


Functional Assessment of Behavior
EDS 240
Direct Assessment & Functional Analysis Assessment

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Fieldwork

✳ Everyone should have identified their FBA case study by today.

- ◆ Teacher/Student should have been identified
- ◆ Interviews completed or scheduled

Conducting the Functional Assessment:
Three general approaches

✳ Indirect Assessment

- ◆ Ask/Examine

✳ **Direct/Descriptive Assessment**

- ◆ Observe

✳ Functional or Experimental Analysis

- ◆ Test

Conducting the Functional Assessment:
Three general approaches

- * Direct/Descriptive Assessment (Observe)
 - ◆ Should improve accuracy of data, but requires significant professional time and resources (requires the observer to be present when the behavior occurs in order to observe/record the antecedents and consequences).

Conducting the Functional Assessment:
Three general approaches

- * Direct/Descriptive Assessment (Observe)
 - ◆ Often done by “familiar” observers
 - ◆ Should not interfere with normal daily events.
 - ◆ Allows for discovery of behavioral patterns
 - What problems occur at the same time?
 - Where, when, with whom are the problems most likely to occur?
 - What consequences appear to be maintaining the behavior?

Conducting the Functional Assessment:
Three general approaches

- * Indirect Assessment
 - ◆ Ask/Examine
- * Direct/Descriptive Assessment
 - ◆ Observe
- * **Functional or Experimental Analysis**
 - ◆ **Test**

Conducting the Functional Assessment:

Three general approaches

- ✱ Functional (or Experimental) Analysis Assessment (Test, FAA)
 - ◆ The most precise, rigorous, and controlled functional assessment method.
 - ◆ Expensive and time consuming.
 - Should be employed only when it is truly needed.

Systematic Observation:

Determining *What* to Observe

- ✱ Which behavior do you measure; the problem or replacement behavior?
 - ◆ Select the behavior that is most visible, occurs least frequently, and is judged to give you the best indication of the desired changes.
 - ◆ For which one is easiest to collect reliable data?
 - ◆ Use common sense!

Systematic Observation:

Determining *When* to Observe

- ✱ Direct/Descriptive Assessment (Observe)
 - ◆ Event Frequency x Time Scatter plot

Time	Day 1	Day 2	Day 3	Day 4	Day 5
8:00-8:30	III	IIII	II	III III	IIII
8:30-9:00		II	I		I
9:00-9:30	I			I	
9:30-10:00					
10:00-10:30			I		
10:30-11:00					

- ◆ AKA: Behavior Contingency Assessment (Time)

Systematic Observation:
Determining *How Long* to Observe

- ✦ Duration of Observations
 - ◆ Generally speaking, 5 days worth of carefully selected 30-minute observations will be sufficient to obtain accurate functional assessment data.
 - In a functional *analysis* assessment (FAA) data collection procedures are more ridged, but here also 5 days worth of carefully selected 30-minute observations will be sufficient.

Systematic Observation:
Data Collection as Part of a FAA

- ✦ In an FAA, be sure to observe at the same time each day or during the same activity.
 - ◆ Student behavior can change from one activity to another, so it is best to always “sample” their reaction to the same activity for a period of five days.
- ✦ In an FAA, do not skip successive days when observing as a student’s behavior may change over the course of the week.
- ✦ Regardless of the type of assessment (FBA or FAA), make sure the behavioral data collection strategy is feasible.

Systematic Observation:
Data Collection Strategies

1. Severity/Intensity
2. Permanent Product Data
3. Event Frequency Data
4. Duration Data
 - i. Interval Data
 - a) Whole-interval time sampling
 - b) Partial-interval time sampling
 - c) Momentary-interval time sampling

Severity of Disruptive Behavior Rating Rubric

1. Behavior is **confined only to the observed student**. May include such behaviors as: refusal to follow directions, scowling, crossing arms, pouting, or muttering under his/her breath.
2. Behavior **disrupts others in the student's immediate area**. May include: slamming textbook closed, dropping book on floor, name calling, or using inappropriate language.
3. Behavior **disrupts everyone in the class**. May include: throwing objects, yelling, open defiance of teacher directions, or leaving the classroom.
4. Behavior **disrupts other classrooms or common areas** of the school. May include: throwing objects, yelling, open defiance of school personnel's directions, or leaving the school campus.
5. Behavior **causes or threatens to cause physical injury** to student or others. May include: display of weapons, assault on others.

