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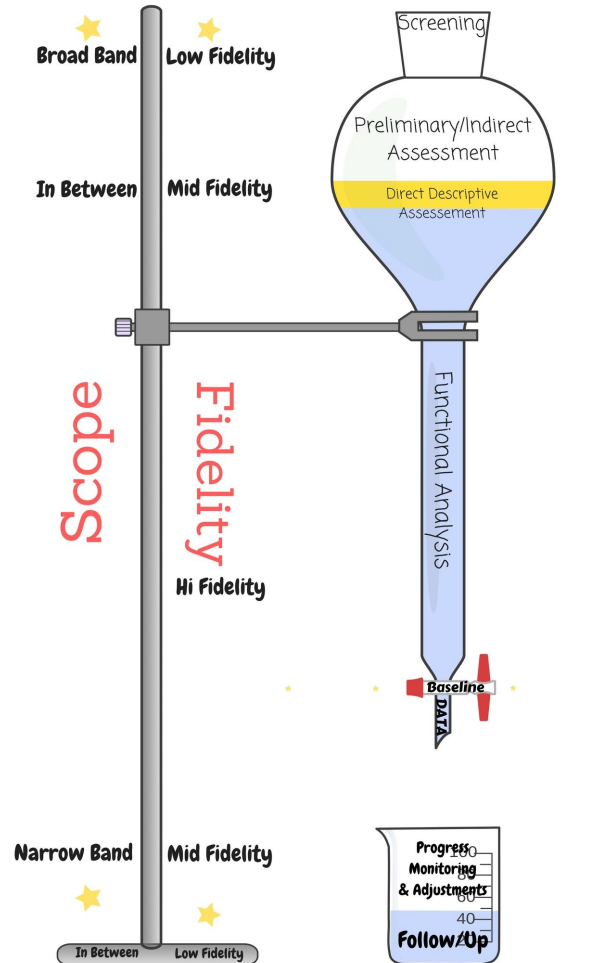
Certified Behaviour Consultant (IAABC)
Masters Applied Behaviour Analysis (ABA)

Assessing & Identifying Functions Of Behaviour

Using Proven Systematic Approaches To Define &
Treat Target Behaviours

&

Get The Best Out Of Client Visits



Behaviour What Is It?

- Antecedent Or Consequence Maintained
- Stimulus “An energy change that affects an organism through its receptor cells” (Michael, 2004, p. 7).
- Behaviour is learned
- Relatively permanent change
- Not Behaviour Modification (Iwata)
- Observable & measurable
- Can be improved or changed
- Data driven strategies
- Simply explained

What Is ABA?

- How an organism interacts with his environment
- Behaviour is the dependant variable- environment is the independent variable (IV & DV)
- These are manipulated to assess functions and what maintains the behaviour
- ABC Antecedent Behaviour Consequences
- Differential Reinforcement (r-s)
- Contingency & Contiguity
- Discriminative Stimuli (SD)
- Operant contingencies
- Motivating Operations (establishing & abolishing AO and EO)
- Target behaviour that is relevant
- Functional analysis is the gold standard for function/direct assessment does too!
- Each subject is his own control unlike psychology we compare each with his own
- Internal & external validity n=3
- FR1 CRF reinforcement schedules

START- Organism Involved Has To Benefit - Do We Need ABA? (Relevance of behaviour rule)

- Identify the problem & assess
- Design
- Plan
- Training
- Implement
- Monitor & evaluate
- Plan revision

Taking Data. If you are not taking data, you are not doing ABA.

DESIGN-----IMPLEMENT-----EVALUATE-----REPEAT

WHAT WE DO NOT DO!!!

- Psychological testing
- ABA is not psychology
- Neuropsychology
- Psychotherapy
- Cognitive Therapy
- Psychoanalysis
- Statistics
- Use explanatory fiction- intelligence, cognitive awareness

ALL Behaviour has to be identified by systematic methods which we can use to record, track progress and evaluate. Making inferences about internal processes is not ABA.

