PRACTICAL DATA COLLECTION IN ABA- STRATEGIES FOR SCHOOL-BASED PROFESSIONALS

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BEHAVIOR ASSESSMENT TRAINING PROJECT

- The Special Education Behavior Assessment Training Project will provide comprehensive, professional learning for special education personnel on culturally responsive Functional Behavior Assessment (FBA) practices and Behavior Intervention Plans (BIPs) for students across all grade levels identified as having a disability in one or more of the 13 categories specified in IDEA.

OBJECTIVE

LEARN

How to define, measure, and collect data on behavior

UNDERSTAND

When and How to choose approriate methods

EXPLORE

Level, Trend, and Variability in data

KNOW

When to start intervention based on data stability

IMPORTANCE OF DATA COLLECTION

1. Drives decision-making
2. Ensure interventions are evidenced-based
3. Helps track progress and adjust as needed
4. Promotes accountability and ethical practice
5. Identify patterns that iniform behavior hypotheses
6. Facilitates communication among team members and caregivers

STEPS TO COLLECT DATA

IDENTIFY

Identify the target behavior

CHOOSE

Choose the measurement system

CREATE

Create a data sheet

CALCULATE

Calculate data

GRAPH

Graph data

DEFINING BEHAVIOR

Must be observable

Observable: Crying, hitting, screaming, eloping

Non-observable: Thinking, listening, wanting, focusing.

Must be measureable

It must be possible to quantify the behavior, whether through frequency, duration or its intensity.

Must be specific

Avoid vague terms such as disrepectful, agressive, inapproriate.

DEFINING BEHAVIOR

BE FLEXIBLE AND INCLUSIVE

- Take into consideration traditions, cultures, customs and religious beliefs.
- Take into consideration what skills the student has in their repertoire.

CONTINUOUS MEASUREMENT SYSTEM

Frequency

How many times a behavior happens during a certain period of time.

Duration

How long the behavior lasts (e.g., how long a student stays in-seat).

Rate

The number of times a behavior happens divided by how much time we spent watching it (like times per minute or per hour).

Latency

The time between a stimulus and the onset of the behavior (e.g., between a request and the student beginning the task).

Count

The total number of times a behavior happens, without considering how long it took.

ABC Data

Record each instance of the target behavior as it happens, along with the events or conditions that immediately precede (antecedent) and follow (consequence) the behavior.

DISCONTINUOUS MEASUREMENT SYSTEM

Partial-Interval

The observer notes whether the behavior occurred at any point during a predefined time interval (e.g., noting if a student engaged in hand-flapping at any time during a 10-second interval. This can overestimate behavior

