Differential Reinforcement and How It Changes Behavior

Presented by
Maria Capati-Echevarria, M.Ed., BCBA, LBA
Diane Lancor, M.A.T, BCBA, LBA
Behavior is a lot like an iceberg...
Functions of Behavior

- Obtain/Get
  - Attention
  - Item/Activity
  - Sensory

- Escape/Avoid
  - Attention
  - Item/Activity
  - Sensory
WHAT IS REINFORCEMENT?

• A natural process or managed procedure that strengthens a behavior.
• Affects the FUTURE occurrence of behavior.
WHAT IS REINFORCEMENT?

Behavior

Something changes in the environment

Increase in future occurrence of the behavior
<table>
<thead>
<tr>
<th>IF</th>
<th>Antecedent</th>
<th>Behavior</th>
<th>Consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Your child is directed to complete their homework.</td>
<td>Your child completes the task as directed.</td>
<td>You praise your child and let them go out to play.</td>
</tr>
<tr>
<td>THEN</td>
<td>Your child is presented with a similar homework task.</td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>
This is great!

I'll have to wake up crying in the middle of the night more often.
<table>
<thead>
<tr>
<th>TYPES OF REINFORCERS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Edibles</strong></td>
<td>Skittles, chips, Goldfish crackers, M&amp;Ms, juice</td>
</tr>
<tr>
<td><strong>Activity</strong></td>
<td>access to an iPad or laptop, listening to music, riding bike, swinging, trip to a favorite place</td>
</tr>
<tr>
<td><strong>Tangibles</strong></td>
<td>favorite toy, stickers, play-doh, computer, phone</td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td>verbal praises, high fives, thumbs-up, hugs</td>
</tr>
<tr>
<td>Reinforcement</td>
<td>Bribery</td>
</tr>
<tr>
<td>---------------</td>
<td>---------</td>
</tr>
<tr>
<td>something occurs following a behavior, to increase future occurrences of the behavior</td>
<td>something is promised to stop an undesired behavior</td>
</tr>
<tr>
<td>systematic and thoughtful</td>
<td>reactive (stop fighting and we will go get ice cream)</td>
</tr>
<tr>
<td>proactive (if you keep your hands to yourself and use kind words, then we can go get ice cream)</td>
<td>the challenging behavior dictates the reward</td>
</tr>
<tr>
<td>increases a specific behavior</td>
<td>benefits the person offering the bribe</td>
</tr>
<tr>
<td>benefits the learner</td>
<td></td>
</tr>
</tbody>
</table>
Differential reinforcement

- reinforcing desired behavior while simultaneously withholding reinforcement for undesired behavior
WHY USE DIFFERENTIAL REINFORCEMENT?

Effective practice to reduce challenging or interfering behaviors

Effective in producing prosocial or desired behavior
"Wouldn’t it be easier just to tell me what I can do?"
TYPES OF DIFFERENTIAL REINFORCEMENT

• Differential Reinforcement of Alternative Behavior (DRA)
• Differential Reinforcement of Incompatible Behavior (DRI)
• Differential Reinforcement of Other Behavior (DRO)
• Differential Reinforcement of Lower Rates of Behavior (DRL)
• Reinforcement is provided for a behavior that is a more appropriate or functional alternative to the behavior targeted for reduction.

• To be effective, the alternative behavior should
  • match the function of the problem behavior and
  • be equally or less effortful
IRWIN, WIPE THAT STUPID EXPRESSION OFF YOUR FACE!

I DON'T HAVE ANYTHING TO REPLACE IT WITH!!
• Reinforcement is provided for one behavior that cannot occur simultaneously with the behavior targeted for reduction.

• The problem behavior and incompatible behavior cannot occur at the same time.

• The incompatible replacement behavior must be in the child’s repertoire.
GUIDELINES FOR USING DRI/DRA

1. Select Incompatible or Alternative Behavior to Strengthen
2. Select Powerful Reinforcers that can be delivered consistently.
3. Reinforce Incompatible or Alternative Behavior Immediately
4. Withhold Reinforcement for the Challenging Behavior
DRO

- Reinforcement is provided for any behavior OTHER THAN the behavior targeted for reduction.
- Only “zero displays” of the inappropriate behavior during the time period are reinforced.
- DRO is “omission training”… a child is reinforced for the absence (rather than the presence) of behavior.
### STEPS FOR APPLYING DRO

1. An interval of time is figured from observation data.

2. Reinforcement is given if the undesirable behavior was **NOT** emitted during the designated time interval.

3. *(Usually)* Any display of the inappropriate behavior results in a re-setting of the clock (start another time interval).
GUIDELINES FOR USING DRO

1. Select Reinforcers that are Powerful that can be delivered with consistency
2. Set Initial DRO Intervals that Assure Frequent Reinforcement (< or = mean baseline)
3. Do not Inadvertently Reinforce other Undesirable Behaviors
4. Gradually increase DRO intervals
• Reinforcement is provided when the number of responses in a specified time period is less than or equal to a prescribed limit.
GUIDELINES FOR USING DRL

1. Use baseline data to guide the selection of the initial response.

2. Gradually thin the DRL schedule to achieve the desired final rate of responding.
Reinforcement of a previously reinforced behavior is discontinued.
The maintaining reinforcer is no longer provided.
Screaming used to work. 
I’ll just have to scream louder 
until they pay attention to me.
<table>
<thead>
<tr>
<th>Type</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRA – Differential Reinforcement of Alternative Behavior</td>
<td>Reinforcement is provided for a behavior that is a more appropriate or functional alternative to the behavior targeted for reduction.</td>
<td>Student will get reinforcement for asking for help or asking for a break which is a more functional alternative to swiping the desk clear of materials.</td>
</tr>
<tr>
<td>DRI – Differential Reinforcement of Incompatible Behavior</td>
<td>Reinforcement is provided for one behavior that cannot occur simultaneously with the behavior targeted for reduction.</td>
<td>Student will get reinforcement for “hands to self” which is incompatible to hitting.</td>
</tr>
<tr>
<td>DRO – Differential Reinforcement of Other Behavior</td>
<td>Reinforcement is provided for any behavior OTHER THAN the behavior targeted for reduction.</td>
<td>Student will earn reinforcement (e.g., a token) at the end of a 5-minute interval in which spitting has not occurred.</td>
</tr>
<tr>
<td>DRL – Differential Reinforcement of Lower Rates of Behavior</td>
<td>Reinforcement is provided when the number of responses in a specified time period is less than or equal to a prescribed limit.</td>
<td>Student will earn reinforcement when he asks for help 5 times or fewer within a 30-minute time period (down from 10 times).</td>
</tr>
</tbody>
</table>
Scenario 1

When Sarah’s parents ask her to do various chores at home, she yells, “No”, “I don’t want to”, refuses to complete the job, and runs off to her room.

Plan your responses using Differential Reinforcement

What do you want her to do instead?

How will you reinforce the desired behavior?

How will you respond to the challenging behavior?
Scenario II
Jose takes more than an hour to get ready for school and has incurred a lot of tardies. Despite lots of verbal reminders from his parents, the situation is not improving.

Plan your responses using Differential Reinforcement

What do you want him to do instead?

How will you reinforce the desired behavior?

How will you respond to the challenging behavior?