

Verbal Operants

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WHAT'S COVERED

This lesson will explore verbal operants by defining and discussing the following:

1. The Mand
 - a. Preparing for Mand Training
 - b. Mand Training Steps
 - c. Promoting Generalization
2. The Tact
3. The Echoic
4. The Intraverbal

1. The Mand

Mands (requests) are a unique form of verbal behavior because the verbal response specifies the reinforcer.

➞ **EXAMPLE** A patient says, “I want juice,” and their caregiver gives them juice.

Mands occur when a person is motivated to ask for something. In other words, the person wants the thing for which they are asking.

➞ **EXAMPLE** If a patient really likes playing with cars and they are not currently playing with cars, they will presumably be motivated to mand (ask) for a car.

Mands operate within a framework of “You want it, you say it, you get it.” The mand directly benefits the speaker. The consequence satisfies the motivation related to the mand. Manding represents a critical life skill for independence advocacy, and it also reduces the occurrence of other inappropriate behaviors.

Mands are one of the first verbal operants that should be taught to patients with ASD. When patients are taught to mand, they are essentially learning that they can make good things happen by talking. Being able to mand puts the patient into a position of feeling successful and allows interactions with the behavior technician to be positive because the behavior technicians gives the patient what they want.

We have established that many students with ASD or other developmental delays have delayed language. One of the most basic skills for anyone is to be able to communicate needs (thirst, hunger, cold, hot, etc.). So every person needs to be able to make their needs known, whether this is vocally, with sign language, with a

communication device, or through icons. Mand training is essential for establishing functional communication.

Video Transcription

Mm. [INAUDIBLE].

Oh, wow! That was such good asking!

Give me fives. Nice job. Peanuts, OK.

That's not a peanut, bud.

Peanuts. Thanks for telling me you want more peanuts.

Before you play with your stuff, OK?

Can I please play-- Can I please go get an iPad?

Yeah, sure. Thanks for asking.

Oh, the big old shark's going to get you.

He's going to get you. I'm going to get you.

More shark.

More shark? Ah! More shark. OK, ready? Ah! More shark.

[KISSING NOISE]



THINK ABOUT IT

What is an example of a mand for you? For instance, do you think you might mand (request) for a coffee at a coffee shop?

Mand behavior is one of the earliest forms of communication to emerge within young children. Some of the earliest requesting, or mand behavior, can be observed in the most common interactions between a caregiver and infant.

When a baby cries, the natural response of caregivers is to pick the baby up. The caregiver will typically engage in certain behaviors that reduce or eliminate the crying behavior of the child, such as changing a diaper, feeding the infant, providing comfort by singing, engaging with, rocking, or putting the baby to sleep.

Skinner gave this “demand,” such as the crying behavior of the infant, the name of “mand,” as a request for something, which is naturally delivered by another person, namely the caregiver. So, when the baby is hungry, they cry for food, and the baby’s caregiver gives them some milk. Here we can see mand behavior occurring essentially from birth.

➡ EXAMPLE



In this scenario, Jessica requests crackers. This directly benefits her because she is hungry. After manding (asking) for the crackers, she receives the reinforcer (crackers) from her behavior technician.

Mands are controlled by a person's motivation. Motivation can increase or decrease a person's desire for certain things. Many individuals with Autism Spectrum Disorder use inappropriate ways to request because of a lack of communication and/or social skills, for example:

- Screaming for more juice
- Profanity used to gain attention
- Taking a caregiver's hand and leading them to the cupboard to get a snack
- Running out of the bathroom when told it's time to take a bath

Or, we may see one mand used for every request

➡ EXAMPLE "I want some," caregiver brings a cup, a snack, and a favorite toy to see what the patient actually means.

Therefore, one of the first skill targets we may need to teach a learner is to "mand" appropriately. Even patients who are able to communicate vocal verbally may not appropriately mand. Remember, even if a patient has learned to say and recognize many words, they may not be able to make a simple request for "juice."



