

"I Want That!" Teaching Manding to Young Children with Autism Spectrum Disorder

Jamie Owen-DeSchryver, Ph.D. & Amy Matthews, Ph.D.
Grand Valley State University



Many children learn skills naturally...

Neurotypical Child	Child with Autism
1,000 learn units a day	Few learn units a day
Learn from their environment	Poor observational learners
Specific instruction not needed	Specific instruction necessary
Strong speaking skills	Weak speaking skills
Strong listening skills	Weak listening skills

**A child with autism has to learn at a faster rate than typical peers just to catch up.*





“Learning Opportunity” or “Learning Trial”

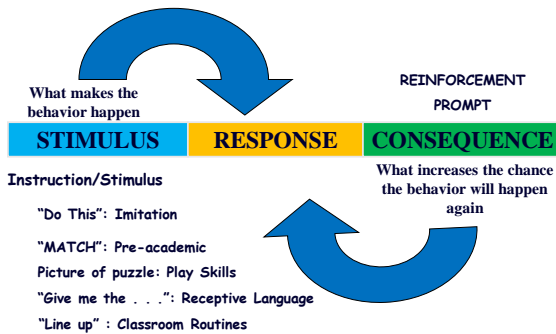


A unit of learning that occurs when an adult presents a stimulus (e.g. instruction) to a child, the child has an opportunity to actively respond, and the adult follows with a reinforcer or corrective feedback.

Each series of *instruction*, *child response*, *adult response* is considered one learning opportunity.



Presenting Instruction



ABA systematically applies procedures based on behavioral principles to the instruction and modification of socially significant behaviors.



ABA: An Evidence-based Practice

- ABA is listed as an evidence-based practice by:
 - National Standards Project (2014)
 - National Professional Development Center on ASD (2014)
 - Association for Science in Autism Treatment
 - Numerous books and articles on evidence-based practice



Different Teaching Methods Based on ABA



- Verbal Behavior
- PECS
- Pivotal Response Training
- Discrete Trial Teaching (DTT)
- Incidental Teaching



ABA: Verbal Behavior

Overview of Concepts

Verbal Behavior

... is **communication**

... focuses on the **function** of language

... can also include sign language, picture systems, gestures or assistive technology



An Overview of Verbal Behavior:

1957 – **B. F. Skinner** wrote the book **Verbal Behavior**

“Understanding why people say what they say and accounting for it is the most important thing we can study regarding the human condition..... and will be the most valuable analysis”

Language = Behavior that is influenced by **Reinforcement** and **Motivation**

Verbal Operants = the **functional** categories of language



ABA: Verbal Behavior

- Skinner wanted to know why people say what they say.
- Skinner proposed that language is behavior that is primarily caused by environmental variables such as reinforcement, motivation, extinction, and punishment.
- Verbal language is established and maintained through reinforcement.
- Reinforcement is mediated by a listener



Verbal Behavior

- A word is not defined by its form but by its functional category



Verbal Behavior

- The same word has many different functions (e.g., mom)
 - Say "mom"
 - I see mom
 - I want mom
 - Where is mom?



The Verbal Operants

- **Mand** – to **request**; ask for what you want
- **Tact** – to **label**; say what things are
- **Echoic** – repeating utterances heard; **vocal imitation**
- **Intraverbal** – verbal responses to others' verbal behavior; **answer questions**
- **Receptive** – a non-vocal response; **following instructions**



Mand

- Requesting for what you want (food, drink, tickles, hug, objects, activities, etc.)
- Controlled by the individual's motivation

Motivation	Mand	Outcome/Consequence
Playing outside on a hot day	"I am thirsty" or signing drink	Drink is provided
Given a new coloring book	"Color"	Crayon is provided



Motivating Operation / Establishing Operation

- Establishing Operation – makes some stimulus or event more reinforcing
 - Example (food, drink, break)
- Every time you present a reinforcer, it decreases the motivation for the next one (abolishing operation)



Manding

- Communicate wants and needs
- Use the student's motivation to teach
- Student can control the environment



Wants bubbles

Says "bubbles"

Gets bubbles



Tact

- Naming or labeling objects, actions, experiences (what you see, hear, smell, taste, feel)
- Label is controlled by contact with something

Discriminative stimulus	Tact	Outcome/Consequence
Water fountain	"Water"	"Yes, that is the water fountain."
Crayon box	"Colors"	"The box has lots of crayons!"



