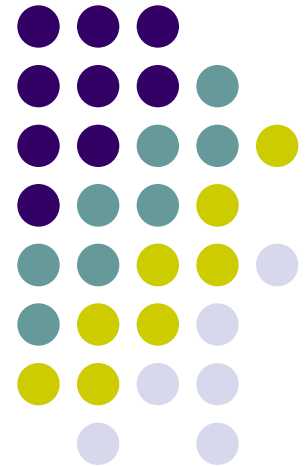


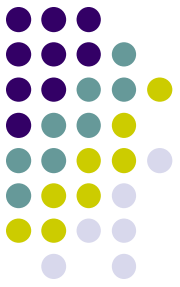
An Introduction to Applied Behavior Analysis

Callie Plattner, LPA, BCBA

Carolina Center for ABA and Autism Treatment



What is Behavior Analysis?

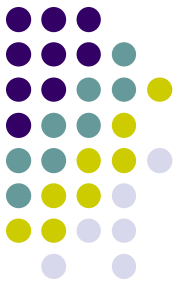


Behavior analysis = the scientific study of behavior

Behavior analysts ask "Why does behavior change over time?"

We seek answers by looking at the biological and environmental factors, although we are primarily interested in the role of environment on behavior.

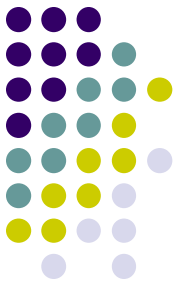
Introduction to ABA



Which of the following statements are true?

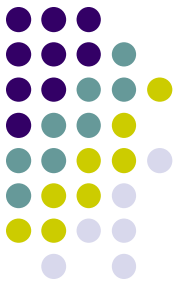
1. A child makes the choice to behave in a particular way (good or bad) within any given situation he/she encounters throughout the day.
2. A parent and/or teacher creates a home/classroom environment that selects the behaviors being displayed by a child (good or bad) within any given situation.

History of Behavior Analysis



- In 1913, John Watson
- Skinner – The Behavior of Organisms, 1938
- Skinner – Verbal Behavior, 1957
- In the 60s, Ivar Lovaas
- In 1968, Baer, Wolf and Risley
- In 1974, ABA International
- In 1998, BACB

7 Dimensions of ABA



A – Applied

B – Behavioral

A – Analytic

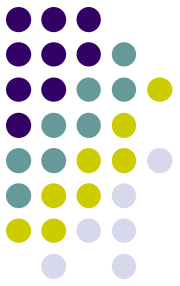
T – Technological

E – Effective

C – Conceptually Systematic

G - General

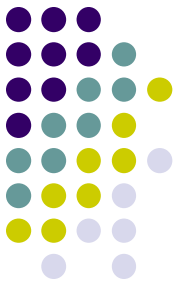
Overview



Characteristics of ABA:

1. Emphasis on function of the behavior
2. Emphasis on observable and measurable behavior
3. Requires data collection and repeated analysis
4. Change environment to change behavior
5. Everyone is accountable for progress

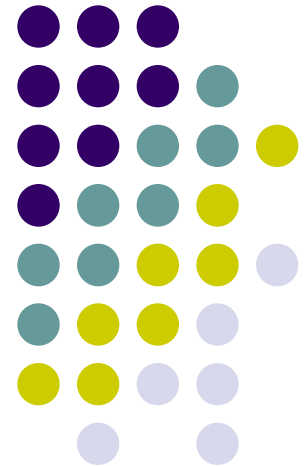
What is ABA not?

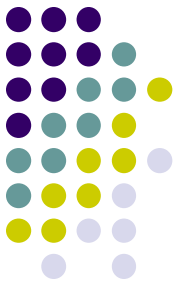


- *Not exclusive to the treatment of Autism/Intellectual Disabilities
 - *Not invalidated due to the focus on one child at a time
 - *Not one standard set of procedures
 - *Not only for maladaptive behaviors
 - *Not only useful in clinic settings
 - *Not based on aversives
 - *Not a new fad
 - *Not easy

Maladaptive Behaviors

Introduction to Functional Behavior
Assessments and Behavior Plans





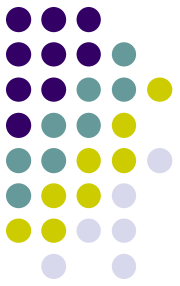
What is behavior?

