Skill Acquisition Data Collection

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WHAT'S COVERED

This lesson will explore skill acquisition data collection by defining and discussing the following:

1. Purpose
2. Types
   a. Trial by Trial Data Collection
   b. Types of Responses
   c. Percent Correct

1. Purpose

Skill acquisition data are important for demonstrating patient progress in building their repertoire of skills and behaviors.

Top-quality treatment depends heavily on behavior technicians collecting accurate data on an ongoing basis, as well as BCBAs basing their treatment decisions on those data.

Human memory and clinical judgment are not adequate for making decisions about treatment effectiveness. A hallmark feature of ABA is a reliance on data-based decision-making and data-based accountability for treatment effectiveness.

Skill acquisition data allow a BCBA to

- identify skill deficits, which lets us know what skills we need to work on building
- monitor progress, which helps us to know how the patient is progressing
- determine mastery, which helps us identify how to know when the skill should be considered mastered
- ensure maintenance and generalization, which helps us make sure that the patient can continue to demonstrate the skill after the intervention is completed with other people, in other places, and about other behaviors

Skill acquisition data allow a behavior technician to do the following:

- Know what step of discrimination to move on to next; this is, track where we are and what comes next in discrimination training.
- Communicate effective and ineffective strategies to the BCBA; the BCBA needs to know if what we are

doing is successful or unsuccessful so that they can make changes to programs as needed.

- Determine mastery and when to introduce a new skill; this helps us know when the patient has reached the mastery criteria so we can move to the next target.

Sometimes, a BCBA will need to make curriculum modifications or changes based upon a patient's performance on certain programs. The data tells us what needs to be changed.

> EXAMPLE If a patient is struggling to master a goal, such as answering wh questions, the BCBA might decide to modify the goal slightly and add one verbal prompt.

When it is time to introduce new skills, the BCBA may need behavior technician's to help with individualized assessment procedures in order to create goals and make curriculum modifications. While it is the BCBA's job to conduct assessments, behavior technicians may assist BCBAs in conducting them as they may have built more rapport and have more instructional control with the patient.

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2. Types

We have looked at several different types of data that you may collect, including frequency, rate, duration, response latency, inter-response time, percent of occurrence, interval recording, and permanent product recording.

When working with skill acquisition programs, you may see more specific types and ways to collect the data. We will discuss these:

- trial by trial data collection
- types of responses
- percent correct

2a. Trial by Trial Data Collection

This type of data collection is used when recording a patient's response to a discriminative stimulus (S^D) on a trial by trial basis. The behavior technician is observing, measuring, and recording a patient's response following each trial, and data are recorded at the end of every trial.

> EXAMPLE A behavior technician would record the data from the S^D, the response, and the consequence.

2b. Types of Responses

We can mark many types of responses on the patient's data sheet. These can include the following:

- Correct: The target response specified for an S^D
- Incorrect: Any response other than the target response for the S^D
- No Response: When there is no reaction to the S^D
- Prompt: When the behavior technician provides a prompt in addition to the S^D to help the patient respond correctly
  - IR prompt (incorrect response), when prompted the patient does not respond correctly
  - CR prompt (correct response), when the patient responds correctly with the prompt

Video Transcription

So we're going to do a little bit of role play and I want to essentially demonstrate how to take trial-by-trial data. So we talked about this already, but this often is what we use when we are doing discrete trial teaching with one of our students. And so every time that I give you an instruction-- and we use that three-term contingency, instruction, response, consequence. That's considered a trial. And so every time we present a trial, I'm going to record what the student's response is, or in this case, what your response is.

And so the "C" stands for correct. The "I" stands for incorrect. The "NR" stands for no response. So that would be if I gave you the instruction and you didn't respond at all. And the "P" stands for prompt. And so that's basically if I had to assist you in responding.

Now, sometimes you may take trial-by-trial data on paper and you're circling or you're writing in what the response was. Or sometimes you'll be taking this data on like an iPad or some other type of tablet and you would do it electronically. But essentially, the concept is the same.

So we're just going to run through a couple of sample trials and you're going to be the student and you can respond any way you'd like. And then I'm going to basically show you how I would record that response using trial-by-trial data.

OK.

All right. So our lesson is going to be objects. And so I'm going to ask you to identify a cup by giving it to me, and then, again, respond as you would like. And then we're going to take data on how you do. OK.

OK.

All right. Let me get my pen ready to go. OK. Give me cup.

Great job. So was that a correct response?

Yes.

Yes, it was. So on my first trial, I'm going to circle "correct." All right. So let's go to the next trial.

Give me cup. No. So was that correct, incorrect, no response, or prompt?

Incorrect.

Incorrect. Perfect. So that second trial I'm going to circle "incorrect" or I'm going to indicate "incorrect." So let's see how you do on the next trial.

So this time, let's say this is a lesson that you're learning, so I'm going to go ahead and prompt you. Give me cup. There you go. Good for you. So that was a prompted trial. So I'm going to circle "prompt."

Let's just do two more. Give me cup. No. So that was a nonresponse. So I would circle "nonresponse." And since you didn't respond, again, I'm going to go ahead and prompt you this time. Give me cup. There you go. Good for you. That's cup. And I'm going to circle "prompt."

Now, usually, I would keep going with this because I would want to end on a correct trial. So let's just go ahead and do that. Give me cup. Perfect job. And then during my next trial, I would circle "correct."

So that's essentially how you take trial-by-trial data is you are recording the type of response that was given by the student.

Yes.

All right. Great.

2c. Percent Correct

The following calculations can help us to determine the proportion of correct responses or steps out of the total responses or steps made.

Proportion Type	Calculation	Example
Responses	(Number of correct responses ÷ total number of recorded responses) × 100 = Percentage correct	(5 correct responses ÷ 10 total responses) × 100 = 50% correct.}}
Steps	(Number of correct steps ÷ total number of steps) × 100 = Percentage correct	(8 correct steps ÷ 10 total steps) × 100 = 80% correct or completed independently.

SUMMARY

In this lesson, you learned about skill acquisition data collection, which is important for demonstrating a patient's progress in building their repertoire of skills and behaviors. Skill acquisition data collection serves a **purpose** for BCBAs, allowing them to identify skill deficits, monitor progress, determine mastery, and ensure maintenance and generalization. It also allows a behavior technician to know what step of discrimination to move on to next, communicate effective and ineffective strategies to the BCBA, and determine mastery and when to introduce a new skill. You also learned about the different types and ways to collect the data when working with skill acquisition programs, including **trial by trial data collection**, **types of responses**, and **percent correct**.