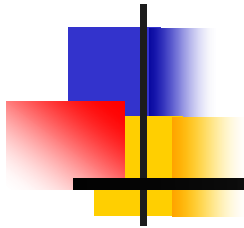


THE SCIENCE OF APPLIED BEHAVIOR ANALYSIS:  
A GENERAL OVERVIEW



---

**G. Simon, S. Crump**  
*National University (UNITED  
STATES)*

[gsimon@nu.edu](mailto:gsimon@nu.edu), [scrump@nu.edu](mailto:scrump@nu.edu)



# Development of Applied Behavior Analysis

---

- **1968 – Formal beginning of contemporary applied behavior analysis**
  - **Journal of Applied Behavior Analysis (JABA) began publication**
  - **“Some Current Dimensions of Applied Behavior Analysis” (Baer, Wolf, & Risley)**



# Development of Applied Behavior Analysis

---

- **Journal of Applied Behavior Analysis (JABA)**
  - **First journal in U.S. to deal with applied problems & gave researchers using methodology from the experimental analysis of behavior an outlet for publishing their findings**
  - **Flagship journal of ABA**



# Development of Applied Behavior Analysis

---

- **“Some Current Dimensions of Applied Behavior Analysis” (Baer, Wolf, & Risley)**
  - **Founding fathers of the new discipline (ABA)**
  - **Defined the criteria for judging adequacy of research & practice in ABA & outlined the scope of work for those in the science**
  - **Most widely cited publication in ABA**
  - **Remains standard description of the discipline**



# Defining Characteristics of Applied Behavior Analysis

---

- **Baer, Wolf, and Risley (1968)** recommended the following seven defining dimensions for research or behavior change programs:
  - **Applied**
  - **Behavioral**
  - **Technological**
  - **Conceptually Systematic**
  - **Analytic**
  - **Generality**
  - **Effective**



# Defining Characteristics of Applied Behavior Analysis

---

- The *applied* behavior in applied behavior analysis signals ABA's commitment to affecting improvements in behaviors that enhance and improve people's lives.



# Defining Characteristics of Applied Behavior Analysis

---

- Behaviors that improve the day-to-day life experience of clients and/or affect their significant others (parents, teachers, peers, employers) in such a way that they behave more positively with and toward the client.



# Defining Characteristics of Applied Behavior Analysis

---

- Applied

- Investigates *socially significant behaviors* with immediate importance to the participant(s)
- Examples include behaviors such as:
  - Social
  - Language
  - Academic
  - Daily living
  - Self-care
  - Vocational
  - Recreation and/or leisure





# Defining Characteristics of Applied Behavior Analysis

---

## ■ Behavioral

- **Precise measurement of the actual behavior in need of improvement & documents that it was the participant's behavior that changed**
  - **The behavior in need of improvement and it is a study of behavior (not about behavior)**



# Defining Characteristics of Applied Behavior Analysis

- BEHAVIORAL
- 3 important points:
  - 1) Not just any behavior will do; it must be *the* behavior in need of improvement;
  - 2) The behavior must be measurable;
  - 3) Must ask, “Whose behavior has changed?”

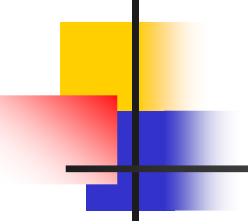


# Defining Characteristics of Applied Behavior Analysis

- Behavioral

- Perhaps only the behaviors of the observers has changed.
- Or, perhaps the experimenter's behavior has changed in an unplanned way, making it inappropriate to attribute any observed change in the subject's behavior to the independent variables that were manipulated.
- The applied behavioral analyst should attempt to monitor the behavior of all persons involved in a study.

# Behavioral

- 
- 
- Observable events.
  - The behavior one chooses must be *the* behavior in need of improvement.
  - **Example:** If you were trying to see how to improve academic grades in students, you would not measure the behavior of social skills. You would measure the behavior of academic grades.
  - Behavior must be measurable (e.g., not feelings).