TERM TO KNOW

Mand

A request

1a. Preparing for Mand Training

The BCBA will instruct the behavior technician to teach requests, or mands, for specific items instead of generic words or phrases, such as "apple" and "cookie" instead of "eat." They will also select a variety of targets, not limited to one category, to avoid satiation

BCBAs and behavior technicians will need to remind caregivers about the importance of withholding access to targeted items outside of teaching sessions. This will ensure that the client/student is very motivated to gain the items during teaching sessions.

The BCBA will encourage the behavior technicians and direct staff to build rapport with the patient prior to training. This is important for these reasons:

- Requesting/mand training may be one of the first targets that behavior technicians teach to the patient.
- You want the patient to see you as fun and positive.
- You want the patient to pair you with reinforcers.
- The behavior technician will need adequate time to build rapport with the patient and participate in fun

activities with them.

1b. Mand Training Steps



STEP BY STEP

Step	Description	Example
1	Begin with impure mand	Motivation: Initially the behavior technician may have to pretend to lick the lollipop, rustle the paper on the lollipop, or say, “mmmmm” while pretending to lick the lollipop. The lollipop is in view: The lollipop will actually be present as a visual prompt or reminder to request the item. “What do you want?”: The behavior technician may use this as a prompt to get the patient to request. “Say lollipop”: The behavior technician prompts the patient to say lollipop. Response: Patient says, “Lollipop,” behavior technician gives them the lollipop.
2	Begin fading echoic prompt	Motivation: Initially the behavior technician may have to pretend to lick the lollipop, shake the lollipop, or say, “mmmmm.” The lollipop is in view: The lollipop will actually be present as a visual prompt or reminder to request the item. “What do you want?”: The behavior technician may use this as a prompt to get the patient to request. Fading the prompt, “Say Lollipop”: The behavior technician may use a partial prompt like, “Say Lolli.” Response: Patient says, “Lollipop,” then the behavior technician gives the patient the lollipop. Fading prompts is extremely important in mand training! We do not want the patient to be forever dependent upon the prompt – we want to teach them to be independent!
3	Continue fading verbal stimulus	Motivation: The patient is now likely interested in the lollipop if the behavior technician is carefully using preference assessments and this item is still motivating – fade intentional attempts to get the patient interested. The lollipop is in view: The lollipop will actually be present as a visual prompt or reminder to request the item. Fade asking “What do you want?”: The behavior technician will stop asking this question. Response: Patient says, “Lollipop,” and the behavior technician gives the patient the lollipop.
4	Fade the non-verbal stimulus	Motivation: The patient still wants the lollipop. Fade the presence of the lollipop: The lollipop is no longer in view. Response: Patient says, “Lollipop,” and the behavior technician gives the patient the lollipop. Here, the presence of the lollipop is faded away so that the patient learns to

		request the item they want without it being in view. Why is this important? The desire to have the item should be the only thing controlling the patient's request. If the behavior technician is not careful to fade the other stimuli then the patient will not be able to request without all the additional prompts. How would you fade the non-verbal stimulus? You could "flash" the item or hide the item and then show it.
5	Pure mand	Motivation: The patient still wants the lollipop. Response: The patient says, "Lollipop," and the behavior technician gives the patient the lollipop. Here, the patient is requesting because they are motivated to request, not because they are being prompted to request. The patient has learned that when they want the lollipop, they can request with the mand, "lollipop," and then they will get it.

Some patients may progress very quickly through mand training steps. Some patients may have difficulty learning to request when something is not in view.

When first learning how to request, it is important that the patient gets what they want, whenever they ask for it. Later we can teach them to wait or that some items are "not available" right now.

Video Transcription

A mand is a request that people use to get items that they want. When teaching manding, we first start off by prompting the individual and then gradually reducing that prompt until the individual is able to ask for what he or she wants independently.

Mmm. Lollipop.

Lollipop.

Oh, nice asking.

Look. Mmm. Lolly--

Lollipop.

Oh, my goodness. That was so good.

OK, look. Mmm.

Lollipop.

Oh, wow. That was such good asking.

Lollipop.

You want the lollipop? That was so good. You can go.

1c. Promoting Generalization

Generalization can begin in the very early stages of mand training. In the initial phases of training, even on day one, ensure that the patient is required to “request” from several people (behavior technician, caregiver, teacher, etc.). Different staff and caregivers can also take turns holding and presenting the desired item to the patient.