Echoic

- Repeating what you hear
- Controlled by what is heard

Discriminative stimulus	Echoic	Outcome/Consequence
Say "drink"	"Drink"	"That's right!"
Say "red"	"Red"	"It is red!"



Intraverbal

- Conversing or answering questions
- Controlled by the verbal behavior of others

Discriminative stimulus	Intraverbal	Outcome/Consequence
"What do you want to drink?"	"Juice"	"That sounds good."
Which coloring book do you want?	"Train" or sign train	"You can have the train book."



Why Manding?

Top 3 Targets for Intervention: Weiss & Zane (2010)

Teaching Requesting (Manding)

- Social responsiveness
 - Responsive to requests (eye contact and one-step directions)
 - Responding to initiations

Imitation Skills

First year priorities and beyond



Why is Manding Important?

In most children, manding is the first repertoire established (e.g., infant crying to request food)

- yet -

Many students with ASD have not learned to effectively mand to obtain things they want or need

- Successful manding reduces behavior problems



Plavnick & Ferreri (2012)

- Used video modeling to teach mands. When children were taught to mand for high preference items, they engaged in lower rates of problem behavior

Antecedent condition	Mand Response
High preference item that required assistance to operate was presented	Help me
High preference item was placed in a transparent container with tight lid	Open this
High preference item was placed on a high shelf	I want ____
Movie was provided without a player	Movie
Child was provided with brief access to a high preference event	Again



What might this look like?



Plavnick & Ferreri (2012)

- Recommended further research on the use of mand training as a model to prevent problem behavior and/or reduce frequency and severity of problem behavior



Guidelines for Teaching Manding

Manding

- Students are more likely to mand if they receive what they asked for
 - Initially, if the child asks, we give!
 - As the requesting behavior becomes more established, the concept of waiting can be added



Basic Manding

For first words, avoid:

- Non-specific or too general (*more, please, eat, toy*)
- Removing aversives (*finished, break, go play*)
- Hard to deliver (*swimming, playground, animal*)
- Hard to remove (*lollipop, outside*)



Select for first words:

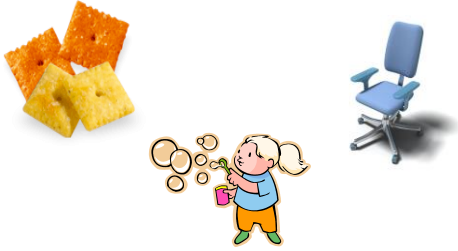
- Strong motivation
- Slow satiation
- Specific items*
- Easy to deliver
- Consumable or removable
- Known response form
- Reinforced in natural environment

*actual foods, drinks, toys, items, actions or people by name (*pretzel, water, push*)



Where to Begin your Mand Training?

Preferred Items, Activities & Routines



Determining high preference items to use for Mand Training


- In Plavnick & Ferreri's study, they determined high preference items by observing children in a free play situation and noting which items the children used gestures to gain access to
- Example items:
 - *Spinning tops, wind up toys, balloon inflators, balls that lit up when bounced, cars that made noise when pushed, Polly Pocket dolls, Thomas the Train toys, puzzles, building blocks, art supplies, bubbles, candy, potato chips*



Teaching Manding: Basic Strategies



Teaching Requesting Using Sign Language

- Begin with the preferred item present 
- First opportunity: Provide a freebie while verbally labeling the item, "bubbles"!
- Next opportunity:
 - Model the sign while verbally labeling the item, "bubbles"
 - Then physically prompt the student to sign for the item; label it again, "bubbles"
 - Provide the item while restating, "bubbles"



Prompting

- **Verbal prompts**
- **Visual prompts**
 - Model prompts
 - Picture prompts
 - Gestural prompts
 - Positional prompts
- **Physical prompts**
 - Blocking
 - Initiation prompts
 - Full Physical prompts



Teaching Requesting with a Prompter

- The initial stages of PECS training require a silent prompter
- Children with limited attention to visual models and/or who have poor imitation skills may also require a prompter to learn signs



Fading Prompts

Fade physical prompts to form the sign or to pick up/point to the picture:

