How to count a behavior so the number tells the truth.

Esta lección en español

What it is. Measurement means picking the one number that captures the behavior you care about: how often it happens, how long it lasts, how fast it starts, or how much of the time it's going on.

Why it matters. The wrong measure hides the change you're looking for. A child who still has three tantrums a day, but two minutes long instead of twenty, looks unchanged if all you do is count them.

HOW TO DO IT YOURSELF

How to pick your measure yourself, in four questions.

1. **Does each one have a clear start and end, and come and go quickly?** Count them: **frequency**. If your sessions differ in length, divide by the minutes to get a **rate**: 4 in 20 minutes is 0.2 a minute. Hitting, hand-raising, words.
2. **Does how long it lasts matter more than how often?** Time it from start to finish: **duration**. Tantrums, time on task, time in seat.
3. **Does how fast it starts matter?** Time from the end of your instruction to the first move: **latency**. Following directions, starting homework.
4. **Too frequent or too blurry to count, or are you busy teaching?** Split the session into equal boxes, say 10 seconds each, and mark each box. That is **interval recording**. It estimates; it doesn't count. There are three ways to mark a box.

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PARTIAL INTERVAL

Mark the box if the behavior happened at any moment in it. It reads high, so use it for behavior you want less of, where erring high is the safer mistake.

WHOLE INTERVAL

Mark the box only if the behavior lasted the entire box. It reads low, so use it for behavior you want more of, like staying on task.

MOMENTARY TIME SAMPLING

Look only at the last moment of each box and mark it if the behavior is happening right then. The easiest while you teach; it can miss high or low. Shorter boxes get closer.

Settled: interval methods miss in known directions. In the classic check of these methods, whole-interval scores came out consistently too low and partial-interval scores consistently too high, and the size of the error depended on how often the samples were taken (Powell, Martindale & Kulp, 1975). The demo below shows why.

WORKED EXAMPLE

Same tantrums, two stories.

Made-up example. The child and the numbers below are invented to show the method.

Sam’s family writes down every tantrum for a month. Here are week 1 and week 4.

Week	Tantrums a day	Minutes each	Minutes a day

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Week 1	3	20	60
Week 4	3	2	6

Count says nothing changed. Duration says tantrums dropped from an hour a day to six minutes, 90% less. Same child, same weeks; the measure decided the story. The question was “are tantrums getting shorter?”, so duration was the right ruler.

MISTAKES TO AVOID

Ways a number looks solid and isn’t.

- Counting something with no clear start or end, like “being off task.” Two observers will never agree. Define it first, then check agreement.
- Counting when how long it lasts is the story. See Sam, above.
- Comparing counts from sessions of different lengths. 10 in an hour and 10 in ten minutes are not the same day. Use rate.
- Reading an interval score as “percent of the time.” Partial interval at 100% can mean a behavior that filled less than half the minute.
- Changing the measure halfway through a graph. The line jumps because the ruler changed, not the child.

TRY IT

One question, then the answer.

A made-up case: you want to know whether Mia is starting her homework sooner after you say “Homework time.” What do you measure, and how?

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▼ Show the answer, and why

Latency. Start a timer when you finish saying “Homework time” and stop it at the first move you defined, such as pencil on paper. The question is how fast it starts, not how often it happens or how long it lasts, so a shrinking latency is the answer you’re looking for.

Something to keep

Which measure? A card to print.

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Measure	Use it when	Write down	Watch out
Frequency or rate	Clear start and end, over quickly	A tally; ÷ minutes if sessions differ	Only for behavior you can count
Duration	How long it lasts matters	Start to stop, in seconds	Define the start and the end first
Latency	How fast it starts matters	End of instruction to first move	Say the instruction once
Partial interval	You want less of it; too fast to count	Box marked if it happened at all	Reads high
Whole interval	You want more of it	Box marked if it filled the box	Reads low
Momentary	You’re busy teaching	Box marked if happening at its end	Shorter boxes get closer

Our behavior, defined so a stranger could score it	Our measure

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WHERE DRAGEN HELPS

The right number, then the right graph.

Once the measure fits the question, the data can tell you something. DRAGENprogress drafts the data half of a six-month progress report: starting level, current level, trend and graphs. What the results mean stays yours to write and sign.

SOURCE

Where this comes from.

Cooper, Heron & Heward, *Applied Behavior Analysis* (3rd ed., 2020), the chapter on measuring behavior. Powell, Martindale & Kulp (1975), *Journal of Applied Behavior Analysis*, 8, 463–469: how interval methods overestimate and underestimate.

Examples on this page are made up. They contain no client, student or family information. This lesson teaches a method; it does not replace your BCBA, your program, or your payer’s written rules.

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