Generalization may also take place in different settings. You should plan for mand training sessions to occur in different locations:

- at school
- on the playground
- in the cafeteria
- at home
- in any of the patient’s other natural environments

You should create requesting opportunities within daily routines where the skill is most functional, like during snack and mealtimes, playtimes, or self-care routines.

Once mand training begins, the behavior technician should provide multiple opportunities throughout the session for the patient to ask for things. The behavior technician should remember to do multiple preference assessments and keep the patient interested in the available items.

Just because the BCBA implements the mand training program lesson does not mean that the patient will magically start requesting. The behavior technician needs to remember to be persistent, contrive situations throughout the session, and once the patient loses interest in one item, move to another item.

IN CONTEXT

Not all patients are able to clearly articulate words at the beginning of mand training. Here is another example of step one of shaping vocal approximations for mand training:

Step 1: Begin with impure mand.

Motivation: Initially the behavior technician may have to pretend to eat the cookie, rustle the bag of cookies, or say, “Yum!” while smelling the cookies.

The cookie is in view: The cookie will actually be present as a visual prompt or reminder to request the item.

“What do you want?”: The behavior technician may use this as a prompt to get the patient to request.

“Say cookie”: The behavior technician prompts the patient to say cookie.

Response: Patient says, “Cuh,” or sound that approximates the beginning of the word cookie, and the behavior technician gives them the cookie.

We might continue with this step a little longer and implement a shaping procedure, first accepting, “Cuh,” or any sound approximating the word cookie, then accepting a clear, “Cuh,” sound, then,

“Cuh Cuh,” then, “Cookie” (or however your BCBA suggests shaping the specific target).

Video Transcription

Say mm.

Mm.

Yeah! There we go. Good job.

So Mike, have him ask you for the trucks. You can even just hold it out in front of him. And then he'll even ask you.

More?

More.

Yeah? OK.

More.

Good asking, buddy.

2. The Tact

Tacts are verbal behavior under the control of a nonverbal stimulus.

🔗 **EXAMPLE** A patient sees a car (nonverbal stimulus) and says, “Car,” or sees a group of children wearing party hats, eating cake, and playing games (nonverbal stimuli) and says, “It’s a birthday party.”

The nonverbal stimuli evoke the verbal response. Reinforcement for a tact, unlike a mand, is not specific to the verbal response. The tact “Car” is reinforced when someone says, “Yes, it is a car,” or “That’s right.” The listener does not give the speaker a car. Simply described, a tact is used to label or comment on things in one’s environment.

With tacts, “You see/hear/smell/touch/taste it, you say it.” Tacts aid in development of friendships and relationships. However, they can be the most difficult operant to develop.

Video Transcription

See it?

That's a panda.

Yeah, it is a panda. You're right.

[SPEAKING SPANISH]

Tree.

Tree. [SPEAKING SPANISH]

What do you hear?

I hear a wave.

Very good. It is a wave. Do you want to look at it?

You're interested again? Here. Why don't you go over there? Go over here, and you can see better.

Train.

What's that?

Train.

Train.

Ooh. You want to move it for me? Show me your train.

Say choo choo.

Choo choo.

Yeah. Move it.



THINK ABOUT IT

Tact something in your environment! For instance, you might be sitting looking at a computer, have a glass of water, hear a car drive by, or smell an air freshener.

Tacting should be taught using both DTT and NET. When using DTT to teach tacts, a nonverbal stimulus and instruction are presented. Then, the patient responds, and a consequence is delivered indicating if the response was correct or incorrect.



EXAMPLE A behavior technician shows the patient a picture of a car and says, "What is it?" The patient responds, "Car," and reinforcement is delivered.

Video Transcription

Tell me what that is.

Oranges?

Oranges, good for you. Tell me what those are.

Shoes.

Shoes. Tell me what that is.

Pizza.

OK.

During NET, the behavior technician interacts with the patient as they move around in the environment, taking advantage of opportunities to teach them to tact. The behavior technician asks the patient to label things as they contact various stimuli in the environment (e.g., playing with toys, seeing people, hearing sounds, tasting food).