# Defining Characteristics of Applied Behavior Analysis

---

- Analytic

- Demonstrates experimental control over the occurrence and non-occurrence of the behavior (a functional relation is demonstrated) – the “acid test proof.”
- Functional & replicable relationships

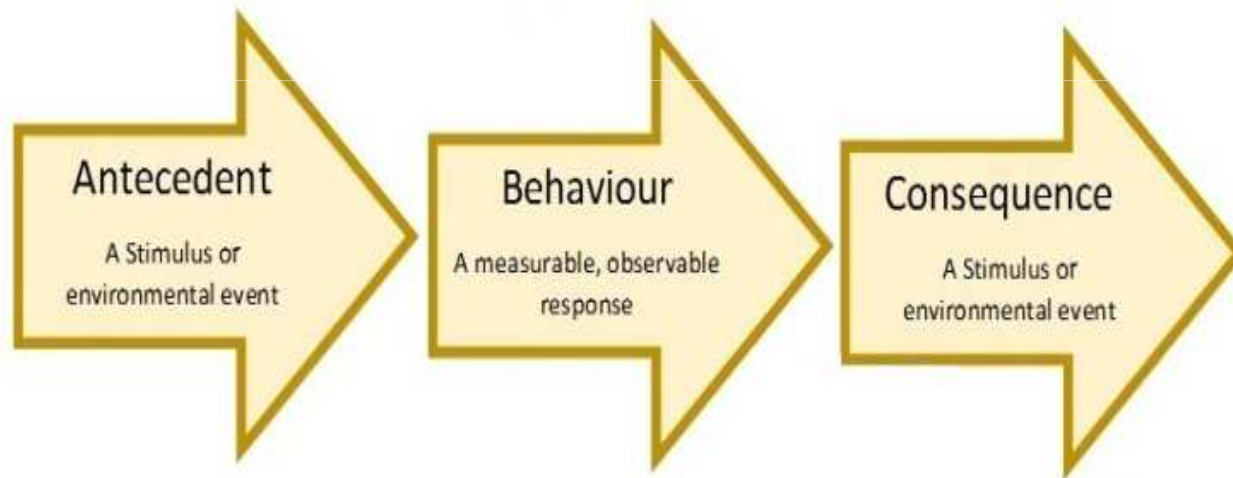


# Analytical

---

- **Analytical (AKA: Functional Relation, Experimentation, Control, Causation):**
- **A FUNCTIONAL RELATIONSHIP IS DEMONSTRATED.**
- Describes when the experimenter has demonstrated a functional relation between the manipulated events & a reliable change in some measurable dimension of the targeted behavior.
- Ultimate issue is **BELIEVABILITY**: Is the experimental control sufficient to prove a reliable functional relation?

