

# Abab design case study

Business



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Martin Martin, a behavior analyst, is working with Sara, a 14-year-old girl with severe developmental delays who exhibits self-injurious behavior (SIB). The self-injurious behaviors included pulling her hair, biting her arm and banging her head against the “ all. After conducting a functional analysis, Martin decided to employ an intervention program consisting of differential reinforcement of other (DOOR) desired behavior. Martin collected data on Sara’s SIB before and during the intervention.

Below is a depiction of the data that Martin collected: Sara’s Frequency of SIB

BASELINE Occurrences DOOR Occurrences 25 27 26 Address the following questions, and complete the following requirements: 1 . Create basic line graph using Microsoft Excel, to be included in your Word document. The graph should depict the data provided in this case study. You should only need to create one graph, with SIB depicted, both in baseline and in intervention.

2. What type of research design did Martin employ when working with Sara?

The research design that Martin implemented when working with Sara is the A-B Design. Rhea A-B Design has Just two phases: baseline and treatment, where A = baseline and = treatment (Malingerer, p. 7). An A-B Design is used in ABA research and can be used to compare a baseline and treatment method to determine whether the behavior changed in the expected way after treatment. According to the data, did the intervention that Martin selected work in modifying Sara’s self-injurious behavior? Based on the information on the graph, at baseline, the score or rate of biting, hair pulling and head banging was 22, 25, 27 and 26, respectively.

Thus, a significant deduction is reflected in the data at intervention with cores or rates at 5, 5, 3 and 2 respectively.

Basically, on a line graph as the scores on the Y axis increase, those on the X axis decreased. 1 . Martin had considered using an ABA reversal design when working with Sara. What are some ethical implications at selecting a reversal design when working with the type of behavior problems that Sara was exhibiting? A number of considerations must be taken into account when deciding to use ABA.

Some ethical implications when selecting a reversal design such as ABA when working with the type of behavior problems that Sara exhibiting s “ it may not be ethical to remove the treatment in the second baseline if the behavior is dangerous (e. . , self-injurious behavior)” (p. 50). “ Second, you must be fairly certain that the level of the behavior will reverse when treatment is withdrawn. If the behavior fails to change when the treatment is withdrawn, a functional relationship is not demonstrated” (p.

50). A number of considerations must be taken into account in deciding whether to use the A-B-A-B research design. First, it may not be ethical to remove the treatment in the second baseline if the behavior is dangerous (e. G. Self-injurious behavior).

Second, you must be fairly certain that the level of the behavior will reverse when treatment is withdrawn.

If the behavior fails to change when the treatment is withdrawn, a functional relationship is not demonstrated. Another consideration is Neither you can

actually remove the treatment after it is implemented. For example, if the treatment is a teaching procedure and the subject learns a new behavior, you cannot take away the learning that took place. (For a more detailed discussion of considerations in the use of the A-B-A-B design, see Bailey [1977], Bailey and Burch 2002], Barlow and Hearshe [1984], Cast [2009], and Katz [2010].

From an ethical perspective, Hastings and None (2005) explain some ethical implications associated with the ABA design. They acknowledge research that shows behavior modification procedures can lead to effective outcomes; a large number of single cases studies report treatment of severe behavioral problems (p. 336). However, they cite a key concern in behavior modification practices, particularly with the ABA design. For example, according to Hastings and None, the emergence of behavior from the same response class could lead to another self-injury or problem behavior.

In addition, treatment fidelity is an ethical concern related to the extent to which a program or measure is implemented accurately. Further, they cite a number of other ethical principles including using the least restrictive measures when working with persons with disabilities. They assert that although punishment measures are not ruled out, the researcher is encouraged to select the most socially-valued outcome focused on three basic components: (a) the significance of the treatment, (b) the acceptability of the treatment, and (c) the effectiveness.

They assert that since the Behavior Analysts Certification Board (BACB) that sets guidelines for responsible conduct of behavioral analysts are not

clear; researchers and practitioners are to practice based on the understanding that the dignity of the participant(s) will be maintained. There may be an increase in the negative behavior. For example, Alone as cited in Christensen ; Sanders (1987) expanded the A-B design to an A-B-A-B, or reversal design that allows the researcher to confirm a treatment effect by with hangers of no treatment at baseline.

They found that relative to the change that took place with the first treatment (B) when treatment was withdrawn from the second base line (A), it was difficult to assess the change as in the case of Alone ; Razor; the treatment actually increased the negative behavior.

3. Martin's supervisor requested this graph of the data he collected when working with Sara. Why are graphs useful in evaluating behavioral change? The frequency of the self-injurious behavior (e. G. , biting, hair pulling, banging of head) is represented on the Y axis, and the number of observation (e. G.

Says, minutes, frequency, etc. ) is represented on the X axis. The graph is easier to follow and the graph provides a good visual to the individual's habit. 4. Discuss what a functional relationship is and how an ABA professional would use his/her understanding of functional relationships when designing an intervention.

Identify whether the graph that your created using the data provided in this section depicts a functional relationship. A functional relationship is when a researcher shows that a behavior modification procedure causes a target behavior to change (p. 7).

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How an ABA professional would use his/her understanding of functional relationships when designing an intervention. The way in which an ABA professional would use his/her understanding of functional relationships when designing an intervention is that the design should involve both treatment implemented and replication.

Rhea research design that Martin implemented when working with Sara is the A-B Design. The A-B Design is a two phase design consisting of baseline phase (A) and treatment phase (B). It allows for evaluation of pre-intervention and intervention problem status.