

# CONTINUING EDUCATION for Speech-Language Pathologists

## STRATEGIES FOR EFFECTIVE DATA COLLECTION: Why Less is More

PDH Academy Course #1901 | 1 CE HOUR



**ASHA CE**  
**APPROVED PROVIDER**

**PDH Academy**

Introductory Level

.1 ASHA CEUs

### Course Abstract

If Speech-Language Pathologists aren't careful, data collection can turn into something that is at odds with therapy, rather than something that effectively measures progress while driving therapy. This course first examines drawbacks to commonly-used data collection techniques and mindsets, then presents alternative methods that relieve the conflict between great data and great therapy.

*NOTE: Links provided within the course material are for informational purposes only. No endorsement of processes or products is intended or implied.*

### Learning Objectives

By the end of this course, learners will be able to:

- ❑ Recall internal and external factors influencing the need for data
- ❑ Identify aspects of, and potential conflicts between, good therapy and good data
- ❑ Recognize key components of Intermittent Progress Monitoring and "Daily" Data Collection on Reduced Trials

## Timed Topic Outline

- I. Introduction; Why Do We Need Data? (10 minutes)  
Internal Factors; External Factors
- II. What is Good Therapy? (5 minutes)  
Doesn't Teach to the Test/Data; Targets a Short-term Objective that Works toward a Long-term Goal; Functional; Student-specific
- III. Why "Collect all the Data" Isn't Helpful (5 minutes)  
Good Therapy vs. Good Data; Feedback Impacts Subsequent Trials; Data May Limit the Types of Tasks We Can Do; Data Collection is Logistically Difficult
- IV. Two Methods of Data Collection (25 minutes)  
Intermittent Progress Monitoring; "Daily" Data Collection on Reduced Trials
- V. Strategies for Effective and Efficient Data Collection (5 minutes)  
Data and Therapy are Mutually Exclusive; Have a Plan
- VI. Conclusion, Handout, References, and Exam (10 minutes)

## Delivery Method

Correspondence/internet self-study with interactivity, including a provider-graded final exam. *To earn continuing education credit for this course, you must achieve a passing score of 80% on the final exam.*

## Accessibility and/or Special Needs Concerns?

Contact customer service by phone at (888)564-9098 or email at [support@pdhacademy.com](mailto:support@pdhacademy.com).

## Course Author Bio and Disclosure

Kristin Bowers is an ASHA-Certified Speech-Language Pathologist, and received ASHA's Award for Continuing Education (ACE) in 2014 and 2017. She graduated from the University of Pittsburgh in 2007 with a B.A. in Communication Science and Disorders, and in 2010 with an M.A. in Speech Language Pathology.

Kristin has utilized her skills as a Speech-Language Pathologist abroad, including her participation in the Bosnia Autism Project in 2012 where she traveled to Bosnia to provide training to related professionals. She has experience in the early intervention (3-5) setting as well as in private practice, and currently works in the school setting servicing children from K-5th grade. She is also the owner of Kiwi Speech, LLC, which creates materials for speech and language services, primarily available on Teachers Pay Teachers.

**DISCLOSURES:** Financial – Kristin Bowers offers materials for sale on Teachers Pay Teachers and received a stipend as the author of this course. Nonfinancial – No relevant nonfinancial relationship exists.

## INTRODUCTION

We've all done it: sighed to another Speech-Language Pathologist, "Data collection is an unavoidable evil."

But wait: data itself isn't evil. In fact, it benefits us as SLPs. Not only is data rightfully required by outside sources (insurance companies, etc.), it helps to demonstrate that our profession and the work we do is beneficial, effective, and necessary. It can serve to guide our decisions and the way we deliver therapy. It should be something we *want* to have at our disposal so we can see the progress our students are making (or not), and adjust accordingly.

So is it the process of collecting the data that's evil? Not necessarily – or rather, it shouldn't be.

However, we need to balance the necessity of data collection with the work that makes up the crux of what we really do – therapy. When a Speech-Language Pathologist starts to prioritize data collection over all else, they run the risk of taking the "therapy" out of speech and language therapy.

In a 2014 ASHA School Survey, school-based SLPs spent on average only 18 hours weekly in pull-out service, and 80% reported that a "high amount of paperwork" was their greatest professional challenge. If we are not careful, we can find ourselves spending as much time collecting, recording, reporting, and charting data as we do with our students and clients, actually doing the therapy we are trained to do.

To further complicate things, the data we collect may not even truly represent the progress we think we are (or want to be) reporting. Alternately, a tunnel focus on collecting data can lead us to neglect potentially useful interventions, because they might interfere with data collection and/or we don't know how to report on them. Anecdotally, I recently had a conversation with a respected colleague, who needed help wording a goal for having a child express frustration verbally (rather than throwing things or expressing things through other physical means). We worked together to word the goal in a way that was both objective and measurable and talked about ways to target it. We discussed a specific video she might show the child to serve as a social model for learning the skill of expressing frustration. In the video, the main character (Daniel Tiger, for those who are familiar) gets mad and frustrated and the entire show is focused around the child saying, "I'm mad!" and explaining why. We agreed that this would perhaps be beneficial to the child but then my colleague asked, "When I spend the time to watch this video with the child, how do I collect data on it? How do I get a percentage?" This is a colleague who I respect, and a smart woman, but she basically felt she couldn't show the video because she didn't know how to collect data on it. In her own words, "I'm

a data girl. I need the percentage.” In this situation, her need for data was in conflict with the therapeutic needs of this child.