# Three Term Contingency





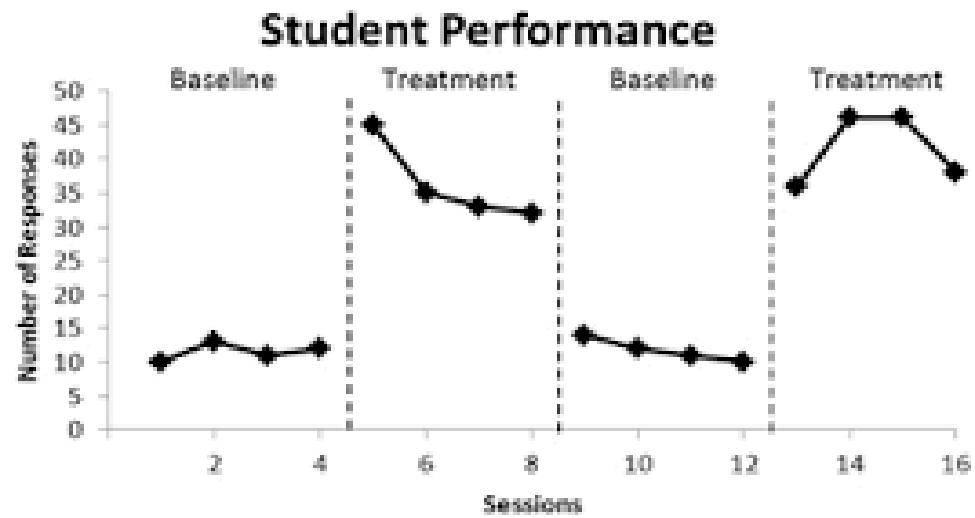
# Analytical

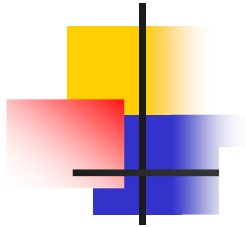
---

- Baer stated (1982)...
- “Our subject matter is behavior change, and we can specify some *actionable* sufficient conditions for it.”