If the patient is playing with an animal puzzle, the behavior technician might point to the cow and ask, “What animal?” to which the patient would tact, “Cow.” Then, when the patient’s caregiver walks into the room, the behavior technician might point to them and say “Look who it is! It’s...” to which the patient would tact, “Mom.” Next, when the behavior technician and patient hear a dog barking, the behavior technician might ask, “What do you hear?” and the patient would tact, “Barking.”

➦ **EXAMPLE** A patient might hear a dog barking and tact “I hear a dog.” The behavior technician would deliver reinforcement, positive praise, by saying “Cool! Me too!”

Video Transcription

What is that?

A rabbit.

He's wearing a blue--

Hat.

And a--

Green--

Hat.

And a--

Red hat.

Hat.

And a-- oops. He's not wearing a hat.

Yellow hat.

Yeah, it's a yellow hat.



TERM TO KNOW

Tact

A comment about the environment

3. The Echoic

Echoics are verbal behavior under the control of a vocal stimulus that is formally similar to the vocal response. In other words, the patient "echoes" what you say.

➞ **EXAMPLE** A caregiver says, "Ball" (vocal stimulus) and the patient says, "Ball," or a caregiver says, "Red" (vocal stimulus) and the patient says, "Red."

These examples highlight the point-to-point correspondence between the verbal stimulus and the verbal response, which is sometimes referred to as vocal imitation.

With echoics, "You hear it, you say it." The verbal response matches the verbal stimulus.

➞ **EXAMPLE**

Verbal Stimulus: "Apple"

Verbal Response: "Apple"

Echoics are often one of the first operants taught. When a baby is first learning language, we tend to say words like "Mama" and "Dada," "Baba," etc. and expect them to echo.

Vocal imitation is taught to patients with ASD with the goal of eventually teaching them to use speech as a form of communication.



DID YOU KNOW

Researchers have found that, for some patients with ASD, shaping vocal imitation (echoic) repertoires also results in an increase in vocalizations (Lovaas, Koegel, Simmons, & Long, 1973; Ross & Greer, 2003), which is a nice bonus.

Furthermore, once patients have an established echoic repertoire, echoics can be used as prompts to establish other verbal repertoires, such as mands, tacts, and intraverbals.

➞ **EXAMPLE** When playing a clapping game, the patient is taught to echo the phrase, "Miss Mary Mack." When the patient echoes the phrase, the behavior technician delivers reinforcement in the form of positive praise, "You did it!"

Video Transcription

Say couch.

Couch.

Allright! Give me five. Super!



THINK ABOUT IT

Think of an example of an echoic from your own childhood (or adulthood!). Have you ever been in a restaurant and had a server repeat or echo your order back to you to confirm that it is correct?

Vocal imitation is often taught using DTT, DTT combined with shaping, or DTT combined with chaining. DTT follows an instruction, response, consequence sequence.



EXAMPLE The instruction “Say ‘Apple’” is followed by the response “Apple,” and reinforcement follows.

While pure echoic behavior occurs in the absence of an instruction, most behavior technicians include an instruction (e.g., “Say”) when teaching vocal imitation because this is the cue that it is appropriate to imitate the sound, word, or phrase that follows the instruction (and it would be strange for the patient to walk around imitating everything other people say all day long).

Video Transcription

OK. Let's do some talking. Say ba.

Ba.

Good job. Say ga.

Ga.

Good job. There you go, buddy. Say ee.

Ee.

Good job! Say tt, tt, tt.

Tt.

Good! Very good. There you go.



HINT

Vocal imitation can also be taught using NET.

Video Transcription

Do you want to see the animal in the zoo? Come see it. Be very quiet.

OK.

Can you say, kangaroo?

Kangaroo.

OK. Do you want to see it?



TERM TO KNOW

Echoic

Patient “echoes” what you say

4. The Intraverbal

Intraverbals are verbal behavior under the control of a verbal stimulus. However, unlike echoics, intraverbals do not have point-to-point correspondence or formal similarity to the verbal stimulus that evokes them. In other words, the response does not match the antecedent.

As mentioned, an intraverbal occurs when the patient responds to the verbal behaviors of another person with a different but related verbal response. Put simply, it is a conversation.