Anything a person does that can be observed and measured.

Behavior is anything an organism does, including those things we can see people doing and things we cannot see people doing (thinking and feeling).

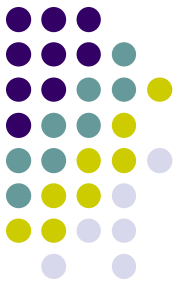
Dead man's test

A-B-C's of behavior

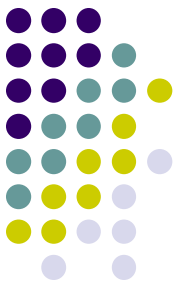


- **ANTECEDENT** = comes before a behavior (i.e. a trigger)
A friend walks by
- **BEHAVIOR** = anything a person does
You smile at your friend
- **CONSEQUENCE** = occurs after the behavior (i.e. a payoff)
Your friend smiles back

What is a Consequence?



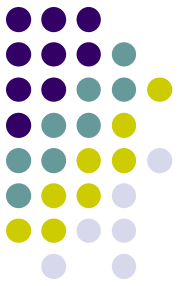
- A consequence is what happens right after a behavior
- Consequences can be both good and bad
- Consequences can both increase and decrease behavior
- Immediate vs. Delayed Consequences
- How do you know it is a consequence?



Consequences cont.

- When we talk about increasing behavior, we're talking about the procedure called REINFORCEMENT
- When we talk about decreasing behavior, we're talking about the procedure called PUNISHMENT
- Reinforcement: Increase
- Punishment: Decrease

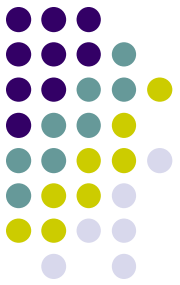
Consequences cont.



Consequences that *increase* behavior are referred to as reinforcement

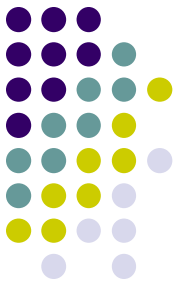
A consequence that *increases* behavior through the acquisition of an item/event is referred to as Positive Reinforcement

Consequences cont.



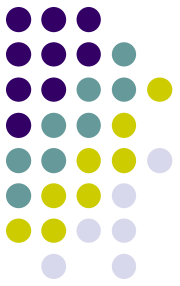
A consequence that *increases* behavior through the *removal* of an item/event is referred to as Negative Reinforcement

Review of Consequences:



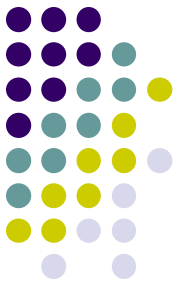
- Positive vs. Negative Reinforcement
 - Both INCREASE behavior!
- Positive Reinforcement
 - Giving something a person finds desirable after the behavior occurs
- *Negative Reinforcement*
 - Removing something that the individual finds aversive.

Why are the ABC's important?

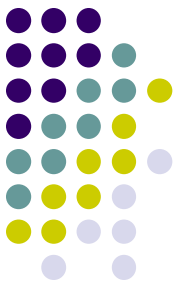


- All behavior has a function
- Identifying the function tells us
 - the conditions in which the behavior may occur
 - a possibly effective treatment method / how to respond to the behavior

What are the Functions of Behavior?



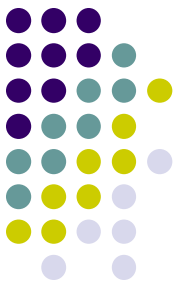
- Escape/Avoidance – escaping or avoiding a demand situation
 - Often occur during work type situations
- Attention – a behavior to gain the attention of others
 - This can be positive or negative attention
- Access – a behavior to gain access to an object or situation
 - Food, toys, warmth
- Automatic – a behavior that “feels” good
 - Self-Stimulatory or Stereotypy.