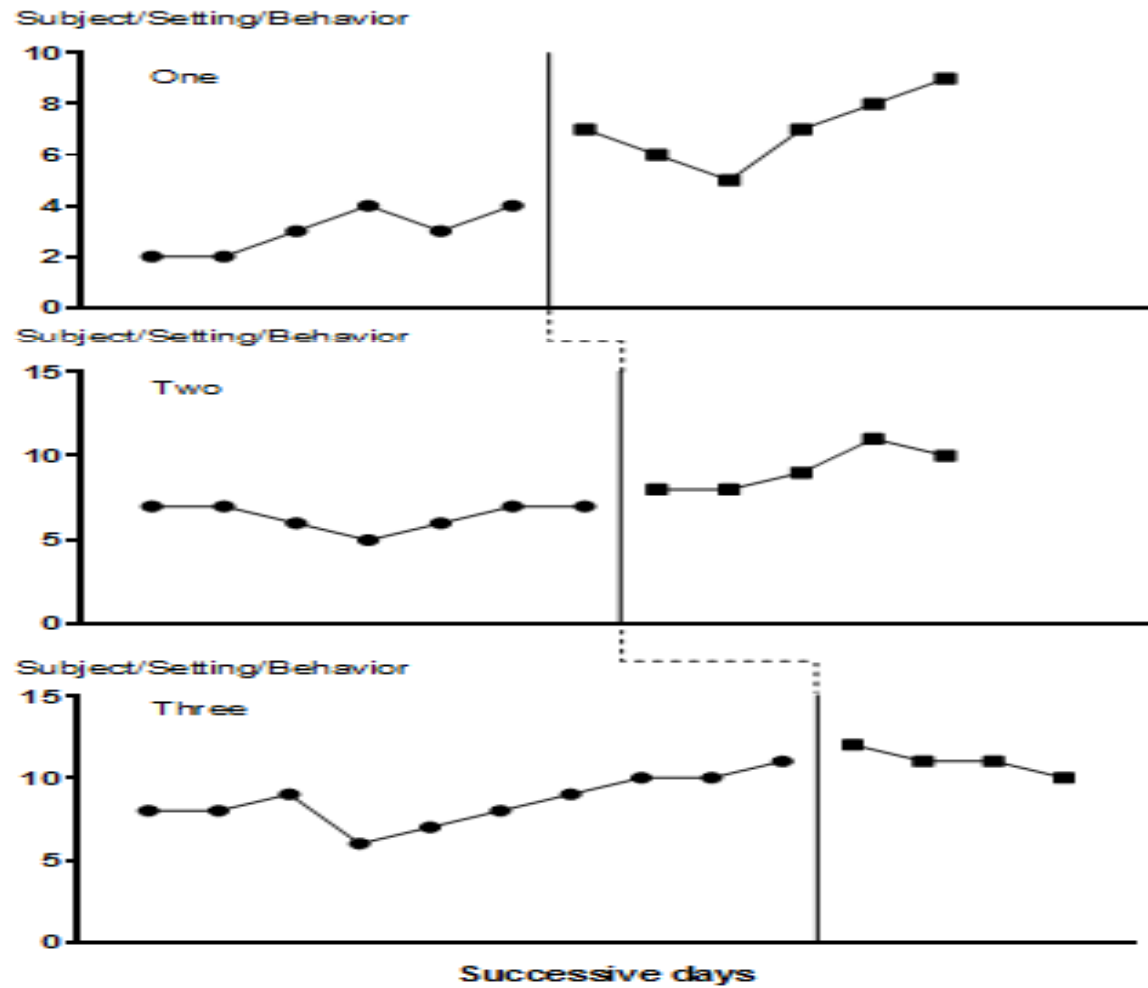


# ANALYTICAL





# ANALYTICAL





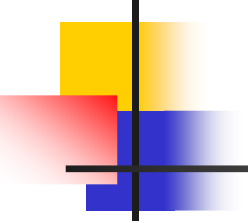
# Defining Characteristics of Applied Behavior Analysis

---

## ■ Technological

- **Written description of all procedures in the study is sufficiently complete and detailed to enable others to replicate it**
- **All operative procedures are *identified* and *described in detail* & clarity**
- ***Replicable* technology**

# Technological

- 
- 
- Defines procedures clearly & in detail so they are **REPLICABLE** (like a **RECIPE**).



# Technology

---

- A good check of the technological adequacy of a procedural description is to have a person trained in applied behavior analysis carefully read the description and then act out the procedure in detail.



# Technology

---

- If the person makes any mistakes, adds any operations, omits any steps, or has to ask any questions to clarify the written description, then the description is not sufficiently technological and requires improvement.



# Defining Characteristics of Applied Behavior Analysis

---

- Conceptually systematic
  - Behavior change interventions are derived from basic principles of behavior
  - Better enable research consumer to derive other similar procedures from the same principle(s)
  - Assist in integrating discipline into a system instead of a “collection of tricks”



# Conceptually Systematic

---

- All procedures used should be tied to the basic principles of behavior analysis from which they were derived.





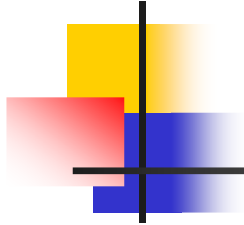
# Defining Characteristics of Applied Behavior Analysis

---

- Effective

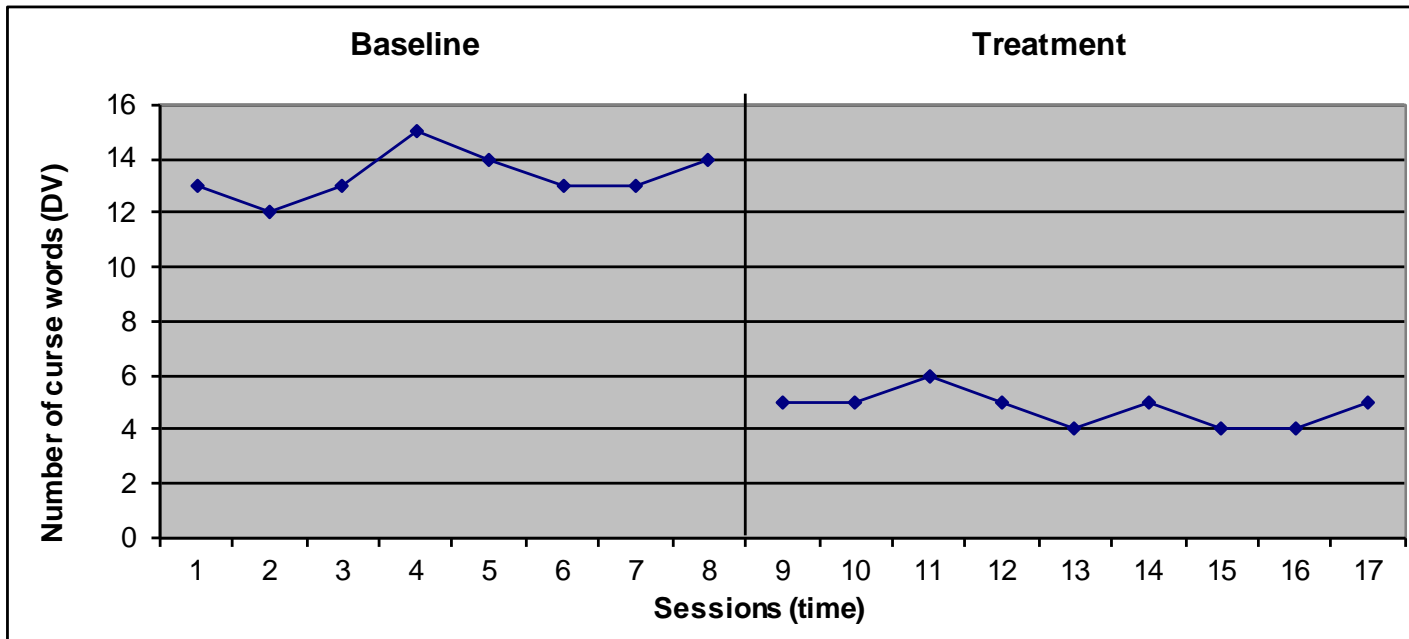
- Improves behavior sufficiently to produce practical results for the participant(s)
- Improvements in behavior must reach clinical or *social significance*
- Extent to which changes in the target behavior(s) result in *noticeable* (functional) changes