- Fade from full physical to partial physical prompts
- Fade from a partial physical to a time delay prompt

Fade the model of the sign

- At first, you model, the student imitates
- Later, use time delay (bring up the item and wait before modeling the sign to the child)



Protocol for Basic Vocal Mand Training

1. Check for MO (hold out item and see if child reaches or wants)
2. Say name of item, wait for echo and deliver item (reinforcer)
3. After several successful practice trials, fade vocal prompt
4. When mastered with item present, move target to *spontaneous mands*

Antecedent → Behavior → Consequence

MO + Item + Vocal Prompt → Mand → reinforce

MO + Item → Mand → reinforce

MO → Mand → reinforce



Implementing a Mand Training Program



Approaches

1. Daily Mand Training Sessions
Long term, multi-step approach
2. 2-Week Communication Camp



Daily Mand Training



Steps

1. Assessment and baseline (e.g. VB-MAPP)
2. Identify reinforcing items and MO levels
3. Identify response form (vocal, sign, picture exchange, assistive technology)
4. Develop goals
5. Sanitize Environment
6. Daily instruction with multiple opportunities
7. Collect data



Lena's Communication Sessions

- Gaining attention
- Automatic reinforcement of words
- communication camp
- Asking for help
- VB MAAP



Lena's Communication Data



2-Week Communication Camp



What is Communication Camp?







- A fun, 2-week adventure where the child develops new skills that will last a lifetime
 - During the 2-week communication camp, the focus is on establishing opportunities for requesting while teaching the student to initiate communication
- This student's participation in other activities may be temporarily decreased or altered, so that communication can be emphasized



Choose Requesting Targets

Initially, try to choose 1 target from each quadrant

<p>Foods/Drinks/Snacks:</p> <p><i>Chips</i> <i>Pretzels</i> <i>Juice</i> <i>Water</i></p> 	<p>Toys with Multiple Pieces:</p> <p><i>Puzzles</i> <i>Play-doh</i> <i>Train tracks</i> <i>Cars</i></p> 
<p>Interactive/Motor</p> <p>Activities:</p> <p><i>Tickles</i> <i>Swinging</i> <i>Trampoline</i> <i>"blanket slide"</i> <i>Spinning in desk chair</i> <i>Bouncing on therapy ball</i></p> 	<p>Toys Requiring Help:</p> <p><i>Bubbles</i> <i>Balloons</i> <i>Spinning tops, toys</i></p> 

After You've Chosen approximately Four Requesting Targets...

- "Cleanse" the environment. The student only receives access to these items when you are implementing mand training, or when s/he spontaneously requests the item.



Schedule Mand Training Sessions

- Implement approximately 10 requesting opportunities per "session" across 8-10 sessions per day
 - this way the child receives 80-100 opportunities to communicate per day



Home-Based Mand Training Sessions

4 requesting targets for this child:
bubbles, swing, juice, train

ACTIVITY	MAND TARGET
Indoor play	Train (1 track/train at a time)
Outdoor play	Swing
Snack	Juice
In car waiting to pick up sibling	Bubbles
Lunch	Juice
Kitchen clean up	Bubbles
Play	Swing or Train
Bathtime	Bubbles



Other Considerations for Mand Training Sessions

- If the child seems bored or disinterested with any of the items you've selected for mand training, switch to another selected item or identify something else to replace it
- The child **must be motivated** to communicate for the item for mand training to be successful



What about the mode of communication?



Carbone et al. (2010)

- Modeled an earlier approach by Tincani et al. (2006) which focused on PECS, but Carbone used sign language
- Once students were responding with sign language to request preferred items, they added a 5-sec time delay
 - If the child emitted any vocal sound during the time delay, s/he received the item immediately
 - If the child didn't vocally respond, the instructor delivered a vocal prompt and the child received the item
- Like the Tincani study, the authors found that students increased their vocal attempts when the time delay and vocal prompts were employed



Conclusion: Alternative modes of communication such as PECS and sign language **do not** suppress vocal responses in children with limited verbal skills

One child acquired five new word approximations, another seven new word approximations when this prompting procedure was implemented



Thank you!

- Jamie Owen-DeSchryver, Ph.D.
▪ owendesj@gvsu.edu
- Amy Matthews, Ph.D.
▪ matthewa@gvsu.edu