Outcomes

(have to be appropriate)

- SAMPLE OUTCOME:
- Want to increase the accuracy of the retrieve
- Want to increase the frequency of recall
- NOT:
- I want my dog to stop barking at other dogs
- I want my dog to comply with commands

HAS TO BE OBSERVABLE & MEASURABLE

- Behaviours that are established, maintained, increased or decreased.

Adaptive Behaviour & Increasing The Repertoire

- What do we have to do to get the animal to engage in the behaviour outcome?
- Tango wants attention but has been guarding her toys & running off with them. So, what is a successful outcome? What does Tango have to do to get attention?
- Response----- Consequence (differential reinforcement) & then S-----R-----S contingency. Reinforcement only happens when you ask for the behaviour.

EG: Retrieve on SD (stimulus control)/ 5 Point Tag-Line For Teaching

1. Signal
2. Fetch
3. Retrieve
4. Relinquish
5. Attention/Tangible

Targeting & Defining Behaviour

- The Dead Man's Test Ogden Lindsley 1965
- Make sure it is a definable behaviour NOT just a label. Unless you have a predefined topographical response class in your behaviour plan.
- Consistent, Clear Definitions.
- Decelerating behaviour - must have one to increase as a replacement
- This is identified using functional assessment.
- Repertoire

Relevance Of Behaviour Intervention

- Goals Shared
- Satisfactory & Effective
- Maintainable & Acceptable
- Defining behaviour in observable and measurable terms eg topography, intensity
- Measure: IRT, Duration, Latency, intensity (subjective scale), response cycle included in response definition.

Be Objective (observable), Clear (allow replication) & Complete (delineate boundaries of what is and not behaviour)

ABA Natural Science

Same As Physics & Chemistry

Fundamental Property	Dimensional Quantity	Measurement
Temporal Locus	Latency	Time
Temporal Extent	Duration	Time
Repeatability	Countability	Nmbr. Responses
Repeatability X Temporal Locus	IRT	Time/Nmbr. Responses
“	RATE	Nmbr. Responses/Time
“	Celeration	Change Rate/Time or Nmbr Responses/time/time

From Johnston & Pennypacker

Preliminary Assessment

1. From a vet- rule out medical variables -gather basic information are my services appropriate? Practice within your limitations.
2. Can we make environmental changes that reduce the need to ABA?
3. Identify outcomes/ are they significant, needed, environmental manipulations? Financial arrangements? What was the dog bred to do?
4. Do you have time, skills?
5. Rapport, complete intake, review records, begin observations,
6. Document, contract & disposition

Background Of Functional Assessment (FA or FBA)

- Function/cause of behaviour
- Skinner discarded cause and effect to be more precise about behaviour
- Functional analysis is a mathematical term measuring criteria making behaviour a subject matter
- The environmental events are functionally related to behaviour whether adaptive or maladaptive. The relationships exist as a function of antecedents and consequences
- SIB 1970/1980 lead to the development of FA. This has now extended to other types of behaviour disorders & species.
- Brian Iwata University of Florida set up protocol for classification & treatment using the FUNCTION
- ABA is devoted to FA research not so many on animals
- Ethical considerations of precursor behaviour and environmental set up O’Heare & Friedman

FAST

Functional Analysis Screening Tool

Client: _____ Date: _____

Informant: _____ Interviewer: _____

To the Interviewer: The FAST identifies factors that may influence problem behaviors. Use it only for screening as part of a comprehensive functional analysis of the behavior. Administer the FAST to several individuals who interact with the client frequently. Then use the results to guide direct observation in several different situations to verify suspected behavioral functions and to identify other factors that may influence the problem behavior.

To the Informant: Complete the sections below. Then read each question carefully and answer it by circling "Yes" or "No." If you are uncertain about an answer, circle "N/A."