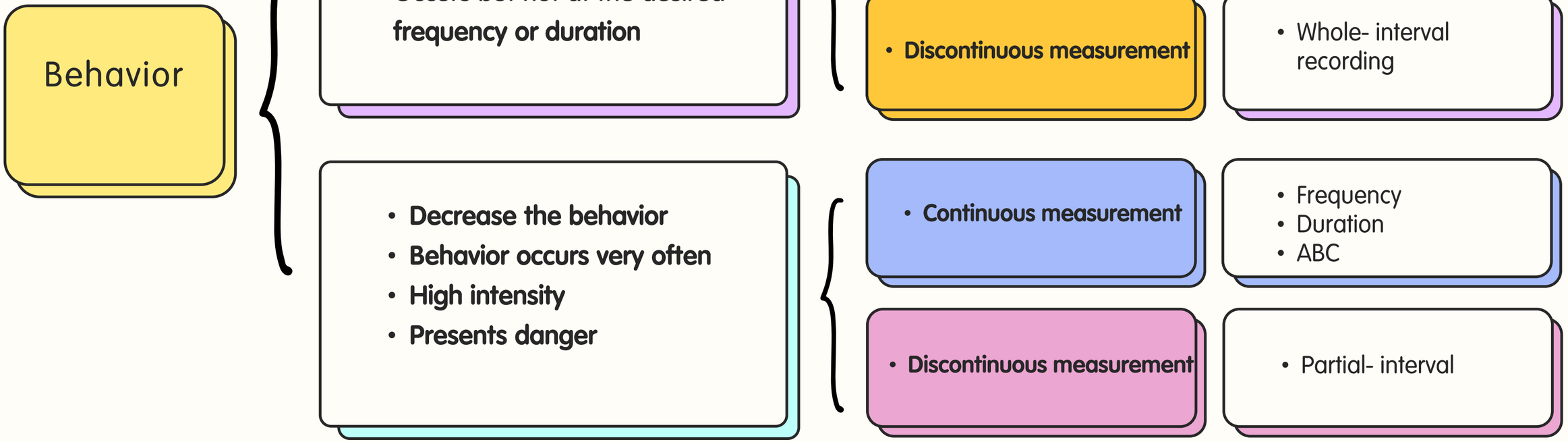
Momentary Time Sampling

The observer checks at the end of the interval to see if the behavior is occurring at that specific moment (e.g., looking up at the end of every minute to see if the child is engaged in the task).

Whole-Interval

The observer notes whether the behavior occurred for the entire duration of the interval (e.g., noting if the student stayed on-task for the entire 10 seconds). This can underestimate behavior.

SELECTING THE BEST METHOD



ABC DATA

A- Antecedent

- Any events, triggers, or environmental factors that happened immediately before the behavior

B- Behavior

- Objectively describe the behavior as specifically as possible

C- Consequence

- The immediate outcomes or reactions that follow the behavior

FUNCTIONS OF BEHAVOR

ESCAPE/ AVOIDANCE

- Situations, tasks, or demands

ATTENTION

- Gain attention

TANGIBLE

- Access to items or activities

SENSORY

- Calming or stimulating

POWER/CONTROL

- Exerting control over the environment or others

SCENARIOS

Scenario 1

- During quiet reading time, Marcus suddenly gets up and leaves the classroom. The teacher had just told the class, “You’ll be writing a summary after reading.” The teacher then walks over to the door and asks him to come back inside.

Scenario 2

- Layla is sitting at her desk during math group. She suddenly yells loudly, “This is boring!” The aide immediately hands her a bag of chips to calm her down. Layla calms down.

Scenario 3

- Sam is working with his teacher on a worksheet. The teacher gives him a new problem and prompts him to try it. Sam puts his head down and doesn’t respond. After 20 seconds, the teacher removes the worksheet and says, “It’s okay, we’ll try later.”

LEVEL, TREND, VARIABILITY

Level

- The average value of the data within a phase.
- Example: If hitting occurs an average of 5,4,3,2 during baseline. The mean of it would be (5+4+3+2)/ 4= 3.5
- Level line: We would draw a horizontal line on the graph at the y-axis value of 3.5

Trend

- Direction in which the data are moving- increasing, decreasing or stable
- Example: If data points rise over time, the behavior is increasing

Variability

- The extent to which data points fluctuate from session to session.
- High variability means data are inconsistent (e.g., 2, then 10, then 5), making patterns harder to detect.

VISUAL ANALYSIS USING Y-AXIS QUARTILES OR THIRDS

- When evaluating the stability of baseline data, one helpful method is to divide the Y-axis (the vertical axis that represents behavior frequency, duration, etc.) into 3 or 4 equal parts — these are often called:
  - Tertiles (if you divide into 3)
  - Quartiles (if you divide into 4

WHAT TO LOOK FIRST WHEN DATA ARE VARIABLE?

1

TREND

- Check for a consistent trend: Even if the data are variable, do they show an overall increase or decrease?

2

LEVEL

- Are the highs and lows gradually moving up or down?

3

EXTERNAL FACTORS

- Could environment, setting, or measurement errors explain the variability?
- Illness
- New medication
- Did the student get enough sleep?

