
Differential Reinforcement...

a proactive intervention for the classroom

This Intervention Tip Sheet has been developed to assist teachers and parents in providing the best possible educational opportunities to students with emotional and behavioral disorders. This Tip Sheet was published by the Institute on Community Integration, College of Education, University of Minnesota, Minneapolis and was authored by Kareen Smith of the Institute.

Introduction

The importance of consequences in shaping behavior was voiced by B.F. Skinner in the early years of this century. Research since then continues to show that reinforcement is a key component of helping facilitate changes in student behavior. The method of reinforcement delivery also plays an important role in the effectiveness of the reinforcement. This tip sheet describes differential reinforcement and the different types of delivery methods of reinforcement.

What is differential reinforcement?

There are two kinds of differential reinforcement. The first is used to decrease inappropriate behavior by ignoring it and providing reinforcement for appropriate behavior. The second is used to bring behavior under the control of a specific stimulus.

The word "differential" means that students are taught to differentiate between positive and negative behaviors by learning that specific behaviors will or will not be reinforced and that behaviors are appropriate only when exhibited in certain situations, i.e., after certain discriminative stimuli.

How is differential reinforcement delivered?

Differential reinforcement is delivered in the same way as positive reinforcement and can consist of the same types of reinforcers. What is different is when it is delivered.

When is differential reinforcement delivered?

It is at this point that the different types of differential reinforcement distinguish themselves. Each type of differential reinforcement will be defined, an example will be given, its purpose will be explained, and schedules and cautions will be outlined.

Differential Reinforcement of Other Behaviors (DRO). DRO is reinforcement delivered when the targeted inappropriate behavior is not exhibited. For example, if the targeted behavior is interrupting, the teacher will reinforce a student for not interrupting, even if other inappropriate behaviors are occurring, because these behaviors are not being targeted. DRO can be used to reinforce a student after a specific interval of time during which a targeted inappropriate behavior was not exhibited. A DRO-reset schedule is one which starts the interval over immediately after the student exhibits the targeted behavior. One may also use fixed interval schedules in which the timer is not reset until the time runs out.

Three cautions when considering using DRO: "first, because reinforcement is provided as a result of the *nonoccurrence* of a targeted inappropriate behavior, a specific appropriate behavior is not reinforced....Second, provision of reinforcement contingent on nonoccurrence of a targeted inappropriate behavior may lead to

inadvertent reinforcement of other inappropriate behaviors as well as appropriate behaviors. Last, under a DRO-reset schedule, the child may learn to exhibit the inappropriate behavior immediately after the timer is set and, after the timer is reset, still receive reinforcement at the end of each interval, even if the inappropriate behavior occurred" (Zirpoli & Melloy, 1993, p. 171).

Differential Reinforcement of Alternative Behavior (DRA). DRA is the reinforcement of any behavior which makes it impossible for the targeted inappropriate behavior to occur. For example, a student who draws on her desk when bored may be reinforced for drawing on paper, playing a game, and helping classmates on seat work, since these behaviors can not be going on if the student is doodling on her desk - they are incompatible with doodling.

Differential Reinforcement of Lower Rates of Behavior (DRL). DRL is the reinforcement of a behavior when exhibited at a lower frequency. Unlike DRO, DRA, and DRI, behavior reinforced via DRL is not in itself inappropriate; rather, the frequency at which it is occurring is inappropriate. For example, it would be inappropriate for a student to ask to use the restroom every fifteen minutes; however, this is not a behavior you would wish to cease. Instead, DRL is used to reinforce the behavior when it occurs, for example, once every hour.

Differential Reinforcement of Higher Rates of Behavior (DRH). DRH is the reinforcement of a desired behavior as its occurrence increases. For example, prosocial comments such as "please" and "thank you" might be something the student knows but uses infrequently. With DRH, you reinforce the student for using these comments at a higher rate.

How do I decide which schedule of reinforcement to implement?

You must look at each student's individual abilities and desire to change, as well as the severity of the target behavior. If a student lashes out and hits people when angry, DRL would be an inappropriate schedule. The hitting must stop, and it is better to reinforce any other behavior which does not result in other individuals being injured. However, with a behavior like constant questioning, you do not want a student to stop asking questions but you would like the student to not ask so many questions. In this case, DRL would be very appropriate, while DRA would be less appropriate since this schedule is designed to bring about the cessation of a behavior.

Most importantly, with any change, it is critical that positive programming is coupled with behavior modification. This is necessary in order to teach the student new, appropriate behaviors. Please see the tip sheet entitled "Positive Programming."

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