Informant-Client Relationship

1. Indicate your relationship to the person: Parent Instructor
 Therapist/Residential Staff _____ (Other)
2. How long have you known the person? _____ Years _____ Months
3. Do you interact with the person daily? Yes No
4. In what situations do you usually interact with the person?
 Meals Academic training
 Leisure Work or vocational training
 Self-care _____ (Other)

Problem Behavior Information

1. Problem behavior (check and describe):
 Aggression _____
 Self-Injury _____
 Stereotypy _____
 Property destruction _____
 Other _____
2. Frequency: Hourly Daily Weekly Less often
3. Severity: Mild: Disruptive but little risk to property or health
 Moderate: Property damage or minor injury
 Severe: Significant threat to health or safety
4. Situations in which the problem behavior is most likely to occur:
Days/Times: _____
Settings/Activities: _____
Persons present: _____
5. Situations in which the problem behavior is least likely to occur:
Days/Times: _____
Settings/Activities: _____
Persons present: _____
6. What is usually happening to the person right before the problem behavior occurs?

7. What usually happens to the person right after the problem behavior occurs?

8. Current treatments _____

- | | | | |
|--|-----|----|-----|
| 1. Does the problem behavior occur when the person is not receiving attention or when caregivers are paying attention to someone else? | Yes | No | N/A |
| 2. Does the problem behavior occur when the person's requests for preferred items or activities are denied or when these are taken away? | Yes | No | N/A |
| 3. When the problem behavior occurs, do caregivers usually try to calm the person down or involve the person in preferred activities? | Yes | No | N/A |
| 4. Is the person usually well behaved when (s)he is getting lots of attention or when preferred activities are freely available? | Yes | No | N/A |
| 5. Does the person usually fuss or resist when (s)he is asked to perform a task or to participate in activities? | Yes | No | N/A |
| 6. Does the problem behavior occur when the person is asked to perform a task or to participate in activities? | Yes | No | N/A |
| 7. If the problem behavior occurs while tasks are being presented, is the person usually given a "break" from tasks? | Yes | No | N/A |
| 8. Is the person usually well behaved when (s)he is not required to do anything? | Yes | No | N/A |
| 9. Does the problem behavior occur even when no one is nearby or watching? | Yes | No | N/A |
| 10. Does the person engage in the problem behavior even when leisure activities are available? | Yes | No | N/A |
| 11. Does the problem behavior appear to be a form of "self-stimulation"? | Yes | No | N/A |
| 12. Is the problem behavior <u>less</u> likely to occur when sensory stimulating activities are presented? | Yes | No | N/A |
| 13. Is the problem behavior cyclical, occurring for several days and then stopping? | Yes | No | N/A |
| 14. Does the person have recurring painful conditions such as ear infections or allergies? If so, list: _____ | Yes | No | N/A |
| 15. Is the problem behavior <u>more</u> likely to occur when the person is ill? | Yes | No | N/A |
| 16. If the person is experiencing physical problems, and these are treated, does the problem behavior usually go away? | Yes | No | N/A |

Scoring Summary

Circle the number of each question that was answered "Yes" and enter the number of items that were circled in the "Total" column.

Items Circled "Yes"	Total	Potential Source of Reinforcement
1 2 3 4	___	Social (attention/preferred items)
5 6 7 8	___	Social (escape from tasks/activities)
9 10 11 12	___	Automatic (sensory stimulation)
13 14 15 16	___	Automatic (pain attenuation)

What Is FA?

- Procedure to identify causes for target behaviours used in ABA through the immediate environment & the learning history of the individual
- Tests hypothesis (question)
- We do not look at psychic or psychological processes which are mentalistic and circular in their reasoning, do not diagnose or classify symptoms using DSM-IV etc- we are systematic. Data guides us.
- How did the organism learn it, how is it supported & what maintains it?
- Select treatments based on the functional category that are proven to be effective and classify the purpose of the behaviour in its functional category.
- NOT TOPOGRAPHY! Which strengthen the target behaviour.

