Reinforcement Strategies

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Implementing Behavioral Strategies

Purpose:

This set of behavioral strategies was developed for classroom teachers to use with students who may require academic and/or behavioral support. The strategies are intended to support teachers working with students with primary academic deficits and challenging behaviors. For students with more intensive behaviors, potential intensification strategies also are included.

Structure:

Each strategy includes a description of the (a) purpose and overview; (b) behavior(s) addressed; (c) implementation procedures and considerations; (d) sample scripts or formats; (e) potential intensification strategies; and (f) additional resources (where available).

Terminology and Definitions:

1. **Reinforcement:** Actions to make a target behavior more likely to occur in the future.

   - **Positive Reinforcement:** Adding something pleasant or desirable (e.g., toy, food, attention) to make a target behavior more likely to occur.

   - **Negative Reinforcement:** Taking something unpleasant or undesired away (e.g., aspirin to relieve a migraine) to make a target behavior more likely to occur.

2. **Reinforcers:** Incentives (either a reward or the removal of something undesired) that are given to students after they display an appropriate/expected behavior. Use of reinforcers should increase students' continued demonstration of the appropriate/expected behavior.

3. **Punishment:** Strategies used to decrease or terminate students' demonstration of a challenging behavior, including time-out or loss of privileges.

4. **Consequences:** Events that occur after the demonstration of any behavior. Consequences can be positive or negative.

5. **Consequence Clause:** A clause that identifies specific consequences that will be delivered if students do not meet goals/success criteria.

6. **Replacement Behavior:** An appropriate behavior that a student is taught to use to replace a challenging behavior. The replacement behavior should serve the same function as the challenging behavior.

7. **Consequence Modification:** Strategies to encourage students' demonstration of an appropriate/expected behavior.

8. **Antecedent Modification:** Strategies to prevent students' demonstration of challenging behavior by clearly defining appropriate/expected behaviors.

9. **Schedule of Reinforcement:** Established rules or procedures that a teacher follows to deliver reinforcers.

10. **Intermittent Reinforcement:** Delivering reinforcers at random time intervals that do not follow a pattern.

Considerations for Successful Implementation:

- These strategies may coincide or be used along with other interventions/strategies (e.g., Check In Check Out).

- The strategies should be aligned with school- and class-wide expectations.

- The reinforcers should be aligned with the hypothesized function of student behavior (e.g., attention, escape, avoidance, sensory).

- When using behavior management systems that award students points for demonstration of appropriate/expected behavior, it is important not to take away points after students earn them. Taking away earned points diminishes their value and may cause students not to care about earning future points.

- When using consequence clauses that include a form of punishment (e.g., time-out, loss of privileges), it is important to accompany them with strategies to teach replacement behaviors and/or strategies that encourage student demonstration of appropriate/expected behavior.

- For students with more intensive behavior, individualize class-wide strategies (using the potential intensification strategies) and consult with a behavior specialist/team in the event that strategies are not resulting in progress.

Examples of Reinforcers

Tangible	Activity-Based	Social	Intangible
Tokens, stickers, posters, prize from a prize box, snack or favorite food item (if appropriate), coloring page, books	Extra time on computer, silent reading time, partner reading, allowed to be a leader, given a classroom job, assisting secretary or teacher	Tell a joke, lunch with teacher, positive phone call home, game with a friend, being a peer model for a younger student	Verbal praise, smiles, thumbs-up, giving eye contact, positive comments written on work

Reinforcement Strategies

Reinforcement strategies can be used to help students develop and maintain appropriate behaviors both in the classroom and in other school settings. This guide introduces two types of reinforcement that are commonly used in educational settings:

1. Differential reinforcement
2. Non-contingent reinforcement

In addition, this guide provides information about schedules of reinforcement that can be used to structure the delivery of reinforcement. It includes examples of how to use reinforcement strategies in the classroom and sample tools for teachers.

Tip: When using reinforcement strategies, it is important to know what a student's preferred reinforcer is. Teachers can use a reinforcer assessment to identify and individualize reinforcers for students. Reinforcement sampling menus or lists (e.g., Forced-Choice-Reinforcement Menu) can help to identify motivating reinforcers. See the Sample Reinforcement Menu and the Additional Resources section in this guide.

Differential Reinforcement

Purpose and Overview:

The purpose of differential reinforcement (DR) is to reduce the frequency of a challenging or problematic behavior and increase the frequency of an appropriate replacement behavior. With DR, this goal is accomplished by reinforcing an appropriate behavior while simultaneously discontinuing the reinforcement of a challenging or problematic behavior.

Behavior(s) Addressed:

DR can be used to address challenging behavior(s) that result in a student receiving a reward/reinforcer (e.g., attention) for the removal of something undesired.