If we are not careful, data collection can turn into something that is at odds with therapy, rather than something that accurately measures and demonstrates progress and in turn, drives therapy and goal planning.

This course will first examine some drawbacks to commonly-used data collection techniques and mindsets, and next present two alternative data collection methods – methods that no longer place the therapist in a position where great data and great therapy are mutually exclusive.

## WHY DO WE NEED DATA?

Before we can begin to understand why we as SLPs are feeling such immense pressure to collect so much data, we need to understand where these pressures are coming from. There are multiple reasons to collect data on student performance, some being internal (i.e., directly related to the SLP, such as collecting data for clinical decision-making) and others external, such as required documentation for billing sources. For most school-based SLPs, there are multiple external parties requiring them to collect data, as well as internal and “best practice” reasons for doing so.

### Internal Factors

#### Measuring Progress

As SLPs, it is our job to do therapy that produces progress – and we want this progress to happen at a rate that is faster than that which can be attributed to typical development. Any SLP understands the positive feeling that comes from knowing you are making a difference, and conversely, the discouragement that comes from feeling like you are not. Data provides us with an objective measure of our effectiveness, often indicating if and when it may be time to change goals or treatment methods.

#### Driving Therapy

The ability to look at data and see the progression of skills is necessary to make sound clinical decisions. Of course, data is only part of a bigger picture, but without evidence to know that a child is, in fact, *consistently* producing /s/ in all positions of single words with at least 80% accuracy, for example, how can we decide whether or not it’s time to move on to another phoneme? Should we move on to /z/, or has the child already demonstrated generalization to /z/? You may recall hearing an accurate /z/ in their speech at the beginning of the session, but is this enough information to confidently state that both phonemes are mastered at the word level? Likely not. Data will provide these answers and serve as one important factor in determining next steps.

### Determining Goals

While standardized testing often serves as a starting point for goal development, most standardized tests assess a skill in a very limited number of trials. Producing a /k/ sound as a /t/ *one* time on a test of articulation is not enough to say that a child needs therapy x number of times a week to improve their articulation of /k/ sounds. Likewise, misuse of a single irregular past tense verb on a language test does not *alone* warrant intervention for past tense verbs. Data collected during speech and language samples both at the time of initial assessment and throughout the course of therapy is necessary to determine not only appropriate, but *optimal* goals. While a test of articulation may show that Jane produced a t/k substitution in the initial position of a single word one time, data collected during connected speech may show that Jane actually only produces this substitution 10% of the time. If the data is really thorough, it may even show that Jane actually only produces the t/k substitution in a very specific context (perhaps when another alveolar sound is present in the word) – allowing the treating SLP to either prioritize other targets or, if they do choose to target /k/, select appropriate targets which are likely to cause the most difficulty.

### External Factors

#### Students

The most important player in the therapy equation is the student. Many factors play a role in student motivation and the resulting progress, but research shows that few things are as motivating as progress itself (Amabile). Having readily available (and meaningful) data to show to a student as evidence of their progress can be a very powerful tool. Later in this course we will make an argument for quality over quantity – for keeping data simple and meaningful. Being able to share data with students in a way that they can easily understand is just one of the reasons behind this argument.

#### Families and Teachers

In addition to our students, classroom teachers and families are also obviously stakeholders in the results of therapy. It is imperative that we remember that time out of the classroom means time away from other instruction, and we should not take the role we play in pulling students out of the classroom lightly. Being able to demonstrate progress to teachers is just one way we can reinforce the important role we play and improve teacher buy-in to therapy sessions.

Parents also need to know that time spent outside of the classroom is warranted and benefits the child. With data we can illustrate this. Additionally, we can use data to encourage families to play a role in a child’s

therapy through home practice. Finally, good data collection practices allow a more seamless transition should parents decide to seek speech therapy services elsewhere.

### **District-Required Paperwork (Progress Monitoring/Progress Reports)**

While there are many people-centric reasons to collect data on a student's performance, there are also logistical reasons. Many districts require some sort of progress reporting, whether it is in the form of daily progress notes, quarterly progress reports, or formal progress monitoring tracking systems. Having a simple, yet well-developed strategy for data collection will mean that the same data that works for you, your students, and their team will also translate to whatever measure your district or agency requires.

### **Legal Protection**

No SLP wants to consider the fact that their skills and actions may ever be called into question, but the truth is that they might. Collecting accurate data and allowing it to be an important contributing factor to clinical decision-making is just one way we as SLPs can protect ourselves should any legal proceedings arise.

