Reduce distractions
 - Change seating arrangements
 - Provide visual or auditory cues for transitions
 - Set up clearly marked areas for particular activities

- Antecedent modifications
 - Instructional modifications
 - Intersperse easy tasks with novel or difficult tasks.
 - Offer choices of tasks and reinforcers.
 - Change performance expectations and reinforce response efforts
 - Use picture cues or visual examples to help understand directions or expectations

- Antecedent modifications
 - Curricular modifications
 - Use high-interest materials
 - Allow alternate response modalities
 - (e.g., typing on a computer instead of printing)
 - Change the purpose of an activity to enable a student's success

- Antecedent modifications
 - Noncontingent reinforcement
 - Reinforcement is delivered after a specified interval, regardless of whether a target behavior occurred
 - The reinforcer maintaining the target behavior should be used for NCR
 - Access to the reinforcer is no longer contingent upon the target behavior
 - Some satiation may occur, decreasing the MO for the target behavior

- Alternative behaviors
 - Purpose: To replace the problem behaviors with efficient socially acceptable, functionally-equivalent behaviors.
 - Communication Skills
 - Self management Skills
 - Play & Leisure Skills
 - Social Skills

Alternative behaviors

- Develop a plan to teach an individual how and when to perform an alternative skill.
- Instruction should take place proactively
- Reinforcement for alternative skills must be more powerful than the problem behaviors.

- Consequence procedures
 - Purpose #1
 - To remove or diminish reinforcement for problem behaviors.
 - Purpose #2
 - To reinforce or strengthen alternative skills.
 - Purpose #3
 - To remove or minimize the risk of serious injury to the individual or others (crisis management).

- Increasing appropriate behavior
 - Positive/negative reinforcement
- Reducing inappropriate behavior with non-punishment procedures
 - Differential reinforcement (DRA, DRI, DRL, DRO)
 - Extinction
- Reducing inappropriate behavior with punishment procedures
 - Overcorrection
 - Time out
 - Response cost

Consequence Strategies

- How do we reduce the inappropriate behavior?
 - Reward the learner for engaging in a replacement behavior (dri or dra)
 - Reward the learner for periods when they do not engage in the target behavior (dro)
 - Reward the learner for engaging in the target behavior less
 - We will not reward the behavior, but instead reward them for doing it less

Consequence Procedures

- Reinforcing an alternative or incompatible behavior
 - Clearly define what the child is to do in order to access the consequence of the target behavior
 - Choose an behavior that is easy for the child to do
 - Set the child up for success with prompting

Consequence Strategies

 When the learner engages in the replacement behavior...

REINFORCE!

- This should happen the first time and every time until the learner has mastered the skill
- Remember it is OK to reinforce the replacement to avoid the maladaptive behavior

- Reinforce when the behavior does not occur. (dro)
 - Select a time period that the child is not likely to engage in the target behavior
 - If the interval passes without any occurrence of the target
 - Reward the child for not engaging in the target

- Reinforce lower rates of target behavior
 - Habits are hard to break and learners are not going to stop using a target behavior right away
 - Define an acceptable number of times for the individual to engage in the behavior
 - Reward the student for reducing the frequency, intensity or duration of target behaviors

- Extinction
 - Extinction is not ignoring a person, telling someone you are ignoring them or withholding everything someone likes!
 - Extinction is withholding reinforcement when a target behavior occurs
 - Must withhold the reinforcer that is maintaining the behavior

- Punishment is not a bad word, but it should only be tried when reinforcement procedures have failed.
 - Punishment is anything that occurs in response to a behavior that reduces the future frequency of that behavior
 - Types of Punishment
 - Overcorrection
 - Time Out
 - Response Cost

- OverCorrection Requiring a student to engage in a repetitive behavior when they engage in a target behavior
 - Restitution- The student is required to restore the environment and make it better. For example, cleaning up books they through and also having to alphabetize them.
 - Positive Practice Requiring the student to repeatedly practice a replacement behavior when they engage in a target behavior

- Time out Involves separating a learner from rewarding activities, items or people when they engage in the target behavior
 - For example, if the student likes recess, but hits someone during it, they can be removed from recess for five minutes
 - Make sure the child is not being removed from an activity they do not like. If so the child will actually be rewarded by the time out

Consequence Procedures

- Response cost A penalty is assessed for engaging in the target response
 - Staff will inform learners that they have only so many "warnings" before a punishment will be imposed
 - For example, 3 strikes and you are out
 - Staff will remove a token or provide a warning to a student each time they engage in the target behavior.
 After a pre-set number of warnings, the student will lose a privilege.

Evaluate the efficacy of the intervention strategies.

- Why do it?
 - Confirms hypothesis.
 - Demonstrates treatment efficacy.
 - Determines "next steps" for long-term prevention.
- What do you do?
 - Measure the occurrence of problem behaviors over time.
 - Track acquisition of alternative skills.
 - Obtain feedback from the individual/significant others regarding the individual's progress.

Evaluate the efficacy of the intervention strategies.

- Determine method and frequency of data collection (should match baseline data).
- Establish a schedule for reviewing data on a regular basis (e.g., weekly).
- Set benchmarks for evaluating progress.
 - Example: 50% reduction from baseline within one month
- Use data to make decisions for modifying or terminating the plan.
 - Example: 85% reduction from baseline maintained over 3 months

Modify the plan as needed.

- Decisions for changes should be data-driven.
- Possible reasons why a plan isn't working:
 - Summary statement is incorrect or incomplete.
 - Functions of the problem behaviors have changed over time.
 - Alternative skills are not as efficient, or do not produce as powerful reinforcers, as the problem behaviors.
 - Few opportunities provided to learn alternative skills.

Conclusion

- Outcomes of a behavior support plan
 - Reduction of problem behaviors.
 - Acquisition of socially acceptable behaviors.
 - Increased opportunities to participate in less restrictive environments.
 - Improved quality of life for the individual.

Questions