Implementation Procedure:

1. Identify the problem behavior and the hypothesized function (e.g., attention, escape, avoidance, sensory).
2. Identify and define the appropriate behavior that will be reinforced. This behavior should be able to result in the same consequence as the challenging behavior (e.g., attention, sensory).
3. Determine a schedule of reinforcement based on the student's age and developmental characteristics and the severity of the problem behavior.

4. Provide reinforcement based on the schedule chosen. Use planned ignoring when the problem behavior first reoccurs. After planned ignoring has been used for a short time (e.g., 15–30 seconds), the teacher may reorient the student to the task in a manner that provides limited attention.

5. Monitor the student's behavioral performance and decrease the frequency of reinforcement as the behavior improves.

Examples of Differential Reinforcement:

1. **Differential Reinforcement of Incompatible Behavior (DRI)**

   Definition: Incompatible behaviors are behaviors that a student cannot do at the same time as the challenging behavior (e.g., a student cannot be both seated and walking around the classroom). DRI allows a teacher to reinforce the incompatible behavior (i.e., staying seated), resulting in the challenging behavior (i.e., walking around the classroom) becoming less likely to occur in the future.

   Example: Susie's challenging behavior was identified as teasing her peers. In the past, Susie would be told by her teacher to stop teasing her peer or Susie would be moved to a different location in the classroom. In both cases, Susie's teasing behavior was reinforced by gaining attention. Her teacher decides to use DRI by providing attention to Susie when Susie gives a compliment or is kind to her peers (because Susie is not able to tease and be kind at the same time). In addition, when Susie begins teasing a peer, her teacher uses planned ignoring for approximately 30 seconds and then responds by redirecting Susie to the current task. Susie is now receiving attention for being kind, and her teasing behavior has decreased.

2. **Differential Reinforcement of Alternative Behavior (DRA)**

   Definition: Alternative behaviors are behaviors that a student is taught to use as a replacement to demonstrating a challenging behavior. DRA allows a teacher to reinforce a student's use of a positive alternative behavior rather than reinforcing the challenging behavior.

   Example: Marco's challenging behavior was identified as blurting out answers during instruction. In the past, Marco's teacher would address Marco's behavior by telling him that he shouldn't blurt out, which gave Marco attention. Marco's teacher decides to use DRA and teaches Marco to raise his hand when he wants to make a comment in class. Each time Marco raises his hand without blurting out the answer, his teacher provides a reinforcer that gives Marco attention (e.g., calls on Marco, gives Marco a thumbs-up, places a tally on a point sheet).

3. **Differential Reinforcement of Other Behavior (DRO)**

   Definition: Other behaviors are any appropriate behaviors that a student displays that are not considered the challenging behavior. DRO allows a teacher to reinforce a non-specified, appropriate behavior (e.g., asking for a break, staying in seat, attempting seat work) rather than reinforcing the challenging behavior (e.g., student leaving seat).

   Example: During independent seat work, Johnnie displays challenging behavior to escape or avoid a task. He either complains that he has a headache and puts his head

down or leaves the classroom. In both instances, Johnnie is not completing his work. His teacher decides to use DRO and provides reinforcement to Johnnie when he engages in appropriate on-task behavior during independent work.

Note: In addition to the DR strategies listed here, differential reinforcement of lower rates of behavior (DRL) also can be used to reduce the frequency of a behavior. DRL is not discussed in this guide, but more information can be found in the module developed by the IRIS Center (http://iris.peabody.vanderbilt.edu/module/bi2/cresource/q4/p07/#content).[1]

Non-Contingent Reinforcement

Purpose and Overview:

The purpose of non-contingent reinforcement (NCR) is to reduce the frequency of a challenging or problematic behavior. With NCR, this goal is accomplished by providing reinforcement to a student at fixed intervals in order to prevent the problem behavior from occurring. NCR can be considered a type of antecedent modification (e.g., environmental change) because the teacher adjusts the learning environment by giving reinforcement prior to the occurrence of a problem behavior. With this intervention, reinforcement is not dependent on the student displaying a specific appropriate behavior. Instead, reinforcement is presented in a non-contingent manner, meaning that the student is not required to earn the reinforcer through appropriate behaviors.

Behavior(s) Addressed:

NCR can be used to address challenging behavior(s) that result in a student receiving a reward/reinforcer (e.g., attention) for the removal of something undesired.

Implementation Procedure:
1. Identify the problem behavior and the hypothesized function (e.g., attention, escape, avoidance, sensory).
2. Develop a fixed schedule of reinforcement in order to provide the student with reinforcement before the problem behavior occurs.
3. Adapt the schedule of reinforcement based on the student's needs and developmental level. For young students or students with severe behavior problems, a very dense schedule of reinforcement should be used (i.e., once every 30 seconds).
4. Use planned ignoring when the problem behavior first reoccurs. After planned ignoring has been used for a short time (e.g., 15–30 seconds), the teacher may reorient the student to the task in a manner that provides limited attention.
5. Monitor the student's behavioral performance and decrease the frequency of reinforcement as the behavior improves.