### **Funding/Insurance**

While funding sources vary widely between districts, agencies, and/or states, one thing is almost always true – the funding sources want to ensure that their money is being well spent. If money is being spent providing speech and language therapy services to a child, someone, somewhere, wants to know that it is working. While some sources have clear expectations for what type of data is required, others do not. Having a well-developed system of data collection already in place ensures that we are ready to provide information if and when it is needed, no matter the requester.

## **WHAT IS GOOD THERAPY?**

We've seen that there are many reasons we need to collect data. However, we also need to provide therapy. Now let's look at the characteristics of great therapy, so we can be sure to protect it as we learn to take data in a way that represents, rather than interferes with, progress.

Good therapy can be many things. As SLPs we target different types of goals, and as we all know, therapy "looks" different for all of them. For example, we might target production of the /r/ sound through direct teaching of tongue placement followed by drill practice. However, this same method may not work as well for teaching the positional concepts "first" and "last." For this latter goal, we may be more likely to use manipulatives to construct visuals and rely more heavily on natural language models. Even within these two goals, there are many ways they may be targeted!

Therapy also varies greatly between settings. Are you 1:1 with a student or seeing students in groups? Is your group made up of students targeting the same goal? Similar goals? Completely different goals? Are you working with students at school or in their home? Do you see students in your speech therapy room or do you embed your therapy into the classroom? All of these variations will change the way we do therapy, and each therapist brings their own style and strengths to what they provide. However, there are some things that hold true for good therapy across settings and therapists.

### **Doesn't Teach to the Test/Data**

Tests are a sample of responses that we *hope* represent overall skills in an area. While test results are one important factor in goal development, good therapy does not teach directly to the test.

Let's consider the word "test" more broadly, to perhaps include a previous baseline measure. In this case, we can see how, given the many data-collection guidelines imposed on us, we might be encouraged to design our therapy around this data and find ourselves making therapy decisions based on the additional data we feel we need to collect, rather than doing therapy that will lead to the best progress and generalization.

By making therapy a simple repetition of tasks which are similar to a test, we fail to support generalization. A child may learn to finish sentences with regular past tense verbs, but we have failed to show them how to use those same verbs in other, more functional contexts.

Additionally, but just as importantly, by teaching to the test, we can confound the results of any subsequent testing. We don't want students to just learn the answers to a subset of questions. Rather, we want to teach them to use a skill which they will be able to apply to *all* representations of those questions.

### **Targets a Short-term Objective that Works toward a Long-term Goal**

While we always want to keep our long-term goals in mind, good therapy finds a way to break this goal down into smaller, more attainable tasks.

A child's goal may be to use the prevocalic /r/ sound in sentences, but this does not mean our goal for the first week is to hear a perfect /r/ production. Perhaps our goal for the first week is to have the child consistently make any production that is *not* a /w/.

We need a way to collect data where we can represent progress on even these short-term goals which are leading us, eventually, to where we want to be.



## Functional

Good therapy works toward a goal that will help a child in *life*, not just in the speech room.

The needs of our students and families vary greatly both academically and outside of school. Our goals should work toward an outcome that will benefit them generally, rather than simply teach them a skill they'll never use in a functional setting.

## Student-specific

Not only is student-specific therapy “good therapy,” it is also, in many cases, required by law.

Students have varied goals, present levels, ability to learn and retain information, and motivation, among other things. Therapy should cater to each student and the way that *they* will make the most progress in the shortest amount of time. This may mean collecting slightly different data on each child, which would be dictated by the way you are doing therapy for them, rather than having the data dictate the therapy you are providing.

## WHY “COLLECT ALL THE DATA” ISN'T HELPFUL

Often, a clinician may feel that the more data he or she collects, the more information he or she has. This leads the clinician to collect data on every production of a sound from the beginning of the session to the end. He or she may have over 100 data points in a session. He or she may feel successful because the student(s) got many repetitions and data was collected on each and every one.

However, this inherently leads to conflicts with both therapy provision as well as the integrity of the data itself.

## Good Therapy vs. Good Data

Typically, good therapy may look different in the first few minutes of a session than at the end. As clinicians, we are always striving to have students be successful with the least amount of input from an outside source – this is how we facilitate generalization and independence with a skill. Having the flexibility to pull back cueing or give more input in a dynamic way throughout a session is essential in providing therapy.

In contrast, to collect “good” data, we must be consistent. We can choose to collect data on whatever it is that we want, that is relevant to the session and goals, but we *must* be consistent.

So, if we are trying to collect data on one single, consistent thing, how then can we adapt our therapy throughout the session as a child progresses?

If we are collecting data on “s-blends in single words with a model and tactile cue,” what do we do when we know, as a therapist, that it's time to fade out the tactile cue? Or, what do we do when we'd like to have the student try s-blends in sentences? We are stuck with the choice of either suboptimal therapy or suboptimal data.

## Feedback Impacts Subsequent Trials

While many therapists think to note a level of modeling or cueing in their goals or data-collection, often the level of feedback is not as carefully considered. However, every time we give feedback to a child on their performance, it has the potential to influence their performance on the next trial.

