Natural Environment Training Explained

by Capella Partnered with CARD

1. Natural Environment Training and Goals

Natural environment training, also called natural environment teaching (NET), uses teaching procedures within Applied Behavior Analysis (ABA) that can be used to teach patients in their natural environment.

Situations and items that the patient would already be interacting with are used to teach relevant skill targets. Behavior technicians capitalize on the patient's motivation at that given moment.

> ⤳ EXAMPLE If you are teaching a patient to identify colors using NET, rather than using flashcards at the table using DTT, you might ask the patient, "What color is this one?" or "Point to the blue one," while playing with different toys on the floor of their living room.

Video Transcription

I try to incorporate a lot of things, as much as I can. For instance, if he was playing with trains, I'd incorporate functional pretend play. So that's just basically teaching him how to play with the toy appropriately, the way it's supposed to be played, building a track, having a move, and using vocalizations, Choo Choo, let's go, all aboard, things like that.

Choo choo

All right, say all aboard

All aboard.

All right! Because he's so little we're building a lot of language. It's language, language, language, all the time. So we work on manding, so having him request for things from me.

[INAUDIBLE]

We could also work on tacting, which is having him label, the colors, the names of the trains.

[INAUDIBLE]

It's Thomas. Also we can work on getting attention. I would withhold the preferred trains or tracks and have him tap my shoulder to get more pieces.

[INAUDIBLE]

Hi! What do you want?

A train.

You want trains. We can also work on compliance, like, come here and give it to me, wait. Come here. Yeah! That's such good listening. Good job, mister. So there's a lot of things I can incorporate at the same time in one sitting.

The goal of NET is to provide treatment activities which replicate the natural environment of the patient to maximize the effectiveness of teaching. It does this in two ways:

- It fosters motivation. The behavior technician uses activities and things the patient already cares about/is engaged in.

  ⤳ EXAMPLE The behavior technician could teach prepositions by using the patient's favorite book or toy and placing it under/on/next to their bed and telling the patient where to find it when they ask for it.

- It facilitates independence and generalization. The behavior technician teaches it in context where the patient might be actually motivated or required to use that skill in real life.

  ⤳ EXAMPLE The behavior technician could teach how to use a zipper by having the patient zip up their own coat before going outside to play or teach how to button a button while the patient is putting on a button-up shirt while getting dressed.

📄 TERM TO KNOW

Natural Environment Training (also called Natural Environment Teaching, or NET)
Uses teaching procedures within Applied Behavior Analysis (ABA) that can be used to teach patients in their natural environment.

2. Comparing NET to Other Approaches

NET is different than other approaches, such as DTT, in several ways:

- The patient rarely sits at a table. Instead, for example, they might play on the floor, jump on the trampoline, walk in the park near their home, etc.
- Typical training materials such as cards or "academic" manipulatives are rarely used. Instead, items from their natural environment, such as toys, books, crayons, etc. are used.
- The target items are chosen by the patient and not the behavior technician. For example, if the patient wants to color, the behavior technician works on skills related to that activity.}}
- The patient typically gets the reinforcer that he is working with. For example, the patient requests a crayon and receives it.
- The lessons can be more 'functional" in nature. For instance, learning colors allows the patient to request a specific crayon.

Video Transcription

Watch me. Do this. That was so smart! Good for you, mister man. Do you want back scratches?

Yeah.

--back scratches. OK, ready? Do this. That was so smart, you did it! You did it!

OK, here we go. Do this. Nice job, give me ten. One. Two. Three.

Hey, look. Can you do this?

Yeah.

Do this. Oh, good, you're making a pancake! Good. OK, ready? Let's try this. Do this. Ooh, good for you, you're making holes. Good job. OK, let's try to make a pile. Do this.

I'm making piles.

You did, good for you.

I can make it--

2a. DTT vs. NET

Let's look at DTT compared to NET.

1. Use of Naturally-Occurring Stimuli

Both can use materials from the natural environment. DTT requires prompting, while NET happens naturally.

