Introduction to Applied Behavior Analysis:
A Presentation for Vista Parents

The Vista School
Today’s Goals

- Discuss ABA in relation to effective treatment for ASDs
  - Definition
  - Defining characteristics
- In-depth review of a few important principles
- Highlight ABA as essential to Vista’s mission and success
Outline

ABA
- Myths and Misconceptions about ABA
- What is ABA?
- Why ABA?
- What does ABA investigate?

All Behavior is Functional

Managing Consequences
- Reinforcement
- V.E.R.M.I.
- Punishment
- Punishment vs. Negative Reinforcement

Top 10 Reasons Why ABA is Valuable

Vista’s Mission and Guiding Principles

Conclusion
Chalk Talk

What do you know about Applied Behavior Analysis? (ABA)

What do you expect to learn during this presentation?
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SOME ABA MYTHS AND MISPERCEPTIONS

- ABA only uses punishment techniques and aversive controls.
- ABA is only for animal trainers.
- ABA is dangerous because it can eventually lead to a population of children susceptible to mind control.
- ABA is inhumane because it takes away from the individual's freedom of choice.
More Myths 😞

- ABA is only token reinforcement.
- ABA is M&M’s and Tootsie rolls.
- ABA is when you ignore all student misbehavior and only reward good behavior.
- ABA is equivalent to bribery.
- ABA reinforcement programs undermine intrinsic motivation.
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ABA is both a PHILOSOPHY and a SCIENCE

Behaviorism
The philosophy of the science of behavior

In other words….
“what people do can be understood”

-Don Baer

Applied Behavior Analysis
The technology (science) used for changing behavior
Applied Behavior Analysis defined...

- **Scientific** approach to study behavior
- Applied in a **systematic** fashion
- Interested in **socially significant** behaviors
- Uses techniques derived from **basic principles**
- Interested in knowing that the **intervention** is what improved the behavior
ABA in other words, is a blend of philosophy and science that believes in supporting people; improving lives in ways that the individual finds meaningful...
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National Standards Project

National Standards Project seeks to:

- Provide the strength of evidence supporting educational and behavioral treatments that target the core characteristics of these neurological disorders
- Describe the age, diagnosis, and skills/behaviors targeted for improvement associated with treatment options
- Identify the limitations of the current body of research on autism treatment
- Offer recommendations for engaging in evidence-based practice for Autism Spectrum Disorder
National Standards Report

National Standards Report is the most comprehensive analysis available about treatments for children and adolescents with Autism Spectrum Disorder.

The Findings include the identification of:

- 11 Established Treatments
- 22 Emerging Treatments
- 5 Un-established Treatments
11 Established Treatments

1. Antecedent Package
2. Behavioral Package
3. Comprehensive Behavioral Treatment for Young Children
4. Joint Attention Intervention
5. Modeling
6. Naturalistic Teaching Strategies
7. Peer Training Package
8. Pivotal Response Treatment
9. Schedules
10. Self-Management
11. Story-based Intervention Package
## Emerging Treatments

1. Augmentative and Alternative Communication Device
2. Cognitive Behavioral Package
3. Developmental Relationship-based Treatment
4. Exercise
5. Exposure Package
6. Imitation-based Interactions
7. Initiation Training
8. Language Training (Production)
9. Language Training (Production and Understanding)
10. Massage/Touch Therapy
11. Multi-component Package
12. Music Therapy
13. Peer-mediated Instructional Arrangement
14. Picture Exchange Communication System
15. Reductive Package
16. Scripting
17. Sign Instruction
18. Social Communication Intervention
19. Social Skills Package
20. Structured Teaching
21. Technology-based Treatment
22. Theory of Mind Training
5 Un-Established Treatments

1. Academic Interventions
2. Auditory Integration Training
3. Facilitated Communication
4. Gluten- and Casein- Free Diets
5. Sensory Integrative Package
Treatments derived from the principles of ABA are the ONLY treatments proven effective in addressing the needs of individuals with ASDs.
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- All Behavior is Functional
- Managing Consequences
  - Reinforcement
  - V.E.R.M.I.
  - Punishment
  - Punishment vs. Negative Reinforcement
- Top 10 Reasons Why ABA
- Vista’s Mission and Guiding Principles
- Conclusion
What does ABA investigate?