Take, for example, a situation where a child walks into a room, the clinician makes no reference to speech production, and asks the child to tell them about their weekend. In contrast, imagine that the same child walks in, the clinician asks the same question, but in the conversation, each correct or incorrect production of the child's sound is pointed out. By the end of the conversation, one of these children will likely be producing their sound accurately more often than the other. Even without models or cues for placement, the feedback influences the child's performance.

Feedback is an integral part of the therapy we provide. The level at which we provide feedback must be able to be altered throughout a session as we adjust to the child's needs and performance. However, this once again puts us at odds with data collection. How can we effectively collect data on performance when the input to the child needs to change fluidly throughout a session?

## Data May Limit the Types of Tasks We Can Do

If we strive to collect data that is perfectly comparable week to week, then it stands to reason that for the data to be valid, the task must remain the same week to week.

However, there are *many* ways to teach a skill, and this is especially relevant for language goals. For a child that struggles with their use of subject pronouns, we may use visual aids like sentence strips to first teach the skill. At this level, models and lots of cueing are likely provided. At some point, we may also engage in some play-therapy where the clinician is providing lots of models, but less cueing as he or she describes people and their actions. At a still later point in therapy, we may simply be arranging the environment to allow for the maximum number of opportunities in which the child can use and practice their skills, stepping in to recast as needed. So how do we provide therapy in a functional way, teaching functional skills, if data dictates we must keep our task exactly the same from week to week?

## Data Collection is Logistically Difficult

No SLP needs to be reminded that data collection can be a logistical nightmare. Especially in mixed groups, we are constantly shuffling papers with goals and data, all while theoretically being completely present in our sessions and providing the input that is needed for optimal therapy. When the therapist is busy tracking the last response, it can be difficult for him or her to effectively provide the input that is needed for the next one. Again, a preoccupation with data runs the risk of taking the “therapist” out of the “therapy.”

So in the end, we are left with a clinician who feels that they cannot appropriately scaffold their therapy over the course of the session because they’re not sure how to represent it in the data. The clinician is left with two choices. First, he or she may choose to let the data dictate the session. However, this may mean that the child doesn’t get the opportunity to move up to a higher level on the hierarchy in which they are working, and the clinician doesn’t have the flexibility to choose tasks and provide input as they see fit. Second, he or she may choose to go ahead with the therapy as they see fit. However, they are left at the end of a session with 100 data points that are uninterpretable, because the ones from the beginning of the session represent something completely different from the ones at the end.

## TWO METHODS OF DATA COLLECTION

In order to resolve this conflict, we will discuss two ways in which we can collect data while still maintaining the integrity of therapy. It is important to note that one or both of these methods may not work for everyone, and/or their usage may be influenced by outside requirements over which the clinician has no control. Requirements by districts, insurance companies or other sources, as discussed above, may dictate how often objective data must be collected.

Both of the following methods can be adapted to specific needs and have two things in common. First, they separate data collection from therapy provision: adopting a mindset where a clinician should not be collecting data and providing therapy simultaneously is the key point in making these strategies work. Second, they encourage that data be collected on less trials overall.

### Method One: Intermittent Progress Monitoring

In intermittent progress monitoring, a clinician will no longer collect data on trials every session. Instead, the SLP will conduct “progress monitoring” intermittently throughout the year to track progress over time. Often, these periods of progress monitoring will coincide with progress reports required by the school. If organized well, the data needed to track progress, even in a group of students with mixed goals, can be conducted in a

single session, and then true therapy can begin again the next session.

The therapist should consider data collection and therapy to be mutually exclusive. At any point throughout the year, you are *either* collecting data *or* providing therapy, but not both at the same time.

At the beginning of the school year, the SLP will conduct a baseline data session, where he or she will collect data on all the short-term objectives that are likely to be targeted that year. He or she will provide no cueing, feedback, prompts, or input of any type. At this point we are simply trying to see where a child is performing without any outside input. This same procedure will be conducted again a few times throughout the year. Each time, the clinician will present the child with their stimuli and measure performance *without* providing input.

How frequently this is done can vary; however, it is important to balance two considerations. First, during a progress-monitoring session, the child is not receiving any direct “therapy” that is likely to cause improvement in itself. Conducting these sessions too frequently, then, decreases the overall time the child has to make improvement. Conversely, if an SLP were only to conduct these data sessions twice a year, for example, they are not monitoring progress often enough that they can adapt to needed changes if progress is *not* being made. Many schools require progress reports throughout the year three or four times, and this might serve as a reasonable guideline for the frequency of progress monitoring.

NOTE: For this method to work, the SLP *must* have a clearly defined set of short-term objectives for the year. It will be essential that a data collection plan be set up right at the beginning so that the data collected in one of the first sessions of the year can serve as a baseline for goals moving forward. Thus, your set of short-term objectives should encompass all those that may be targeted at any point before you collect data again, so that you have a baseline measure for each of them to look back on.

### Example:

#### Pre-Session

The SLP looks ahead at goals for the year as well as present levels. If not already defined, the SLP outlines short-term objectives.

