

Teaching Conversational Skills to Children with Autism: Analysis, Assessment, and Intervention

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Conversation and DSM-5

- Conversation can be especially difficult for those with autism
- DSM-5: “Persistent deficits in social communication and social interaction”
- DSM-5: “failure of normal back-and-forth conversation”
- What constitutes a “conversation?”

Definition of a Conversation

- “An **oral exchange** of sentiments, observations, opinions, or ideas” (Merriam-Webster)
- “The exchange of thoughts and feelings by means of **speech or sign language**” (The Free Dictionary)
- “A talk, especially **an informal one**, between two or more people, in which news and ideas are exchanged” (Oxford Dictionary)
- “Conversation is a complex and perplexing activity” (infed.org)
- “No generally accepted definition of conversation exists.... Consequently, the term is often defined by **what it is not**” (e.g., lecture, interview, giving orders, testimony, greetings, arguments) (Wikipedia)

Definition of a Conversation

- *Failure of normal back-and-forth conversation*
- “Poor pragmatic/social use of language (e.g., does not clarify if not understood; does not provide background information)”
- “Does not initiate conversation”
- “One-sided conversations/monologues/tangential speech”

Definition of a Conversation

- Dave Palmer (2014)
- A conversation is:
 - A kind of social behavior
 - A kind of verbal behavior
- Palmer's (2014) definition:
- “A **verbal exchange** among two or more people in which the responses of each party are controlled in part by the contributions of the **previous speaker**, by the **immediate circumstances**, and by **speakers' histories**.”
- “Conversation is the medium through which relationships develop” (Palmer, 2014)

An Analysis of Conversation

- For purposes of assessment and intervention for children with autism, it can be valuable for us to break down a conversation into its components
- A conversation involves a verbal interaction between a speaker and a listener
- Skinner (1957) suggests that the behavior of the speaker and listener are controlled by different contingencies (i.e., they are separate skills)
- The speaker and listener can be in the same skin
- He provides separate but interlocking accounts of speaker and listener behavior and calls their interactions “**verbal episodes**” (p. 38)
- A verbal episode is the basic unit in conversations

The Speaker and the Listener

- In a verbal episode, a speaker emits any type of verbal behavior (e.g., mand, tact, intraverbal) in any form (speech, sign language, eye contact)
- A listener usually serves multiple roles in common verbal episodes
- The roles may quickly change, with each episode providing motivation (MOs) and S^Ds for following episodes
- The interaction depends on a listener responding to the words of a **previous speaker**, the **immediate circumstances** (e.g., the speaker is addressing you), the listener has the appropriate **history of reinforcement** to participate

The Different Roles of the Listener

- **1) Necessary for a verbal episode**
- “The behaviors of the speaker and listener taken together compose what may be called the total verbal episode” (Skinner, 1957, p. 2)
- “There is nothing in such an episode which is more than the combined behavior of two or more individuals” (p. 2)
- **2) The listener functions as an S^D and MO for verbal behavior (The Audience, Chapter 7 in *Verbal Behavior*)**
- “The listener, as an essential part of the situation in which verbal behavior is observed, is...a discriminative stimulus” (p. 172)
- “This function is to be distinguished from the action of the listener in reinforcing behavior” (p. 172)

The Different Roles of the Listener

- **3) The listener consequences a speaker's behavior**
- Mediates reinforcement (the definition of VB, p. 2)
- “The verbal community maintains the behavior of the speaker with generalized reinforcement” (p. 151)
- **4) The listener “takes additional action”**
- “Verbal behavior would be pointless if a listener did nothing more than reinforce the speaker for emitting it” (p. 151)
- “The action which a listener takes with respect to the verbal response is often more important to the speaker than generalized reinforcement” (p. 151)

The Different Roles of the Listener

- **There are three types of action (Skinner, 1957)**
- (1) Nonverbal respondent behavior
- “Among the special effects of verbal behavior are the emotional reactions of the listener” (p. 154)
- “If a verbal stimulus accompanies some state of affairs which is the unconditioned or previously conditioned stimulus for an emotional reaction the verbal stimulus eventually evokes this reaction” (p. 154) (e.g., “snake,” empathy)

