

APPLIED BEHAVIOR ANALYSIS (ABA)

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About me



Why give this presentation

- “Once we commit intellectually to behavior analysis, I believe we must do everything possible to ensure its survival and success, because it offers the public a scientific approach to human behavior that is unrivaled in its effectiveness”
- “However, acceptance of behavior analysis has fallen short of the mark, in part because of two highly interrelated issues, **our language and image.**”

Foxx (1996)

Opening Discussion

- How have you seen ABA used?
 - What contexts?
 - Populations?
 - Goals, targets, skills?

What is ABA?

- A **science** devoted to the understanding and improvement of human behavior
- Differs from other fields with similar intent by:
 - Focus
 - Goals
 - Methods
- Includes the use of **direct observation, measurement, and functional analysis** of the relations between environment and behavior
- Based on the fact that an individual's behavior is determined by past and current **environmental events** in conjunction with organic variables such as their genetic endowment and physiological **variables**

BACB (2014)
Cooper, Heron, & Heward (2007)

Definitions of ABA

- ABA is a well-developed **scientific discipline** among the helping professions that focuses on the **analysis, design, implementation, and evaluation** of social and other environmental modifications to produce **meaningful changes** in human behavior
- The **science** in which tactics derived from the **principles of behavior** are applied **systematically** to improve **socially significant behavior** and experimentation is used to identify the variables responsible for behavior change

BACB (2014)
Cooper, Heron, & Heward (2007)

Simplified Definition

- Behavior analysis is the science of learning
- Scientific discipline that seeks to understand why we do what we do
- Identification of factors that reliable influence the behavior of individuals

ABA Technology, Inc. (2017)

Defining Characteristics of ABA

- **Applied:** commitment to improving behaviors that enhance and improve people's lives
 - Socially significant behavior including: social, language, academic, daily living, self-care, vocational, and/or recreation and leisure
- **Behavioral:** measurable and observable
- **Analytic:** demonstration of functional relations between the manipulated events (IV) and a reliable change in the measureable dimension of the target behavior (DV)
- **Technological:** procedures are identified and described with sufficient detail and clarity such that a reader has a fair chance of replicating the application with the same results

Cooper, Heron, & Heward (2007)

Defining Characteristics Continued

- Conceptually Systematic: procedures are described in terms of the relevant principles from which they were derived
- Effective: behavioral techniques result in socially significant change
- Generality: lasts over time, appears in other environments, and/or spreads to other behaviors not directly treated by the intervention

Cooper, Heron, & Heward (2007)

Common Misconceptions

- ABA is only relevant for individuals with ASD
 - ABA is a science, which is not aligned with any specific treatment and therefore is not limited to servicing only individuals with ASD
 - ABA has been used effectively with a multitude of disorders and disabilities
 - Applied to:
 - Environment/sustainability issues
 - Organizational behavior management
 - Addictions/gambling
 - Gerontology
 - Criminal forensics
 - Health and fitness
 - Dementia
 - Pediatric feeding disorders
 - TBI

BACB (2014)
Kelly (2013)

Other Common Misconceptions

- ABA is harmful/uncomfortable for children
 - Proper application of behavior analytic principles focuses on reinforcement and manipulation of the environment, not the individual
- ABA only uses edible (food) for reinforcers
 - Behavior analysts do often consider the use of edible reinforcers for students who (a) are young, b) have limited repertoire of preferred items, and/or (c) have severe behavior
 - Edibles are considered primary reinforcers
 - Quality behavior analytic professionals will fade out use of edibles

Kelly (2013)

Other Common Misconceptions

- ABA can only be applied to “behavioral” problems
 - Behavior analysts consider behavior to be any observable and measurable act, which is inclusive of academic behaviors (i.e., writing, computing math)
- What is behavior?
 - The activity of living organisms
 - It is not a property or attribute of the organism but what happens when there is an **interactive condition** between the organism and its surroundings

Kelly (2013)
Cooper, Heron, & Heward (2007)

Other Common Misconceptions

- ABA is synonymous with discrete trial training (DTT)
 - DTT is a procedure that is based on principles of ABA (i.e., reinforcement, three-term contingency, prompting)
- What is DTT?
 - Method of teaching
 - Adult-directed
 - Massed trial instruction
 - Reinforcers chosen for their strength
 - Clear contingencies and repetition
- Strong method for developing a new response to a stimulus, however, it is important to develop plans for teaching generalization

Recommended reading:

1. Stokes & Baer (1977) Implicit technology of generalization
2. Schlosser & Lee (2000) Promoting GEN and MNT in AAC: Meta of 20 years of research