Long-Term Goal: Kimberley will produce the R sound in all positions of words at the sentence level with 90% accuracy.

Present Levels: Unknown, since it is the beginning of the school year. However, at the end of last year, Kimberley had just started to produce R in the initial

position of words with models and maximum cueing for tongue placement.

Short-Term Goals:

- Kimberley will produce initial/prevocalic R at the single word level with 80% accuracy.
- Kimberley will produce vocalic R sounds at the single word level with 80% accuracy.
- Kimberley will produce initial/prevocalic R in sentences with 80% accuracy.
- Kimberley will produce vocalic R sounds in sentences with 80% accuracy.

### **Progress-Monitoring BASELINE Session**

Data will be collected on all short-term goals that are likely to be targeted throughout the year (as identified above).

Some thought should be put into stimulus selection. The stimuli should be balanced across contexts. Sounds should be targeted in all positions, when relevant, and the stimuli should contain words that vary in number of syllables as well as phonetic context. This is especially true for vocalic R. The stimuli should include iterations of ER, OR, AR, EAR, IRE, and AIR productions.

The SLP will provide stimuli for Kimberley that allow her to produce her words as independently as possible. For readers, it would be optimal to present pictures or words that they would read without requiring a model. For non-readers, a model may be required, but the SLP will take care not to exaggerate or draw attention to correct productions. The SLP is simply providing the word. The SLP will not be providing feedback to the student as to whether or not responses were correct or incorrect. This is data collection, not therapy. Any feedback will influence subsequent responses and skew the data.

Some consideration should also be made to the idea of not “teaching to the test.” We do not want to collect data *only* on targets that are used during therapy. Ideally, the data will be demonstrating a child’s ability to produce the target sound in *any* word, not just those that were practiced. While it may not be practical or feasible to only do progress monitoring on sounds that are never used in therapy sessions, some care should be taken that data collection is done on a variety of words, and perhaps includes some less common words that are unlikely to serve as therapy targets. Avoiding words that appear in popular decks of articulation drill cards may be one strategy.

While this may seem like a lot of work, thoughtful selection of targets up front will make the task of data collection easier in subsequent sessions.

### **Therapy Sessions**

After the initial baseline session, the SLP is now able to conduct the true “therapy” that makes up their job. The SLP can employ all the techniques and tricks they know to target the goal or elicit the sound. He or she will be able to increase complexity during a particularly great session or increase cueing during a less successful one. He or she can select activities each week without being concerned about how the data will look on that particular day. The SLP will be able to spend the session being present with the student(s) without juggling papers and tally marks. He or she might still make notes about strategies that seemed particularly effective or ideas for the next session, but he or she will not be making therapy decisions based on concern about how they’ll record responses.

### **Progress-Monitoring Sessions**

Intermittently throughout the year, additional progress monitoring sessions will be conducted. These will be conducted in that same way as the initial baseline session. The clinician’s only role on this day is to provide stimuli and track responses. He or she will not be “teaching” or giving feedback.

Again, data collection and therapy provision should be considered mutually exclusive. The goal is simply to measure how well the prior weeks’ therapy has worked and the progress that the student has made, in as independent a context as possible.

### **Method Two: “Daily” Data Collection on Reduced Trials**

Given the constraints of some organizations, it may not be possible for clinicians to avoid collecting daily data. For reasons discussed previously, many sources require data for each session. Collecting data on a “daily” (each session) basis, while still maintaining the integrity of therapy is still an option. However, we will need to change the way we do it from the commonly-used method of collecting data on all productions throughout a session.

Many of the principles that were true for Intermittent Progress Monitoring will hold true for this method as well. While we will be collecting data more often than in Intermittent Progress Monitoring, we will still be considering data collection and actual therapy provision to be two separate things that are not done at the same time. They may both occur within a session, but they will not be done simultaneously. We need to remember that the purpose of data is to measure a child’s ability to perform a skill, *not* a clinician’s ability to provide cueing.

In this method of data collection, the clinician will conduct a mini data-collection session right at the

beginning of each therapy session. Every time they meet, before any modeling, cueing, feedback, or re-introduction of the speech sounds are given to the child, the SLP measures their performance *on only a few productions* (ten is a great number) of the skill currently being addressed.

While it is easy to fall into the trap of feeling that more data is better, that is not necessarily true. Take, for example, a child that walks into the therapy room producing their speech sound as they do in the regular classroom and in the hallway – not at all. In the first few productions of their sound, before they are tuned in to the fact they are in speech therapy and Mrs. Smith wants them to use their “good /s/ sound,” they continue to produce it with an interdental lisp. If we were to collect data on these first ten productions, the child’s accuracy might be 5%. Then, in a typical session, the SLP will remind the child of their speech sound and the child will begin to correct their errors. The next ten productions might be 50% accurate. During a drill-like task, the clinician begins providing feedback after each production and the child gets more accurate as the session goes on. In the next 20 productions, the child might be 75% accurate, and by the end of the session, the child produces their sound accurately in 19/20 productions. This whole time, the clinician is collecting data and by the end of the session he or she has data on 60 productions of the /s/ sound. The data might look something like this:

+	+	+	+	+	+	+	+	+	+
+	+	-	+	+	+	+	+	+	+
+	+	+	+	+	+	+	+	+	+
+	+	+	+	+	+	+	+	-	+
+	+	+	+	+	+	+	+	+	+

This child is now 76% accurate. So as you can see, this student’s “accuracy” will improve the more data that is collected. But this is not at all a true representation of their skill. Yes, it’s important that child is responding to models and prompts and feedback, but a more accurate representing of their actual ability is what they can do *without* all of that.