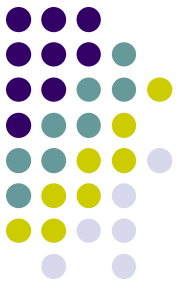
FBA vs. BIP

- Functional Behavior Assessment (FBA) is a process which involves the gathering of information which leads to the development of a Behavior Intervention Plan (BIP)
- A Behavior Intervention Plan is the product that is derived from the information gathered during the FBA process
- They are two separate entities

FBA is...



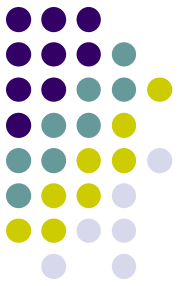
- an approach used to help a student with a chronic behavior problem
- an approach that takes time and collaboration among professionals and parents
- built on the assumption that, the students behavior is maintained by some environmental variable
- a process of looking for patterns in what happens around and/or to the student just before and just after the problem behavior
- examination of these patterns to identify their purpose or their "function"
- creative problem solving to enable the pupil to achieve the same purpose in a more appropriate or more acceptable way



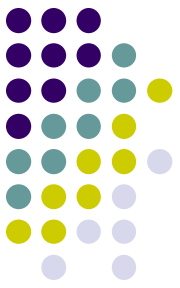
FBA is *NOT*...

- The first technique a teacher uses when a student misbehaves.
- Does not identify “inner” causes.
- A quick fix.
- A choice for only students with disabilities.

FBA Steps

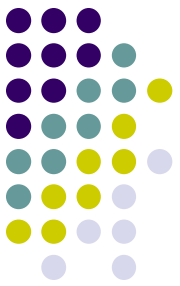


1. Define the problem
2. Devise a plan to collect data
3. Compare and analyze data
4. Formulate the hypothesis
5. Develop and implement a behavior intervention plan
6. Monitor the plan and make changes according



1. Identify Challenging Behavior in Concrete & Observable Terms

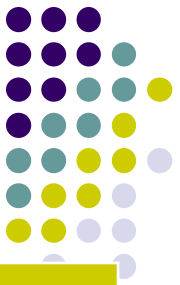
General Descriptions	Concrete & Observable Descriptions
Student is aggressive	During lunch, when student is told “no”, he hits other children.
Student is disruptive	Student continuously call out and makes inappropriate comments during math seat work.
Student is hyperactive	Student continuously moves around on seat, plays with items on desk, and gets out of his seat w/o permission during reading activities.



2. Scatterplot

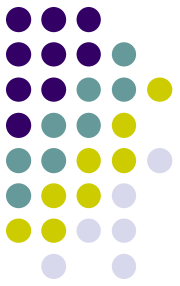
Date \ Time	1	2	3	4	5	6	7	8	9	10
0600-0630		✓				✓	✓			
0630-0700		✓	✓		✓	✓			✓	✓
0700-0730					✓					
0730-0800					✓					
0800-0830	✓	✓				✓	✓		✓	
0830-0900					✓					
0900-0930					✓					
0930-1000				✓						
1000-1030					✓					
1030-1100					✓		✓			

2. Frequency Data



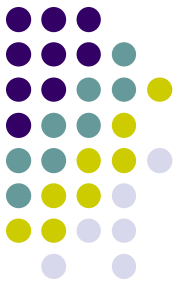
Time:	Monday	Tuesday	Wednesday	Thursday	Friday
Reading 9:00-10:00					
Writing 10:00-11:00					
Lunch 11:30 – 12:45					
Recess 12:45 – 1:00					
Math 1:00 – 1:30					
Specials 1:00 – 1:30					
Science 2:50 – 3:30					

3. Compare and Analyze Data



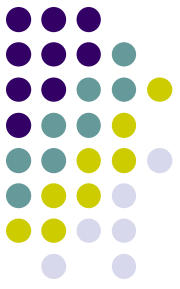
- Sufficient amount of data
- Setting events
- Antecedents
- Target behavior
- Consequences
- Data should be organized in a way that shows a relationship between behavior and related events or environmental factors.