- **Environment** (or antecedent)
  - Internal or external factors that may cause or influence behavior
- **Behavior**
  - What someone says or does
- **Consequences**
  - What happens after the behavior
  - Planned and unplanned consequences
How does ABA investigate?

By looking at the relationship between the environment, behavior and consequences.

This relationship has 3 parts!

Environment

Behavior

Consequence
ABA studies the relationship between
_________________________, ______________________
and ________________________________.
Environment

Environment factors called ANTECEDENTS precede behavior and set the occasion for its occurrence.

Environment stimuli (antecedents) acquire their ability to control behavior ONLY because they have been paired with certain consequences in the past.

Environmental stimuli (antecedents) are anything that a person can

- See
- Hear
- Smell
- Touch
- Taste
Behavior

An individual’s observable interaction with the environment

In other words, anything we say or do
Consequence

- An environmental change that follows behavior and alters the probability of that behavior.
- Are defined by their effect on behavior.

Types
- Reinforcement
- Punishment
How does ABA work?

- Determine functional relationships between environment-behavior-consequence.
- Uses this information to arrange/re-arrange parts of the environment to strengthen or weaken behavioral repertoires.
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Is ALL Behavior Functional?

Can you name a behavior without a function?
Is ALL Behavior Functional?

Can you name a behavior without a function?

No – but we may be able to name a behavior where the function is unknown!

Function = Reinforcement. Only behavior that is reinforced is repeated…
All Behavior is Functional

Behaviors are “tools” people use to get their needs met

Repeated actions satisfy a need – from the person’s point of view

Behaviors often have more than one function and the function sometimes changes over time
### Two Main Functions of Behavior

<table>
<thead>
<tr>
<th>To Gain</th>
<th>To Escape (or Avoid)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Attention (People or specific interactions)</td>
<td>• Attention (People or specific interactions) that are unpleasant</td>
</tr>
<tr>
<td>• Things, Activities or Places</td>
<td>• Things, Activities or Places that are unpleasant</td>
</tr>
<tr>
<td>• Input from sensory experiences</td>
<td>• Input from unpleasant sensory experiences</td>
</tr>
</tbody>
</table>
How do we find the function?

First Step:
Name and Describe the behavior

- Use a single word or phrase consistently
- Describe an action(s) of the person
- Use consistent formula
- Prioritize multiple behaviors
Name and Describe Behavior

A good description allows others (who don’t know the individual) to recognize what is being described:

Henry forcefully hits staff with his fist when they ask him to turn his radio off in his bedroom.
Which of the following are NOT descriptions of behavior?

a) He was frustrated
b) He said he has nightmares
c) He ate a sandwich
d) He is depressed
e) He slept
f) He has nightmares
How do we find the function?

Second Step:
Be a Behavioral Detective

- Observe
- Ask
- Read, review, analyze
How do we find the function?

Third Step:
Form a Hypothesis

Make a guess of the function (likely cause) of behavior
The function of behavior is

a) The “reason” why the person acts the way they do
b) The purpose of the behavior
c) What the behavior produces for the person
d) The motivation for a person to act in a certain way
e) All of the above
Which of the following is not a common function of behavior?

a) Escape/avoidance  
b) Sensory/automatic  
c) Anger  
d) Access to tangibles  
e) Social attention
You have figured out the function.... Now what do you do?
Fourth Step: BUILD SKILLS

Establishing/Strengthening Skills That the Person Can Use to Satisfy Their Own Needs

- Teach new ways to satisfy personal needs
- Target “desirable” alternatives to undesirable behavior
ADJUST ANTECEDENTS TO “SET THE PERSON UP” TO SUCCEED