Not only is it difficult to report this data, as discussed before, while truly representing the type of cueing that was provided (and remember, even giving feedback is something that matters), we are unlikely to see significant changes from session to session with this many data points. The more data we collect, the more the child’s performance will appear to increase, and the less representative of their true skill it becomes.

So, the clinician should collect data on only a few productions of the sound right at the beginning of the session, when the data is most likely to represent this child’s skill in “real life.” As with the intermittent progress monitoring, he or she will not provide input during these productions – this is simply time for measurement. When done right, this will take up very little time, perhaps only a few minutes. Then, the clinician can get on to the true therapy of the session – using the models, cues, and feedback they know will help this child produce the sound and hope that in the next session, when the child returns, the improvement will be seen in *that* data.

**Example:**

**Pre-Session**

The SLP looks ahead at the current goal or short-term objective and prepares to collect data on that exact skill (with as minimal input as possible). This should be almost identical to what was done last session.

**Data Collection**

The child comes to therapy. The clinician may talk with the child briefly about their weekend or another topic while listening for their sound. (While this may not be the same type of controlled data we’ve discussed throughout the course, it is still useful and relevant information.) No corrections or reminders about sound production are given.

The SLP will then begin data collection. This can be very simple: the SLP may use flashcards or even the stimulus items from whatever the activity for the day

-	-	-	-	+	-	-	-	-	-
-	+	-	+	-	+	+	+	-	-
+	+	-	+	+	-	+	+	+	+
+	-	+	+	-	+	-	+	+	+
+	+	+	+	+	+	+	-	+	+
+	+	+	+	+	+	+	+	+	+

When the clinician calculates this overall percentage for the whole session, the child’s accuracy is 67%. This is pretty good! The child is making progress! Compared to when the child came in the door the first day of speech not making their sound at all, this child appears to have made a lot of improvement.

But what would happen if the clinician got 100 repetitions that day? Likely the next 40 productions would have had a high level of accuracy. Data for the day might now look like this:

-	-	-	-	+	-	-	-	-	-
-	+	-	+	-	+	+	+	-	-
+	+	-	+	+	-	+	+	+	+
+	-	+	+	-	+	-	+	+	+
+	+	+	+	+	+	+	-	+	+



is. The important part is that productions will be done as independently as possible and without any feedback. The SLP will provide stimuli for ten targets and record the accuracy. That is it. No prompts, no corrections, no models. This is not “therapy.” That begins next.

### Therapy

After the few minutes has been spent on data collection (for articulation this quite literally might only take one minute for one child), then therapy can begin. The SLP can now employ all their skills to help the child produce their sound or language target as accurately as possible. The SLP can choose the activity without worrying about how it fits into the data and without spending their time tracking responses and flipping through papers. If the child is doing well, the SLP is free to increase complexity without impacting the validity of the data. If the child needs extra support that day, the SLP is free to increase their cueing or employ a new method. The SLP can spend his or her time *teaching* rather than *tracking*.

## STRATEGIES FOR EFFECTIVE AND EFFICIENT DATA COLLECTION

### Data and Therapy are Mutually Exclusive

It has been stated multiple times, but is worth stating again. For data collection in this way to be valid and to serve its purpose, the SLP must remember that data collection and therapy provision are two separate things that are not happening simultaneously. Whether data is being collected intermittently or at each session, it is happening separately from the therapy itself.

### Have a Plan

For intermittent data collection, it’s imperative that the plan for data be done at the beginning of the year (or when a child is enrolled or new goals developed), and that they take into consideration all those goals that may be targeted over the next year. This is how progress will be shown. If a child is at 0% when you begin, that is fine. That is their true starting point and progress will be shown from there.

For daily data collection, the important thing is that the SLP decides ahead of time what the data will be collected on and *sticks to it*. In the section of the course addressing this method, it was stated that data would be collected on productions with no input from the SLP. And while I still recommend this as it is the most representative of skills *outside* the speech room, theoretically data can be collected under whatever conditions the SLP feels is appropriate, as long as he or she is *consistent*. For a child really struggling with the R sound, for example, data might be collected on “any production of R that is *not* a W, given a model only” or on “use of past tense –ed endings when given

the sentence starter.” Again, the clinician can choose whatever he or she wants to collect data on but should a) be consistent and b) consider collecting data on something that will still be relevant in a few sessions. Having data on something that is only targeted once or twice isn’t helpful.