4. Formulate the Hypothesis



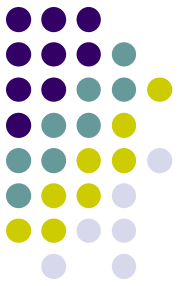
- A hypothesis includes predictions about under what circumstances a behavior is most likely and least likely to occur
- Based on some pattern of behavior that has been shown through the systematic collection of data
- From the hypothesis statement, the team will design a behavioral intervention

5. Develop and implement a behavior intervention plan



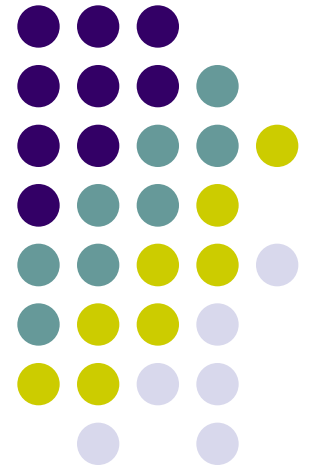
- Modifying the physical environment
- Adjusting the teaching strategy
- Changing the antecedents or consequences for the student's behavior
- Teaching a more acceptable replacement behavior that serves the same function as the problem behavior.

6. Monitor the Plan for Progress

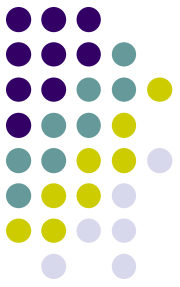


- Data should be reviewed frequently
 - Depends on the severity of behavior
 - Depends on baseline frequency of behavior
- Look at differences across settings
- Is the plan working?
- How can you eventually fade out the intervention?

Verbal Behavior



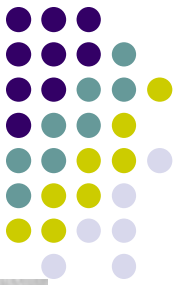
Verbal Behavior



- **Verbal Behavior** (VB) is a class of behavior that is “reinforced through the mediation of other persons” (Skinner, 1957, p.2).
- Verbal Behavior is the application of behavior principles to language.
- Verbal Behavior categorizes language responses into different categories based on the ‘function’ of the response
- Verbal Behavior is a subset of the science of Behavior Analysis
- Verbal Behavior is based on B.F. Skinner’s Analysis of Verbal Behavior
- ABA Programs with VB Elements focus on teaching specific components of expressive language (elementary verbal operants – mands, tacts, echoics, intraverbals, etc.).

