

## ***Tri-State Autism Spectrum Disorder Webinar Series***

This presentation is a collaborative effort between the following:



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## **THE THIRD STEP TO BEHAVIOR CHANGE: EVALUATE DATA**

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**LEARNER OBJECTIVES**

- 1. Participant will be able to organize and interpret descriptive data collected in a functional behavioral assessment.**
- 2. Participant will be able to display data visually.**
- 3. Participant will be able to interpret data displays and make decisions.**
- 4. Participant will be able to evaluate data to guide choice of intervention.**

## **STEP 3: EVALUATE DATA TO GUIDE CHOICE OF INTERVENTION**



## **THINK ABOUT THE DATA COLLECTED**

- ✓ Did the data collection method you chose give you a reasonable representation of the behavior?
- ✓ Was it a valid measure? If not, what information did it leave out?
- ✓ Did it provide accurate data?
- ✓ Is it reliable?
- ✓ Did it provide the function of the behavior?
- ✓ What data collection method do you believe would be most efficient and less staff intensive in the classroom?
- ✓ Which method would be easiest to train staff to use?
- ✓ Do you have a visual display of the data?

### **STEP 3: EVALUATE DATA TO GUIDE CHOICE OF INTERVENTION**

- Visually represent the data
- Is there enough data to make decisions
- Look for patterns that point to certain ecological conditions that correlate with problem behavior
- Determine the dimension to change/ adaptive behavior to teach
- Determine the “who, where, when” of intervention
- Determine need for a full FBA

### **BENEFITS OF VISUAL ANALYSIS**

- Allows for ongoing visual record of student’s behavior and quick response to the need to change interventions
- Allows for easy identification of interesting variations or patterns in behavior
- Can clarify what behaviors to target for intervention



## METHODS TO VISUALLY REPRESENT DATA

- **Tables and Charts**
- **Scatterplots: use to record events throughout the day across multiple days, to assess patterns of behavior across certain time periods or activities**
- **Graphs: highlights trends across time**
  - Line graph- uses points connected by lines to show how something changes in value over time
  - Bar graph- a visual display that summarizes data that allows for quick and easy comparisons across groups/conditions

## TABLES AND CHARTS

How helpful is this chart?

Does it give enough information?

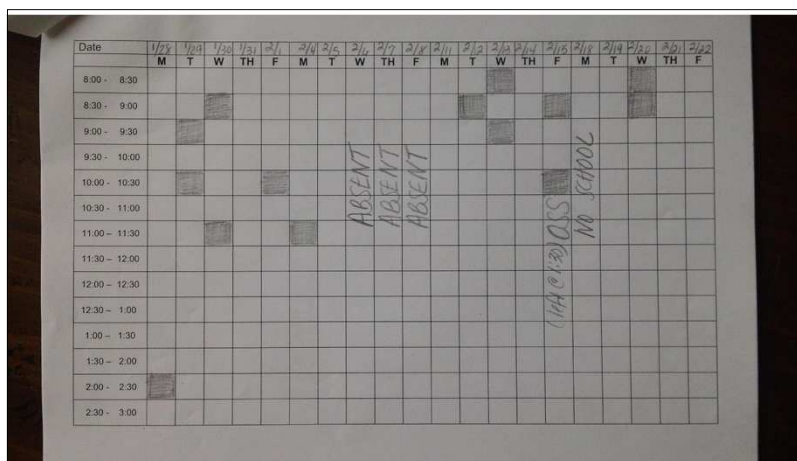
Or too much information?

Date	Hitting	Falling on Floor
1/9/14	5 x am/10 xpm	6 x am/ 8 x pm
1/10/14	8 x am/ 9 x pm	3 x am/ 4 x pm
1/14/14	14 x am/ 19 x pm	1 x am/ 0 x pm
1/15/14	7 x am/ 7 x pm	3 x am/2 x pm

## TABLES AND CHARTS

Skill	Monday	Tuesday	Wednesday	Thursday	Friday
Responds to 10 greetings	++----++ +++ 70%	----+++ ++ 50%	---+--+ +++ 60%	----- --+ 40%	++++-- ---+ 60%
Walks in hallway	---- 1/5	-+++++ 5/6	+++++- 6/7	+ + + + + 5/5	+++++ 5/5