## CONCLUSION

In speech and language therapy, there are many, many ways to target each goal. Each activity we choose, each level of input we provide to help a student, and each level of complexity at which we ask a student to perform will impact the data which is collected on their performance. This means that for data to be valid or at all useful, we either need to standardize our therapy provision to be the same every time or we need to find a way for data to represent performance while still being able to provide optimal therapy.

By considering therapy and data collection to be two important things that both need to happen, but learning that they do not need to happen at the same time, we are able to provide the best therapy we, as SLPs, are trained to do while still maintaining the integrity of the way we measure and report performance. In separating the therapy from the data collection, we are able to provide therapy that is guided by – not restrained by – data. We are able to report data that is a better representation of skills outside the therapy room and which holds more truly to the principles of evidence-based practice.

## HANDOUT

I’ve included a data collection form that I use on a regular basis for progress monitoring – if it’s helpful to you, great! (See next page).

## REFERENCES

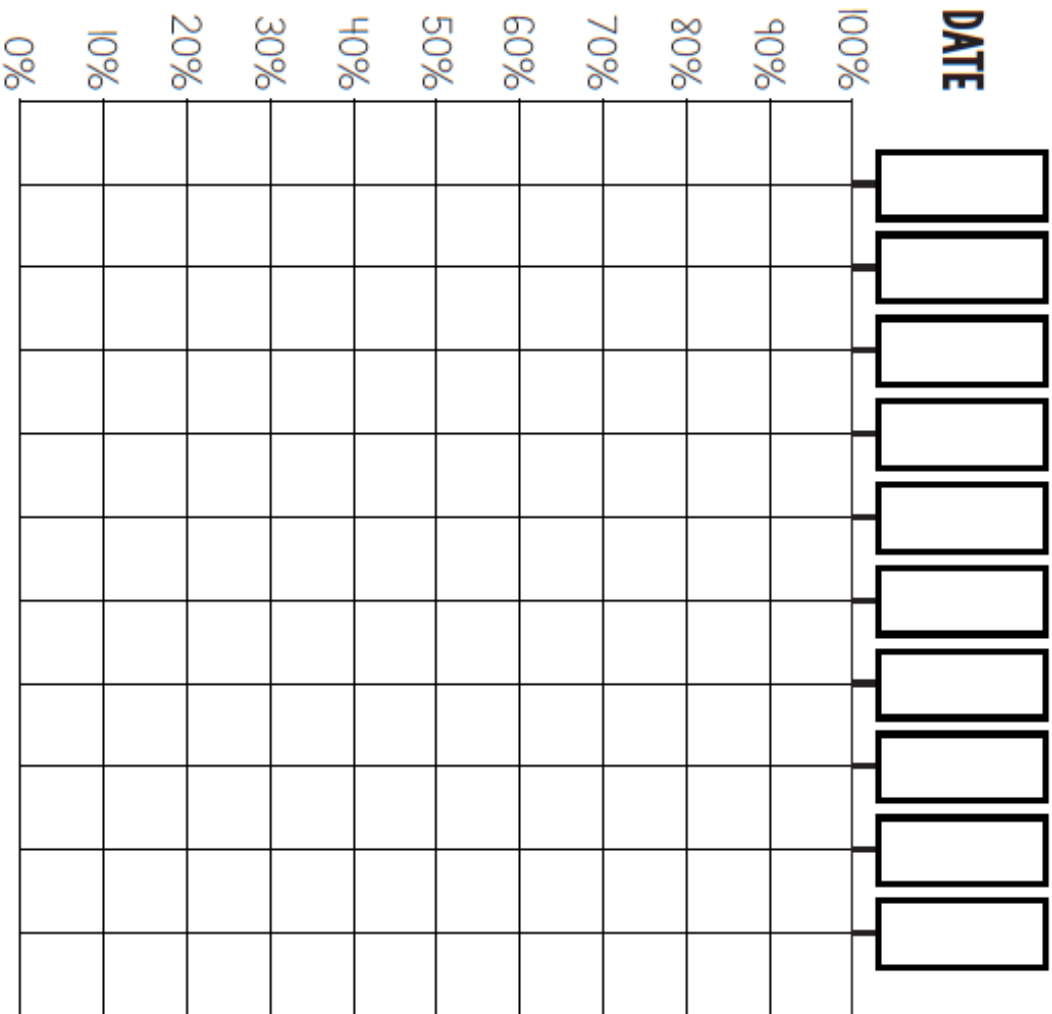
Amabile, T., & Kramer, S. J. (2011, May). The Power of Small Wins. *Harvard Business Review*.

*ASHA Schools Survey 2014: SLP Workforce/Work Conditions Report*(Rep.). (n.d.). American Speech-Language Hearing Association.