# Effective

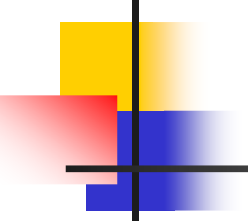


- Improves behavior in a practical manner, not simply making a change that is statistically significant.

# EFFECTIVE



# Effective

- 
- An effective application of behavioral techniques must improve the behavior under investigation to a practical degree.
  - It's practical importance, specifically its power in altering behavior enough to be socially important, is the essential criterion.



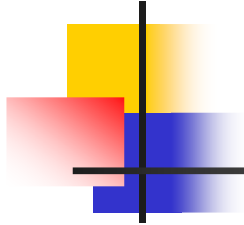
# Defining Characteristics of Applied Behavior Analysis

---

## ■ Generality

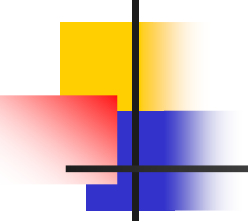
- Produces behavior changes that last *over time...*
- Appear in *other environments* (other than the one in which intervention was implemented)...
- Or spread to *other behaviors* (those not directly treated by the intervention)

# Generality

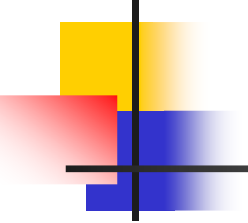


- AKA – Generalization
- Extends behavior change across time, settings, or other behaviors.

# Generality

- 
- Is evident when changes in targeted behavior occur in non-treatment settings or situations as a function of treatment procedures.
  - Also exists when behaviors change that were not the focus of the intervention.

# Generality

- 
- Although not all instances of generality are adaptive (e.g., a beginning reader has just learned the sound for the letter *p* in words such as *pet* and *ripe*, might make the same sound when seeing the letter *p* in the word *phone*), described generalized behavior changes are important outcomes of an applied behavior analysis program because they represent *additional dividends* in terms of behavioral improvement.