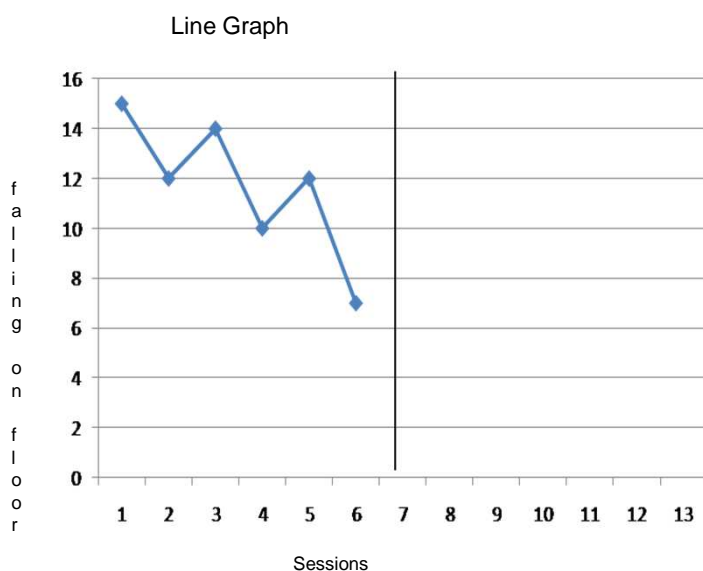
## SCATTERPLOT



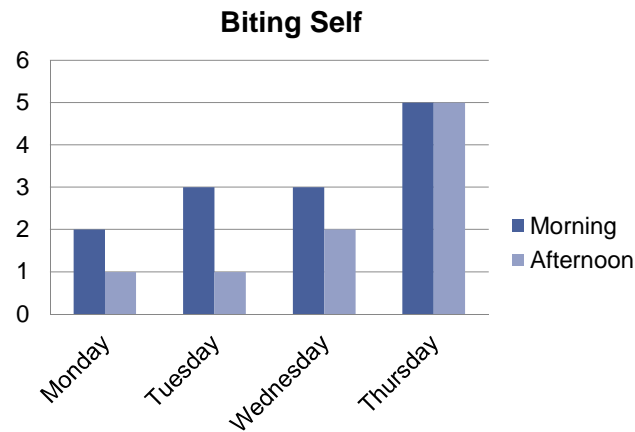
## INTERPRETING A GRAPH

### Get the most out of your data, plot it each day

- The more data plotted on the graph, the more believable the course or change in behavior
- A lot of variability in the data indicates that there may be unknown factors influencing the behavior
- The "trend" or direction of a series of data points can help predict the future path of the data. You might not need to intervene!



## BAR GRAPH



## IS THERE ENOUGH DATA?

- Is there a trend?
- If it varies, do we know what causes this?
- Do we have any data, or enough data, on other variables?





## **IS THERE A PATTERN?**

- Does “shouting out’ just happen in math?
- Does student answer correctly when para asks math questions but not when teacher asks the questions?
- Does student hit and kick on Mondays but not at all the rest of the week?
- Does the student refuse to look and interact with teachers but is animated with peers and giving eye contact appropriately?
- Does student reach mastery at 80% correct on groups of 10 sight words for one day and then fall back to less than 60% correct for 5 days or more?

## **ANTECEDENTS AND CONSEQUENCES ARE IMPORTANT!**

- To understand behavior, look at what precedes and what follows the behavior -

**Antecedent:** teacher does not respond to student’s raised hand but asks another student for the answer

**Behavior:** student yells

**Consequence:** teacher scolds

- What is the antecedent for the "yelling?"
- What is the consequence?
- What do you suppose is the function?



## **ANTECEDENTS AND CONSEQUENCES ARE IMPORTANT!**

- To understand behavior, look at what precedes and what follows the behavior, as in this example

**Antecedent:** teacher asks student to write answers to the history questions

**Behavior:** student rips up paper

**Consequence:** teacher sends student to office

- What is the antecedent for the “ripping of paper?”
- What is the consequence?
- What do you suppose is the function?

## **ANTECEDENTS AND CONSEQUENCES ARE IMPORTANT!**

- To understand behavior, look at what precedes and what follows the behavior, as in this example

**Antecedent:** student sees candy jar in empty classroom

**Behavior:** student takes some candy

**Consequence:** student eats candy

- What is the antecedent for the “eating candy?”
- What is the consequence?
- What do you suppose is the function?