NAME: \_\_\_\_\_  
DOB: \_\_\_\_\_

# GRAPH OF DATA

TARGET: \_\_\_\_\_



**NOTES**

**KEY OF TARGETS**

	_____
	_____
	_____
	_____
	_____
	_____
	_____

# STRATEGIES FOR EFFECTIVE DATA COLLECTION: Why Less is More Final Exam (1 CE HOUR)

- 1. There are multiple reasons to collect data on student performance, some being internal (i.e., directly related to the SLP) and others external. Which of the following is NOT an example of an external factor?**
  - a. District-Required Paperwork
  - b. Driving Therapy
  - c. Families and Teachers
  - d. Funding/Insurance
- 2. The statement “While funding sources vary widely between districts, agencies, and/or states, one thing is almost always true – the funding sources want to ensure that their money is being well spent,” is an example of \_\_\_\_\_.**
  - a. An argument against collecting data
  - b. An external reason to collect data
  - c. An internal reason to collect data
  - d. None of the above
- 3. In general, good therapy does NOT \_\_\_\_\_.**
  - a. Cater to each student and the way that they will make the most progress in the shortest amount of time
  - b. Target a short-term objective that works toward a long-term goal
  - c. Teach to the test/data
  - d. Work toward a functional goal
- 4. In considering good therapy, SLPs should keep in mind: “By \_\_\_\_\_, we can confound the results of any subsequent testing. We don’t want students to just learn the answers to a subset of questions. Rather, we want to teach them to use a skill which they will be able to apply to all representations of those questions.”**
  - a. Targeting a short-term objective
  - b. Teaching to the test
  - c. Working toward a long-term goal
  - d. Working toward an outcome that will benefit students generally
- 5. Typically, \_\_\_\_\_ may look different in the first few minutes of a session than at the end.**
  - a. Both good data and good therapy
  - b. Consistent therapy
  - c. Good data
  - d. Good therapy
- 6. In order to collect good data, therapists must be \_\_\_\_\_.**
  - a. Consistent
  - b. Dynamic
  - c. Flexible
  - d. Tactile
- 7. Both intermittent progress monitoring and “daily” data collection on reduced trials \_\_\_\_\_.**
  - a. Can be adapted to specific needs
  - b. Combine data collection with therapy provision
  - c. Encourage that data be collected on more trials overall
  - d. All of the above
- 8. When using intermittent progress monitoring, a therapist should \_\_\_\_\_.**
  - a. Conduct direct therapy during progress-monitoring sessions
  - b. Consider data collection and therapy to be mutually exclusive
  - c. Hold frequent progress-monitoring sessions
  - d. Plan to collect data on trials every session
- 9. When using “daily” data collection on reduced trials, a therapist should \_\_\_\_\_.**
  - a. Collect data on all productions throughout a session
  - b. Conduct a mini data-collection session right at the beginning of each therapy session
  - c. Measure the student’s performance on many productions of the skill currently being addressed (50 is a good target)
  - d. Provide input and feedback during data collection
- 10. The statement “For this method to work, the SLP must have a clearly defined set of short-term objectives for the year,” best describes \_\_\_\_\_.**
  - a. “Daily” data collection on reduced trials
  - b. Data collection during therapy sessions
  - c. Intermittent progress monitoring
  - d. All of the above

## ANSWER SHEET

First Name: \_\_\_\_\_ Last Name: \_\_\_\_\_ Date: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_

State: \_\_\_\_\_ ZIP: \_\_\_\_\_ Country: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

ASHA membership # \_\_\_\_\_

License/certification # and issuing state/organization \_\_\_\_\_

Clinical Fellow: Supervisor name and ASHA membership # \_\_\_\_\_

Graduate Student: University name and expected graduation date \_\_\_\_\_

\*\* See instructions on the cover page to submit your exams and pay for your course.

**By submitting this final exam for grading, I hereby certify that I have spent the required time to study this course material and that I have personally completed each module/session of instruction.**

### Strategies for Effective Data Collection: Why Less is More Final Exam

1. (A) (B) (C) (D)
2. (A) (B) (C) (D)
3. (A) (B) (C) (D)
4. (A) (B) (C) (D)
5. (A) (B) (C) (D)
6. (A) (B) (C) (D)
7. (A) (B) (C) (D)
8. (A) (B) (C) (D)
9. (A) (B) (C) (D)
10. (A) (B) (C) (D)

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# STRATEGIES FOR EFFECTIVE DATA COLLECTION: WHY LESS IS MORE

(1 CE HOUR)

## COURSE EVALUATION

Learner Name: \_\_\_\_\_ Completion Date: \_\_\_\_\_

PT  PTA  OT  OTA  SLP  SLPA Other: \_\_\_\_\_

	Disagree		Agree			
Orientation was thorough and clear	1	2	3	4	5	
Instructional personnel disclosures were readily available and clearly stated	1	2	3	4	5	
Learning objectives were clearly stated	1	2	3	4	5	
Completion requirements were clearly stated	1	2	3	4	5	
Content was well-organized	1	2	3	4	5	
Content was informative	1	2	3	4	5	
Content reflected stated learning objectives	1	2	3	4	5	
Exam assessed stated learning objectives	1	2	3	4	5	
Exam was graded promptly	1	2	3	4	5	
Satisfied with learning experience	1	2	3	4	5	
Satisfied with customer service (if applicable)	1	2	3	4	5	n/a

What suggestions do you have to improve this program, if any?

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What educational needs do you currently have?

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What other courses or topics are of interest to you?

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