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[1] Please note that this link takes you directly to the module page that discusses DRL. To access the full module developed by IRIS, use this link: http://iris.peabody.vanderbilt.edu/module/bi2/#content

Example of Non-Contingent Reinforcement:

▪ *Example:* Maya's challenging behavior is identified as saying inappropriate comments during instruction, which is reinforced by her teacher providing her attention when he reprimands her. After determining the function of Maya's behavior (e.g., comments), her teacher decides to use NCR by giving Maya several instances of positive attention at the beginning of the period. His plan includes engaging Maya in small talk before the start of the period and calling on her to respond to questions at the beginning of class. Because Maya is gaining attention from her teacher more frequently, her inappropriate comments during instruction decrease.

Implementation Considerations for DR and NCR:

▪ DR may not be appropriate for students with severe or persistent behavioral challenges, because students may require more frequent reinforcement.

▪ With DR, the appropriate behavior that is reinforced should be relevant the student. In addition, the student must be capable of performing the behavior.

▪ Align reinforcers with the hypothesized function of student behavior (e.g., attention, escape, avoidance, sensory).

▪ Gradual fading of the schedule of reinforcement will help ensure that the student does not reengage in the problem behavior. Variable reinforcement schedules may be used to help fade the use of reinforcers.

▪ A continuous fixed-ratio reinforcement schedule is most appropriate when beginning a behavioral intervention. With this schedule, the student would receive reinforcement each time the appropriate behavior occurs.

Schedules of Reinforcement

A schedule of reinforcement refers to a deliberate plan that determines when and how often reinforcement is given to a student. A selection of various schedules of reinforcement is outlined below. A schedule of reinforcement should align with the type of reinforcement the student requires (e.g., differential or non-contingent, described previously).

▪ **Continuous reinforcement schedules:** Using a continuous schedule of reinforcement, a teacher provides the reinforcer every time the appropriate behavior occurs. A continuous reinforcement schedule often helps to quickly increase the desired behavior. In general, the reinforcement schedule should be continuous on three occasions:

• When first beginning a schedule of reinforcement

• When reinforcement schedules are used with very young children

• When the target student shows very severe problem behavior (e.g., self-injurious)

▪ **Ratio reinforcement schedules:** Using a ratio schedule of reinforcement, a teacher provides the reinforcer after a number of occurrences of the appropriate behavior. In a fixed-ratio schedule, the teacher delivers reinforcement after a specific number of occurrences of the appropriate behavior. Alternatively, a variable-ratio schedule may be used, in which the teacher delivers reinforcement after an approximate number of

occurrences of the appropriate behavior. A variable schedule may be useful when beginning to fade reinforcement or practicing the maintenance of an appropriate behavior.

- **Interval reinforcement schedules:** Using an interval schedule of reinforcement, a teacher reinforces the appropriate behavior after a period of time. Interval schedules are useful for behaviors that are better measured by time than by occurrences (e.g., time on-task). In a fixed interval reinforcement schedule, the teacher provides the reinforcer after a specific amount of time (e.g., after five minutes of in-seat behavior). Variable interval reinforcement involves giving reinforcement after an approximate amount of time and may be useful when fading reinforcement.

Implementation Considerations:

- Research suggests that the reinforcer should be provided *more frequently* than the problem behavior occurs. This will help prevent the student from showing the problem behavior.

- Reducing a reinforcement schedule takes time, with more severe cases requiring more days or sessions. It is important to make gradual adjustments to the schedule to minimize the chances of a sharp increase, or burst, in disruptive behavior.

- When reducing a reinforcement schedule, the problem behavior will likely reoccur. If this situation arises, research suggests that withholding reinforcement or delivering a mild consequence can effectively lessen the reoccurrence of that problem behavior.

- A student may learn how to manipulate a fixed-ratio or fixed-interval schedule. In these cases, variable schedules may be used as an alternative.

Potential Intensification Strategies:

- For students with more severe behavior or for young students, plan to change the reinforcer several times. The target student will likely become accustomed to the reinforcer. This is referred to as "satiation" and can be avoided if the reinforcer is frequently changed.

- Provide a visual of the target behavior and the reinforcer for the student. This may help prompt the student to engage in the target behavior and help the teacher to adhere to a schedule of reinforcement.

- Reinforcement can be combined with other behavioral strategies (e.g., behavioral report cards, extinction).