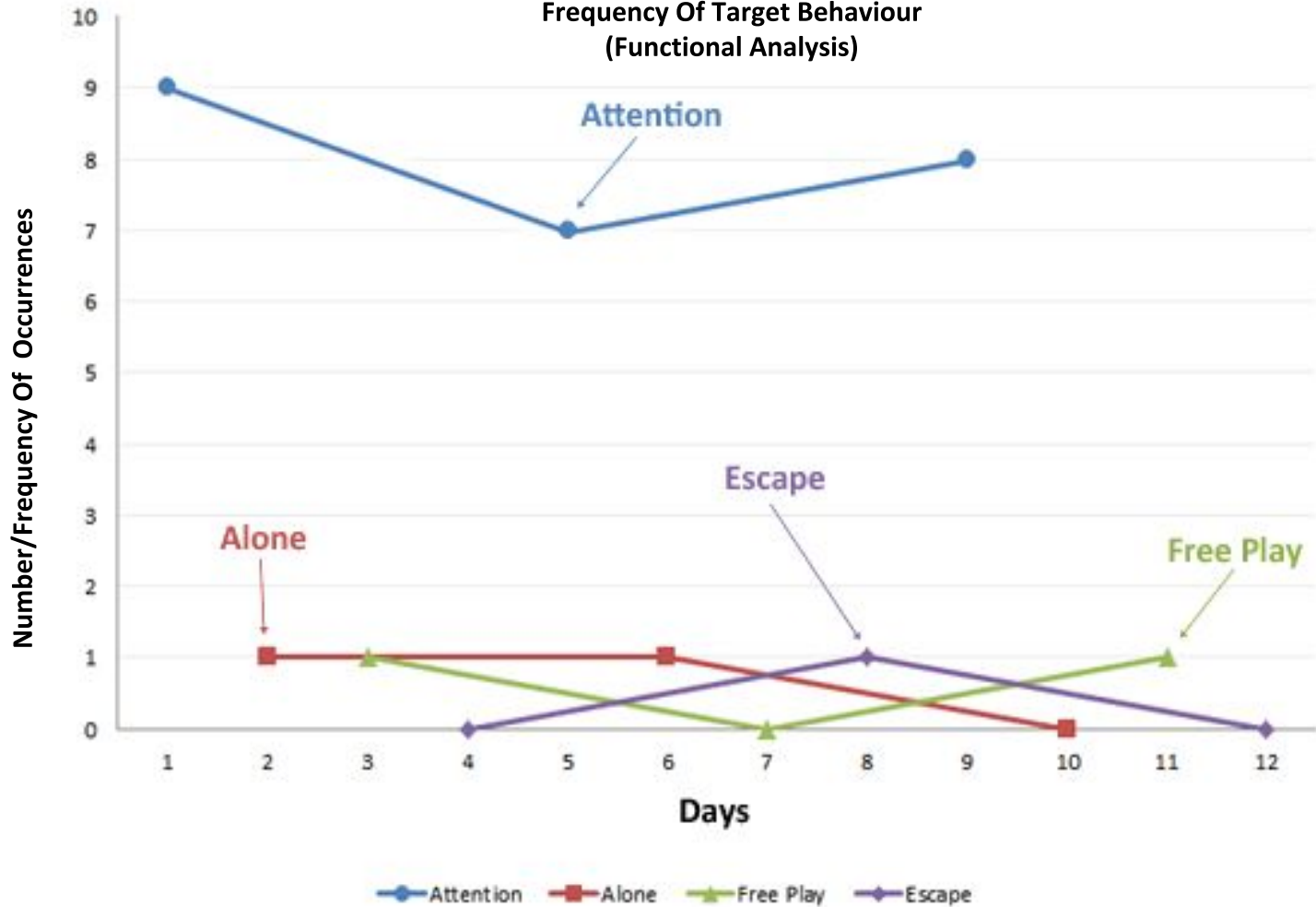
The Functions Of Behaviour

- Socially mediated positive reinforcement (attention, activities, tangibles) value increasing and decreasing (establishing & abolishing operations)
- Socially mediated negative reinforcement: Relief! Withdrawal of something which is aversive (after a behaviour) avoidance or postponing the demand. Warning for less reinforcement or more reinforcement (value altering)
- Automatic positive reinforcement- self stimulatory sensations produced by behaviour eg value increases when left in an environment which is not stimulatory or decreases when there is enrichment

Functional Analysis of Tail Wagging Behaviour



Frequency Of Target Behaviour (Functional Analysis)



You Are Not Conducting A Behaviour Assessment Unless You Are
Directly Observing & Measuring:

"Sine qua non" -

"without which, it could not be" ..