- Change the reinforcing power of some consequences
- Reduce interfering conditions (symptom relief)
- Change the individual’s perception of their world
- Control the form and frequency of known “triggers”
ADJUST CONSEQUENCES TO “SET THE PERSON UP” TO SUCCEED

- Maximize reinforcement for desirable behavior
- Minimize reinforcement for undesirable behavior
- Teach that new ways to satisfy personal needs will be the most successful ways
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Vista’s Mission and Guiding Principles

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Managing Consequences

Thinking about what ABA investigates:
- Environment
- Behavior
- Consequences

Let's talk more about CONSEQUENCES
Managing Consequences

- TWO basic categories
  - Consequences that establish/strengthen behavior
  - Consequences that weaken behavior
Establishing or Strengthening Behavior – Reinforcement

Consequences that increase the frequency of behavior occurring under similar conditions in the future

Examples:

- You are more likely to say hello to someone if they return your greeting.
- You are more likely to cook your partner’s favorite meal if they say how good it is and get excited when eating it.
Generally, What is reinforcement?

- Reinforcers are generally things that people have high preferences for.

- We deliver reinforcers following student’s responses, and this causes their responses to increase.

- This is how we teach—we reinforce behavior to increase it.
Reinforcement & Reinforcers

- Individual – do **YOU** like black jelly beans???
- Change
- Related to motivation
- Follows rules
Motivation

We use motivation to help us get more bang for our buck out of the selected reinforcement

- Motivation Changes

- Motivation affects our behavior and the potency of our available reinforcers
The ‘rules’….can be remembered using the following acronym:

V.E.R.M.I.
V.E.R.M.I.

- Value
- Effort
- Rate
- Magnitude
- Immediacy
Value of the reinforcer should be high

Deprivation  Satiation
The effort a student has to put forth should be equal to the reinforcement.

Is what is asked of me worth what is available if I do it?
The rate of reinforcement should perpetuate and maintain high levels of accurate responding.
Continuous vs. Intermittent
Generalization is key!
V.E.R.M.I

MAGNITUDE

- Staff must ensure that the reinforcement isn’t too big or too small.
- We want the individual to learn that better responses = better/more reinforcement
- Caution - if the magnitude/amount is too big, satiation is likely to occur.
V.E.R.M.I

IMMEDIACY

Delivery of Reinforcement should be within ½ a second!

This ensures that the individual knows what they are being reinforced for.
ABA
  • Myths and Misconceptions about ABA
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All Behavior is Functional

Managing Consequences
  • Reinforcement (positive and negative)
  • V.E.R.M.I.
  • Punishment

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Vista’s Mission and Guiding Principles

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Managing Consequences – Weakening Repertoires

Punishment

- Not a dirty word (ONLY means to weaken behavior)
- Does not mean corporal punishment
- Understanding the principle is KEY
- Happens all the time
  - Ever receive a speeding ticket?
Weakening Repertoires: Punishment

- A consequence that decreases the frequency of behavior occurring under similar conditions in the future.
- Not retribution or vengeance

Examples:
- You are less likely to say hello to someone, if they do not return your greeting.
- You are less likely to cook your partner dinner if they suggest how you could have made it better.
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Positive and Negative Reinforcement

Positive reinforcement – presentation of an item/object/activity following a behavior that increases the likelihood of that behavior occurring again.

Negative reinforcement – termination of an item/object/activity following a behavior that increases the likelihood of that behavior occurring again.
Negative Reinforcement vs. Punishment

Negative Reinforcement increases behavior

Punishment decreases behavior
Positive, Negative Reinforcement or Punishment ????

The alarm goes off

We HIT the snooze button…

We sleep more.
Principles described:

- Positive Reinforcement
- Negative Reinforcement
Positive, Negative Reinforcement or Punishment ????

A baby’s cry is heard...

We get up – feed/change/hold the Baby...

The baby stops crying!
Principles described:

Negative Reinforcement
Positive, Negative Reinforcement or Punishment ????

You’re late to work…

You speed.