The Different Roles of the Listener

- (2) Nonverbal operant behavior (“receptive language”)
- Listener compliance (e.g., *Jump*)
- Listener discriminations (LDs) (e.g., *Touch the car. Where is the number 5?*)
- Listener Responding by Function, Feature, and Class (LRFFC) (e.g., *Can you find an animal? Which one do you eat with?*)
- “These examples remind us of the fact that the behavior of the listener is not essentially verbal. The listener reacts to a verbal stimulus whether with conditioned reflexes or discriminated operant behavior, as he reacts to any feature of the environment” (Skinner, 1957, p. 170)

The Different Roles of the Listener

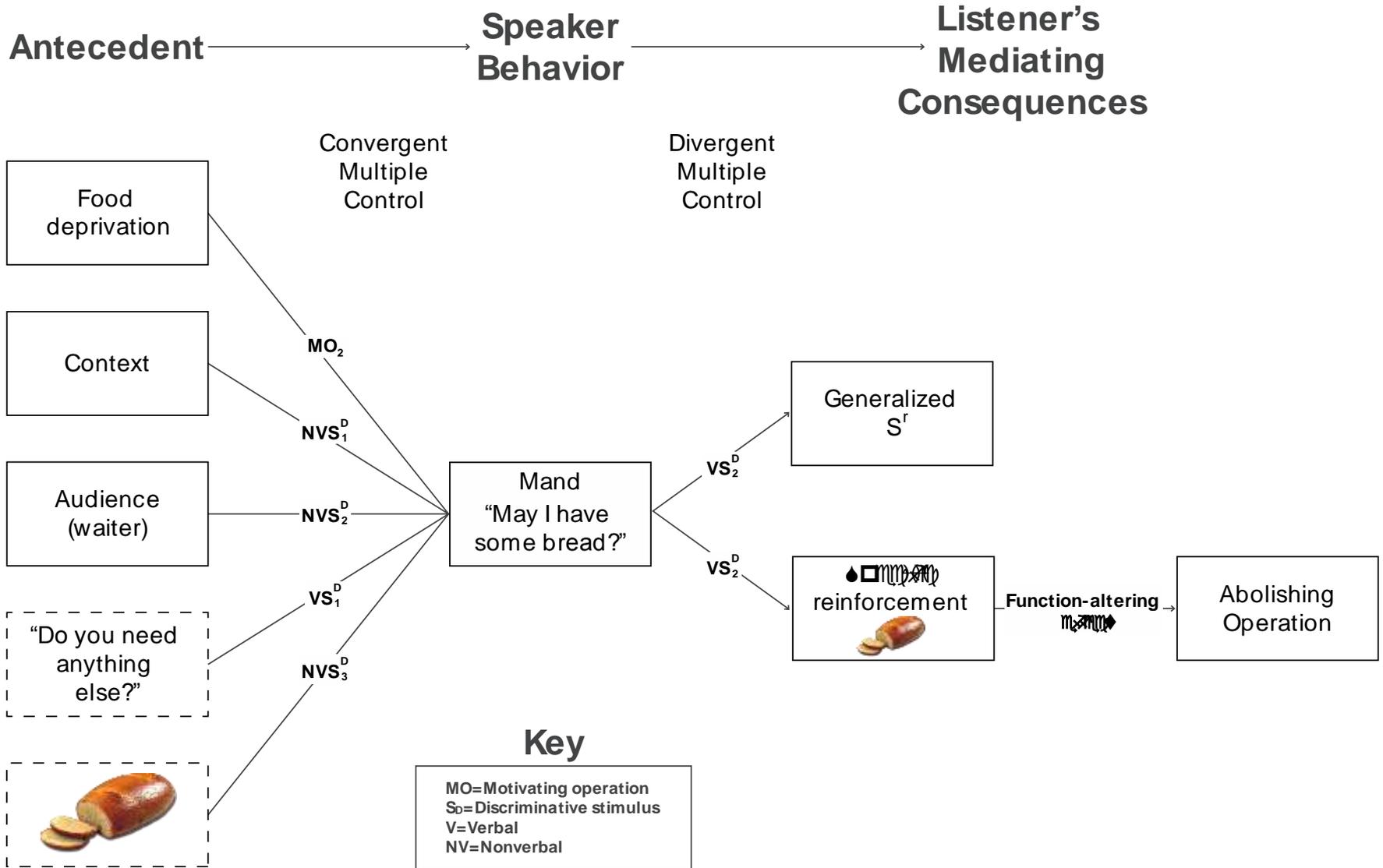
- (3) Verbal operant behavior
- “In many important instances the listener is also behaving at the same time as a speaker.” (Skinner, 1957, p. 34)
- A listener can verbally respond overtly or covertly to the verbal behavior of a speaker
- If the listener emits overt verbal responses he is now the next speaker
- But if the listener emits covert verbal behavior, he is now a speaker with his own self as the listener (Skinner, 1957)
- Schlinger (2008) suggested that when a listener emits covert verbal behavior in response to a speaker’s verbal behavior the term “listening” should be used to identify this type of verbal behavior