A more qualitative/subjective approach that helps to communicate the BIG (or global) picture of behavior(s) and their environmental effects

Source: Center for Effective Collaboration and Practice

Systematic Observation: Data Collection

- ✘ Permanent Product Data
 - ◆ **Definition:** The enduring outcome of the behavior.
 - ◆ **Example of behaviors measured:** Number of problems or number of assignments completed, windows broken. Activities with discrete, countable segments.
 - ◆ **Advantages:** Reliability, Can be collected after the fact in some cases (e.g., by looking a teacher grade books).

Reference: Sulzer-Aruff, B., & Mayer, G. R. (1991). *A guide to selecting behavior recording techniques. Behavior Analysis for Lasting change*. New York: Holt, Rinehart & Winston.

Systematic Observation: Data Collection

- ✘ Permanent Product Data

Behavioral outcome (or product) to be counted

Data Collection

Date	Frequency	Notes

**Systematic Observation:
Data Collection**

✦ **Event Frequency Data**

- ◆ **Definition:** Number of occurrences of behavior that has a clear beginning and end, measured over a specified time period.
- ◆ **Example of behaviors measured:** Picking at lip, a punch; runs from room; shouts out response, words read per minute, hand raises, number of problems completed, eye blinks, questions answered correctly, self-injurious acts with a clear beginning and ending.
- ◆ **Advantages:** Easy to record. A small golf counter is often used to collect this type of data.

Reference: Sulzer-Aruff, B., & Mayer, G. R. (1991). *A guide to selecting behavior recording techniques. Behavior Analysis for Lasting change.* New York: Holt, Rinehart & Winston.

**Systematic Observation:
Data Collection**

✦ **Event Frequency Data**

Behavioral event to be counted

Date	Frequency	Notes

**Systematic Observation:
Data Collection**

✦ **Event Frequency x Activity Data**

- ◆ Activity Scatter Plot
- ◆ Helps to identify if the frequency of a given behavior is greater during specific activities.

✦ **Event Frequency x Time Data** (displayed earlier)

- ◆ Time Scatter Plot
- ◆ Helps to identify if the frequency of a given behavior is greater during specific times of the day.

✦ Helpful in determining when to invest your valuable time.

✦ Charts can be placed on a clipboard in an accessible location.

✦ Can be helpful in identifying antecedents.

Systematic Observation: Data Collection

✦ Duration Data

- ◆ **Definition:** Length of time from beginning to end of a response. If a behavior lasts several minutes and/or does not occur very frequently, then this is a preferred data source.
- ◆ **Example of behaviors measured:** Temper tantrums, time spent on task, amount of time out of seat, length of time to sit down, following teacher request to do so, or any behaviors where duration is an important variable.
- ◆ **Disadvantages:** Required the use of a clock or stop watch.

Reference: Sulzer-Araroff, B., & Mayer, G. R. (1991). *A guide to selecting behavior recording techniques. Behavior Analysis for Lasting Change.* New York: Holt, Rinehart & Winston.

Systematic Observation: Data Collection

✦ Duration Data

- ◆ Can also be used to collect frequency data

DATE:	DATE:	DATE:	DATE:	DATE:
Start:	Start:	Start:	Start:	Start:
Stop:	Stop:	Stop:	Stop:	Stop:
Duration:	Duration:	Duration:	Duration:	Duration:
Start:	Start:	Start:	Start:	Start:
Stop:	Stop:	Stop:	Stop:	Stop:
Duration:	Duration:	Duration:	Duration:	Duration:
Start:	Start:	Start:	Start:	Start:
Stop:	Stop:	Stop:	Stop:	Stop:
Duration:	Duration:	Duration:	Duration:	Duration:
Start:	Start:	Start:	Start:	Start:
Stop:	Stop:	Stop:	Stop:	Stop:
Duration:	Duration:	Duration:	Duration:	Duration:

Systematic Observation: Data Collection Practice

- A classroom teacher is having management issues.
- The teacher and principal have asked to you consult regarding how to improve on-task behavior.
- You begin by measuring the classroom's off-task behavior to establish a baseline.
- Off-task behavior has been defined as follows:
 - Any student interrupts his or her attention to the task at hand (e.g., listening to teacher, completing work) to engage in some other behavior. Attention is defined as visually looking at task teacher/materials. For example if the child breaks eye contact with the math problems, then he or she is considered off task.

**Systematic Observation:
Data Collection Practice**

- ✱ Collect duration (and frequency) data for off-task behavior.
- ✱ <https://www.youtube.com/watch?v=gHzTU YAOKPM>

**Systematic Observation:
Data Collection**

- ✱ Interval Data
 - ◆ **Definition:** Number of time *intervals in which the behavior occurs*. Total observation time is divided into equal intervals and recording the behavior's presence or absence during that time. If the behavior occurs frequently (at least once every 15 minutes), then this is the preferred data source.
 - ◆ **Example of behaviors measured:** Thumb sucking, on/off-task, gestures, stereotypical behavior
 - ◆ **Advantages:** Records behaviors that are not clearly discrete (don't have real clear beginnings and endings).

Reference: Sulzer-Aruff, B., & Mayer, G. R. (1991). *A guide to selecting behavior recording techniques. Behavior Analysis for Lasting change*. New York: Holt, Rinehart & Winston.

**Systematic Observation:
Three time Sampling Techniques**

- **Whole-interval time sampling.** Records the response when displayed throughout the entire interval. Can be used to measure on-task behavior. Tends to underestimate occurrences of behavior.
- Useful when it is important to know that the behavior has not been interrupted
 - For example a safety issue such as a non-swimmer staying in the shallow end of the pool.
 - Other examples?

Reference: Sulzer-Aruff, B., & Mayer, G. R. (1991). *A guide to selecting behavior recording techniques. Behavior Analysis for Lasting change*. New York: Holt, Rinehart & Winston.

Systematic Observation: Three time Sampling Techniques

- **Partial-interval time sampling.** Records the response when a single instance is displayed at any time during the interval. Can be used to measure swearing or bizarre gestures. Tends to overestimate occurrences of behavior.
- Used to record behaviors that are fleeting.
 - For example, physical aggression.
 - Other examples?

Reference: Sulzer-Araroff, B., & Mayer, G. R. (1991). *A guide to selecting behavior recording techniques. Behavior Analysis for Lasting change.* New York: Holt, Rinehart & Winston.

Systematic Observation: Three time Sampling Techniques

- **Momentary-interval time sampling.** Records the response if it is displayed at the end (or beginning) of a specific interval. Can be used to measure in-seat behavior or frequent stereotypic behavior.
- Useful to record behaviors that are likely to persist for a while.
 - For example, “on-” or “off-task” behavior.
 - Other examples?

Reference: Sulzer-Araroff, B., & Mayer, G. R. (1991). *A guide to selecting behavior recording techniques. Behavior Analysis for Lasting change.* New York: Holt, Rinehart & Winston.

Systematic Observation: Data Collection

✳ Interval Data (whole, partial, momentary)

Behavioral event to be counted

Interval:	DATE	DATE	DATE	DATE	DATE
8:00					
8:15					
8:45					
9:00					
9:15					
9:30					
9:45					
10:00					
10:15					
10:30					
10:45					
11:00					
11:15					
11:30					
11:45					
12:00					

Behavioral Observation Practice

❖ Make use of the Functional Assessment Observation Form when responding to observational data from the following case study.

- Jimmy is an 8-year-old, 2nd grade boy currently enrolled in a special day class designed for children with severe communication difficulties. Jimmy has normal intelligence (as measured by nonverbal tests of intelligence). Jimmy's articulation skills are extremely poor. Despite his well-developed cognitive abilities, he has significant learning difficulties. Reading is a particular weakness and math a relative strength. Jimmy's classroom is highly structured and follows a very predictable routine.

