PECS and Skinner's
Verbal Behavior

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The Book: *Verbal Behavior*

- Is an analysis of language from a behavior analytic viewpoint
  - It contains no original research

- Does not address "how to teach"
  - It does not provide an "approach" to communication training

- Is a powerful analytic tool for everyone

1

A Little History…

- Pavlov focused on reflexes/respondents and classical conditioning
- Skinner defined *operants*: behaviors defined by their effect upon the environment
- The unit of analysis is A-B-C:

  Antecedents – Behavior – Consequence
- Change the A or the C and you have a new behavior

2

Verbal Behavior

- We cannot define communication by unobservable factors like 'messages' or 'meaning'
- Skinner defines *verbal behavior* as: "…behavior reinforced through the mediation of other people…"(p.2)
- Refined on page 225: "…the 'listener' must be responding in ways which have been conditioned *precisely in order to reinforce the behavior of the speaker* [by the verbal community]…"

3

The Verbal Episode

- Not all responses to the environment involve verbal operants
- The 'speaker' engages in verbal behavior
  - Modality is not the key
- The 'listener' responds to verbal behavior

4

Is *Modality* the Key?

"In defining **verbal behavior** as behavior reinforced through the mediation of other persons, we do not, and cannot, specify any one form, mode, or medium. Any movement capable of affecting another organism may be verbal." (*p. 14*)

5

Antecedent Conditions

1. State of deprivation or aversive stimulation

2. Some aspect of the environment

3. Other verbal behavior

4. Own verbal behavior

6

Consequence Conditions

1. Related to the Motivating Operations

   ☐ Related to the state of deprivation
   ☐ Aversive stimulation

2. Educational (social)

7

The Mand

Defined as a verbal operant "in which the response is reinforced by a characteristic consequence and is therefore under the functional control of relevant conditions of deprivation or aversive stimulation." (p.35-36)

☐ *Mand* is derived from com*mand*, de*mand*
☐ *A request*

8

Pure Mand

Antecedents	Deprivation/Motivating Operation (MO)
Behavior	Pure Mand
Consequence	Specified by Mand (concrete or social)
Examples	Deprived of a ball- says, *"I want a ball."*- gets a ball Being teased, says, *"Go away!"*- other person goes away

9

Antecedent	Consequence	Operant
✗ MO ✗ Environment ✗ Other's VB ✗ Own VB	✗ Direct ✗ Social/Educational	Mand

10

The Tact

A *tact* is evoked by "a particular object or event or property of an object or event (p. 82)."

- *Tact* is derived from con*tact*
- Commenting/Labeling/Naming

11

Pure Tact

Antecedents	Stimulating aspect of the environment ("stimulating circumstances")
Behavior	Pure Tact
Consequence	Educational/Social
Examples	**Sees a ball- says, "Ball!"- hears, "That's right!"** **Hears it's raining- says, "It's raining!"- hears, "Yes it is!"**

12

Antecedent	Consequence	Operant
✖ MO ✖ Environment ✖ Other's VB ✖ Own VB	✖ Direct ✖ Social/Educational	Tact

13

The Intraverbal

"…responses under the control of audible or written verbal stimuli supplied by another person or the speaker himself…"(p.55) showing "no point-to-point correspondence with the verbal stimuli that evoke them…"(p.71) and reinforced by a "generalized conditioned reinforcer…"(p.53)

- Answering questions, fill-in-the-blank

14

Pure Intraverbal

Antecedents	Verbal behavior
Behavior	Pure Intraverbal
Consequence	Educational/Social
Examples	Hears, "1, 2, 3…"- says, "4"- hears, "Yes! You're right!" Hears, "What's the capital of California, says, "Sacramento," hears, "Thanks!"

15

Antecedent	Consequence	Operant
✕ MO ✕ Environment ✕ Other's VB ✕ Own VB	✕ Direct ✕ Social/Educational	Intraverbal

16

The Echoic

"…verbal behavior…under the control of verbal stimuli [in which] the response generates a sound-pattern similar to that of the stimulus…"(p.55) resulting in a generalized conditioned reinforcer.

What the echoic IS NOT:

Repeating sounds/words that may be self-reinforcing but without "a verbal stimulus of corresponding form… immediately preced[ing] it." (p.58)

17

Impure and Multiply Controlled Verbal Operants

The three antecedent conditions, in isolation, are associated with what we can call the *pure mand*, the *pure tact (p.151)*, and the *pure intraverbal*.

Reinforcers specified by the VB, in isolation, are associated with the *pure* mand.