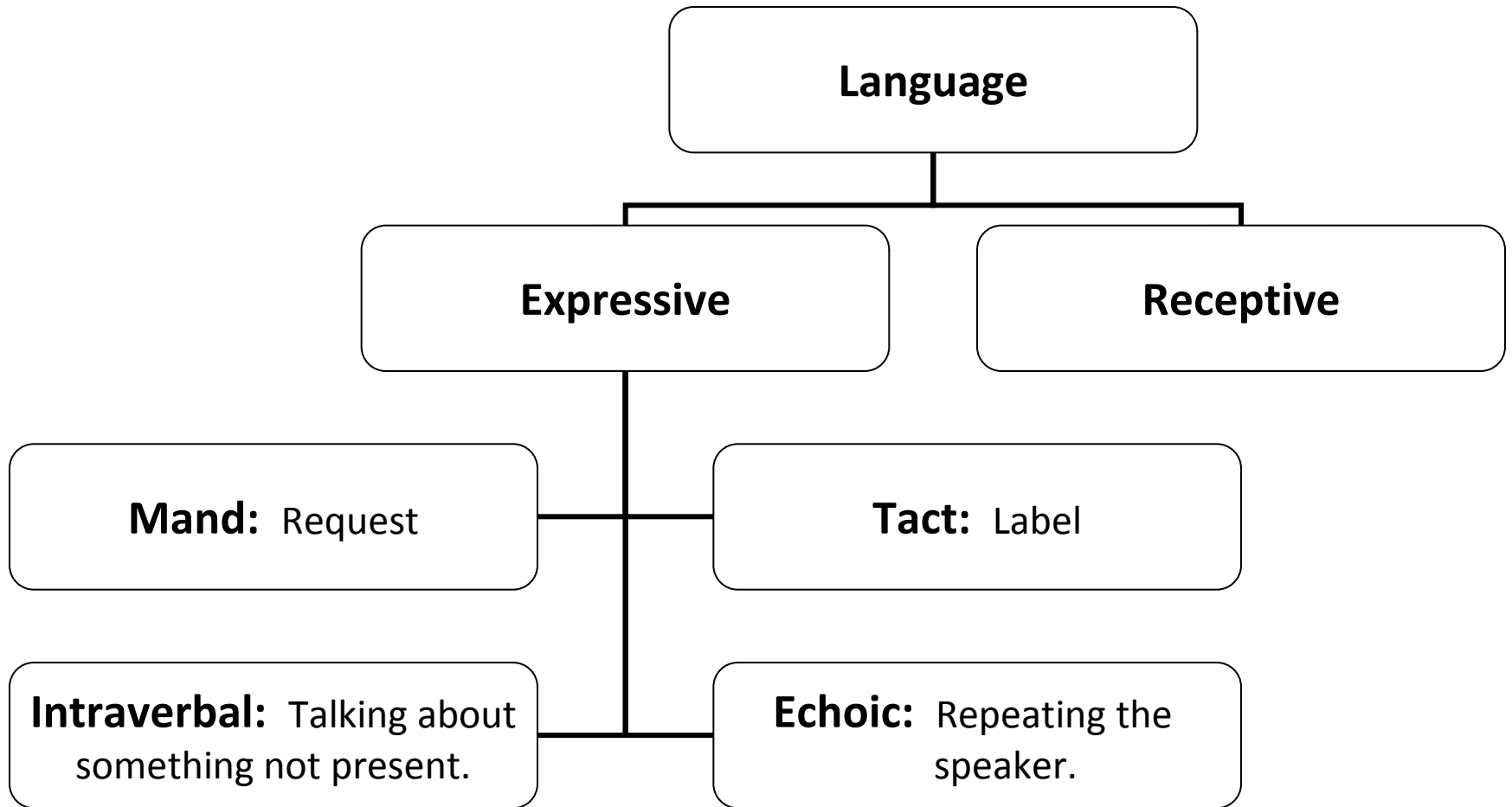
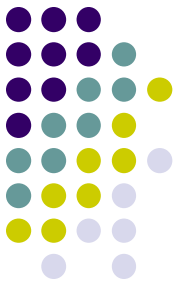
History

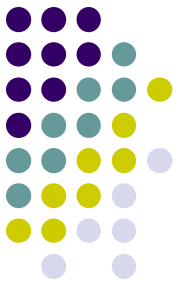
- In 1957, B.F. Skinner wrote *Verbal Behavior*
- *Verbal Behavior* introduced the idea that language can be viewed through a behavioral framework
- This book was NOT written about Autism – future research and interest led to application of the principles to language acquisition.



Operant Cheat Sheet

For the purpose of ABA/VB Program Instruction

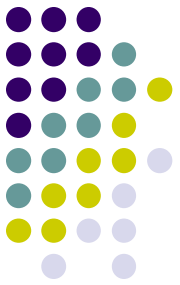




Putting it all Together...

Mand	“I want a cookie!”
Tact	Cookie in the room – “I see a cookie.”
Intraverbal	Cookie not present in room – “I like to eat cookies.”
Echoic	Instructor: “Cookie.” Learner: “Cookie.”
Receptive	Instructor: “Touch the cookie.” Learner: Touches the cookie.