The Behavior of the Speaker

<u>Antecedent</u>	<u>Behavior</u>	<u>Consequence</u>
• Nonverbal S ^D	Tact	Generalized reinforcement
• Motivation (MO)	Mand	Specific reinforcement
• Verbal S ^D (w/ a match)	Echoic	Generalized reinforcement
• Verbal S ^D (w/o a match)	Intraverbal	Generalized reinforcement

These are all traditionally called “expressive language”

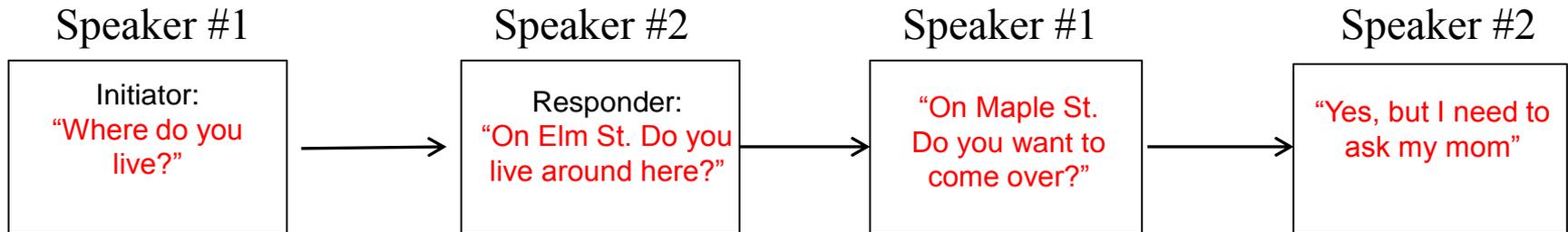
A Verbal Episode Between a Speaker and a Listener



