

Differential Reinforcement of Alternative Behavior

Sometimes low-intensity strategies—those easy-to-implement practices that require minimal time and preparation, such as choice making or precorrection—are not sufficient to prevent or de-escalate a student’s challenging behavior. In these cases, educators may want to implement a strategy such as *differential reinforcement*. Differential reinforcement involves either giving, reducing, or withholding reinforcement, depending on whether the behavior is desirable or undesirable.

For Your Information

There are several types of differential reinforcement. Another is *differential reinforcement of other behavior (DRO)*. With DRO, reinforcement is delivered for all behaviors except the undesired behavior. As such, DRO reinforces the absence or non-occurrence of a challenging behavior. To learn more, visit the IRIS Information Brief:

[Differential Reinforcement of Other Behavior \(DRO\)](#)

One of the most common types is *differential reinforcement of alternative behavior (DRA)*. DRA reinforces a positive alternative behavior that is a replacement for the undesired or challenging behavior. This increases the occurrence of the desired behavior which, in turn, decreases that of the undesired behavior. The table below describes the steps to implement this strategy with students with challenging behavior and provides an example.

Step	Description	Example
1. Identify the undesired behavior.	Define the undesired or challenging behavior.	Behavior: Abhi pushes his papers off the desk during independent math seatwork.
2. Determine the likely function of the undesired behavior.	Determine why the student is most likely engaging in the undesired behavior (e.g., obtain attention, avoid an activity).	Function: Avoid difficult math activities.
3. Identify an alternative behavior.	Identify an acceptable alternative behavior for which the student can receive the same reinforcement. <i>Note: Be sure the student has the skills to perform the alternative behavior. If not, explicitly teach the skills.</i>	Alternative Behavior: Raising his hand to request help

<p>4. Decide on a reinforcement schedule.</p>	<p>Determine when you will reinforce the student for desired behavior. Depending on the nature of the alternative behavior, this can be based on either:</p> <ul style="list-style-type: none"> • Number of instances (e.g., every time, every third occurrence) • Amount of time (e.g., every two minutes) <p><i>(See below for information on each.)</i></p>	<p>The teacher decides to observe Abhi every two minutes during independent reading time.</p>
<p>5. Reinforce the alternative behavior.</p>	<p>Each time the student engages in the alternative behavior, follow the schedule of reinforcement to reinforce that behavior. Also, be sure to not reinforce the undesired behavior.</p>	<p>At the end of each two-minute interval, the teacher checks to see if Abhi is reading quietly. If he is, the teacher praises his quiet reading.</p>

When implementing this strategy, consider how you will check to make sure that the student is engaged in the alternative behavior. Depending on the behavior, you will use one of the options below.

- Number of instances
 - Use when the alternative behavior is “countable” or has a clear beginning and end (e.g., hand raising, requesting a break).
 - Deliver the reinforcer when the student engages in the alternative behavior.
- Amount of time
 - Use when the alternative behavior does not have a clear beginning and end (e.g., being engaged, using appropriate voice volume).
 - Use a timer to cue you at certain intervals (e.g., every 5 minutes). If the student is demonstrating the behavior when the timer cues you, deliver the reinforcement.

In addition to the steps listed above, the four actions below can be helpful when implementing this practice.

Collect Data: Before implementing differential reinforcement, collect data on the undesired or challenging behavior to determine how often that particular behavior is occurring. This can help you:

- Select a schedule of reinforcement—To determine when you will reinforce the student for desired behavior, it is helpful to know how often the student engages in the undesired behavior. For example, if you observe the student for 15 minutes and witness five instances of challenging behavior, then you know that the student engages in that behavior approximately every three minutes on average. As such, you may want to establish a schedule of reinforcement that is slightly less than every three minutes (e.g., every 2 ½ minutes).
- Evaluate the effectiveness of the strategy—You should also collect data after implementing the strategy for a while (e.g., a couple of weeks). This allows you to compare the occurrence of the behavior before and after implementing the intervention and to determine if the strategy is effective for the student.

Collecting data may be difficult for teachers, especially if they are trying to do so during teacher-led whole-group or small-group instruction. In such instances, it may be helpful for another adult (e.g., paraeducator) to collect the data.

Identify Reinforcers: Educators should think about using the three types of positive consequences, or *reinforcers*: tangible (e.g., stickers, tokens), social (e.g., thumbs up, verbal praise), and activity related (e.g., extra computer time, drawing). Each student is different and the type of reinforcer that will prove effective may differ from one to another. They might also change over time. For these reasons, it is important that teachers talk to their students to learn more about their interests and preferences and revisit this conversation throughout the year. Additionally, educators should try to explicitly tie the reinforcer to the likely function of the behavior. For instance, if a student engages in an undesired behavior for attention (e.g., making noises during whole-group instruction), the educator may want to use a social reinforcer (e.g., behavior-specific praise) so that the student receives attention for the desired behavior (e.g., listening attentively during whole-group instruction).

Gradually Fade Reinforcement: Initially, reinforce every instance of the alternative behavior. As the student becomes successful, gradually *fade* the reinforcement. For example, deliver reinforcement every time a student requests a break and then gradually begin to reinforce every second instance. Or, for time-based reinforcement schedules, gradually increase the time between opportunities to earn a reinforcer. Continue to fade reinforcement over time until the student engages in the desired behavior without reinforcement.

Offer Opportunities for Feedback: Give students the opportunity to provide feedback on the strategy. Some may have ideas for alternative behaviors that are appropriate but also more appealing to them. Others may need more frequent reinforcement (e.g., every five minutes instead of every ten minutes).

Research Shows

- DRA has been used to decrease challenging behaviors, such as outbursts and inappropriate noises, and increase positive behavior, such as asking for a break.
(Flynn & Lo, 2016; LeGray, Dufrene, Sterling-Turner, Olmi, & Bellone, 2010)
- DRA has been shown to be effective for children with developmental disabilities and typically developing children.
(Muharib, Dowdy, Rajaraman, & Jessel, 2022; Flynn & Lo, 2016; LeGray, Dufrene, Mercer, Olmi, & Sterling, 2013)

References

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