How To Conduct A Functional Behaviour Assessment (FBA)

1-Functional Interview

- 1) Functional Assessment Interview (2 known people)
- 2) Functional Assessment Screening Tool (FAST)
- 3) Motivation Assessment Scale (2&3 either or both)

2- Direct Observation

- 1) Sequence Analysis of ABC data
- 2) Frequency & Rate = Freq/unit of time eg 5 behrs/10 mins
- 3) Duration= How long behaviour lasts
- 4) Latency= Time between S-R

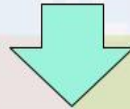


3-Experimental Manipulation

(Is it ethical to evoke the target behaviour? Latency/Precursors/Distance)

Functional Tests:

- 1) **Self stimulatory**- alone condition no stimulation (20 mins)
- 2) **Attention**- each time behaviour occurs give attention take count (20 mins)
- 3) **Escape/Avoidance**- Allow an escape for each instance of target behaviour leave 1 minute and then direct back to condition count (20 mins)
- 4) **Control Condition**- free access to everything count (20 mins)



4-Functional Analysis

- 1) Summary of functional assessment
- 2) Direct observation data
- 3) Experimental manipulation information

5-Behaviour Plan

- 1) Choose intervention based on behaviour function
- 2) Write up the target behaviour for decrease (not extinction)
- 3) Write up target behaviour for increase

Behaviour Assessment

- Planned ignoring does not work if the function of the behaviour is not attention
- Noncontingent reinforcement can lead to superstitious behaviour

Levels of assessment:

1. Indirect: Interviews, questionnaires, rating scales
2. Descriptive Or Direct: ABC data, sequence & pattern analysis
3. Identify the functions of behaviour: Brief functional analysis (BFA)
4. Experimental: When environment is manipulated by antecedents & consequences in a systematic way to isolate the effects they have on behaviour.

Motivation Assessment Scale

Animal Name:

Target Behaviour/Behaviour Of Concern:

Please Read: For each question give a score between 0-6 (see key below). In the square on the left hand side of the question mark the number score (in the open box). At the end, add up the total for each function. The area which has the highest score indicates the function of the behaviour in question.

Function: SENSORY

- Would the behaviour occur continuously if the animal was left alone for any period of time?

TOTAL

Function: Escape

- Does the behaviour occur after you have asked the animal to do something?

TOTAL

Function: Attention

- Does the behaviour occur when you have your attention on another animal/person/child/thing

TOTAL

Function: Tangible

- Does this behaviour occur to get toys, food, game or access to some other resource?

TOTAL

(adapted from Durand & Crimmins 1988 JABA)

Functional Analysis Interview

Animal Name:

Target Behaviour/Behaviour Of Concern:

Positive Reinforcers:

Negative Reinforcers:

Please Read: Interview someone who has observed the animal's behaviour over a period of time, in different settings and environments. For every YES/TICK marked there needs to be a qualifying statement in the space corresponding to that question.

1) Physiological, Medical & Establishing Operation

Does the behaviour occur at specific times of day/week/year

2) Triggers (Antecedents) & Setting Events Factors

Are there any conditions in which the behaviour ALWAYS occurs?

3) Operant Consequences

What function does the behaviour have in terms of outcomes such as attention, preferred items, activities, socially mediated or non-socially mediated access to tangibles

A-B-C Observation Form

Student: _____

Target Behavior: _____

Date: _____

Time: _____

Location: _____

Observer: _____

Antecedent	Behavior	Consequence

Choosing a Data Collection Method

Type of Behavior	Data Collection Method
The behavior does not occur that often	Frequency, Rate, ABC
We need to know exactly how many times the behavior occurs per day	Frequency, Rate, ABC
The behavior is easy to count and the length of observation time is consistent day to day	Frequency, ABC
The behavior is easy to count but the length of observation time varies day to day	Rate
The behavior occurs for long periods of time and the beginning and end of the behavior is observable	Duration
The behavior does not occur often, but when it does, it occurs at long durations	Duration
We need to know the length of time the behavior occurs	Duration
We need to know how often or specific times that a behavior occurs	Interval, Scatterplot
The behavior occurs at a high frequency	Interval, Scatterplot, Time Sampling
The behavior occurs frequently and the duration of the behavior is really short.	Interval, Scatterplot, Time Sampling
The behavior occurs constantly	Interval, Scatterplot, Time Sampling
The student is presented with opportunities to engage in an appropriate behavior	Opportunities
We need to know how long it takes for a student to start engaging in a behavior when presented with the opportunity	Latency
The observer needs to record multiple behaviors of multiple students at one time	Time Sampling
We need documentation of a specific intervention (e.g., token economy)	Permanent Product
We need extra data to support our primary method of data collection (e.g., referrals)	Permanent Product