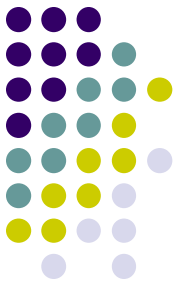
In Summary...



- Verbal Behavior is an extension of the principles of Applied Behavior Analysis
- Skinner's analysis treats language as a type of behavior
- Skinner's analysis accepts the constraints of the methods of natural science – responses are observable and measurable
- Skinner analyzed behaviors in terms of environmental conditions
 - Current states of motivation
 - Currently controlling environmental conditions
 - Past history of reinforcement
- VB may be conditioned by the actions of other individuals.
- Learners may be able to use words as one type of verbal operant but not as others (ex: may echo but not mand)
- Applying the principles of VB to expressive language allows for providers to teach clients to generalize the use of their language across functional conditions.

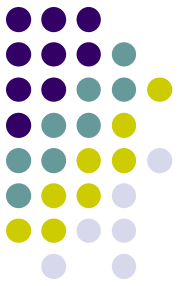
Developing a Program

What happens first...



- selection of interfering behavior or behavioral skill deficit
- identification of goals and objectives
- establishment of a method of measuring target behaviors
- evaluation of the current levels of performance (baseline)
- design and implementation of the interventions that teach new skills and/or reduce interfering behaviors

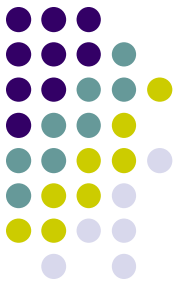
Goal Prioritization Exercise



Sara is a 7-year old child diagnosed with Autism. Mom has reported that she is not toilet trained, engages in self-injurious head hitting, screaming and flopping when asked to complete tasks and when she wants her Mom to give her certain toys. Mom also reports concern that Sara sometimes hits her infant brother. Sara's father reports concern that during free time Sara likes to sit and fast forward and rewind movies repeatedly. Sara's teacher is concerned that she will not sit in her desk to complete puzzles.

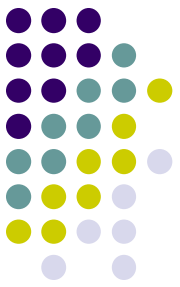
Of the following, which 3 would you address first?

- Flopping
- Toileting
- Screaming
- Hitting
- Head hitting
- Independent play skills
- Functional Communication/Manding
- Tacting
- Social Skills Instruction



Goal Prioritization Exercise

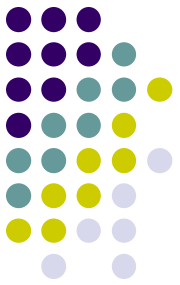
- Functional Communication (manding)
 - Self-Injurious Behavior
 - Hitting
-
- Begin by addressing those behaviors that are most likely to cause harm to self/others
 - Due to Sara's current communicative repertoire, functional communication training will aid in behavior reduction
 - You should always be able to state the benefit to client's well-being after choosing a goal to address



Frequently Asked Questions

- How many hours per week does a child need for ABA to work?
- Will ABA make my child a robot?
- Who can implement ABA goals?
- Are the services covered by insurance?
- How many instructors should be on a program?
- I am a (profession), can I also become a Board Certified Behavior Analyst?
- How often does a child's program need to be directly supervised?
- Are parents present during sessions?

General ABA Resources



- **ABA International**
 - www.abainternational.org
- **Cambridge Center for Behavioral Studies**
 - www.behavior.org
- **Behavior Analyst Certification Board**
 - www.bacb.com
- **Association for Science in Autism Treatment**
 - www.asatonline.org
- **ABA International Autism Special Interest Group**
 - www.autismsig.org
- **ABA International Speech and Language Pathology Special Interest Group**
 - www.behavioralspeech.com
- ***The Verbal Behavior Approach* by Mary Barbera, MSN, BCBA**
 - www.verbalbehaviorapproach.com