## **ANTECEDENTS AND CONSEQUENCES ARE IMPORTANT!**

- To understand behavior, look at what precedes and what follows the behavior, as in this example

**Antecedent:** student enters loud auditorium

**Behavior:** student covers ears and hums loudly

**Consequence:** paraprofessional removes him to quiet area

- What is the antecedent for “covering ears and humming?”
- What is the consequence?
- What do you suppose is the function?



## **ANTECEDENTS AND CONSEQUENCES ARE IMPORTANT!**

- To understand behavior, look at what precedes and what follows the behavior, as in this example

**Antecedent:** teacher tells student to pick up the ball

**Behavior:** student kicks the ball into teacher's face

**Consequence:** teacher picks up the ball

- What is the antecedent for the kicking?
- What is the consequence?
- What do you suppose is the function?



## ABC RECORDING

- Form may have pre-selected antecedents, behaviors and consequences or it can be blank
- It requires someone to be observing the child during the whole time period
- It provides fuller description of event and assists understanding the function of the behavior

ABC Data Sheet

Record each instance of any behavior, as well as the antecedent (what happened right before the behavior), the consequence (what happened right after the behavior), and what the possible function of that behavior was (what outcome did it achieve for the child/student?).

Date: \_\_\_\_\_ Time of Observation: \_\_\_\_\_

Antecedent	Behavior	Consequence	Possible Function <small>(Attention, Access to items, activities, Escape, Sensory)</small>
Child sitting on couch, watching TV.	Picks nose.	Mom says, "William, stop that."	Attention, but could also be sensory.

## DON'T FORGET SETTING EVENTS!

Different situations that precede the immediate antecedent to the behavior and make the behavior more likely:

**Environmental:** ex. noise, para sub, schedule change

**Social:** ex. friends excluded student from group

**Physiological:** ex. lack of sleep, ran out of meds



## SETTING EVENTS + ABC FORM

Form has space to also record Setting Events

- Preferable to a simple ABC form
- May have space for an Intensity rating scale
- May have space for Time/Duration of behavior

	Setting	Activity	Antecedent	Behavior	Consequence	Comments
Time Start: Time End: Intensity: Initials:						

## DO YOU NEED MORE INFORMATION TO ASSESS THE FUNCTION OF BEHAVIOR?

Review the information you gathered in Step 1

- Interview significant others and student
- Ask for anecdotal notes and other forms of data from the teacher
- Use checklists or standardized tests
- Observe directly
- Use Antecedent Behavior Consequence (ABC) form

## **LET THE REASON FOR THE BEHAVIOR GUIDE OUR INTERVENTION!**

**Check data to determine what are the possible reasons for behavior?**

- **Student has not learned skill, or skill has not generalized**
- **Function of behavior is escape from task/location/person**
- **Function of behavior is tangible**
- **Function of behavior is attention**
- **Function of behavior is to satisfy a sensory need**
- **Function of behavior is counter control**

## **FUNCTIONAL BEHAVIOR ASSESSMENT (FBA)**

**If you need to do an FBA here are the 4 steps recommended by experts in the field of behavior analysis:**

- 1. Gather information via indirect and descriptive assessment**
- 2. Interpret information from indirect and direct assessment and formulate hypotheses about the purpose of problem behavior**
- 3. Test hypotheses using functional analysis**
- 4. Develop intervention options based on the function of problem behavior.**

(Applied Behavior Analysis, Second Edition, Cooper, J., Heron, T., Heward, W.)

## THE WHO, WHAT, WHERE & HOW OF BEHAVIOR CHANGE ?

Now that we have all the baseline data we need:

- we can accurately choose intervention strategy
- assess if intervention strategy is effective by comparing new data to baseline data
- we know when to teach new behavior
- consider using a **CAPS** or modified **CAPS** (Henry & Myles, 2007)

Time	Place	Person	Activity	Objective	Supports	Data
8:15	classroom	mrs. brown	math	follow directions within 5 secs	visual prompts, tokens/reinforcement	latency data for following directions
9:00	hallway	mr. jones	going to library	walk in line at same pace as others	positive practice, verbal praise	frequency data for appropriate walking