When these conditions don't occur in isolation, we can describe the VB that results from this complex control as *impure.* (p.151)

18

Possible Combinations of Control

- Multiple or mixed antecedent control
- Multiple or mixed consequence control
- Frost, L., and Bondy, A. (2006): A common language: using B.F. Skinner's *Verbal Behavior* for assessment and treatment of communication disabilities. *SLP- ABA, 1.(2), Page 103*
- Bondy, A., Tincani, M. & Frost, L. (2004). Multiply controlled verbal operants: An analysis and extension to the Picture Exchange Communication System. *The Behavior Analyst, 27,* 247-261.

19

Multiple Control

Antecedent	[1]MO [2]Presence of desired item	[1]Wants to play [2]Sees ball
Behavior	**Mand/Tact**	"Basketball"
Consequence	Direct Educational/ Social	Gets basketball and smile

20

Antecedent	[1]VB of *other* [2]MO [3] Stimulating aspect of environment	[1]Hears "What do you want?" [2]Wants car [3]Sees car
Behavior	**Intraverbal/ Mand/Tact**	"Car"
Consequence	Direct Educational/ Social	Gets car and "Yes!!"

21

Multiple Control

Antecedent	[1]VB of *other* [2]Stimulating aspect of environment	[1]Hears, "What is it?" [2]Sees a pencil and
Behavior	**Intraverbal/ Tact**	"Pencil"
Consequence	Educational/ Social	Gets a high-five

22

Antecedent	[1]VB of *other* [2]Aspect of environment [3]MO [4]VB of *other*	[1]Hears "Tell me what you want?" [2]Sees TV [3]Wants TV [4]Hears, "say,' TV"
Behavior	**Intraverbal/ Tact/Mand/ Echoic**	"TV"
Consequence	Educational/ Social	Gets TV and "Sure!"

23

Antecedent	Consequence	Operant
✗ MO ✗ Environment ✗ Other's VB ✗ Own VB	✗ Direct ✗ Social/Educational	Echoic Tact To Intraverbal Tact

24

Antecedent	Consequence	Operant
☒ MO	☒ Direct	Echoic
☒ Environment	☒ Social/Educational	Mand
☒ Other's VB		
☒ Own VB		

25
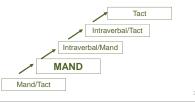
Using the analysis in the real world

- What did Leo do?
  - At first he *babbled*- it is *vocal* but not necessarily *verbal*
  - When prompted to imitate – he would not!
  - When asked "Where's Dad?" he pointed to his daddy- not verbal behavior
  - He pointed to his mom and said, "Mom Mom Mom"
  - He gestured for his water while looking at his mother- a non-vocal *mand*
  - He said 'no'- a vocal *mand*
  - He shook his head 'no'- a non-vocal *mand*
  - He pointed and approximated 'dog'- a *tact*
  - He approximated repeating 'sit down' ('mit down')- this is an *echoic-mand*
- *All of this in 2 minutes!*

26

Using VB to Analyze
Language Intervention Protocols

All changes within the PECS protocol involve changing a single verbal operant into another by detracting or adding a single antecedent or consequence

27

Traditional protocols

Many traditional speech training protocols achieve the mand only after many months of working on other verbal and non-verbal operants

MAND

Mand/Tact

Intrav/Mand/Tact

Intrav/Echoic/Mand/Tact

Tact

Intrav/Tact

Intrav/Echoic/Tact

Echoics

Prerequisites

28

The Language of Emotions

- Talking about feelings and emotions involves various tacts of private events

- We only learn to describe a feeling after someone else has told us what we are feeling

- Talking about feelings/emotions is NOT the same as having them

- Teach the language of emotions while the learner is experiencing the emotion

29

The Autoclitic

1. The term "autoclitic" is intended to suggest behavior which is based upon or depends upon other verbal behavior (p.315) [of the speaker].

   Auto-clitic is derived from 'self-leaning'

2. An autoclitic affects the listener by indicating either a property of the speaker's behavior or the circumstances responsible for that property (p. 329).

30

The Subtle Aspects of Language

- Several types of autoclitics- quantity, quality, the speaker's experience
- The use and understanding of autoclitics (such as 'really') depends upon social reinforcement
- Those with ASD have great difficulty using and responding to autoclitics - as predicted by Skinner!

31

For Whom is *Verbal Behavior* helpful?

- Skinner offers a great analytic tool for *anyone* teaching language skills

- It is NOT a set of teaching strategies

- It CAN help everyone do what they aim to do more effectively
  - Teachers, SLPs, psychologists, behavior analysts, parents, etc.

32

For more information: www.pecs.com

33