ABA as Autism Intervention

Diagnosing Autism

- Autism is diagnosed behaviorally. A qualified professional speaks to caregivers, observes the child, and records his or his behaviors.
- If the child meets predetermined criteria, than he or she is diagnosed with autism.
- There is currently no genetic or medical test that can detect autism

Treatment of Autism

- While researchers have not yet conclusively determined the cause of autism, they have developed effective methods for treating the symptoms of the disorder.
- Research demonstrates that the most effective treatments for autism are those based on the principals of applied behavioral analysis (ABA).
- Research indicates that ABA is most effective when provided at an intensive level (25-40 hours per week).

ABC Model of Behavior

A → B → C

Antecedent   Behavior   Consequence

All behavior is preceded by an antecedent and followed by a consequence

Behavioral Antecedents

- There are two major categories of antecedents:
  - Discriminative stimuli antecedents "set the occasion" for a behavior by signaling the availability of consequences. (The sight of cake might be a discriminative stimuli for asking for a piece of cake).
  - Motivating Operations are events that effect the temporary value of a consequence. (how hungry I feel affects how likely I am to ask for a piece of cake when I see it).

Behavior

- Any type of action or movement
- Behavior is usually seen as being under the control of the individual to some extent, although even involuntary movements are technically behavior
- For the purpose of intervention, we describe concrete, measurable behavior rather than labels.
  - Frowns, avoids eye contact, refuses requests rather than "bad attitude."

Two Types of Consequences

- Reinforcement
  - Anything that makes the behavior more likely to occur under similar circumstances in the future
- Punishment
  - Anything that makes the behavior less likely to occur under similar circumstances in the future

Consequences: Positive Reinforcement

- Positive reinforcement occurs when a stimulus follows a behavior and, as a result, the rate of that behavior increases.
  - Giving the child a tickle when he or she makes eye contact increases that likliehood that he or she will make eye contact in the future.

Consequences: Negative Reinforcement

- Negative reinforcement occurs when, following a behavior, a stimulus is removed and, as a result, that behavior is more likely to be repeated under similar circumstances in the future.
  - When a child hits his little brother, he leaves him alone. The child therefore becomes more likely to hit his little brother under similar circumstances

Consequences: Punishment

- Punishment is any behavioral consequence that decreases the probability that a behavior will occur under similar circumstances. For example, if a child screams and his or her friends stop playing, the child may be less likely to scream in the future.
- Positive punishment involves the application of a stimulus
- Negative punishment involves the removal of a stimulus

Relativity of Reinforcement

- Reinforcers and punishers are defined by their effects.
- What is reinforcing to one person may not be reinforcing (or even punishing) to another.
- What is punishing to one person my be reinforcing to another.

An ABA Approach to Autism Treatment

- Focuses on teaching small, measurable units of a behavior systematically
- Every Skill that the child with autism does not demonstrate is broken down into small steps
- Each step is taught by presenting a specific cue and instruction
- Appropriate responses are followed by consequences that have been found to function effectively as reinforcers for that child

An ABA Approach to Autism Treatment

- A high priority goal is to make learning fun for the child.
- Another goal is to teach the child to discriminate among many different stimuli: colors, shapes, letters, numbers, etc.
- Teaching trials are repeated many times until the child performs the response without adult delivered prompts.
- The child's responses are recorded and evaluated according to specific, objective definitions and criteria
- Instruction is personalized to the needs of the child.

An ABA Approach to Autism Treatment

- To maximize success, emerging skills are also practiced and reinforced in less structured situations.

- Simple responses are built systematically into complex, fluid, age appropriate responses.

ABA Sequence

1. Gain the child's attention
2. Present the instruction
3. Prompt if needed
4. Child responds
5. Provide consequence

Gain the Child's Attention

- Before giving an instruction, it is important to always gain the child's attention
- It is ok to use the child's name to get his or her attention, but doing this on every trial may make the child stop attending to his or her name.
- It is best to vary using the name and making some other sound or gesture that attracts the child's attention.
- For some children it is ok to gain attention with a gentle touch

Provide Instruction

- After you have gained attention, the next step is to provide instruction (touch your head, etc.).
- The instruction should be clear, concise, and given only once.
- Avoid excess emotion or inflection

Provide the Instruction

- How you state the instruction can influence whether or not it is followed
- If the instruction contains too many words, the child may not attend to the ones that are important
- When a child is first learning to respond to an instruction, it is important to keep the wording the same each time it is given

Prompting

- Prompting is extra help given in addition to the instruction to help the child correctly perform the response.
- A prompt should be given before the child initiates his or her response.
- A verbal prompt can be verbal, physical, or gestural

Prompting

- One should provide the minimum amount of prompting that will allow the child to make the correct response.
- Prompting should be decreased as the child begins to respond on his or her own

Provide Consequences

- Following the child's response or lack there of, the instructor provides a consequence
- If the response is correct, pair verbal praise with identified reinforcers
- Praise should always follow a correct response

Shaping

- When a response is difficult, the child may initially be unable to perform the full response correctly
- In this case, a technique called shaping, in combination with heavy prompting, is employed.
- In shaping, an approximation to the correct response is reinforced. Gradually the child is reinforced for making closer and closer approximations to the correct response.

Incorrect Responses

- When the child makes an incorrect response, the instructor provides feedback that indicates that the response was incorrect.
- Responses to incorrect responses may include saying "wrong" or "try again, ignoring the response, or performing the correct response and assisting the child in repeating it.
- It is best to avoid the word "no."

No Response

- If the child makes no response, the instructor should prompt the child to respond correctly.
- This is called a correction procedure