⤳ EXAMPLE The target is teaching a patient to brush their teeth. DTT: The behavior technician puts the toothbrush on the table with two additional items and says "Get toothbrush." After the patient picks up the toothbrush, the behavior technician repeats 10 trials. NET: The behavior technician takes the patient to the

bathroom and says, "Get your toothbrush." After the patient picks up the toothbrush, the patient begins to brush their teeth.

Video Transcription

What are you eating?

I'm eating this.

What are those?

Cheerios.

What shape is that?

It's a circle.

A circle, that's right. What shape is this?

A circle.

That's right. What color is it?

Red.

That's right. What's your favorite color?

Pink and blue and purple red.

All of those?

Mm-hmm.

That's a lot. What color is this?

Green.

That's right. What color is this?

Brown.

Brown. What shape is that?

Um, I don't know.

Hmm. Is it a triangle?

No.

A rectangle.

That's right! Good job. [LAUGHS]

2. Variations of Environments/People/Time

DTT requires programming, whereas NET skills are naturally targeted across a variety of places and situations to ensure the patient can use the skill functionally in multiple settings.

↪ EXAMPLE The target is present tense actions. DTT: S^D is "What are they doing?" while showing flashcards of people jumping. NET: While reading a book, the behavior technician asks, "What's happening here?" and Mickey states, "The girl is jumping on the bed." While jumping on the trampoline with the behavior technician, Mickey says, "I'm jumping on the trampoline."

Video Transcription

And black, black, black-- you ready-- with silver buttons-- get ready to do it with each other-- buttons, buttons all down her back, back, back-- there you go-- back. She asked her mother-- there you go-- mother, mother, for-- for 15 cents, cents. Nice job. Good job.

3. Interspersing of Treatment Targets

S^Ds/targets from multiple skill areas are intertwined within a single functional or preferred activity. This requires the patient to discriminate between the different S^Ds, thereby learning to apply the appropriate skill to the appropriate situation.

In NET, this occurs naturally, while in DTT, this must be programmed (for example, S^D rotation lesson, etc.).

↪ EXAMPLE While playing a board game, the behavior technician incorporates:
- Pronouns/turn taking ("my turn/your turn/his turn")
- Counting (moving piece along the path)
- Flexibility (using a different colored piece than the preferred color, changing a rule to the game)
- Tacting/commenting ("Cool," "Oh no, I have to go back," etc.)
- Accepting losing

Video Transcription

Oh, look at that.

Crocodiles!

Yeah. What's this one?

The kitty cat.

The kitty cat. And what's that one?

The lion.

Can you be a lion? Can you pretend--

[CHILD ROARS]

[ADULT GASPING]

You're so scary! I'm so scared! Can you do it again?

Yeah.

[CHILD ROARS]

[ADULT EXCLAIMS] I'm so scared! You want me to be the lion?

Yeah.

Ask me.

Try, you.

Say, "Be the lion."

Be the lion.

OK, here I go. I'm going to come get you!

[ADULT ROARING]

[CHILD EXCLAIMS]

(IN DEEP VOICE) Here I come!

[ADULT ROARS]

[CHILD ROARS]

[ADULT GASPS, SCREAMS]

4. Reinforcement

DTT uses arbitrary reinforcers, while NET uses functional reinforcers.

Note, however, that functional reinforcers in NET may not provide enough reinforcement, and you may still need to use primary or strong secondary reinforcers.

Video Transcription

What is that?

It's like squishy sand. Squish. Squish. You want to play with it?

Yeah.

OK, here.

Thanks.

Want this apart.

Say, open it, please.

Open, it please.

Oh, I will open it for you. That was good asking. Good. OK, ready? Let's try this. Do this. Oh, good for you. You're making holes. OK, get your ball. Ready? Do this. Good job. Want to make a snowman?

Yeah.

OK, put yours down. Put it on the table. OK, let's put mine on top. Ready? Put it on top. There's one, and we need one more. Should we make one more ball?

Yeah.

OK, we'll make a little one. A little ball.

I want a nose.

Huh?

I want a nose.

Oh, he needs a nose. That's a good idea.