➞ **EXAMPLE** The verbal stimuli “A and B” evoke the intraverbal response “C.”

Similar to echoics and tacts, reinforcement for intraverbal behavior is not specific to the form of the response. Skinner (1957) discussed that much of what is traditionally referred to as conversational speech, question answering, a series of numbers, letters, or words (e.g., saying “Go” after hearing “Ready, set...”), word associations (e.g., saying “White” after hearing “Black”), and translations (e.g., saying “Gracias” in response to “Thank you”) is, in fact, intraverbal behavior.

Video Transcription

Hi. Hi.

I'm Suzanne. What's your name?

[INAUDIBLE].

What color are your eyes?

Are blue.

How about mine? What color are my eyes?

Are black.

Yeah.

➞ **EXAMPLE** The behavior technician asks the patient, “What is your name?” The patient responds with the intraverbal, their name, “I’m David.” Reinforcement may be delivered through verbal praise, such as, “Nice job telling me your name!” or through a reciprocal conversation, such as, “Nice to meet you, David. My name is Sofia!”

➞ **EXAMPLE** The behavior technician asks the patient, “What did you do today?” The patient can respond (intraverbal) several ways, such as “I went to school,” “I saw a movie,” or “I played basketball.”

Intraverbals are not always an answer to a question and can also be a statement to a statement.

➞ **EXAMPLE** The behavior technician says, “I like the beach” to which the patient might respond, “I like the park.”

Video Transcription

- Chris, you said your favorite was Neptune, and AJ, you said his favorite was Neptune.

I like Neptune, too.

You like Neptune, too? Cool. My favorite is Pluto.

Intraverbals are often taught using discrete trial training (DTT) and natural environment training (NET). When using DTT to teach intraverbals, a vocal stimulus is presented, the patient responds, and a consequence is delivered indicating whether the response was correct or incorrect.

➞ **EXAMPLE** A behavior technician says, “What color is the sky?” Then, the patient says, “Blue,” and reinforcement is delivered.

Video Transcription

[INAUDIBLE] Tucker, what does a duck say?

Quack, quack.

Quack, quack. You're right. Look. D is for dinosaur.

When using NET, the behavior technician interacts with the patient as they move around in the environment, taking advantage of opportunities to teach intraverbals. The behavior technician presents vocal stimuli and waits for the patient to respond, providing prompts when necessary.

➞ **EXAMPLE** The patient might begin building a tower with blocks and the behavior technician might

ask, “Do you like playing with blocks?” The patient might say, “Yes.” Then, the patient might request a snack, so the behavior technician might ask, “What is your favorite snack?” to which the patient might respond, “I like chips.” Next, the patient might begin playing with ABC magnets, and the behavior technician might say, “Let’s sing the ABC’s, A, B, C, D...,” to which the patient might respond, “E, F, G.”

Video Transcription

But I was cutting an apple and I cut my finger and that hurt a lot. How do you think I felt?

Sad.

Mm-hmm.

As mentioned previously, there are additional verbal operants; future coursework in ABA will dive deeper into these topics.



TRY IT

At one point during your day, write down a short (2-3 minute) conversation that you have with a friend or family member (make sure they are okay with this at first). Then, identify the different types of language that are used during your conversation by classifying it using Skinner’s analysis of verbal behavior (echoic, mand, tact, intraverbal).



TERM TO KNOW

Intraverbal

Occurs when the patient responds to the verbal behaviors of another person with a different but related verbal response; a conversation



SUMMARY

In this lesson, you learned about verbal operants, including: **the mand**, or request, which is one of the first verbal operants that should be taught to patients with ASD; **the tact**, which is a verbal behavior under the control of a nonverbal stimulus, or a comment about the environment; **the echoic**, which describes when the patient "echoes" what you say, and is often one of the first operants taught to babies; and **the intraverbal**, which is essentially a conversation, occurring when the patient responds to the verbal behaviors of another person with a different but related verbal response.



TERMS TO KNOW

Echoic

Patient “echoes” what you say.

Intraverbal

Occurs when the patient responds to the verbal behaviors of another person with a different but related verbal response; a conversation.

Mand

A request.

Tact

A comment about the environment.