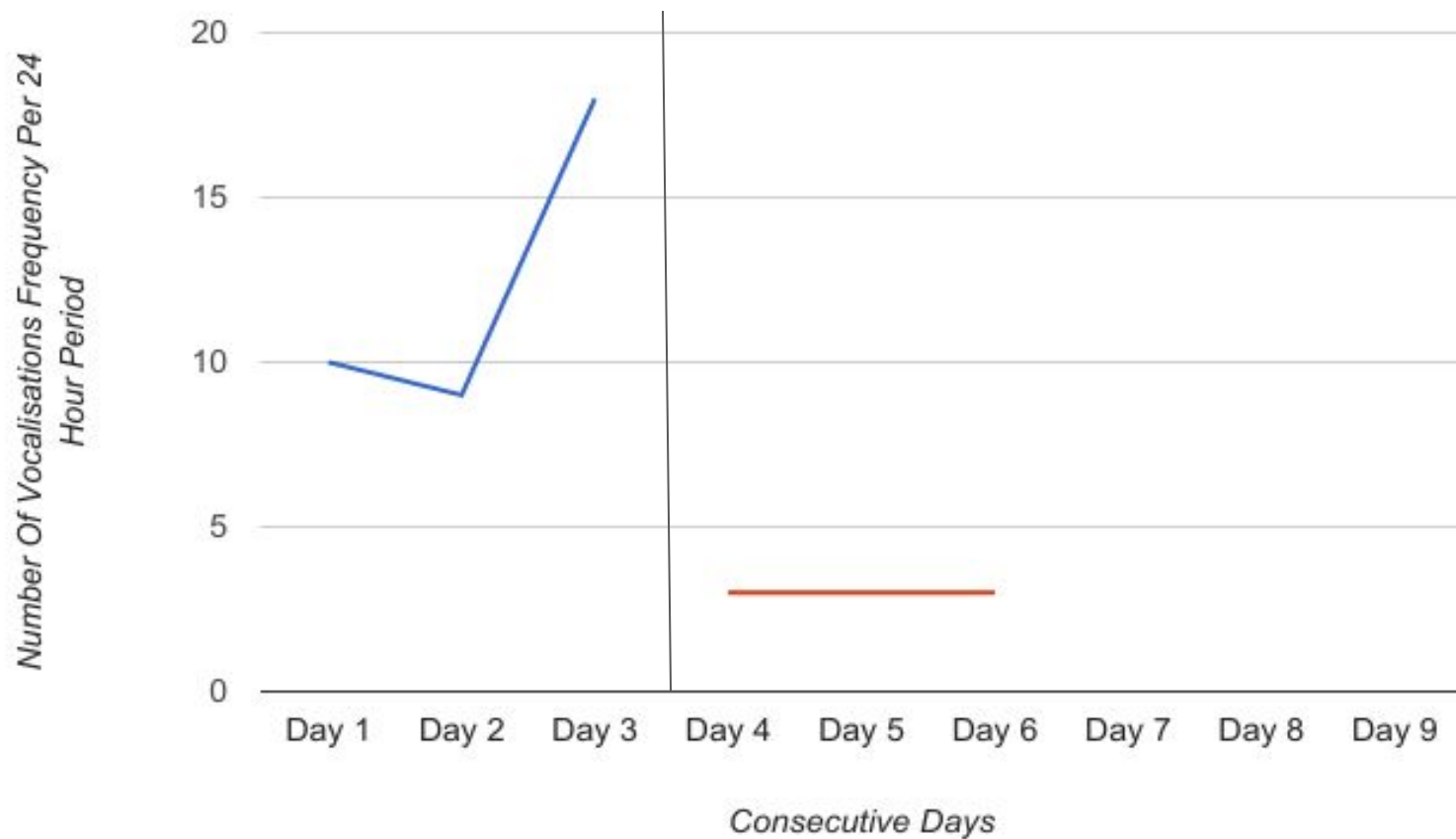
Scatterplot Analysis (BEAR)