Three Components of Social Behavior and Their Relation to Conversations

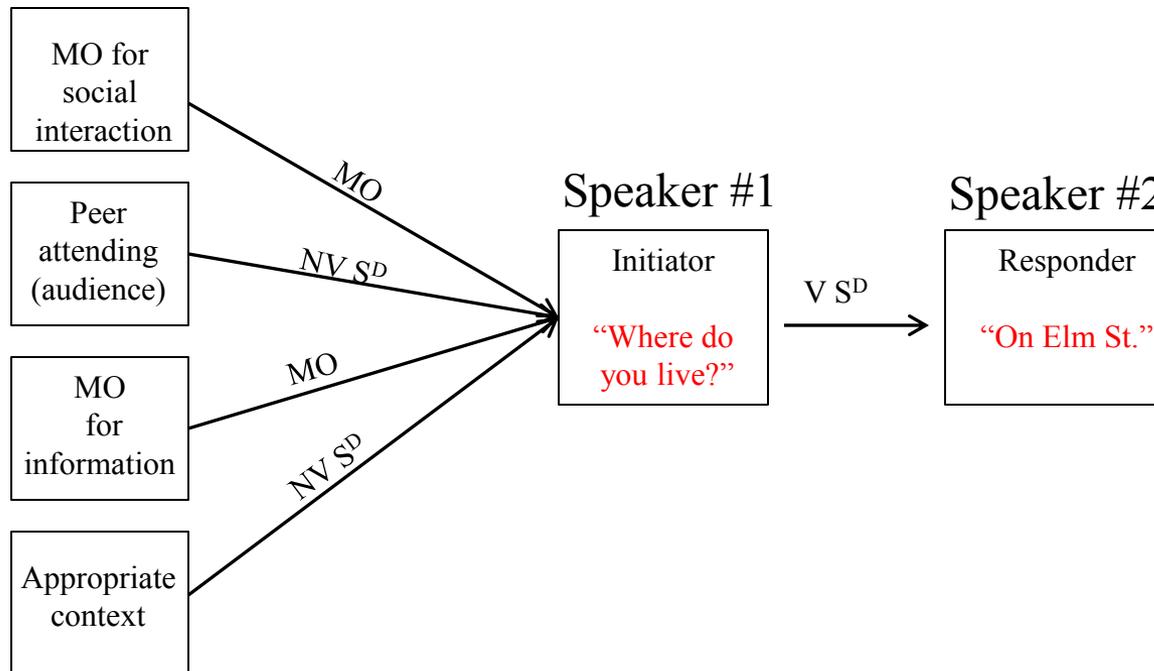
- Nonverbal repertoires (e.g., eye contact, proximity, posture, facial expressions, movement, volume, turn taking)
- Listener repertoires (e.g., attending to a speaker, reinforcing a speaker, minimal interruptions and disruptions, personal motivators controlled, maintaining the topic in the speaker-listener dyad)
- Verbal repertoires (e.g., mands for information, intraverbal responding, tacts, initiating interactions, appropriate content and self-editing, contextual awareness)
- Mixture of repertoires, casual, spontaneous, novel, generative, produces equivalence and emerging (untrained) relations