You get caught, pay a fine. 😞
Principle described:

Punishment
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TOP 10 REASONS
Why ABA Should Be A Part of Your Child’s Programming

1. IT WORKS!
   (and we have the evidence to prove it!)
2. Parents can do it!
3. Affects what matters most to you!
   (meaningful behaviors/skills)
4. Recommended by NIMH, NAC!
5. Improves Relationships
6. Teaches Communication/Socialization
7. Increases Flexibility
8. The Proof is in the Pudding! – you can see it work!
9. Individualized and Inductive
10. Builds Competence & Confidence
    A Competent Learner is a Confident Learner
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VISTA

- Founded in 2002, The Vista School is a collaborative effort of dedicated parents, educators, and mental health professionals
  - Exists to bring evidenced based autism education to Central Pennsylvania
  - Serve students who need intensive support in a more specialized environment
  - Effectively delivers intensive educational services within a behavior analytic framework
Vista

- Missions: 40,000 ft
- Guiding Principles: 20,000 ft
- Framework (Tools/Techniques): Runway
Vista

- Missions: 40,000 ft
- Guiding Principles: 20,000 ft
- Framework (Tools/Techniques): Runway
VISTA’S MISSIONS (GENERAL)

Provide a community resource that encourages parent and professional training, advocacy for student’s with ASD and AS; promotes empirically-validated treatments, trains professionals to serve the ASD/AS population, as well as provide opportunities for research and professional development with the field of ABA and Autism.
VISTA’S MISSIONS (SCHOOL)

Educate students across a variety identified goals and curricula that are developed to teach effective repertoires; allowing students to communicate effectively, access a variety of environments as well as teach functionally equivalent skills for inappropriate or maladaptive behavior.
VISTA’S MISSIONS (SCHOOL)

Effectively transitioning students to lesser intensive and specialized environments as soon as beneficial for the student.
Vista

- Missions: 40,000 ft
- Guiding Principles: 20,000 ft
- Framework (Tools/Techniques): Runway
GUIDING PRINCIPLES

- Learning is a change in behavior based on experience; experience consists of prevailing conditions (antecedents and consequences), learning histories and motivational variables.
- Each student’s behavior is his/her own standard, control and measure for the efficacy of interventions.
- Adherence to and systematic use of scientific principles related learning and behavior change.
- The on-going careful selection and analysis of curriculum, intervention strategies, instructional strategies.
GUIDING PRINCIPLES

- Data-based decision making procedures across student learning, staff training and staff evaluation.
- Use of scientifically validated procedures or procedures that are based on scientifically validated principles.
- Strives to reflect zeitgeist of each discipline (use of consultants).
- Instructional programming is dynamic; the IEP/Tx Plan are working guides; data-driven decisions ensure that treatment changes occur as necessary to maintain student learning and progress.
- Education does not just take place in the classroom, it occurs at home in the community.
GUIDING PRINCIPLES

The use of a system-wide effective teaming between both educational and behavioral health agencies in order to create a unified team for each student composed of both educational and behavioral health members that can work collaboratively for every student.

Parents are valued as equal members of multi-disciplinary team.

Behavior is developmental.

Behavior changes.
Vista

- Missions: 40,000 ft
- Guiding Principles: 20,000 ft
- Framework (Tools/Techniques) Runway
OPERATIONAL FRAMEWORK

- Use principles of ABA in analysis of supplemental contingencies, teaching interactions and implementation in experimental functional analyses
- Precision Teaching
- Competent Learner Model
- Community Based Instruction opportunities
- Augmentative communication systems
- Direct Instruction Curricula
OPERATIONAL FRAMEWORK

- Improve Activities of Daily Living
- OT/SLP Therapy Services: intensive and integrated with other MDT members
- Extension of services into the home
- Use of outside consultants to ‘raise the bar’
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Vista’s Mantra

At Vista we are:

Engineering Learning Environments to produce Motivated Learners on the Path to Living Independent and Fulfiling Lives.
Chalk Talk Follow Up

What is something NEW you learned about Applied Behavior Analysis during this presentation?