Time	Monday	Tuesday	Wed	Thurs	Friday	Sat
5-8 am						
8-10 am		Baseline			Treatment	
10-12 am						
12-2 pm						
2-4 pm						
4-6 pm						
6-8 pm						
8-10pm						
10-12pm						
12-2 am						
2-5 am						

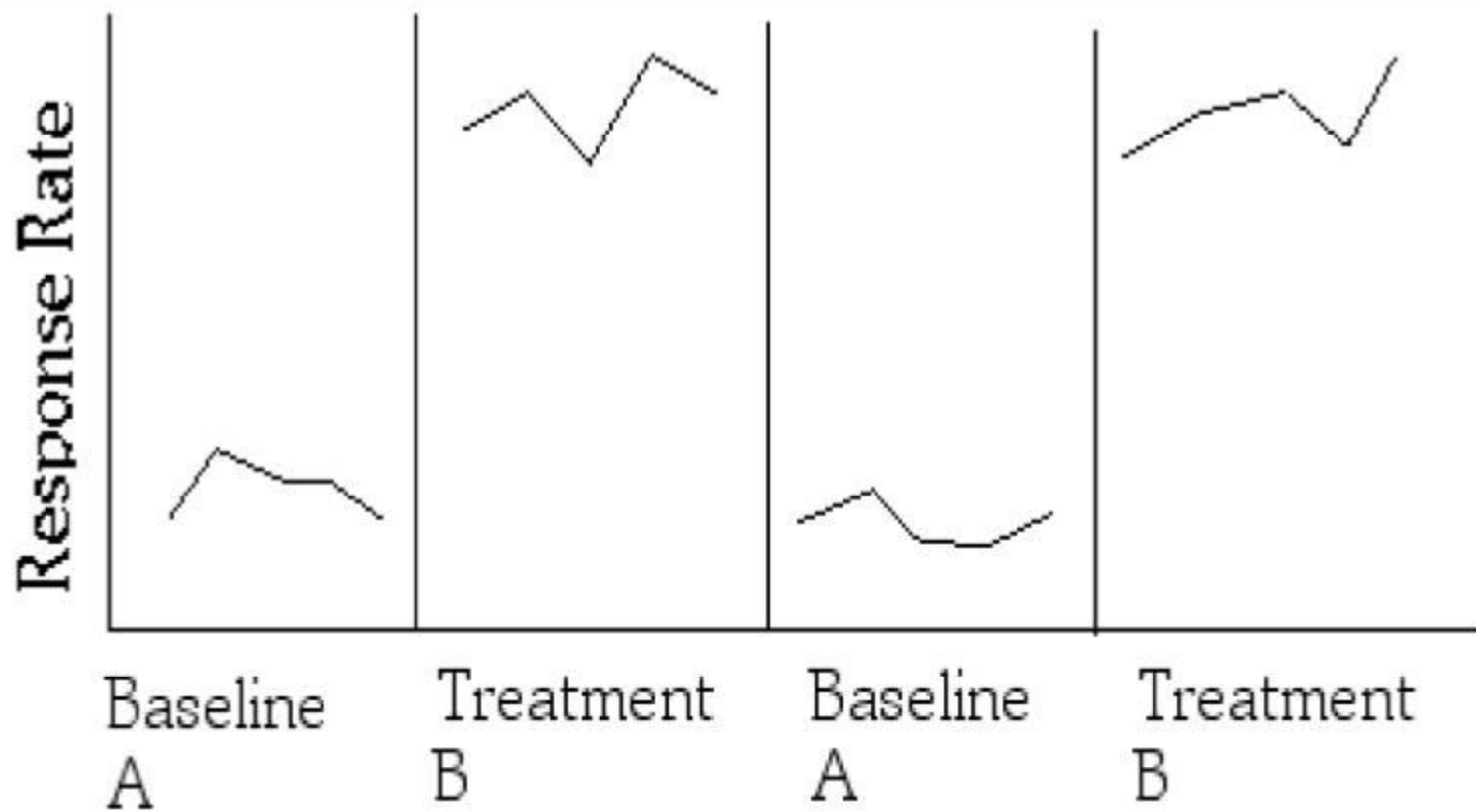
Raw Data (Bear Vocalisations)