Bogin, Sullivan, Rogers & Stabel (2010)

More On DTT

- Relies on discrete behaviors which have a clear beginning, middle, and end
- Some learning objectives are better taught using DTT than others
 - Fine and gross motor skills, recreation, self care, academic skills
- The cornerstone of DTT is the use of task analysis to break down skills into small teachable steps
- One of the defining characteristics of a high quality DTT program is collection of trial by trial data
 - Have data sheets specifically designed for the skill being taught
- There are many different prompts that can be used for various teaching tasks

Bogin, Sullivan, Rogers & Stabel (2010)

Application of ABA Principles to Communication Instruction

- In reality, the principles of ABA are inextricably woven into the fabric of intervention methodologies for communication disorders
- Descriptions of ABA principles and techniques, though not referred to as such, appear throughout seminal literature in speech-language pathology
- Numerous techniques influencing behavior are used by practitioners to enhance communication instruction
 - Prompts and cues
 - Modeling
 - Chaining and fading
 - Differential reinforcement
 - Extinction

Ogletree & Oren (2001)

Benefits to collaboration between SLP & ABA

- "Although the fields of SLP and ABA each address a wide range of different concerns, **they share an interest in supporting individuals with communication impairments**"
- Creation of evidence-based therapeutic approaches and practices
- Ability to improve the integration of support provided by SLP and ABA professionals as participants on teams
 - Families may be confused about how to integrate recommendations from their ABA consultant with recommendations from their SLP
 - Differing technical terms and technical definitions
 - Concept of "verbal behavior"

Koenig & Gerenser (2006)

Skinner's Verbal Behavior

- Skinner (1957) proposed that language is learned behavior, and that it is acquired, extended, and maintained by the same types of environmental variables and principles that control non language behavior
- Defined as: behavior that is reinforced through the mediation of another person's behavior
 - Involves a social interaction between a speaker and a listener
- Defined by the function of the response, rather than the form
 - Includes vocal-verbal behavior and nonvocal-verbal behavior

Cooper, Heron, & Heward (2007)

Plain English Definitions of Skinner's Six Elementary Verbal Operants

- **Mand:** asking for reinforcers that you want (e.g., saying shoe because you want a shoe... often thought of as requesting)
- **Tact:** Naming or identifying objects, actions, events, etc. (e.g., saying shoe because you see a shoe... often thought of as labeling)
- **Echoic:** Repeating what is heard (e.g., saying shoe after someone else says shoe)
- **Intraverbal:** Answering questions or having conversations in which your words are controlled by other words (e.g., saying shoe when someone else says, 'What do you wear on your foot?')

Cooper, Heron, & Heward (2007)

Plain English Definitions of Skinner's Six Elementary Verbal Operants

- **Textual:** Reading written words (e.g., saying shoe because you see the written word shoe)
- **Transcription:** Writing and spelling words spoken to you (e.g., writing shoe because you hear shoe spoken)
- Analysis of more complex verbal behavior includes automatic reinforcement, tact extensions (generalization), and private events

Cooper, Heron, & Heward (2007)

Applications of Verbal Behavior

- **Language Assessment**
 - A more complete understanding of how a language deficit, and hence a more effective language intervention program, can be obtained by determining the strengths and weaknesses of each of the verbal operants, as well as a number of other related skills
- **Language Intervention**
 - The individual verbal operants are seen as the base for building more advanced language behavior
 - May need to firmly establish each of these repertoires before moving on to more complex verbal relations
 - Training of verbal operants (e.g., mand training, echoic training, tact training, intraverbal training)

Cooper, Heron, & Heward (2007)

Recommendations for Collaboration

- Share treatment efficacy data
 - Data-based research presentations shared at national and regional conferences for ABA and SLP professionals
- Share innovative teaching procedures
- Share basic information
 - If you work in an applied context where information about your area of expertise is repeatedly misunderstood by professionals, consider sharing a clear summary of targeted information
- Share your experience of successful collaboration
- Read articles in journals associated with other professions
- Share your concerns about collaboration breakdowns
- Build partnerships with other organizations and associations by focusing on common goals

Koenig & Gerenser (2006)
Foxx (1996)

Additional resources

- <http://afirm.fpg.unc.edu/>
- <http://www.autisminternetmodules.org/>
- <http://www.worldcampus.psu.edu/degrees-and-certificates/applied-behavior-analysis-for-special-education-certificates/overview>
- <http://www.fit.edu/bst/>