5. Preparation/Planning

NET requires more preparation and planning by the behavior technician than a traditional DTT program.

Target lessons may not naturally arise during sessions and skills need to be taught in novel situations that share common qualities or similarities, but that are non-identical to prevent memorization and facilitate generalization and critical thinking skills.

As a behavior technician, here are a few important things to keep in mind:

- You will need to take advantage of any unplanned situations which arise.
- You may need to collect data when the patient isn't looking.
- Community outings and play dates are learning opportunities.
- Will require pre-planning of contrived learning opportunities.
- Skills need to be taught in novel ways.

IN CONTEXT

Let's look at an example of counting, comparing DTT to NET.

DTT:
- The behavior technician puts number stimuli in front of the patient.
- The behavior technician asks "Give me four."
- The patient picks up the number four and hands it to the behavior technician.
- The behavior technician reinforces with "Good job!"

NET:
- The patient and behavior technician are playing with the patient's favorite action figures outside.
- The behavior technician asks, "Wow. How many action figures do you have over there?"
- The patient responds, "Four" (correct), and the behavior technician gives the patient a high five.

2b. Advantages and Disadvantages of NET

The following table outlines the advantages and disadvantages of NET:

Advantages of NET	Disadvantages of NET
Motivation/EO provides the best conditions for teaching manding/requesting.	Provides fewer opportunities for repetition.
Generalization naturally occurs; elaborate generalization procedures are not necessary.	The patient may require more structure due to attention issues, especially at the beginning of a treatment program.
Reduced amount of negative behavior due to the use of the patient's interest; specific reinforcement is naturally built in.	MO's/S^{D}s may not naturally present themselves during a two to three-hour therapy session.
Verbal interaction is characteristic of the natural environment.	Requires more proactive planning on the part of the BCBA and behavior technicians.

Vocal responses can be mixed together under environmental conditions that may evoke them later.	Not always feasible for reinforcers to be functionally related to the task or natural reinforcers may not be strong enough. Data collection is more challenging.

3. NET Terminology and S^Ds in NET

There are three C's of NET: combining, capturing, and contriving.

Combining refers to presenting two or more different S^Ds/learning opportunities during an activity.

↪ EXAMPLE The patient wants a snack, so you combine manding/requesting for the snack and identifying the color of the snack, plate, etc.

> **Video Transcription**
>
> OK. So we're going to make some coffee. That sounds great. So I want you to first think of all the things that you need to make coffee. So what are all the things that you need to make sure we have?
>
> A coffee filter.
>
> OK.
>
> And coffee grounds.
>
> Perfect.
>
> And you need a cup.
>
> OK. Mhm.
>
> With a plate under it.
>
> Perfect. Is there anything you need to go in your coffee?
>
> Water.
>
> OK. Water. And then what about after the coffee is made?
>
> Creamer, sugar.
>
> Perfect. So anything you want to put into the coffee.
>
> Yep.

OK. So do you know where the coffee grounds and the filters are?

Yes.

Do you know where they are? All right. So go ahead and get them out.

Perfect. OK. So what do we need to do next?

We have to get the water.

Yep. We've got to get the water. You know what before we do that though, let me ask you a question about this.

OK. So where do you think we should plug this in? Would this be a good choice, or should we plug it in over there by the sink?

I think it would be good to plug it in here.

OK. How come here and not over by the sink?

Because you can get electrocuted.

If it's what?

If it's wet.

If it's wet, that's right. Perfect. So what would you do? Because sometimes-- especially if this is in the kitchen, this might get wet. So what would you want to do?

If it got wet?

Mhm.

Let it dry.

Yeah. You'd definitely want to dry it. Let it dry, probably not use it.

Yeah.

OK, because that could definitely lead to bad stuff, getting electrocuted.

Yeah.

OK, good. So is it wet or dry right now?

Dry.

OK. So it's probably pretty good. Go ahead and plug it in.

Hopefully, it's not wet.

[LAUGHING]

I think we're good. OK. Let's get our water.

Capturing is defined as using existing S^{D}s/learning opportunities that are already present in the natural environment.