4

VARIABILITY TYPE

- Random variability = may need to extend baseline
- Cyclical patterns = may indicate environmental triggers

5

Visual Analysis Y-axis

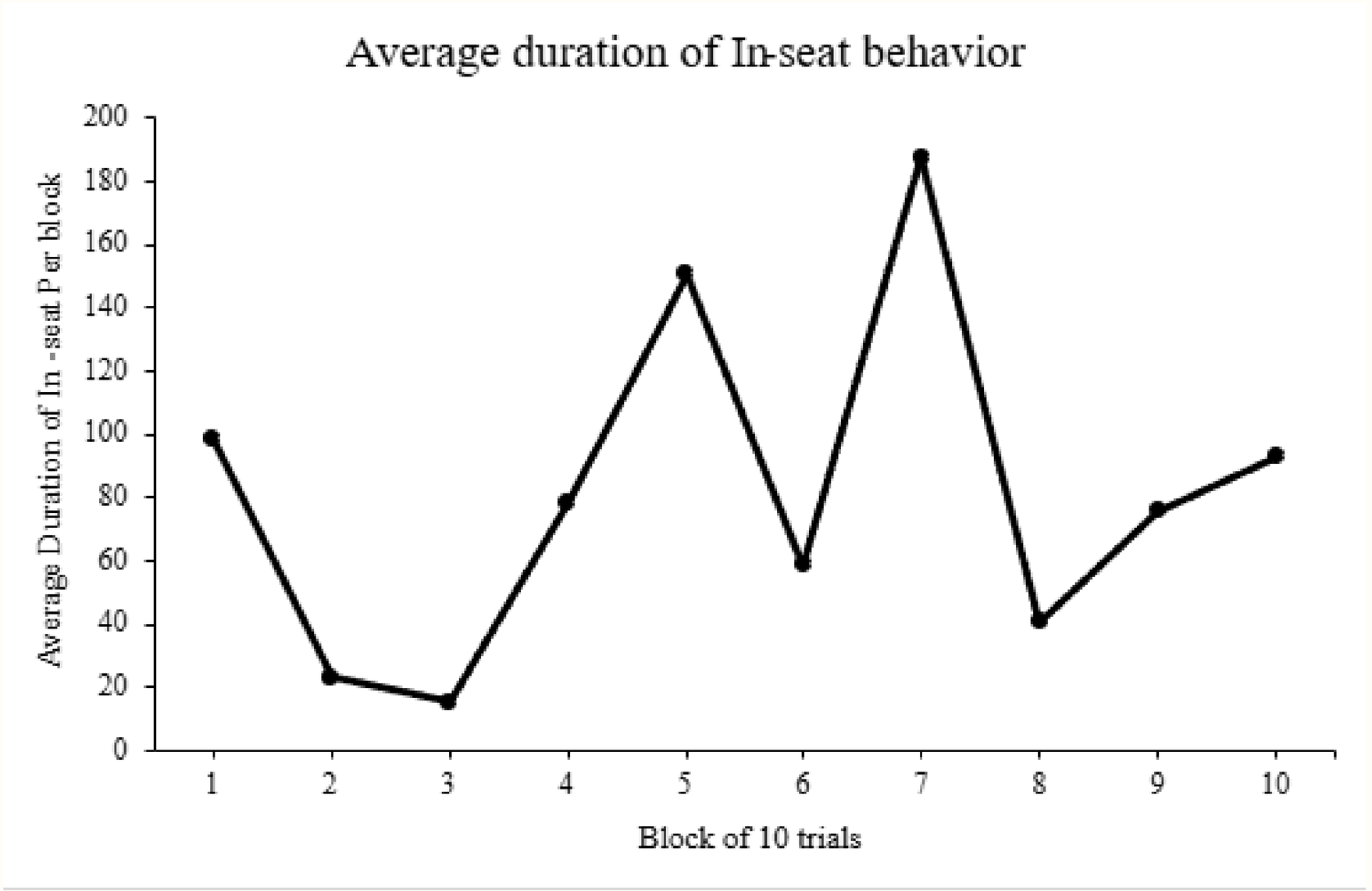
- If at least 80% of the baseline data points fall within the same zone, the data is considered stable.

6

DECISION TIPS

- Do NOT start intervention just because you've collected 5 data points.
- Start when the data are stable or show a clear trend, even if variability is still present.
- If variability persists after extended observation, evaluate your behavior definition, data collection method, or contextual variables.