- Consider using individual, small-group, and/or whole-group reinforcement systems. Some students benefit from individual systems, and other students benefit from larger-group systems.

Sample Reinforcement Menu

Reinforcement Menu				
Function of Behavior	**Tangible**	**Activity-Based**	**Social**	**Intangible**
Escape/Avoid		Extra time on computer, silent reading time	Partner reading instead of small-group reading, preferred activity instead of typical task	
Attention	Tokens, stickers, posters, prize from a prize box, snack or favorite food item (if appropriate), coloring page, books	Partner reading, allowed to be a leader, given a classroom job, assisting secretary or teacher	Tell a joke, lunch with teacher, positive phone call home, game with a friend, being a peer model for a younger student	Verbal praise, smiles, thumbs-up, giving eye contact, positive comments written on work

Sample Data Collection Tools

Data Collected by: Frequency, Duration, or Intensity (circle type used)
Problem Behavior:
Setting Events:
Antecedents:
Consequence:
Possible Function:
Section for Collecting Data on Frequency
Start Time:
End Time:
Length of Time:
Tally of Occurrences:
Total Occurrences:
Divide Occurrences by Length of Time to Determine Frequency:
Section for Collecting Data on Duration
1. Start Time of Problem Behavior: End Time: Duration:
2. Start Time of Problem Behavior: End Time: Duration:

3. Start Time of Problem Behavior:	End Time:	Duration:
4. Start Time of Problem Behavior:	End Time:	Duration:
5. Start Time of Problem Behavior:	End Time:	Duration:

Total Duration: _____

Section for Collecting Data on Intensity

<u>Morning</u>

Rating Scale of Problem Behavior:

5 = Extremely Challenging

4 = Challenging

3 = Somewhat Challenging

2 = Minimally Challenging

1 = Not Challenging

<u>Afternoon</u>

Rating Scale of Problem Behavior:

5 = Extremely Challenging

4 = Challenging

3 = Somewhat Challenging

2 = Minimally Challenging

1 = Not Challenging

Sample Reinforcement Schedule

Reinforcement Schedules[2]			
Continuous Reinforcement Schedule			
All Trials	Teacher Prompt/Question	Student Response	Consequence: Reinforcement Given
Example: Reinforcement after every prompt/question	*"Who is ready for recess?"* *"Please put away your materials."* *"Line up by the door when I call your row."*	*Target student shows desired behaviors.* *OR* *Target student does not engage in problem behavior.*	*Teacher provides reinforcement after each prompt/question.*

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[2] Refer to the Schedules of Reinforcement section to help identify the appropriate type of schedule to select for a student.

Additional Resources

Reinforcer Assessments:

- Forced-Choice Reinforcer Assessment: Guidelines: http://www.interventioncentral.org/behavioral-interventions/special-needs/forced-choice-reinforcer-assessment-guidelines

- Forced-Choice Reinforcement Menu: https://www.pbis.org/Common/Cms/files/Forum15_Presentations/B13_Forced-Choice-Reinforcement-Menu.pdf

- Jackpot Reward Finder: http://www.interventioncentral.org/teacher-resources/student-rewards-finder

Differential Reinforcement:

- Intervention Brief on Differential Reinforcement: http://ebi.missouri.edu/wp-content/uploads/2013/04/Differential-Reinforcement-of-an-Incompatible-or-Alternative-Behavior.pdf

- Evidence-Based Practice Brief: Differential Reinforcement: http://autismpdc.fpg.unc.edu/sites/autismpdc.fpg.unc.edu/files/imce/documents/Differential-Reinforcement-complete10-2010.pdf

Non-Contingent Reinforcement:

- Intervention Brief on Non-Contingent Reinforcement: http://ebi.missouri.edu/wp-content/uploads/2013/04/Noncontingent-Reinforcement.pdf

General Resources:

- AFIRM Team. (2015). *Reinforcement.* Chapel Hill, NC: National Professional Development Center on Autism Spectrum Disorders, FPG Child Development Center, University of North Carolina. Retrieved from http://afirm.fpg.unc.edu/reinforcement

- Supporting and Responding to Behavior: Evidence-Based Classroom Strategies: https://www.osepideasthatwork.org/evidencebasedclassroomstrategies/

- Designing and Delivering Intensive Intervention in Behavior (DBI Training Series Module 8) Handout 3—Examples of Evidence-Based Interventions: http://www.intensiveintervention.org/sites/default/files/Handout3_Designing%26Delivering_Behavior_Interventions.pdf

Other Sample Reinforcement Strategies Available on the National Center on Intensive Intervention Website:
http://www.intensiveintervention.org/behavior-strategies-and-sample-resources

1. Point Sheets/Behavior Report Card

2. Intermittent Reinforcement Using a Timer