Day	Baseline	Treatment
1	10	
2	9	
3	18	
4		3
5		3
6		3

Baseline and Treatment For Bears Vocalisations Baseline & After Treatment (DRI & NCA Treatment)



ABAB Treatment Reversal Design Graph



Potential Functions Of Behaviour

To Get Something:

1. Attention
2. Items/tangibles
3. Activities
4. Sensory Stimulation

To Escape/Avoid:

1. Aversive activities
2. People, animals etc
3. Sensory or painful stimuli
4. Aversive events

Functional Behaviour Assessment- Why The Function?

1) Identify the consequences that maintain, behaviour, eliminate or increase

2) Identify functionally equivalent behaviour to replace to provide the SAME consequence for the replacement behaviour

Analysis & Treatment Implications

- When does behaviour never/always occur
- Introduce NCR As an AO
- Places, contexts or events
- Intensity subjective measure 1-5
- Latency/distance /OR precursor behaviour
- Duration
- Are there several consequences to the behaviour- list them
- It can spill over to other locations. Want to know where behaviour started.
- DS/CC two decelerating conditions at the same time?
- Does the consequence increase or decrease the target behaviour?

Develop Behaviour Plan

- Give less attention to the behaviour that is unwanted.
- Extinction burst pair it with a reinforcement procedure
- Remove consequences that maintain the behaviour
- Teach communication
- Don't forget to reinforce replacement behaviour
- Reinforce with the same consequences that are maintaining the inappropriate behaviour.
- Teach a replacement behaviour such as a DRA (accelerative)

Elements To Consider In The Behaviour Plan

- Increasing Behaviour
- Definition of Reinforcement is anything that increases behaviour
- Definition of Punishment compared
- If you are not sure about a replacement behaviour teach a behaviour that functions as communication to get the desired outcome (in humans we might use language)
- Functional alternative
- Optimum Conditions!!!
- Contingent- On positive behaviour
- Immediate Timing- Learning
- Appropriate - To function & Person
- If the behaviour does not go away you need to address a self stimulatory function

Reinforcement Schedule	Abbreviation	Procedure	Notes
Differential Reinforcement of Other Behavior	DRO	Offering a known reinforcer if the target behavior does NOT occur during a specified time interval.	Reductive. Should be used in combination with other procedures.
Differential Reinforcement of Lower Rates of Behavior	DRL	Reinforcement occurs if and only if fewer than x behaviors have occurred in a give time period.	Reductive
Differential Reinforcement of Lower Rate of Behavior-T	DRL-T	Responses are reinforced if they occur after a certain amount of time has passed; set above the average IRT.	Reductive
Differential Reinforcement of Alternative Behavior	DRA	A functionally equivalent alternative behavior will contact the reinforcer.	Accelerative
Differential Reinforcement of Incompatible Behavior	DRI	Reinforcing behavior that is incompatible with the targeted behavior.	Reductive
Differential Reinforcement of Higher Rates of Behavior	DRH	Reinforce a minimum (or more) of x behaviors in a given time period.	Accelerative

Summary

- Each client is a SCD (single case design)
- Some behaviours are maintained by multiple functions and automaticity may play a part if other variables have been eliminated
- Treatment plans should all increase repertoire
- They should not focus on extinction only as this can confound results
- Non-contingent motivating factors
- Addressing the function of the new behaviour
- Tangible can also confound results due to its efficacy in learning...
- Conducting a preference assessment (mswo) DeLeon 1996
- Reinforcer assessment 2 tasks same reinforcer
- Reversal or multielement design for treatment to get quick idea of data once implemented
- Stable Data- eliminate extraneous
- S (sensory) E (escape) A (Automatic) T (tangible) **SPELLS SEAT!!!**



Thanks For Watching!