SHOULD WE START INTERVENTION?



WHEN TO START AN INTERVENTION

3-5 DATA POINTS?

- It is a guideline, not a rule!

Data

- Look for stable data

Unstable data?

- If data are unstable, check trend, level, variability, and visual analysis of the y-axis

CREATE AND USE A DATA SHEET

1

Friend not Enemy

- Your data sheet is your friend, not your enemy!

2

Detailed

- The more detailed and well-designed your data sheet is, the easier it will be to collect data efficiently during class or sessions.

3

Context

- Design it to fit your specific context (e.g., school-based vs. home-based)

4

Only

- Include only what is necessary for accurate and quick recording

5

User-friendly

- Make it user-friendly for all staff (e.g., clear columns, behavior definitions, time stamps)

Date:	Client:	Clinician:	Supervisor:
Condition: Baseline Intervention		Phase:	

Program: In Seat Bx.

Target behavior: In-seat behavior defined as "GeAm placing his bottom on the seat with his feet placed on the floor. His feet might rest on the chair and may look like he is squatting down on the chair. Sometimes, he may rise from a squatting position to reach across the table and sit back down. For example, GeAm may get up or leave the chair to pull himself closer to the table, or the clinician, leaving to pick something up from the ground, or standing on the ground to reach for items that are out of reach on the table. He must remain in the chair with momentary adjustments of no longer than 5 seconds."

Codes: CR – correct independent; Inc. R – incorrect response, Prompt: V - verbal, G - gestural, M - model, PP - partial physical, FP - full physical; CBx. – challenging behavior.

Instructions: Please write down block number next to "Block No.:". Please write "+ or X" under CR, Inc. R, NR, V, G, M, PP, FP, CBx. as relevant. If GeAm engages in challenging behavior, then write down the ABC for the challenging behavior in the ABC data sheet to record the incident.

Duration: After the clinician gives an instruction "GeAm sit on the chair", As soon as GeAm engages in the correct response, start the timer. After GeAm sits down, deliver specific praise and one preferred item. Stop the timer once GeAm as soon as he gets off the chair AND has been off the chair for 5s or longer. Then record the time/duration in the duration column.

Block No. (Block duration = 20 minutes):

Occ.	Duration	Inc R.	NR	Prompt					CBx.
				V	G	M	PP	FP	
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									

Date:	Client:	Clinician:	Supervisor:
Condition: Baseline Intervention		Phase:	

Program: Following One-Step Directions

Target behavior: Following one-step instructions is defined as "GeAm successfully engaging in the target response immediately after receiving a one-step (e.g., "GeAm stop" or "GeAm carry your tablet here") verbal and/or non-verbal cue or instruction".

Stop defines as the cessation of all physical movement of the body, including hands, and/or feet for at least 3 consecutive seconds."

Carry your tablet defines as "Holding the tablet with one or both hands, or supporting it against the body (e.g., under the arm), while walking or moving from one location to another for at least 5 consecutive seconds"