⤳ EXAMPLE The patient is playing with blocks, so you use this opportunity to ask what color are the blocks, which one is bigger/smaller, count the blocks, etc.

Video Transcription

[LIGHT LAUGHTER] Cat.

What's the cat say?

Eow.

Meow.

Eow.

[LIGHT LAUGHTER]

What else do you want to draw?

Eow.

What's this?

Eow. Eow. Cloud.

Cloud. What if I do this to it?

Clouds.

Now it is it?

Tree.

Tree.

Contriving is when the behavior technician modifies the environment or situation to create a learning opportunity when one is not present.

⤳ EXAMPLE The patient will need to brush their teeth, so the behavior technician removes the toothpaste so that the patient will need to identify what is missing and ask for it.

Video Transcription

OK, so when we were making coffee, do you remember what I was looking for?

The coffee filter.

Yeah. And what was my body doing?

You were looking for it.

Yeah, I was kind of--

In the cabinets.

Right. I was looking through cabinets and drawers. And did you notice anything about my face or my voice at all?

You were looking around.

Yeah. I kind of had maybe a confused look, right?

Yeah.

So do you remember the other day, we were talking about if somebody is looking for something, and you notice that maybe they look a little worried or a little bit confused, what you can say?

Yeah.

And what was that?

Could you use some help?

Yeah.

Do you need some help?

Perfect. Perfect. So you did a good job. You just want to make sure that you keep looking at other people and paying attention to their body and their face because that's going to tell you what they might want or what they might need help with, and then you can help them out and respond to what they need, OK?

OK.

All right. Good job.

S^{D}s in NET are:

- More natural and resemble conversational language rather than rote or repetitive language

  ⤳ EXAMPLE While the patient is playing with a new toy, the behavior technician says, "Cool, what are you playing with?" rather than "What is it?"

- More neutral or natural tone; no "S^D voice" like in DTT
- Incorporated into natural activities and conversation

  ⤳ EXAMPLE While looking at a new book with the patient, the behavior technician points to a picture and says, "Wow, I wonder what that is?" rather than "What is that?"

Video Transcription

Who is it? It's very big, and it has a trunk like this. Do you know what it is?

Yeah.

And it has big ears. What could it be?

The dinosaur?

It could be, but it goes like this. [IMITATES ELEPHANT]

It's an elephant.

You're right. Look, there it is. You want to pet it?

Learning concepts are embedded into naturally occurring situations to make them the most functional – meaning, when it makes sense for patients to use the skill.

  ⤳ EXAMPLE While eating ice cream outside, the ice cream starts to drip. The behavior technician asks, "Uh oh, why is it dripping?" The patient answers, "Because it's hot out here and it's melting." (Cause/Effect)

📄 TERMS TO KNOW

Combining
Presenting two or more different S^{D}s/learning opportunities during an activity.

Capturing
Using existing S^{D}s/learning opportunities that are already present in the natural environment.

Contriving
The behavior technician modifies the environment or situation to create a learning opportunity when one is

not present.

	SUMMARY

In this lesson, you learned about **natural environment training and goals**. Also known as natural environment teaching, or NET, it uses teaching procedures within ABA that can be used to teach patients in their natural environment. Situations and items that the patient would already be interacting with are used to teach relevant skill targets. The goal of NET is to provide treatment activities which replicate the natural environment of the patient to maximize the effectiveness of teaching, by fostering motivation and facilitating independence and generalization. You also explored how NET is different, by **comparing NET to other approaches**, such as DTT. Lastly, you learned some key **NET terminology and S^{D}s in NET**, including the three C's of NET: combining, capturing, and contriving.

	TERMS TO KNOW

Capturing
Using existing S^Ds/learning opportunities that are already present in the natural environment.

Combining
Presenting two or more different S^Ds/learning opportunities during an activity.

Contriving
The behavior technician modifies the environment or situation to create a learning opportunity when one is not present.

Natural Environment Training (also called Natural Environment Teaching, or NET)
Uses teaching procedures within Applied Behavior Analysis (ABA) that can be used to teach patients in their natural environment.