Conversation: A Verbal Exchange Between Two People



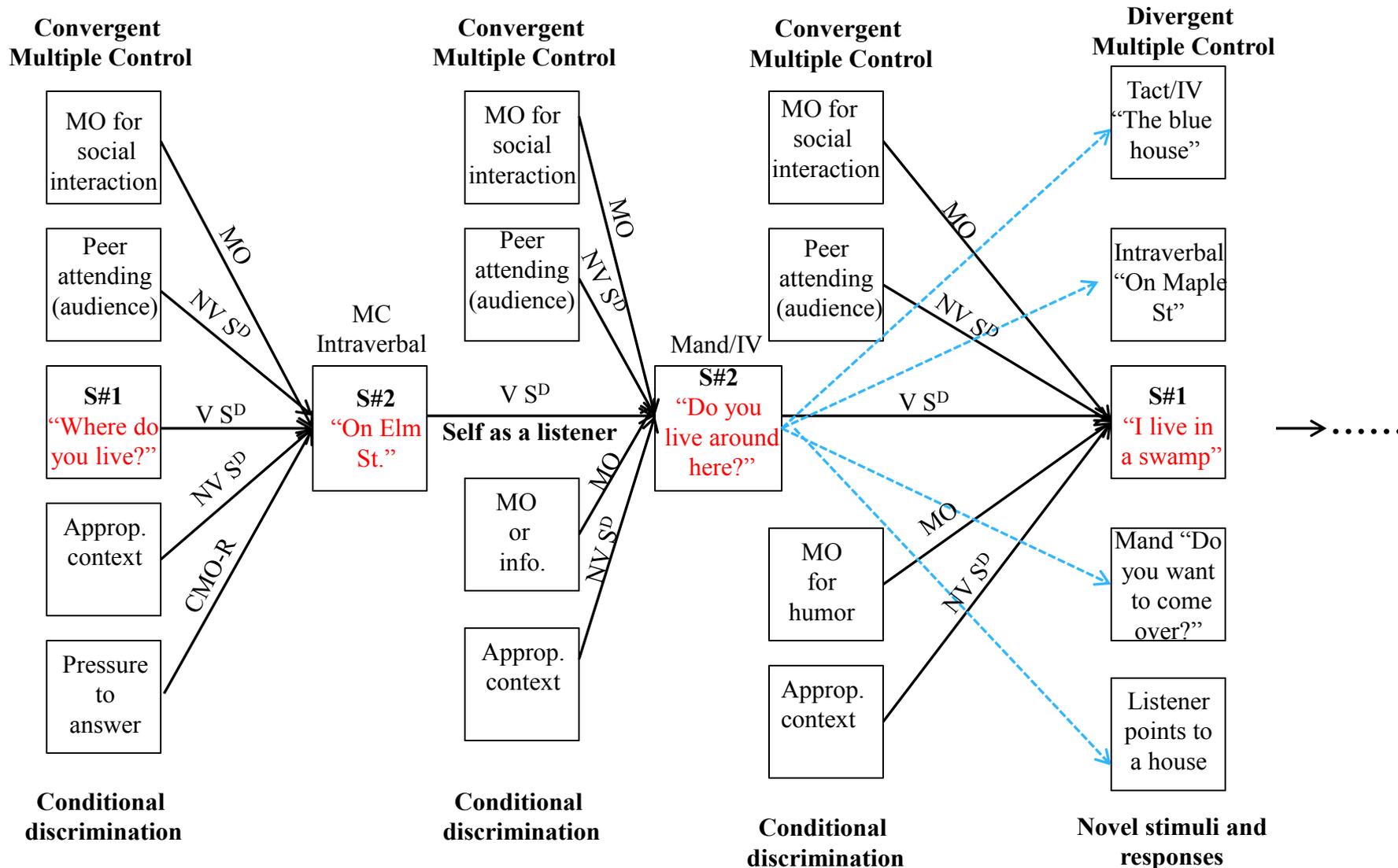
A Conversation: Initiator Mand

**Convergent
multiple control**



**Conditional
discrimination**

The Responding Partner and Two Conversational Exchanges



An Analysis of Conversation

- Complexity of a single verbal interaction
 - Motivating operations
 - Multiple control
 - Social behavior
 - All aspects of verbal behavior (speaker and listener skills)
 - Complex types of discriminations (e.g., conditional discriminations)
 - Generative based, accommodate novelty, produce emerging relations
 - Casual, no set pattern of variables, can't be easily scripted, new topics at any moment, not conducive to rote learning

Applications: Assessment

- VB-MAPP Levels 2 and 3 (24-48 months, typical development)
- Intraverbal assessment (e.g., verbal conditional discriminations)
- Mand assessment (e.g., mands for information)
- Tact assessment (e.g., tacting social behavior, attentive listener)
- Listener assessment (e.g., eye contact, reinforcing the speaker)
- Social skills assessment (e.g., securing and maintaining a listener)
- Motivation assessment (e.g., topics of interest)
- Multiple control assessment (including conditional discriminations)
- Barriers to conversation assessment (e.g., failing to make eye contact)
- Need for a comprehensive conversation assessment tool

Applications: Intervention

- Assessment results guide the intervention
- Begin with the simple components of conversation (single mand or intraverbal exchange) and build to more complex interactions
- Target weak or impaired areas (MOs, mand, intraverbal, securing a listener, being a listener, turn taking)
- Merge known verbal and listener skills into a conversation framework (e.g., use social games, activities, snack, arts and crafts, etc.)
- Natural environment training (NET) is more conducive to conversation, but a discrete trial format can be useful for establishing component skills, or use a mixture of both formats

Applications: Intervention

- Build to more complex and known variables, then add novel variables, including varied topics, contexts, audiences, etc.
- Practice speaker-listener exchanges
- Develop intervention programs for existing barriers and deficits
- Develop a bank of “conversation starters” (e.g., video games, movies, brothers and sisters, sports, music, weather)
- Use modeling, video modeling, instructions, social stories, scripts, social games, behavioral skills training, PRT, role playing, etc.
- Reinforce approximations, make it fun

Applications: Intervention

- Systematically introduce new variables (e.g., types of multiple control)
- Systematically introduce unpredictability
- Monitor errors and behavior problems, revise when necessary
- Need for measurement, quantification, and analysis protocols
- Research and development is necessary

Conclusion

- Behavior analysis can be valuable for the analysis, assessment, and intervention necessary for teaching conversational skills
- “In a scientific analysis it is seldom possible to proceed directly to complex cases. We begin with the simple and build up to the complex, step by step” (Skinner, 1953, p. 204)
- The hope is that the current analysis will stimulate further research and development in this important aspect of autism treatment

Thank You!

For more information on verbal behavior and links to additional material visit:

www.marksundberg.com