# Development of Applied Behavior Analysis

---

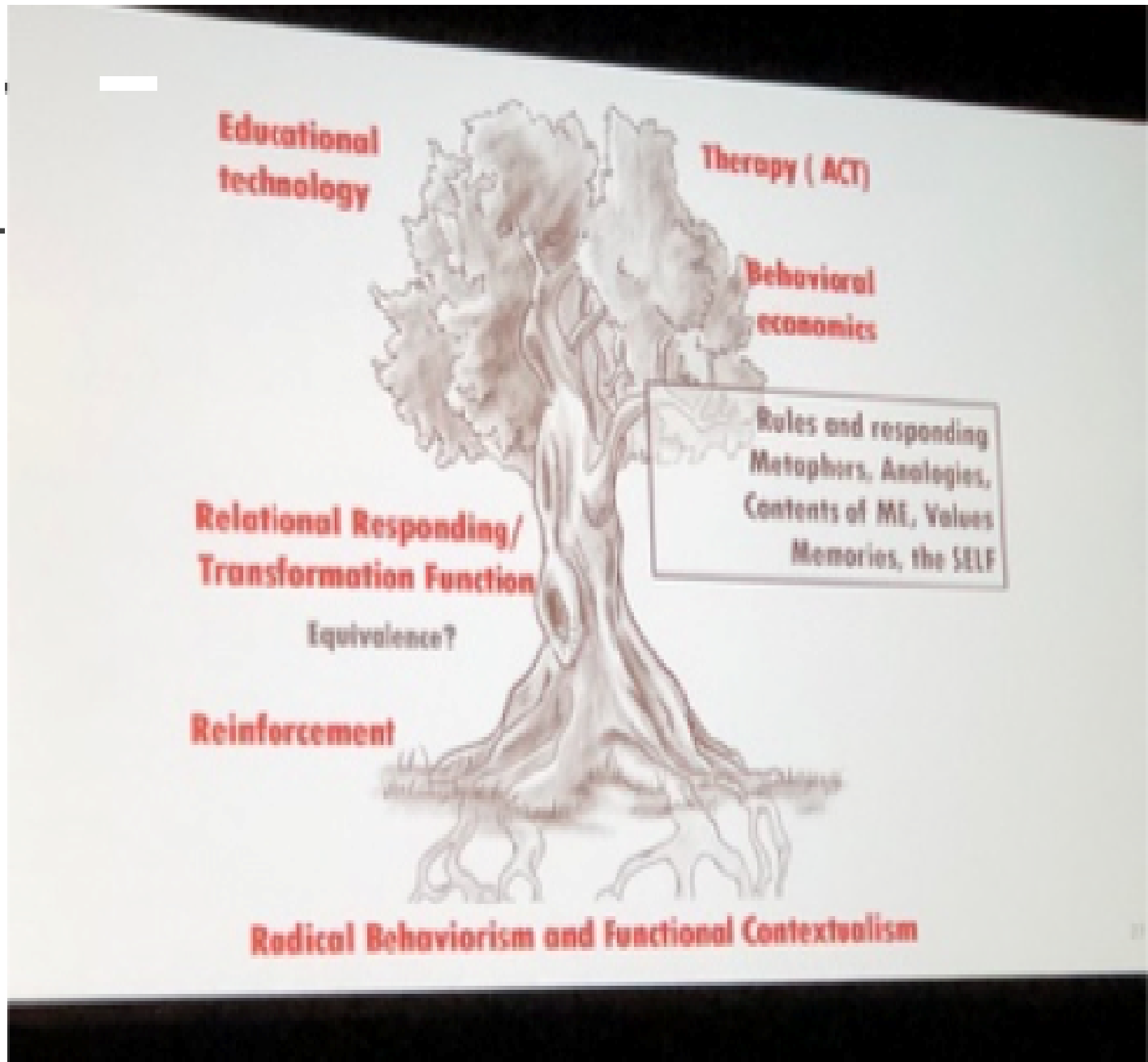
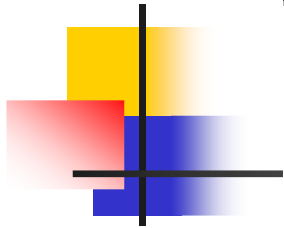
- As the field of applied behavior analysis continues to grow and approach a wide variety of problems additional characteristics have been suggested;
- But the original defining characteristics as proposed by Baer et al. (1968) remain the standard.



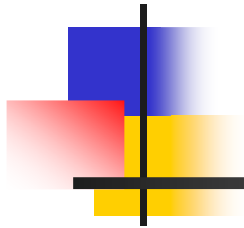
# Applied Behavior Analysis

---

- Is 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.
- (Cooper, Heron and Heward (2007))



**THE SCIENCE OF APPLIED BEHAVIOR ANALYSIS:  
A GENERAL OVERVIEW**



**G. Simon, S. Crump**  
*National University (UNITED  
STATES)*

*[gsimon@nu.edu](mailto:gsimon@nu.edu)*, *[scrump@nu.edu](mailto:scrump@nu.edu)*