Behavioral Observation Practice

1. Write in name and start date
2. Write in behaviors (name calling & noncompliance)
3. Write in observation times (also include schedule)
4. Assign first behavior an event # (cross out 1) and date (write in 9-25)
5. Event #1, 9-25, **8:30** (what row?)
6. Place a 1 under name calling
7. Place a 1 under the appropriate predictors (will need to write in Suzie's name)
 - Asked to read = demand/request
 - Reading is hard = difficult task
 - Swears at Suzie = Suzie
8. Place a 1 under the perceived functions
9. Place a 1 under the actual consequence (will need to write in time out).

Name: Jimmy		Functional Assessment Observation Form																			
Starting Date: 9-25		Ending Date: 9-29																			
Time	Behaviors				Predictors				Get/Obtain		Escape/Avoid		Actual Conseq.								
	Name calling	Non-compliance	Domest/Byest	Other	Demands	Stimuli	Stimuli	Stimuli	Stimuli	Stimuli	Stimuli	Stimuli	Stimuli	Stimuli	Stimuli						
8:10-9:00	1,10,12	2,15	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	2	1,10,12	1,10,12	1,10,12	1,10,12	1,10,12	1,10,12	1,10,12	1,10,12	1,10,12	1,10,12	1,10,12						
9:00-9:30	13	1	1		13	1	13								1,13						
9:30-10:00	18				18		18								18						
10:00-10:30																					
10:30-11:00	5,9	4,7,11	4	4	7	8,9,10,11	9,11	11	7,11	9,10,11					5,6,9,11						
11:00-11:30																					
11:30-12:00		5,8	5,8	5	5	5	8								5,8						
12:00-12:30																					
Totals	8	0	8	0	9	8	3	0	0	7	4	2	3	1	0	3	8	0	1	10	3
Events:	9-25 9-26 9-27 9-28 9-29																				

Common Problems in Behavior Measurement

- ❖ A vague definition of the behavior (e.g., Charles sometimes gets upset).
- ❖ Untrained or inexperienced observers.
- ❖ Difficulty observing multiple student behaviors (e.g., out of seat, off task, and rude gestures).
 - ◆ One of the reasons why it is best to limit # of target behaviors
- ❖ Potential observer bias regarding the student's behavior (e.g., the observer is subjected to repeated teacher complaints about the severity of the student's classroom conduct).
 - ◆ One of the reasons why you need to do some of the observations

Common Problems in Behavior Measurement

- ❖ Difficulty precisely capturing classroom interactions (e.g., observing a group learning activity in which students move about the classroom).
 - ◆ Thus the need to talk to the teacher in advance of the observation regarding what students should be doing during a given observation.

Functional Analysis Assessment

- ❖ Experimental manipulation of antecedents and/or consequences to demonstration a functional relationship between one or more of the antecedents and consequences and the occurrence of the challenging behavior
- ❖ Employs a Behavior Rate Tabulation Chart
- ❖ Three steps:
 1. Objective measurement of the challenging behavior
 2. Demonstration of a change in the level of the challenging behavior following the manipulation of contingencies
 3. Replication

Behavior Rate Tabulation Chart

Student: _____ Age: _____ School: _____
Baseline: _____ to _____ Follow-up: _____ to _____
Activity: _____ Time Period: _____ Observer: _____

20											
19											
18											
17											
16											
15											
14											
13											
12											
11											
10											
9											
8											
7											
6											
5											
4											
3											
2											
1											
0											

Description of behavior being tabulated: _____

	Baseline	Follow-up
Highest daily frequency	_____	_____
Lowest daily frequency	_____	_____
Total frequency	_____	_____
Pre-daily average	_____	_____

Creating Report Graphs

- ✳ Carr & Burkholder
 - ◆ <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1284121>
- ✳ Sample Excel™ chart and graph
- ✳ Standard Mean Difference graph generator

Coming up next ...