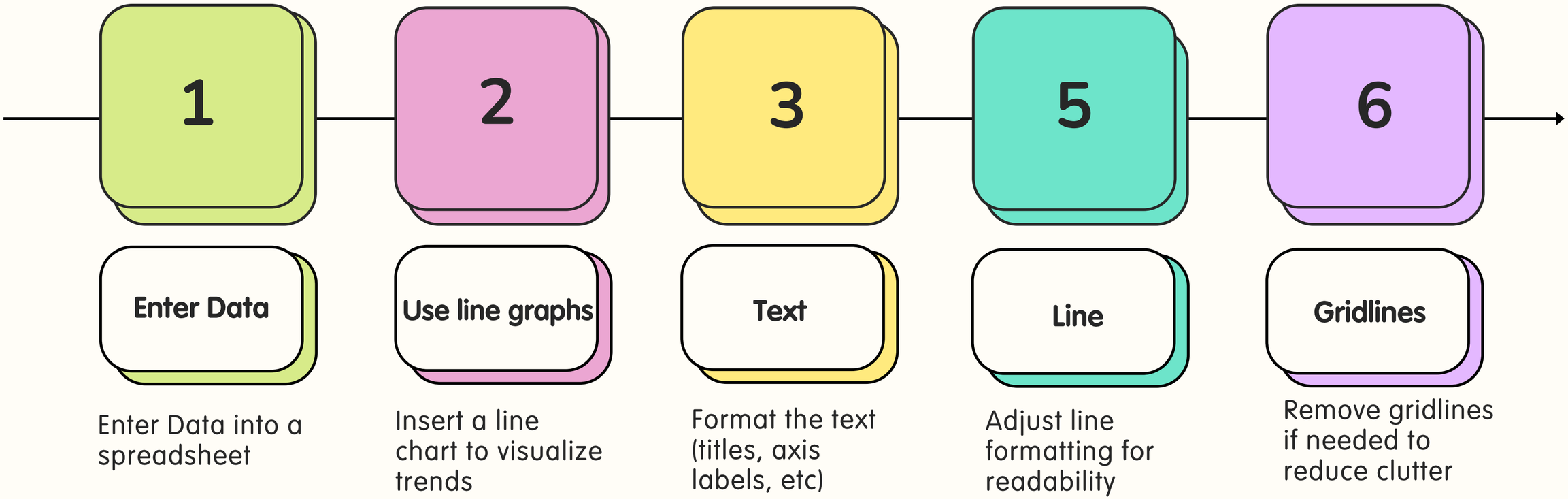
Codes: CR – correct independent; Inc. R – incorrect response, Prompt: V - verbal, G - gestural, M - model, PP - partial physical, FP - full physical; CBx. – challenging behavior; L - latency.

Instructions: Please write down block number next to "Block No.:". Please write "+ or X" under CR, Inc. R, NR, V, G, M, PP, FP, CBx. as relevant. If GeAm engages in challenging behavior, then write down the ABC for the challenging behavior in the ABC data sheet.

Block No.:

Trial No.	Target Bx.	CR	Inc R.	NR	Prompt					CBx.	
					V	G	M	PP	FP		
1	Stop										
2	Stop										
3	Stop										
4	Stop										
5	Stop										
6	Stop										
7	Stop										
8	Stop										
9	Stop										
10	Stop										

GRAPHING DATA



PRACTICAL TIPS

BE CONSISTENT

UPDATE DEFINITIONS AS NEEDED

TRAIN ALL STAFFS

CASE EXAMPLE

- **Review the following cases and suggest:**
  - **A data collection method**
  - **What measurement system you'd use (e.g., frequency, duration, ABC, etc.)**

- Case 1: Marcus is a 7-year-old student who frequently leaves his seat during independent work time. His teacher reports it happens around 10–15 times per 20-minute period. The team wants to reduce this behavior.

CASE EXAMPLE

- **Review the following cases and suggest:**
  - **A data collection method**
  - **What measurement system you'd use (e.g., frequency, duration, ABC, etc.)**

Case 2: Layla is a 10-year-old who rarely raises her hand to ask for help, even though she often needs support. She only does this once or twice a week. The goal is to increase her independent help-seeking behavior.

CASE EXAMPLE

- **Review the following cases and suggest:**
  - **A data collection method**
  - **What measurement system you'd use (e.g., frequency, duration, ABC, etc.)**

Case 3: Sam is a 9-year-old who sometimes screams loudly during transitions. The behavior happens 1–2 times per week, but when it does, it is intense and disrupts the whole classroom. The team is unsure what triggers the behavior.

SUMMARY AND TAKEAWAYS

- Data is key — it guides ethical and effective decision-making
- Collaborate with your team to review, interpret, and respond to data together
- Ensure your behavior definitions are specific, observable, and measurable
- Choose the right measurement system based on behavior characteristics and goals
- Use a well-designed data sheet to make data collection easier
- Look for stability in data before implementing interventions — don't rush the process
- Be flexible: if your data remain unstable, reassess definitions, setting events, or collection methods

THANK YOU!

Q&A

PLEASE COMPLETE THE EXIT SURVEY

Behavior Assessment Training